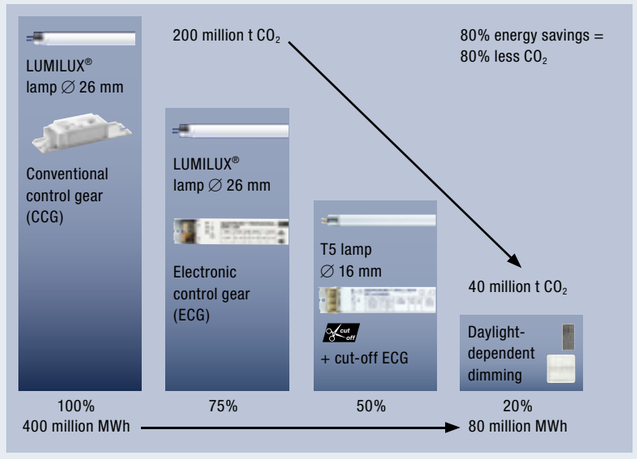
OSRAM control gear – millions of successful applications.

Reliable year in, year out.

OSRAM ECGs have been successfully used for providing reliable energy-saving lighting for many many years in millions of applications in all the major sectors. OSRAM ECGs are the preferred choice of commercial users for permanent economical lighting in shops, offices and industry.

ECGs are setting new milestones in energy-efficient lighting.

Because of their ability to operate lamps at high frequencies ECGs are making significant contributions to the energy efficiency of modern lighting systems, and therefore to the reduction of CO_2 emissions. T5 lamp technology in particular offers further considerable improvements in efficiency in all relevant applications. The new dimmable T5 ECGs from OSRAM with cut-off technology are setting new standards in energy efficiency and dimming quality.



Make an active contribution to reducing CO_2 emissions by using reliable ECGs. You could save up to 70 kg/CO_2 per year per luminaire.

© BMW AG

ECGs have numerous benefits for users.

Low energy consumption is good for the economy of lighting systems and also for the environment. ECG operation extends lamp life, provides flicker-free light and flicker-free shutdown at end of life.

Reliability and trouble-free ECG operation.

Compliance with IEC standards is an important requirement for trouble-free ECG operation. OSRAM goes a step further and takes into consideration not only the life of the ECG components, the pulse strength of the ECG and optimum lamp operation parameters but also **E**nd-**o**f-**L**ife shutdown. OSRAM has selected the toughest test in the form of Test 2.

By erring on the side of caution in specifying the maximum permissible temperatures, OSRAM has created a generous tolerance margin, resulting in extremely reliable operation. This is why OSRAM can offer extensive guarantees – a full five years on OSRAM ECGs and three years on selected OSRAM lamps. This has boosted confidence in OSRAM among luminaire manufacturers and users and generated excellent feedback.

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

OSRAM ECGs – innovative technology for energy-efficient lighting

Fully guaranteed up to 5 years
Hundreds of thousands of customers put their trust in us year after year after year. We offer them guarantees that stretch for years. OSRAM ECGs are of such high quality that we offer a full 3-year guarantee on them. In combination with OSRAM lamps this ECG guarantee increases to as much as 5 years. OSRAM ECG systems are ideal because they give you the security that you expect over a long period of time. On that you can rely.

Your benefits:
Within the guarantee period* OSRAM will replace
- any lamp that fails
- any ECG that fails

This guarantee is unique on the market.

DIM ECGs: Dolce Vita shopping center in Porto, Portugal

Research and development
Provide today what tomorrow requires. Continual research and development in all OSRAM products holds out the promise of new and innovative systems with additional user benefits. For example, thanks to the lap detection circuit built into the QUICKTRONIC® INTELLIGENT ECG it is possible to achieve variable lumen values from the same luminaire. This halves the number of luminaire types and simplifies luminaire handling for OEMs, trade and users.

Your benefits:
- Compliance with the latest regulations, and allowance in certain cases for planned regulations
- Exceptional energy efficiency in lighting systems
- State-of-the-art equipment

LEDs and OPTOTRONIC®: Turning Torso in Malmö, Sweden

* The system guarantee is handled directly by OSRAM.
For terms and conditions see www.osram.com/system-guarantee.

Perfect combination
You can expect more than just control gear. You can expect a perfect system. As one of the world's two leading suppliers of ECGs and lamps, OSRAM can provide you with perfectly matched high-quality ECGs and lamps – an unbeatable combination. Whatever your requirements you can be sure of the ideal solution.

Your benefits:
- Lamps, ECGs and service from a single source
- Maximum reliability in system operation
- Only one point of contact to deal with any matters relating to light

Madrid Barajas International Airport, Spain

The reliable ECGs
Put your trust in OSRAM ECGs and start saving – time, money and anguish. The high reliability of OSRAM ECGs has impressed our customers worldwide. OSRAM is particularly appreciated on the lighting market for its reliable data relating to temperature and ECG life. Even in thermally critical applications there are only minimal ECG failures in luminaires with long operating times. This is why OSRAM QUICKTRONIC® PROFESSIONAL units are the most popular ECGs for damp-proof luminaires. They continue to operate reliably at temperatures as low as –35 °C. Year after year after year.

Your benefits:
- High reliability of the lighting system over many years
- OSRAM ECGs save time and money
- Long-term satisfaction among system operators

Petueltunnel in Munich, Germany

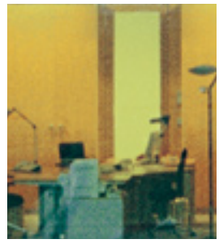
Excellent experience with 250 million installed ECGs
You will only ever put your trust in a company that provides top quality products. The performance of OSRAM ECGs is significantly better than the market standard at 50,000 hours for a maximum failure rate of 10%. Thanks to this excellent reliability, OSRAM ECGs are the choice not only of leading luminaire manufacturers but also renowned major users throughout the world.

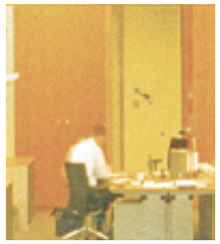
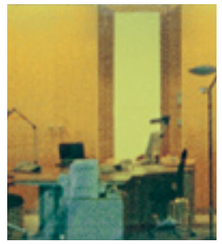
- Statements by major OEM customers confirm that of the 1 million ECGs sold each year less than 0.1% had a fault of any kind
- The fact that there are more than 1 million registered OSRAM ECGs in the industrial, retail and public sectors speaks for itself

More than 100,000 OSRAM ECGs for fluorescent lamps are in use at Munich airport. They were chosen mainly for a 10 K lower tc temperature in typical luminaires. For users, this means that the ECGs last twice as long.

Lighting management systems






Why lighting management?
Economical light to suit requirements.
Light stirs emotions and gives us a feeling of well-being. Both physically and mentally. At home, at work and at play. The right light in the right amount at the right place and at the right time stimulates us

to be active and promotes our sense of well-being. For this reason, a holistic approach to lighting is now taken, so when high-quality lighting systems are being planned particular attention is given not only to the technical and architectural aspects but also to lighting management. Lighting management gives lighting solutions a dynamic character – by changing the amount of light, the color of the light and the direction of the light. Instead of a rigid “on/off” pattern, the light is controlled to improve the economy of the lighting system and to ensure that light meets the requirements of users at all times. This involves everything from regulating the amount of artificial light according to available daylight, to calling up different lighting scenes at the touch of a button and making use of dynamic lighting applications.
And no longer are comfort and energy savings mutually exclusive. Daylight is supplemented by modern, economical and increasingly “natural” artificial light. The brilliant benefit of all this is that users can adjust the lighting level themselves at any time to suit their specific needs.

Why OSRAM?
A full range of products and expertise across the board
OSRAM is a skilled and highly experienced partner for tailor-made innovative **l**ighting **m**anagement

systems at room and luminaire level. We have all the necessary products, immense know-how and many years of experience in practical applications. Our **l**ighting **m**anagement **s**ystems offer the right solutions to cover a wide variety of requirements, conditions and room types – whether energy-saving daylight-dependent control is needed or multi-functional management of lighting groups and lighting scenes. Whether the system has to be operated manually or by remote control, and whether a high degree of flexibility is required in its configuration. Whether the application calls for a single intelligent luminaire or a complete room solution.

See also: www.osram.com/ecg-lms

LMS from OSRAM –
dynamic light for a wide variety of uses

Energy-saving management: Daylight-dependent lighting control
The available daylight in a room is supplemented as required by artificial light from luminaires equipped with dimmable electronic control gear. Light sensors detect the lighting level comprising artificial light and natural daylight. The groups of luminaires are controlled according to their position in the room and the amount of available daylight so that a predefined lighting level of, say, 500 lux is maintained. Users can adjust the lighting at any time to a level that meets their specific needs. Artificial light and daylight complement one another perfectly in this application and result in possible energy savings of up to 60% – or even 70% in combination with a presence detector.

Energy-saving management: Intelligent luminaire
Daylight-dependent control in combination with a presence detector can also be provided for intelligent floor-standing luminaires. The luminaire takes all the work away from the user. The light is only switched on if there is not enough natural daylight and the lighting level falls below a certain predefined threshold. Users can set their own individual lighting levels at any time and change them as they like – energy savings and comfort are therefore no longer mutually exclusive. The intelligent luminaire solution provides a high degree of flexibility so there is no problem in adjusting the lighting levels to suit a different use for the room.

Scene management: a multifunctional conference room
Training and conference rooms need lighting solutions that can cover a range of requirements. What is needed here is demand-oriented planning and a scene-oriented **l**ighting **m**anagement **s**ystem. At the touch of a button, individual lighting scenes can be selected for different activities, such as the welcoming address, a presentation and a group discussion. The lighting scenes can be adapted and changed at any time by the user. For training rooms it is important for the system to be easy and intuitive to use because these rooms are generally used by different people at different times.

Combination of daylight-dependent control and scene management
Because they usually have a high proportion of window area, sports halls and multi-purpose halls need combined lighting management solutions featuring scene-oriented and daylight-dependent control. In such cases, the energy-saving mode comprising daylight-dependent and presence-dependent control is assigned to one of the lighting scenes. Different lighting scenes can be created to produce a festive, sporting or relaxing atmosphere. Certain areas can be individually lit by separate groups of luminaires as required.

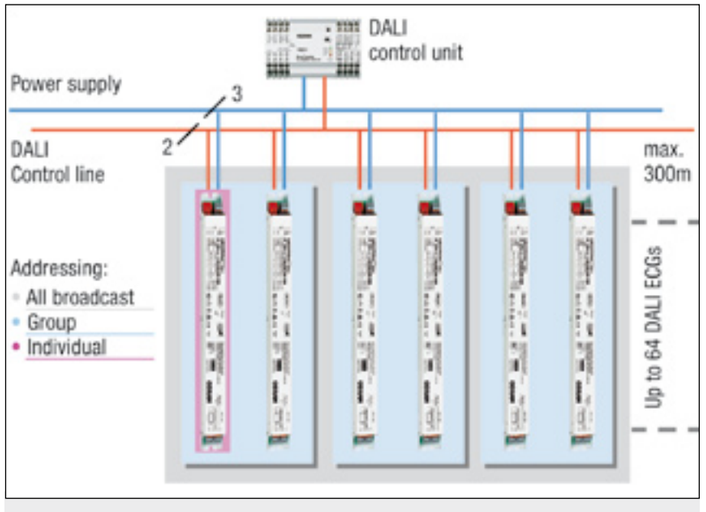
The dynamics of light and color
Dynamic light grabs our attention and arouses our interest. Whether it’s a gentle change of color in a bar or spectacular lighting for a shop window display or event, the intensity and the color of the light can be changed automatically or at the touch of a button to create the right effects for the particular application. Such effects are based on dimmable electronic control gear in conjunction with colored fluorescent lamps and/or LED modules. The required color mix can be created by controlling the individual ECGs appropriately.

DALI® as the basis for application-related lighting management

DALI® (**D**igital **A**ddressable **L**ighting **I**nterface) is the international non-proprietary interface standard for dimmable ECGs – EN/IEC 62386. DALI® based lighting control solutions are easier to plan and install and have greater functionality than systems based on the 1…10 V interface.

Interplay between controller and ECG

A maximum of 64 DALI® ECGs can be controlled with a high degree of flexibility via a 2-wire control line individually, jointly or in up to 16 groups. The lighting is switched and dimmed via the control line. In other words, there is no need for any relays. Important information such the lamp status is stored in the control gear and is available to the controller. DALI® is an interface for all light sources in professional lighting solutions. OSRAM offers a wide range of DALI® ECGs and controllers for fluorescent lamps, compact fluorescent lamps, halogen lamps and LEDs.



DALI® principle and types of addressing for different areas of application. Flexible lighting groups and readdressing of the ECGs

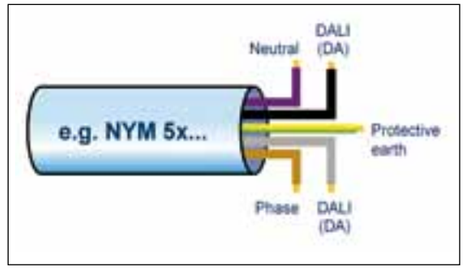
The benefits in detail:

Simple planning

The lighting groups do not have to be assigned at the planning stage. Instead, they can be simply set up later with the aid of a controller. Planning of the control line can be separate from planning of the power supply.

Simple installation

The control line is protected against polarity reversal and can be routed together with the power supply for example in a 5-core sheathed cable. The control line simply has to be rated for line voltage. There is no need for special cable.



Flexible lighting groups for later changes of use

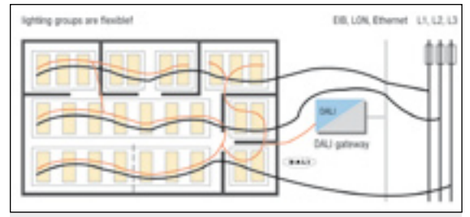
With DALI®, the lighting groups are not hard-wired. The individual luminaires are grouped by simply assigning them to groups with the aid of a controller. These groupings can be changed at any time.

Synchronous changes of lighting scenes

Even if different luminaires are started at different dimmer values or different types of lamp are combined with one another, DALI® changes from one lighting scene to another in synchronism. All the light sources reach the new light value at the same time.

DALI as the ideal addition to building automation systems

Luminaires with DALI® interfaces can be easily integrated into building automation systems via existing gateways such as EIB, LON and Ethernet.



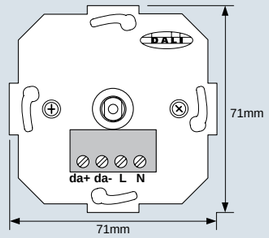
Simple integration of DALI® luminaires in building automation systems, flexible lighting groups, savings in terms of components and installation

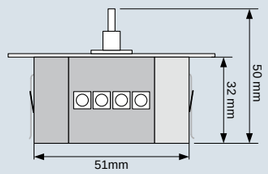
Apart from simpler planning and installation, flexible lighting groups and lamp status feedback, solutions based on DALI® are more cost-effective than 1…10 V systems.

DALI MCU – digital potentiometer

The DALI MCU digital infinite potentiometer distinguishes between three different rotary speeds and has tactile detents so brightness can be fine-tuned in individual steps as required. The neutral white cover can be changed to match most ranges of switches.

Installed in a flush-mounted box and connected to the AC power supply, a DALI MCU can control up to 25 luminaires in this way with the integrated DALI® supply. Parallel connection enables the number of luminaires per group to be increased to 50 and up to four control points can be provided. DALI MCUs connected to one another synchronize automatically with each other; in other words, the control point can be changed at any time without the risk of annoying side effects such as sudden changes in brightness.
The new DALI MCU is recommended for partitioned rooms, classrooms, conference rooms, offices and even individual luminaires in conjunction with OSRAM DALI® control gear for an extremely wide range of light sources. It can be used in virtually any situation in which self-explanatory operation and simple installation are required.





DALI MCU

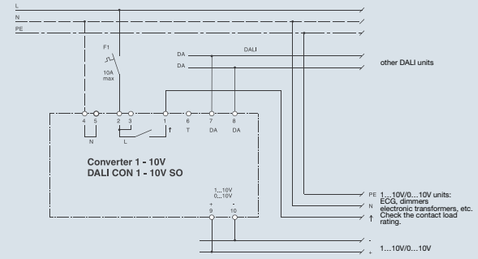
- Digital potentiometer with integrated DALI® supply for up to 25 ECGs
- Up to four DALI MCUs can be connected in parallel to set up multiple control points/increase the number of ECGs
- Supplied with cover and rotary switch in neutral white
- Operating voltage: 230 V AC (50-60 Hz)
- Ambient temperature: 0 to +50 °C
- Type of protection/protection class: IP20/II

Type	Product reference	Product number	Dimensions in mm	
Order data				
Digital potentiometer	DALI MCU	4008321**189721**	50 x 71 x 71	15

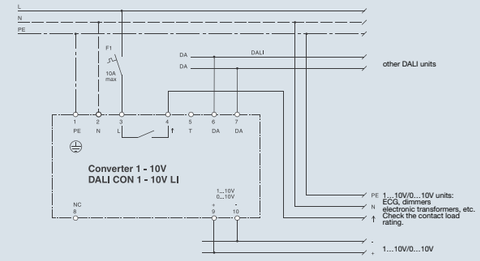
DALI® to 1…10 V converter

With DALI® to 1…10 V converters it is possible to control 1…10 V control gear via DALI® signals. The converter behaves in the DALI® system in the same way as a DALI® ECG. Alternatively, converters can be used to operate 1…10 V ECGs by means of standard switches via the ***Touch DIM®*** function[4].

Wiring diagram (in DALI® mode): Converter for snap-on



Wiring diagram (in DALI® mode): Converter for installation in luminaires



Technical data:

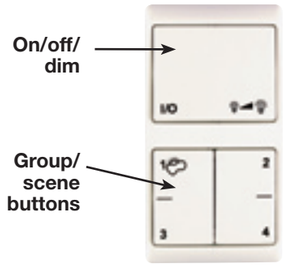
Designation	DALI CON/230-240 1…10 SO[1]	DALI CON/230-240 1…10 LI[2]
Line voltage	220-240 V AC 50/60 Hz, DC not permissible	
Power consumption	approx. 1 W	
Operating temperature	0 to 45 °C	0 to 50 °C
Protection class/type	II (total insulation)/IP20	I (protective earth)/IP20
Load contact	Relay contact (make contact), connected internally to L, max. 5 A	
Control output	1…10 V max. 100 mA or 100 OSRAM 1…10 V ECGs or 0-10 V max. 5 mA active	
	Switchable characteristic linear/logarithmic	
Switch inputs	1 switch input[3] (max. 250 V AC) (make contact)	
Terminals	Screw terminals:	Plug-in terminals:
	Max. 2.5 mm^2 for single-core cable	0.1 to 1.5 mm^2 for single-core cable
	Max. 2.5 mm^2 for multi-strand cable	0.1 to 1.0 mm^2 for multi-strand cable
	with ferrule	
Design	Molded plastic case with snap fitting to	Metal casing for installation in luminaires with
	rails (EN 50022-35) for surface mounting	screw fastening, hole spacing 180 mm
	and installation in distributors	
Dimensions	L x W x H = 72 x 90 x 64 mm (4TE)	L x W x H = 189 x 30 x 28 mm
Weight	approx. 230 g	approx. 185 g
Product number	4050300**639802**	4050300**638973**

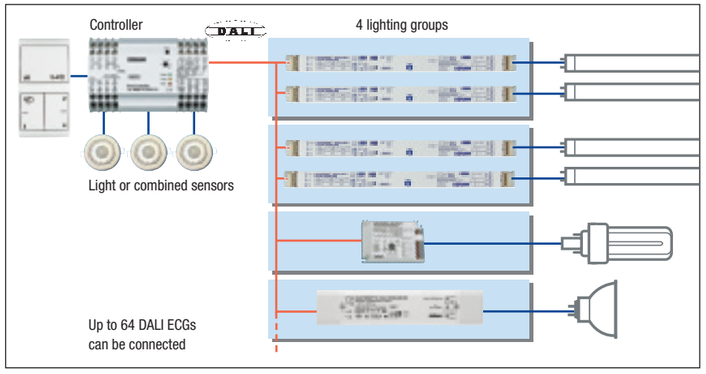
Subject to change without notice. For detailed technical data please refer to the DALI® Guide (order no. 130T011E)
1) SO = Snap On
2) LI = Luminaire Installation
3) If switch input T is used for ***Touch DIM®*** this input is isolated by an opto-coupler. The relevant connection conditions must be met
4) ***Touch DIM®*** and ***Touch DIM® Sensor*** functions for OSRAM QTi DALI ... DIM ECGs are not part of the DALI standard

The DALI BASIC single-room lighting control system

Main applications:
The DALI BASIC system is characterized by simple installation and commissioning. It enables convenient scene-based lighting controls to be set up and energy-saving lighting to be provided with daylight and presence-dependent regulation. Luminaires can be assigned to groups, and this assignment can be changed at any time without changing the wiring. DALI BASIC is therefore ideal for offices, conference rooms, classrooms, sports halls, arenas and production and assembly plants.

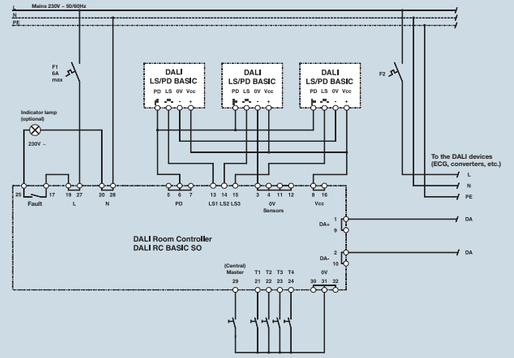
System features:
- Digital lighting control system with DALI® interface
- Up to 64 DALI® ECGs can be controlled
- 4 freely programmable scenes, lockable scenes, 1 scene can be controlled according to available daylight
- 4 freely programmable groups, of which three can be controlled according to available daylight
- Motion detection with user-definable delay (1 to 30 minutes)
- Notification of lamp faults and control line breaks via LEDs and floating make contact
- Simple programming and operation using five standard switches with make contacts
- The switches can be connected in parallel so the system can be controlled from different locations
- Programming and scene storage are lockable
- DALI® power supply integrated in the controller
- The last state is automatically restored after a power failure
- Integration of 1…10 V control gear via DALI® to 1…10 V converters



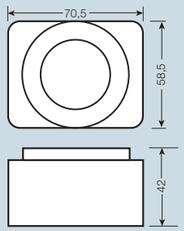


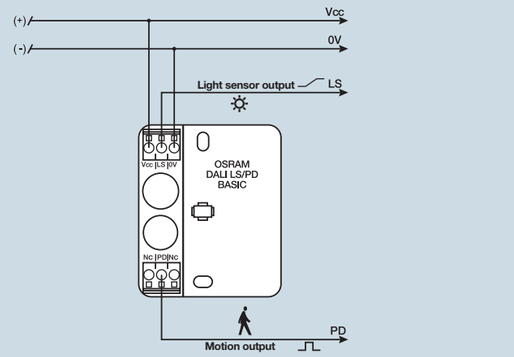
Technical data for the BASIC system[1)]

Wiring diagram for DALI BASIC:



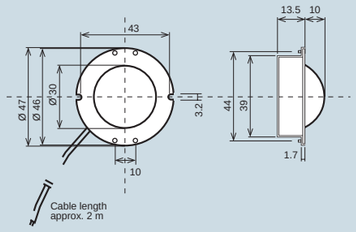
Light and motion sensor for surface mounting on ceilings (can also be used purely as a light sensor)





DALI LS/PD BASIC

Light and motion sensor for recessed ceiling mounting or installation in luminaires
(can also be used purely as a light sensor)



DALI LS/PD BASIC LI
The sensor is supplied with a white fixing ring for installation in Ø 51 mm halogen downlights

Type	Product reference	Product number	Dimensions in mm	
BASIC order data				
BASIC control unit	DALI RC BASIC SO	4050300**654973**	140 x 61 x 90	18
Combined sensor for BASIC	DALI LS/PD BASIC	4050300**639949**	59 x 42 x 70	50
Combined sensor for BASIC ceiling installation	DALI LS/PD BASIC LI	4050300**850184**	∅ 47 x 24	20
5-way switch panel for BASIC white	DALI WCU 5 BASIC W	4050300**771106**	150 x 80 x 40	50

Note: No sensors other than those specified for DALI BASIC may be used
1) For detailed technical data please refer to the DALI® Guide (order no. 130T011GB)

BASIC – Technical data of the system components

	DALI BASIC controller (snap-on)
Designation	DALI RC BASIC SO
Line voltage	230 V AC 50/60 Hz, DC not permissible
Power consumption	Approx. 4 W to 9 W depending on load
Fuse protection	external max. 16 A, fault contact external max. 6 A
Operating temperature	0…+45 °C
Protection class/type of protection	II (total insulation)/IP20
Fault contact	Floating relay contact (make contact), max. 5A
Absence shutdown	Delay adjustable between 1 and 30 minutes
DALI interface	Control of up to 64 ECGs
	electr. current limiter, overtemperature protection
Inputs	5 switch inputs for floating make contacts
	3 light sensor inputs, 1 motion sensor input, up to 6 sensors can be connected
Dimensions	W x H x D = 140 x 90 x 61 mm (8 TE)
Weight	approx. 550 g

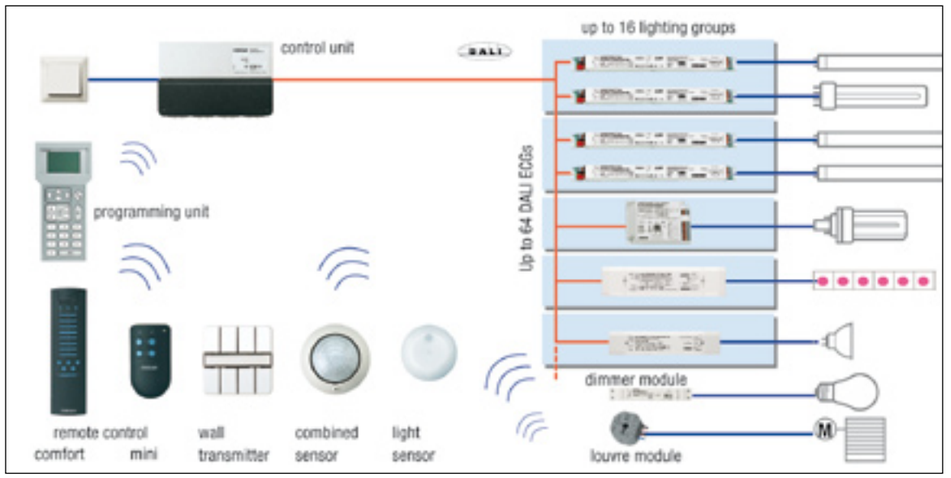
	Sensors for the BASIC controller	
Sensor type	Ceiling mounting	Recessed ceiling
Designation	DALI LS/PD BASIC	DALI LS/PD BASIC LI
Operating temperature	0 °C…+50 °C	
Operating range	Up to 400 lux at the sensor	
Connection	4-pin: Vcc, PD (motion)	
	0 V (ground), LS (light value)	
Terminal assignment	See Controller	
Parallel connection of sensors possible, for maximum number of sensors see controller		
Protection class	II (total insulation)	
Type of protection	IP20	
Max. sensor cable length	100 m	
(The sensor cables must be routed separately from DALI and power cables; a shared cable must not be used)		
Dimensions, weight	L x W x H = 71 x 59 x 42 mm, approx. 70 g	∅ x H = 47 x 24 mm, approx. 65 g
Labeling	CE	

The DALI ADVANCED single or multi-room lighting control system

Main applications:
The DALI ADVANCED system is based on an intelligent combination of radio controls and a freely programmable central unit with a DALI® interface. There is therefore no need for wiring between the sensors, switches and control unit. Because luminaires can be assigned to groups irrespective of the wiring, the system has enormous flexibility to cope with changes of use for the building. DALI ADVANCED is ideal for retrofitting and upgrading existing systems in conference rooms, offices, presentation and exhibition areas and the home.

System features:
- Digital lighting control system with DALI® interface
- 15 freely programmable scenes (lockable scene storage)
- 16 freely programmable groups
- Up to eight groups can be controlled on the basis of daylight and presence
- Operated by 2, 4 and 8-way switches that can be placed anywhere and freely combined
- Mini and fully featured remote control
- No cabling required for the user control components or sensors
- Simple programming with menu-based manual programming unit (can be used for any number of systems)
- All system settings are retained even if there is a lengthy power outage
- 1…10 V components can be integrated via DALI® to 1…10 V converters
- The last state is automatically restored after a power failure

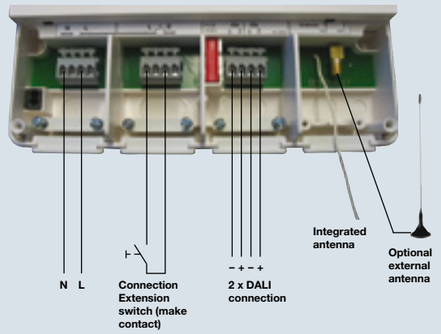
The remote control and the programming unit.



Technical data of the DALI ADVANCED system components

The **DALI RC ADVANCED CI** control unit

- Line voltage: 110-240 V AC/DC, 0/50-60 Hz
- DALI interface: Up to 64 ECGs (up to 128 ECGs if a second control unit is used)
- Radio module: up to 200 channels (approx. 30 transmitters) can be trained
- Type of protection: IP 20
- Dimensions in mm: 200 x 130 x 52 (L x W x H)



General properties:
The control unit is operated almost exclusively by radio signals. For this reason, the following points should be considered when planning an installation based on a DALI® system and when installing the control unit:

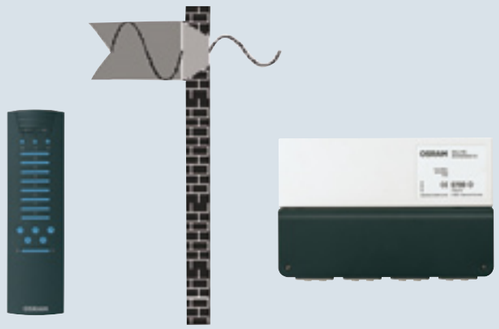
- Radio transmission is not suitable for safety applications, such as emergency shutdown or emergency calls
- The central unit must be installed so that the distance between it and the various radio components is not too great for the local conditions
- If the DALI® system extends over a number of rooms or floors, a radio path test must be performed in the rooms before the system is installed. This should show whether the signals reach the units furthest away

Radio system

• Transmission frequency	433,42 MHz, ASK
• Transmit power	< 10 mW
• Approved as an	SRD (short range device)

The range of the radio transmitter depends on the fabric of the building:

Dry material	**Penetration**
• Wood, plaster, plasterboard	approx. 90%
• Brick, MDF	approx. 70%
• Reinforced concrete	approx. 30%
• Metal, metal grating, aluminum cladding	approx. 10%



Component	**Typical range in buildings**	**Range outdoors**
Wall transmitter WCU2/4/8	15 m	30 m
Manual transmitter Comfort	25 m	100 m
Manual transmitter Mini	15 m	30 m
Light sensor	25 m	100 m
Combined sensor	25 m	100 m
Manual programming unit	20 m	100 m

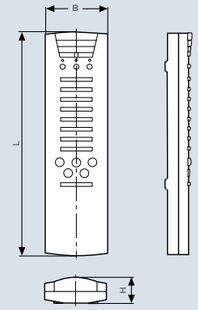
Technical data of the DALI ADVANCED system components[1)]

Comfort Manual Transmitter
DALI RMC ADVANCED

- All on/off
- Dim all
- 5 scenes
- 3 x 8 groups (16 for DALI, 8 for additional radio components)

Technical data:

- Power supply: 6 V DC
- Batteries: 4 x type LR03 (AAA)
- Dimensions in mm: 192 x 53 x 23 (L x B x H)
- Weight: 144 g

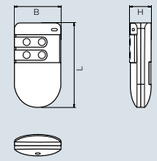


Mini Manual Transmitter
DALI RMC-M ADVANCED

- Central dimming/switching or dimming/switching of two groups

Technical data:

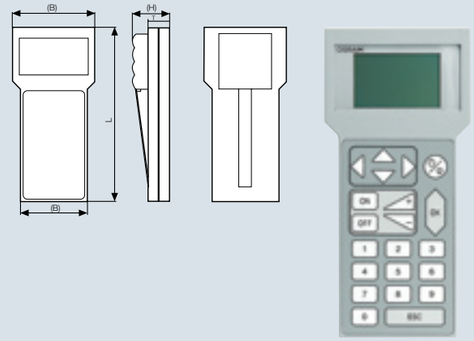
- Power supply: 3 V DC
- Battery (included): 1 x lithium button cell (CR 2032)
- Dimensions in mm: 73 x 40 x 19 (L x B x H)
- Weight: 28 g



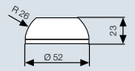
The DALI HPT ADVANCED
manual programming unit
Management and configuration of any number of DALI ADVANCED systems

Technical data:

- Power supply: 6 V DC, 4 x 1.5 V, type LR6 (AA)
- Operating time: Approx. 24 hours, without illumination
- Display: multi-line backlit LCD display
- Dimensions in mm: 211 x 81 (100) x 26 (45) (L x B x H)
- Weight: 282 g

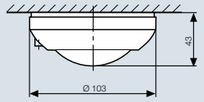


1) The technical data is included here only in abbreviated form. For detailed technical data on the DALI ADVANCED control system please refer to the DALI® Guide (order no. 130T011GB) or our homepage at www.osram.com/ecg-lms.



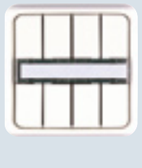
Light sensor DALI LS ADVANCED

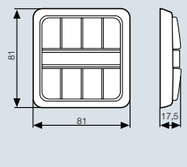
- Power supply: 3 V DC
- Battery (included): 1 x lithium cell CR 2450N
- Operating range: approx. 3 lux to 2000 lux
- Type of protection: IP20
- Temperature range: +5 °C to +55 °C
- Dimensions in mm: 52 x 23 (Ø x H)
- Weight: 24 g



Combined sensor DALI LS/PD ADVANCED

- Power supply: 6 V DC
- Batteries: 4 x 1.5 V LR03 (AAA)
- Detection angle: 360°
- Rated detection range (if mounted at a height of 2.5 m)
  - at desk level: approx. Ø 5 m
  - at floor level: approx. Ø 8 m
- Setting range PD: approx. 2 min to 1 h
- Operating range: approx. 3 lux to 2000 lux
- Temperature range: 0 °C to 45 °C
- Type of protection: IP20
- Dimensions in mm: 103 x 43 (Ø x H)
- Weight: 116 g

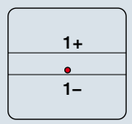




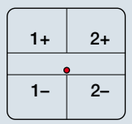
Wall control unit (white)
DALI WCU 2/4/8 ADVANCED W

Supplied with simple frame

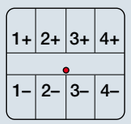
- Power supply: 6 V DC
- Battery (included): 2 x lithium cells CR 2016
- Type of protection: IP20
- Dimensions in mm: 81 x 81 x 18 (L x W x H)
- Weight: 72 g



2-way switch



4-way switch



8-way switch

Switch assignment, selectable functions via DIP switches at the back:

Function switch at the back	Function of	In OFF setting	In ON setting
F2	Button 1+ Button 1–	Lighting scene All off	Group 1+ / or Group 1– / central unit
F3	Button 2+ Button 2–	Lighting scene 3 Lighting scene 2	Group 2+ / or Group 2– / central unit
F4	Button 3+ Button 3–	Lighting scene 5 Lighting scene 4	Group 3+ / or Group 3– / central unit

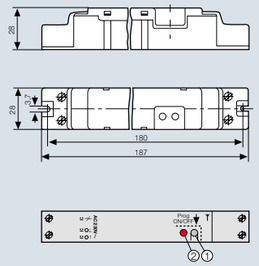
Button 4+/4– Group + / or
Group – / central unit

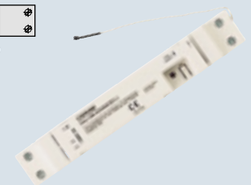
1) The technical data is included here only in abbreviated form. For detailed technical data on the DALI ADVANCED control system please refer to the DALI® Guide (order no. 130T011GB) or our homepage at www.osram.com/ecg-lms. Subject to change without notice. Errors and omission excepted.

Technical data of the DALI ADVANCED system components[1)]

Universal radio dimmer
DALI DM ADVANCED LI

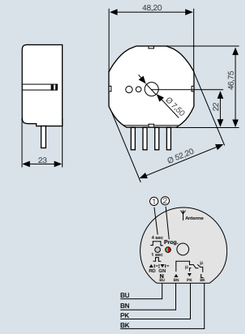
- Power supply: 230 V AC, 50/60 Hz (N conductor not required)
- Connected load: 50 to 315 VA
- Dimming of ohmic loads, electronic or conventional transformers
- Temperature range: 0 °C to +55 °C
- Type of protection: IP20
- Dimensions in mm (L x W x H): 187 x 28 x 28
- Weight: 94 g





Blind control DALI BC ADVANCED RI

- Rated voltage: 230 V AC, 50/60 Hz (N conductor required)
- Circuit breaker: 10 A
- Switching output: max. 1 motor 700 VA
- Relay output: 2 make contacts (with potential and interlocked)
- Changeover time for change of direction: approx. 1 s
- Continuous operation: approx. 2 min.
- Temperature range: –20 °C to +55 °C
- Type of protection: IP20
- Dimensions in mm: 52 x 23 (Ø x H)
- Weight: 44 g
- Central hole Ø: 7.5 mm



Type	Product reference	Product number	Dimensions in mm	
ADVANCED order data				
Controller	DALI RC ADVANCED CI	4050300**655970**	200 x 130 x 52	10
Manual programming unit	DALI HPT ADVANCED	4050300**655994**	211 x 81/100 x 26/45	10
Combined sensor	DALI LS/PD ADVANCED	4050300**655918**	∅ 103 x 42	50
Light sensor	DALI LS ADVANCED	4050300**656366**	∅ 52 x 23	50
Comfort remote control	DALI RMC ADVANCED	4050300**655796**	192 x 53 x 23	33
Mini remote control	DALI RMC-M ADVANCED	4050300**655895**	73 x 40 x 19	45
Wall transmitter, 2-way, white	DALI WCU 2 ADVANCED W	4050300**656786**	81 x 81 x 18	50
Wall transmitter, 4-way, white	DALI WCU 4 ADVANCED W	4050300**656724**	81 x 81 x 18	50
Wall transmitter, 8-way, white	DALI WCU 8 ADVANCED W	4050300**658292**	81 x 81 x 18	50
Blind control	DALI BC ADVANCED RI	on request	∅ 52 x 23	50
Radio dimmer	DALI DM ADVANCED LI	4050300**655932**	187 x 28 x 28	40

1) The technical data is included here only in abbreviated form. For detailed technical data on the DALI ADVANCED control system please refer to the DALI® Guide (order no. 130T011GB) or our homepage at www.osram.com/ecg-lms. Subject to change without notice. Errors and omission excepted.

Multi 3 – lighting control system for individual and open-plan offices

The MULTI 3 lighting control system was developed to regulate and control brightness levels in offices. Sensors measure the brightness in the room and detect the presence of persons. The lighting conditions at the workplace are maintained at a user-adjustable setpoint by providing artificial light according to the amount of available daylight. If there is enough natural daylight or if there are no persons in the room, the lighting control unit switches the luminaire off. Good workplace lighting makes the working environment more comfortable. Energy savings of over 70% can be made compared with conventional workplace lighting.

The two-part Multi 3 system, consisting of a control unit with digital DALI® or analog 1…10 V interface and separate miniaturized sensor head, is recommended in particular for installation in pendant luminaires, recessed and surface-mounted luminaires, strip lighting and floor-mounted luminaires.
For the 1…10 V version see also page 9.34.

System overview

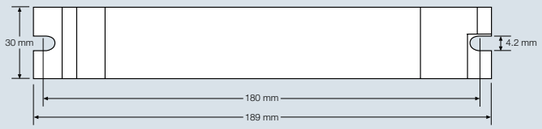
Overview of system properties

Interface	DALI (DALI MULTI 3 control unit)
	1…10 V (DIM MULTI 3 control unit)
Assembly	In luminaires of protection classes I and II
Manual operation	On/Off
	1 – 100% dimming
	Deactivation of automatic switch-on
Comfort functions (can be activated and deactivated individually)	Constant daylight-dependent lighting control
	Automatic activation if movement is detected
	Automatic switch-off with a 15 minute delay
Max. no. of ECGs	32[1)]
Size of opening required	Standard sensor and low-profile sensor: ∅ 20 mm
	Movable spherical-head sensor: ∅ 23 mm
	Recessed ceiling sensor: ∅ 42 mm
Max. no. of sensors	4

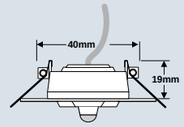
1) See technical data sheet at www.osram.com/ecg-lms

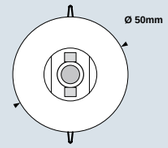
DALI® control unit DALI MULTI 3

1…10 V control unit DIM MULTI 3[1)]

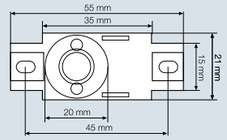


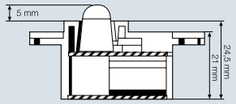
Recessed/surface mounted ceiling light and motion sensor LS/PD MULTI 3 CI



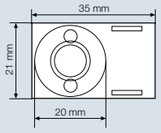


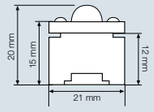
Standard light and motion sensor (luminaire installation) LS/PD MULTI 3



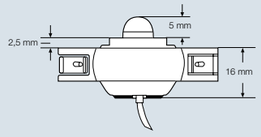


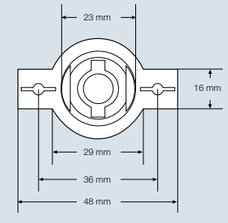
Low-profile light and motion sensor (luminaire installation) LS/PD MULTI 3 FL



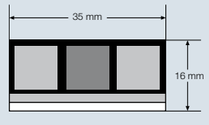


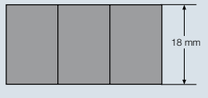
Movable light and motion sensor (luminaire installation) LS/PD MULTI 3 B



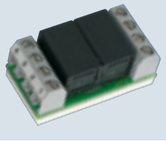


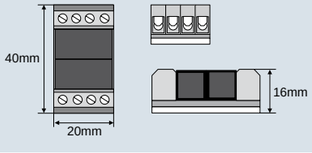
Y-CONNECTOR





Y-CONNECTOR SCREW with screw terminals





1) For DIM MULTI 3 order data see page 9.22

Type	Product reference	Product number	Dimensions in mm	
MULTI 3 order data				
DALI control unit	DALI MULTI 3	4050300**802084**	189 x 30 x 21	25
1…10 V control unit	DIM MULTI 3	4050300**802107**	189 x 30 x 28	25
Recessed/surface mounted ceiling sensor	LS/PD MULTI 3 CI	4008321**916648**	50 x 19	10
Standard light and motion sensor	LS/PD MULTI 3	4050300**802138**	55 x 21 x 29	25
Low-profile light and motion sensor	LS/PD MULTI 3 FL	4008321**047342**	35 x 21 x 20	25
Movable light and motion sensor	LS/PD MULTI 3 B	4050300**803081**	48 x 29 x 24	25
Y connector	Y-CONNECTOR	4050300**803135**	35 x 18 x 16	25
Y connector with screw terminals	Y-CON. SCREW	4008321**916686**	40 x 20 x 16	25
Adapter for surface mounting of LS/PD MULTI 3 CI	SENSOR KIT	4008321**916662**	80 x 25	10

Multi 3 – technical data of the system components

Control units

Designation:	**DALI MULTI 3 (control unit with DALI interface)**
Power supply:	L, N
Interface:	DALI control signal, a maximum of 32 DALI ECGs can be connected, max. cable length 300 m
Switch input:	Floating make contact, maximum cable length 100 m
Sensor connection:	Maximum of 4 sensors[1)], maximum cable length 100 m
Operating voltage:	100 – 240 V ~ 50/60 Hz/DC
Power consumption:	approx. 1.5 W
Temperature range:	0 °C to +50 °C
Adjustable light value:	20 – 1000 lux (measured at the sensor)

Designation:	**DIM MULTI 3 (control unit with 1…10 V interface)**
Power supply:	L, N
Load connection:	L', switched output, max. 5 A ohmic load or 10 1-lamp ECGs or 5 2-lamp ECGs,
	up to 32 ECGs via external load contact
Interface:	1…10 V control signal, a maximum of 32 ECGs can be connected, max. cable length 300 m
Switch input:	Floating make contact, maximum cable length 100 m
Sensor connection:	Maximum of 4 sensors[1)], maximum cable length 100 m
Operating voltage:	230 – 240 V AC 50/60 Hz (no DC operation)
Fuse protection:	external 16 A
Power consumption:	approx. 1.5 W
Temperature range:	0 °C to +50 °C
Adjustable light value:	20 – 1000 lux (measured at the sensor)

Sensors

Designation:	**LS/PD MULTI 3 CI**
Combined control connection:	modular connection (4p4c)
Connecting cable:	Length 2.1 m unpluggable (included)
Light sensor range:	20 – 1000 lux (measured at the sensor)
Motion detection area:	conical, opening angle approx. 100° (can be restricted with shield)
Casing color:	RAL 9016 (white)

Designation:	**LS/PD MULTI 3**
Combined control connection:	modular connection (4p4c)
Connecting cable:	Length 2.1 m unpluggable (included)
Light sensor range:	20 – 1000 lux (measured at the sensor)
Motion detection area:	Conical detection area, opening angle approx. 100°
Casing color:	RAL 7015 (slate gray)

Designation:	**LS/PD MULTI 3 FL**
Combined control connection:	modular connection (4p4c)
Connecting cable:	Length 2.1 m, permanently connected
Light sensor range:	20 – 1000 lux (measured at the sensor)
Motion detection area:	Conical detection area, opening angle approx. 100°
Casing color:	RAL 7015 (slate gray)

Designation:	**LS/PD MULTI 3 B**
Combined control connection:	modular connection (4p4c)
Connecting cable:	Length 2.1 m, permanently connected
Light sensor range:	20 – 1000 lux (measured at the sensor)
Motion detection area:	Conical detection area, opening angle approx. 100°
Casing color:	RAL 7015 (slate gray)

Accessories

Designation:	**Y-CONNECTOR**
Combined control connection:	3 x modular 4p4c socket
Connecting cable:	4-pin, modular 4p4c 11 connector on both ends, length 2.1 m (2 x included)

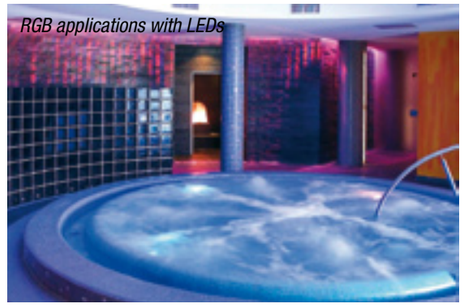
Designation:	**Y-CONNECTOR SCREW**
Combined control connection:	2 x modular socket (4p4c) + 2 x screw terminal (4-pin)
Connecting cable:	length 2.1 m (2 x included)

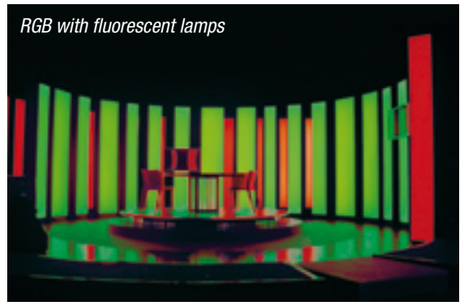
1) If there is more than one sensor a Y-CONNECTOR or Y-CONNECTOR SCREW is needed for each further sensor

EASY Color Control
As versatile as your requirements

Contemporary lighting calls for dynamic light that is right for the particular situation. The choice of appropriate control alone determines the extent to which the potential of the light sources and control gear is exploited. The EASY Color Control system enables both static and dynamic lighting concepts to be implemented. The system offers impressive functionality and simple handling and installation. A single control unit can control four output channels separately. An integrated sequencer with four individual sequences is also available, as are 16 freely definable static lighting scenes. Lighting systems are easy to set up, such as lighting control for classrooms and conference rooms. The system can be easily extended with up to 16 control units/ 64 channels with the aid of plug system protected against polarity reversal. Light ceilings or dynamic façade lighting systems can therefore be easily set up. IR receivers for installation in luminaires or ceilings enable all the important functions to be accessed via remote control. A switch coupler installed behind the control element in the flush-mounted box enables pushbuttons, switches or motion sensors to be connected. If the control units are connected to a USB port on a PC via an adapter cable, scenes and sequences can be easily created via a graphical software interface. Colors can be selected, copied and adjusted at the click of a mouse. The preview function provides an initial offline impression of the lighting sequence. All the settings are then automatically taken from the control units. EASY Color Control offers functionality and components for both static and dynamic lighting solutions. An extremely wide range of light sources can be integrated, making it easy to turn creative ideas into reality.

For further details please see www.osram.com/ecg-lms.


RGB applications with LEDs

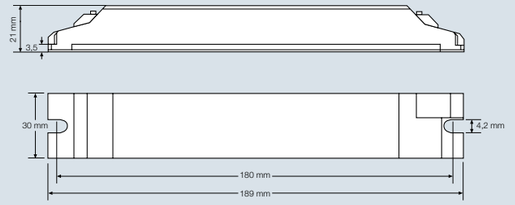

RGB with fluorescent lamps


Room lighting


Daylight simulation


Shoplighting

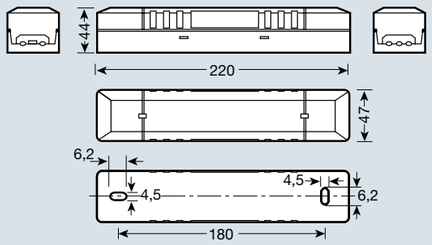
Technical data for the EASY Color Control system



DALI EASY II

DALI control unit

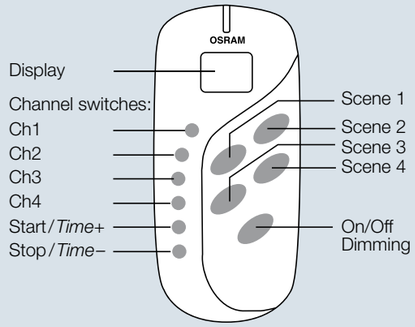
- Inputs: EASY signal, floating switch input
- Outputs:
  – 4 DALI® broadcast channels,
  – Up to 32 ECGs can be connected
  – Overall DALI cable length up to 300 m
- Controller connection:
  – Overall connection cable length up to 100 m
  – Up to 16 EASY contol units can be connected
- Operating voltage: 100 – 240 V AC (50/60 Hz)/DC
- Power consumption: approx. 3.5 W
- Operating temperature: 0 °C to +50 °C
- Type of protection: IP20
- Dimensions: 189 x 30 x 21 mm (L x W x H)



OT EASY 60

LED control unit

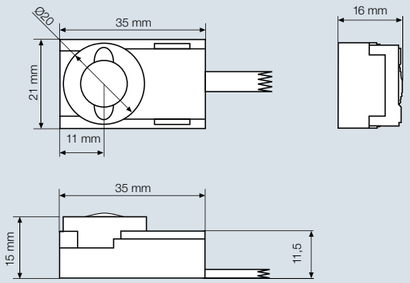
- Inputs: EASY signal, floating switch input
- Outputs:
  – 4 PWM channels (24 V)
  – up to 60 W LED load
- Controller connection:
  – Overall cable length up to 100 m
  – Up to 16 control units can be connected
- Operating voltage: 220 – 240 V AC (50/60 Hz)
- Power consumption: max. 68 W
- Operating temperature: –20 °C to +50 °C
- Type of protection: IP20
- Dimensions: 220 x 47 x 44 mm (L x W x H)



DALI EASY RMC

IR remote control

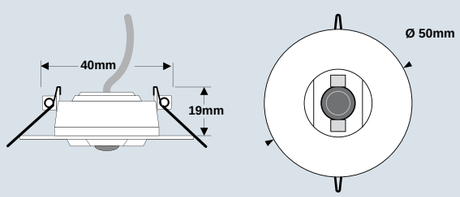
- Batteries required: 2 x AAA/LR03 (alkaline)
- IR signal: 38 KHz signal digitally encoded 2 OSRAM-specific codes can be selected
- Range: approx. 10 – 15 m (please read IR receiver installation instructions
- Ambient temperature: 0 °C to +40 °C
- Type of protection: IP20
- Dimensions: 120 x 57 x 26 mm (L x W x H)



DALI EASY IR

IR receiver

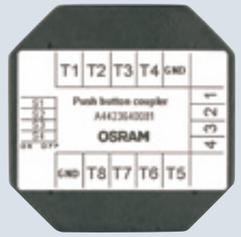
- Connection: Cable with modular 4p4c connector (fixed connection), length: approx. 2 m
- Ambient temperature: 0 °C to +50 °C
- Type of protection: IP20
- Casing color: RAL 9016 (white)

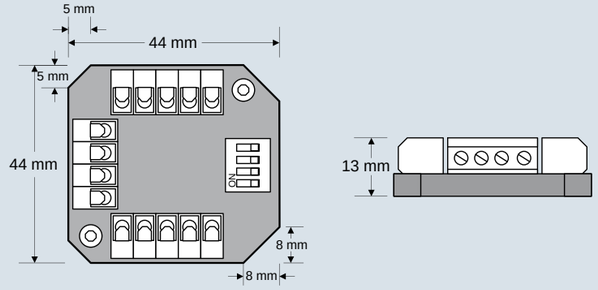


EASY IR CI

IR receiver for ceiling installation

- Connection: modular 4p4c connector, combined connector with modular 4p4c socket and 4-pin terminal included
- Ambient temperature: 0 °C to +50 °C
- Type of protection: IP20
- Casing color: RAL 9016 (white)





EASY PB Coupler

Coupler for connecting pushbuttons, switches or motion sensors

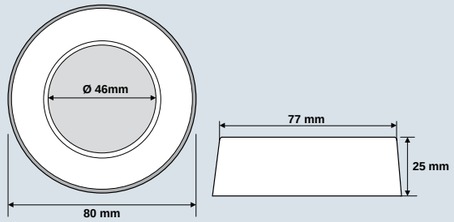
- Connection: combined control and supply connection, connector with modular 4p4c socket and 4-pin terminal included
- Inputs: 8 inputs for floating make contacts
- Ambient temperature: 0 °C to +50 °C
- Type of protection: IP20

EASY PC Kit

PC software with USB adapter and detailed handbook

- Functionality: – Simple creation of scenes and sequences – Load, save and duplicate system settings
- System requirements: – Windows PC, USB port

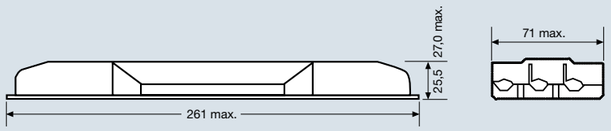
Accessories:



SENSOR KIT

Adapter for surface mounting the EASY IR CI Sensor element

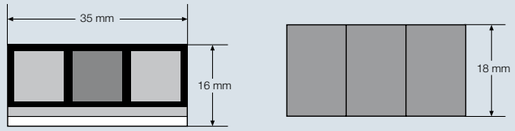
- Color: RAL 9016 (white)
- Dimensions: ∅ 80 x 25 mm



LMS CI BOX

Mounting kit for separate installation of the DALI EASY II control unit

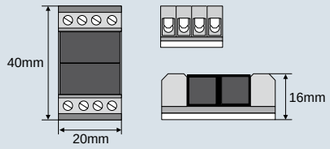
- Permissible cable cross-section: min. ∅ 8 mm/ max. ∅ 13 mm
- Dimensions: 261 x 71/35 x 27 mm (L x W x H)



Y-CONNECTOR

Splitter for connecting multiple control units and for connecting further system components

- Combined control connection: 3 x modular 4p4c socket
- Connecting cable: 4-pole, modular 4p4c connector on both sides, length: 2,1 m (2 x included)



Y-CONNECTOR SCREW

Splitter with screw terminal for connecting multiple control units and for connecting further system components

- Combined control connection: 2 x modular socket (4p4c) + 2 x screw terminal (4-pin)
- Connecting cable: Length: 2.1 m (2 x included)

Technical data for the EASY Color Control system

Type	Product reference	Product number	Dimensions in mm (L x W x H)	
DALI Control unit	DALI EASY II	4008321**053046**	189 x 30 x 21	25
LED control unit	OT EASY 60	4008321**187796**	220 x 46 x 44	10
IR remote control	EASY RMC	4008321**053152**	120 x 57 x 25	25
IR sensor for luminaire installation	EASY IR	4008321**053138**	35 x 21 x 16	25
IR sensor for ceiling installation	EASY IR CI	4008321**915573**	∅ 50 x 19	10
Push button Coupler element	EASY PB COUPLER	4008321**915597**	47 x 44 x 13	25
PC software with USB adapter	EASY PC KIT	4008321**915559**	–	10
Accessories				
Adapter for sensor surface mounting	SENSOR KIT	4008321**916662**	∅ 80 x 25	10
Mounting kit for DALI control unit	LMS CI BOX	4008321**083692**	261 x 71/35 x 27	40
Branch	Y-CONNECTOR	4050300**803135**	35 x 18 x 16	25
Branch with screw terminals	Y-CON. SCREW	4008321**916686**	40 x 20 x 16	25

1…10 V lighting control for QUICKTRONIC® DIMMABLE

Dimmable lighting systems
Dimmable lighting systems are playing a more and more important role to play in all areas of application. The reason is that many of the demands that are placed on lighting systems can be met more easily and more elegantly with lighting controls. Economy and comfort are the driving forces here.

- Reducing lighting costs
- Increasing lighting comfort
- Promoting individuality

This has all been made possible thanks to technical developments over recent years. Modern dimmable ECGs with 1…10 V interfaces in combination with the appropriate controllers and sensors provide the basis for simple and cost-effective systems.

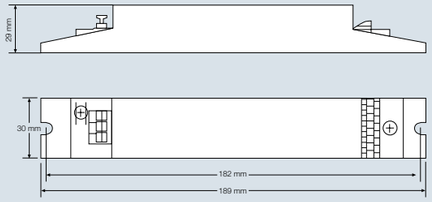
The right controller for any application
There are very many different ways in which dimmable ECGs can be used. Typical applications include offices and factories with daylight-dependent controllers, conference and meeting rooms with situation-dependent lighting and CAD rooms and control rooms with individual adjustment of the lighting level. At the heart of the lighting system are QUICKTRONIC® DIMMABLE ECGs with 1…10 V interfaces. They are controlled with a controller or a sensor. The choice of the right 1…10 V dimmer components for controlling the lighting level depends on the particular application. The requirement profile for the dimmable lighting system must therefore be defined accurately.

Manual controllers
Manual controllers using switches and remote control units, for example, offer a high degree of flexibility and can be adapted to the specific needs of the user. The functions of different 1…10 V controllers can be combined for tailor-made lighting control.

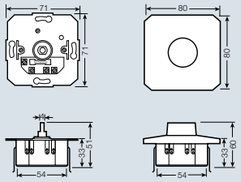
Automatic controllers
Automatic controllers with sensors are ideal for saving on lighting costs. The lighting level is regulated by light sensors according to the amount of daylight available, so full use is made of available daylight. Energy savings of up to 60% are possible. Potential savings of up to 70% and more can be achieved by using sensors with automatic disconnection, motion detectors and time switches.

Complex controllers
A simple link between the 1…10 V interface and the *instabus EIB* or *LON* building services control bus can be established via switching/dimming actuators.

Properties of the 1…10 V interface:
1. Control is via an interference-proof DC voltage signal of 10 V (maximum brightness; control line open) to 1 V (minimum brightness; control line short-circuited)
2. The control power is generated by the ECG (maximum current 0.6 mA per ECG).
3. The voltage on the control line is isolated from the power cable (basic insulation) but is not at safety extra-low voltage (SELV).
4. ECGs connected to different phases can be dimmed via the same controller.



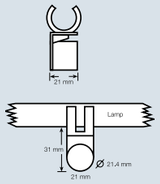
DIM SA
- Signal amplifier for 1…10 V signal
- Can only be used in conjunction with other controllers (such as sensors)
- Weight: 190 g
- Permissible ambient temperature: 0 °C to +50 °C
- Rated voltage: 230 V/50 – 60 Hz, DC not permissible
- Power consumption: 2 W
- Protection class: I
- Type of protection: IP20
- Load capacity of the signal output: max. 100 mA or 100 OSRAM 1…10 V ECGs or 33 signal amplifiers



DIM MCU P
- Electronic potentiometer for 1…10 V
- For 1 control point
- Integrated switching contact
- With rotary button and cover
- Permissible ambient temperature: –20 °C to +50 °C
- Load capacity of switching contact: 250 V/6 A (10 single-lamp or 5 two-lamp dimmable ECGs)
- Protection class: II
- Type of protection: IP20
- Load capacity of the signal output: Max. 40 mA or dimmable ECGs: max. 50 or signal amplifiers: maximum of 16
- Approval marks:

Type	Product reference	Product number	Dimensions in mm	
Order data				
Signal amplifier	DIM SA	4008321**097095**	189 x 30 x 29	40
Manual control unit	DIM MCU P	4050300**347424**	80 x 80 x 60	100

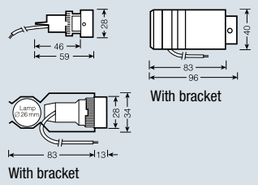
1…10 V light sensors



DIM PICO

- 1…10 V mini light sensor for single luminaires in single and open-plan offices
- Up to 50% energy savings
- Simple clip-on fitting for T8 and T5 lamps
- Direct connection to the 1…10 V-interface
- Compensates for 50% of the incoming daylight
- Easy to adjust by turning the casing

- Permissible ambient temperature: +5 °C to +55 °C
- Load capacity of the signal output: 6 mA or a maximum of 10 OSRAM dimmable ECGs
- Cable length: 700 mm
- Protection class: II
- Type of protection: IP20
- Weight: 21 g



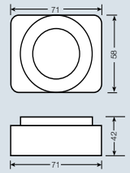
DIM MICO

- 1…10 V mini light sensor for strip lighting in single and open-plan offices
- Up to 60% energy savings
- Direct connection to the 1…10 V-interface
- Compensates for 100% of the incoming daylight
- Integrated trimmer for adjusting the lighting level
- Mounting bracket for simple installation

- Permissible ambient temperature: 0 °C to +45 °C
- Load capacity of the signal output: Dimmable ECGs: max. 100 signal amplifiers: maximum of 16
- Cable length: 800 mm, can be extended to 50 m
- Protection class: II
- Type of protection: IP20
- Weight: 100 g

Type	Product reference	Product number	Dimensions in mm	
Order data				
Mini light sensor	DIM PICO	4050300**554457**	21 x 21 x 31	20
Mini light sensor	DIM MICO	4050300**464411**	∅ 28 x 59	20

1…10 V combined light and motion sensors



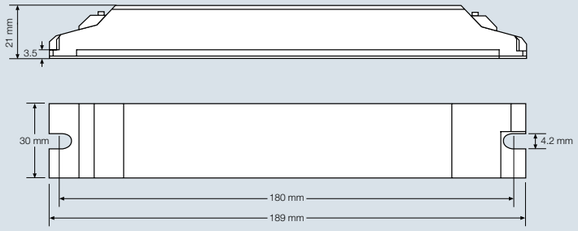
DIM MULTI

- 1…10 V sensor for daylight-dependent control with automatic shutdown in adequate daylight
- Integrated motion sensor (can be disabled)
- Energy savings: up to 70%
- Compensates for 100% of the incoming daylight
- Easy to adjust with trimmers on the sensor
- For ceiling mounting in single and open-plan offices
- Upgrades: in louver luminaires with clip for T5/T8 lamps
- Rated voltage: 230 V 50/60 Hz, DC not permissible
- Permissible ambient temperature: 0 °C to +50 °C
- Load capacity of the signal output: Dimmable ECGs: max. 50 signal amplifiers: maximum of 16
- Load capacity of switching contact: 5 A ohmic load or 20 1-lamp ECGs or 10 2-lamp ECGs
- Switch-off delay range: 5 to 30 minutes
- Detection angle of the light sensor: approx. 100°
- Monitoring range of the motion sensor: approx. 7 m diameter at a height of 3 m
- Protection class: II
- Type of protection: IP20
- Weight: 150 g

Type	Product reference	Product number	Dimensions in mm	
Order data				
One-part light and motion sensor	DIM MULTI	4050300**554471**	71 x 58 x 42	20

1…10 V combined light and motion sensors

DIM MULTI 3



DIM MULTI 3

- 1…10 V control unit for daylight and motion-dependent control of luminaires
- Choice of 10 different operating modes from manual control to fully automatic
- Control input: – Connection for standard switches (max. cable length 100 m)
  – Western socket for connecting up to 4 light and motion sensors
- Control output: up to 32 ECGs can be connected (max. 30 mA)
- Power supply: 230 – 240 V AC/50 – 60 Hz
- Ambient temperature: 0 … 50 °C
- Type of protection/ protection class: IP20/II

(For technical data for accessories see page 9.23)

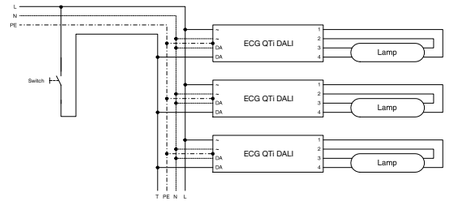
MULTI 3 order data

Type	Product reference	Product number	Dimensions in mm	
1…10 V control unit	DIM MULTI 3	4050300**802107**	189 x 30 x 21	25
Standard light and motion sensor	LS/PD MULTI 3	4050300**802138**	55 x 21 x 29	25
Recessed/surface mounted ceiling sensor	LS/PD MULTI 3 CI	4008321**916648**	∅ 50 x 19	10
Low-profile light and motion sensor	LS/PD MULTI 3 FL	4008321**047342**	35 x 21 x 20	25
Movable light and motion sensor	LS/PD MULTI 3 B	4050300**803081**	48 x 29 x 24	25
Y connector	Y-CONNECTOR	4050300**803135**	35 x 18 x 16	25
Y connector with screw terminals	Y-CON. SCREW	4008321**916686**	40 x 20 x 16	25
Adapter for sensor, surface mounting	SENSOR KIT	4008321**916662**	∅ 80 x 25	10

Touch DIM®[1] lighting control without a controller

Dimming with line voltage
OSRAM has come up with a cost-effective idea for providing simple lighting control with DALI® ECGs. A new function has been added to DALI® ECGs. It's called ***Touch DIM***®. It is now possible to dim and switch the control gear directly with line voltage at the DALI® control terminals. There is no longer any need for a separate controller as the ECG itself acts as the controller.

Wiring diagram for *Touch DIM*® operation:



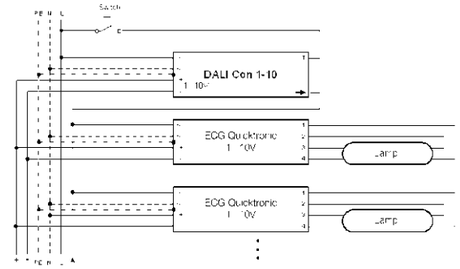
Note: The ECGs may be connected to different power supply phases

***Touch DIM*® offers the following convenient functions:**

- Soft start
- Precise setting of the required light value
- Either manual storage of the switch-on value by double-clicking[2] or switching on at the last dimmer value
- The last state is automatically restored after a power failure

***Touch DIM*® also with 1…10 V ECGs**
By using DALI® to 1…10 V converters it is possible also to control 1…10 V ECGs via ***Touch DIM***®. The converter has a separate input for connecting the switch (see page 9.11).

Wiring diagram for converters in *Touch DIM*® mode:



Changeover is automatic
After an interruption in the power supply it is possible to change over from DALI® mode (factory default) to ***Touch DIM***® by holding down the switch for about two seconds. If the unit is used again in a DALI® system the ECG automatically changes back to DALI® mode after a break in the power supply.

Important:
Touch DIM® must **never** be used at the same time as a DALI® control system. **Either** DALI® mode **or** ***Touch DIM***® mode, but not both. Otherwise the controller or the ECG or converter may be damaged.

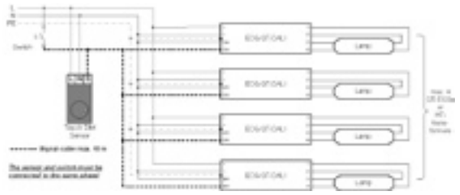
1) ***Touch DIM***® is an extra function of the DALI® ECG and DALI® to 1…10 V converter that is integrated **in addition to** the DALI® standard in our QTi DALI, HTi DALI and QTi DALI ECGs

2) Manual storage by double-clicking.
Not possible in conjunction with DALI® to 1…10 V converters

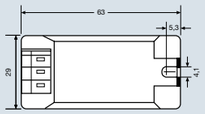
The *Touch DIM® Sensor* – lighting control without a controller

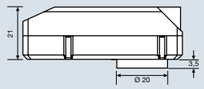
The ***Touch DIM***® function of the microprocessor-controlled QTi DALI ... DIM series of ECGs now also offers integrated lighting control functions – without the need for an external controller. Daylight and presence-dependent lighting control is possible in conjunction with the new ***Touch DIM***® ***Sensor***. Connection of a ***Touch DIM***® ***Sensor*** is automatically detected by the ECG. For luminaire manufacturers this means fewer components, less space needed in the luminaire and less wiring. The simplicity of ***Touch DIM***® operation has been retained. The ***Touch DIM***® ***Sensor***, in conjunction with the new intelligent family of QTi DALI ECGs, offers tailor-made solutions for comfortable energy-saving lighting that meets the needs of individual and open-plan offices.

Wiring diagram for *Touch DIM® Sensor*:

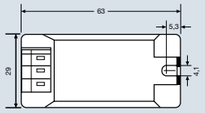


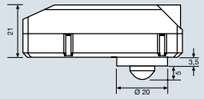
Note: The ECGs may be connected to different power supply phases. The switch and sensor must be connected to the same phase.





Device type:	Light sensor
Designation:	***Touch DIM***® **LS LI**
• Operating voltage:	220 – 240 V/50-60 Hz
• Connections:	L, N, S (signal), max. 4 QTi DALI ECGs or 4 HTi transformers or 4 OTi DALI/LED dimmers
• Max. overall length of the signal cable:	10 m
• Power consumption:	< 0.5 W
• Operating temperature:	0 °C to +50 °C
• Adjustable light value:	10 – 300 lux measured at the sensor or approx. 10 – 1200 lux on the desktop
• Dimensions:	63 x 29 x 21 mm (L x W x H)
• Protection class:	II





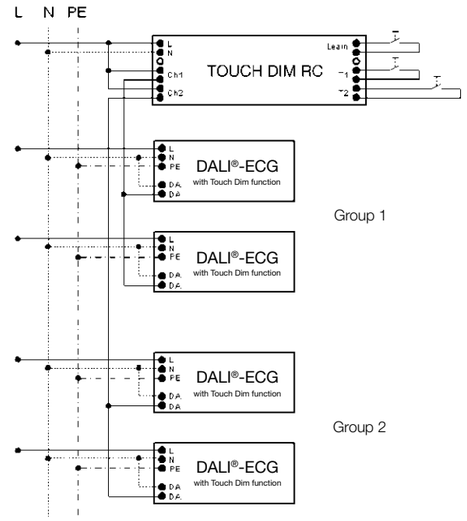
Device type:	Light and motion sensor
Designation:	***Touch DIM***® **LS/PD LI**
• Operating voltage:	220 – 240 V/50-60 Hz
• Connections:	L, N, S (signal), max. 4 QTi DALI ECGs or 4 HTi transformers or 4 OTi DALI/LED dimmers
• Max. overall length of the signal cable:	10 m
• Power consumption:	< 0.5 W
• Operating temperature:	0 °C to +50 °C
• Adjustable light value:	Approx. 0 – 300 lux measured at the sensor or approx. 10 – 1200 lux on the desktop
• Motion detection area:	Conical, approx. 80 to 100° opening angle
• Delay time:	15 min
• Dimensions:	63 x 29 x 21 mm (L x W x H)
• Protection class:	II

Type	Product reference	Product number	Dimensions in mm	
Touch DIM® **order data**				
Light sensor	Touch DIM LS LI	4008321**023087**	63 x 29 x 21	25
Light and motion sensor	Touch DIM LS/PD LI	4008321**023025**	63 x 29 x 21	25

Touch DIM® Remote Control – dimming without a control cable

With the new ***Touch DIM***® **R**emote **C**ontrol System, all ***Touch DIM***® compatible ECGs can be controlled without the need for cables. The system consists of a 2-channel radio receiver module and a 2-channel radio switch. The receiver module for controlling up to 2 x 15 ECGs can be accommodated either directly in a luminaire or, with the LMS CI BOX installation kit, in a suspended ceiling. The systems requires no maintenance whatsoever. Thanks to innovative induction technology, no batteries are needed to power the transmitter module in the radio switch. The unique coding of the switch ensures that there is no interference between neighboring systems. Up to 30 radio switches can be very easily “trained and retrained” in each receiver module at the push of a button. Transmission is extremely reliable over distances of about 30 meters indoors and 300 meters outdoors, which is what distinguishes this professional ***Touch DIM***® **R**emote **C**ontrol System from the many consumer products available on the market. The system is suitable not only for purpose-built buildings but also, in combination with the new intelligent HTi transformer for operating low-voltage halogen lamps, for meeting sophisticated lighting requirements in the home.

Wiring diagram for *Touch DIM®* Remote Control:

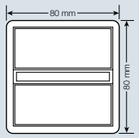


Notes on radio operation:
The installation site for wall transmitters and receivers, the structure of the building and the building materials all have a major impact on the transmission range. The type and number of obstacles between the transmitter and the receiver, sources of interference and signal reflections may reduce the ranges shown here quite considerably. If you are in any doubt you should test the transmission range before installing the equipment.

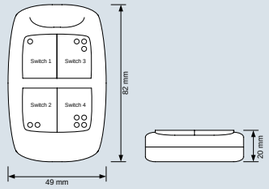
The following transmission ranges are given as guide values:

- In the open air: approx. 300 m
- Factories: approx. 100 m
- Passageways and corridors: approx. 50 m
- Rooms with wooden or plasterboard walls: Approx. 30 m, penetration of up to 7 walls
- Rooms with brick or breezeblock walls: Approx. 20 m, penetration of up to 3 walls
- Rooms with reinforced concrete walls: Approx. 10 m, penetration of one wall

Touch DIM® Remote Control – dimming without a control cable

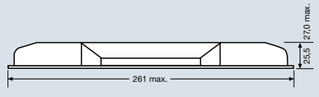


Device type:	2-channel wall transmitter	• Output power:	10 mW
Designation:	***Touch DIM*® WCU**	• Energy production:	inductive (battery-less) > 750,000 transmissions
• Type of protection:	IP20		
• Ambient temperature:	0 °C to +50 °C	• Dimensions:	80 x 80 x 18 mm (L x W x H)
• Frequency band:	868.3 MHz		



Device type:	4-channel radio manual transmitter	• Energy production:	inductive (battery-less) > 50,000 transmissions
Designation:	***Touch DIM*® RMC**	• Dimensions:	82 x 48 x 20 mm (L x W x H)
• Frequency band:	868 MHz		
• Output power:	10 mW		

Device type:	2-channel radio receiver module	• Inputs:	Learn, T1, T2 inputs for floating make contacts
Designation:	***Touch DIM*® RC**	• Outputs:	2 floating semiconductor relay outputs
• Operating voltage:	220 – 240 V/50-60 Hz		max. 45 mA/240 V
• Power consumption:	max. 1.5 W		
• Protection class:	II, IP20	• Number of control gear units per output:	up to 15 QTi DALI ECGs or HTi transformers
• Ambient temperature:	0 °C to +50 °C		
• Frequency band:	868.3 MHz	• Number of wall transmitters:	max. 30



Mounting kit:	**LMS CI BOX**	• Dimensions:	261 x 71/35 x 27 mm (L x W x H)
• Permissible cable cross-section:	min. ∅ 8 mm/ max. ∅ 13 mm		

Type	Product reference	Product number	Dimensions in mm	
***Touch DIM*® order data**				
2-channel wall transmitter	Touch DIM WCU	4008321**032737**	80 x 80 x 18	25
4-channel manual transmitter	Touch DIM RMC	4008321**183033**	82 x 48 x 20	10
2-channel radio receiver	Touch DIM RC	4008321**031938**	189 x 30 x 21	20
Installation kit	LMS CI BOX	4008321**083692**	261 x 71/35 x 27	40

QUICKTRONIC® INTELLIGENT dimmable QTi…DIM

The generation of ECGs for intelligent flexible dimming applications

3 LUMILUX® OSRAM System Guarantee + QUICKTRONIC® 5

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee.

QTi dimmable – intelligent lamp detection and superior dimming technology in a 21 mm heigh casing

Up to now, just about every fluorescent lamp needed its own dimmable ECG. Thanks to its intelligent lamp detection function for HE or HO lamps, QUICKTRONIC® INTELLIGENT can be used as the basis for versatile luminaire systems capable of operating HE or HO T5 lamps in one and the same luminaire. Other lamp types can be operated in addition to T5 lamps of the same length and wattage.

The following T5 lamp types can be operated on just one QTi DIM ECG in each case:

HE 14 W + HO 24 W	(549 mm)
HE 21 W + HO 39 W	(849 mm)
HE 28 W + HO 54 W	(1149 mm)
HE 35 W + HO 49 W + HO 80 W	(1449 mm)

QTi dimmable – DALI® or 1…10 V interface

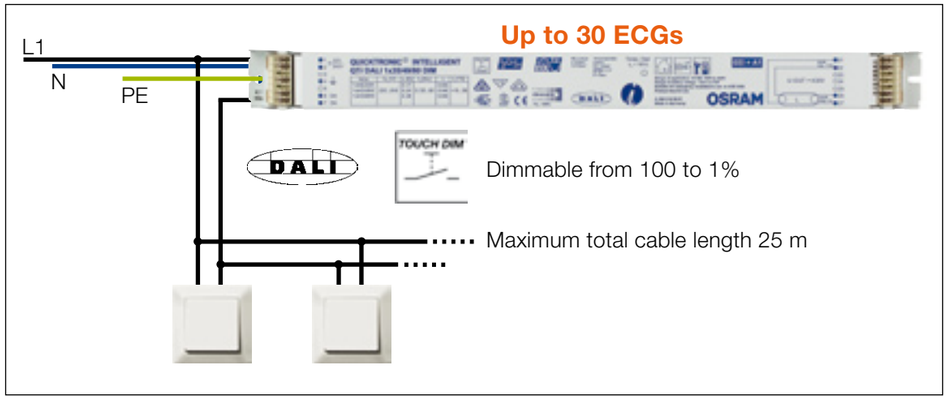
Dimmable QUICKTRONIC® INTELLIGENT ECGs are offered with a DALI® or 1…10 V interface. Both versions ensure flicker-free operation of the lamps throughout the entire dimming range from 100 to 1%. The QTi DALI DIM units also feature the ***Touch DIM®*** function, which goes beyond the DALI® standard and makes dimming particularly easy.

Touch DIM® **– dimming without a dimmer**

The ***Touch DIM®*** functions on QTi DALI DIM ECGs enables dimming solutions to be created without the need for a dimmer switch or controller simply by connecting a conventional switch to the DALI® interface. By double clicking it is even possible to store a brightness level for the lighting when it is next switched on.

Touch DIM® notes:[1)]

– Up to 30 ECGs can be controlled from one light switch
– Any number of control points (switches) can be provided
– The maximum overall control cable length is 25 m without protective circuits
– Cable lengths in excess of 100 m require a simple bell transformer
– Double-click for memory value
– Simple synchronization by "long-short-long" switch activation

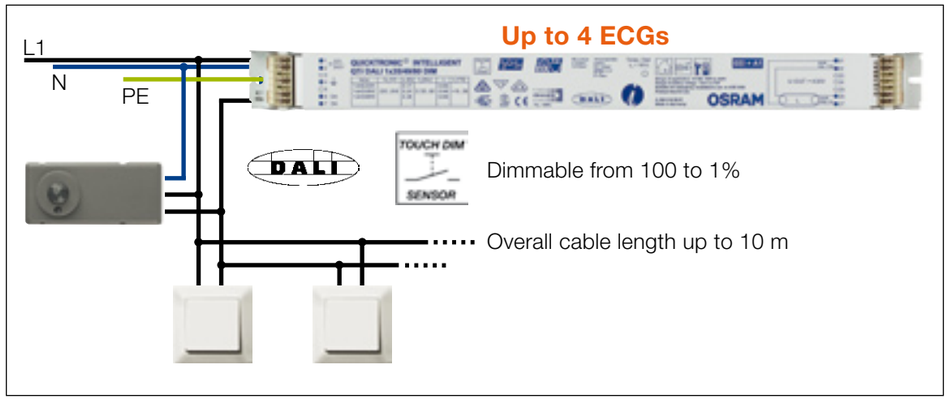


Touch DIM® Sensor **– lighting management without a controller**

The ***Touch DIM® Sensor*** function enables a miniaturized combined light and motion sensor to be connected directly to QTi DALI ECGs. This means that low-cost intelligent luminaires with daylight-dependent control and a presence function can be produced without the need for an additional controller.

Touch DIM® Sensor notes:

– Up to four QTi DALI or HTi DALI or OTi DALI ECGs can be connected to a ***Touch DIM® Sensor***
– The maximum overall control cable length is 10 m
– A setpoint for daylight-dependent control can be stored by double clicking



QTi DALI DIM and 1…10 V – superior ECG and dimming technology

Benefits at a glance

– Flicker-free lamp starting across the entire temperature range and at all dimmer settings
– Lamp start in 0.6 s
– Dimming range 100 to 1%
– Cut-off technology between 80 and 100% dimmer setting
– Gentle lamp starting → at least 250,000 lamp starts without any effect on lamp life
– Dimming has no effect on lamp life thanks to optimized control of filament preheating
– Safety shutdown of defective lamps thanks to End-of-Life detection (EOL, as per Test 2, asymmetrical power detection)
– Complies with valid European standards for safety, operation and electromagnetic compatibility (EMC)
– Suitable for use in emergency lighting systems with central batteries
– Suitable for rapid dimming in RGB applications with no adverse effect on lamp life

1) For detailed technical data please refer to the DALI® Guide (order no. 130T011E)

QTi DALI DIM – DALI or *Touch DIM*® in one unit

Additional benefits at a glance:

– Connection to lighting controllers/gateways with DALI® interface or independent lighting management with ***Touch DIM***® function

– ***Touch DIM***® – dimming without a dimmer thanks to direct connection to conventional switches; double click to store the switch-on value

– ***Touch DIM***® ***Sensor*** – lighting management without a controller thanks to direct connection of a combined light and motion sensor

QTi DALI DIM and 1…10 V – superior ECG and dimming technology

Benefits for luminaire manufacturers at a glance:

– Intelligent lamp detection is the basis for intelligent versatile luminaires

– Intelligent lamp detection enables the number of ECG types needed to cover a wide range of different luminaires to be significantly reduced

– Uniform pin assignment for dimmable and non-dimmable ECGs and luminaire types

– Uniform casing geometry for 1-lamp and 2-lamp versions

– Super low-profile 21 mm casing for greater freedom in luminaire design

– Combined terminal for automatic or manual wiring

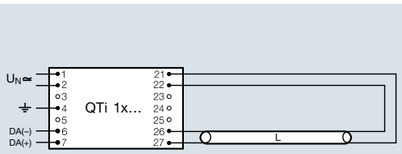
– Optimum energy balance in the luminaire thanks to cut-off technology

– Power regulation at excessive temperatures in the luminaire

Further product information is available on the internet at

www.osram.com/ecg

QUICKTRONIC® INTELLIGENT DIMMABLE with DALI® interface for HE and HO (T5/Ø 16 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT DALI for HE and HO lamps – single-lamp version						
QTi DALI 1x14/24/220-240 DIM	4050300**870380**	1xHE 14	198…264	154…276	53…120	0,07
		1xHO 24				0,11
		1xDL 24[4]				0,11
QTi DALI 1x21/39/220-240 DIM	4050300**870366**	1xHE 21	198…264	154…276	44…120	0,11
		1xHO 39				0,18
		1xDL 40[4]				0,18
		1xL 70				0,29
QTi DALI 1x28/54/220-240 DIM	4050300**870809**	1xHE 28	198…264	154…276	44…120	0,14
		1xHO 54				0,26
		1xDL 55[4]				0,26
QTi DALI 1x35/49/80/220-240 DIM	4050300**870342**	1xHE 35	198…264	154…276	44…120	0,17
		1xHO 49				0,24
		1xHO 80				0,39
		1xDL 80[4]				0,39

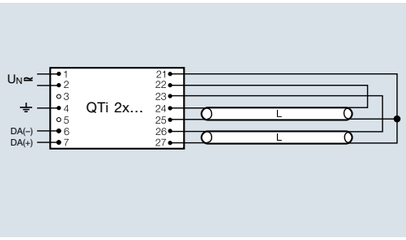
Product reference	λ	W SYSTEM [3]	lm [3][7]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi DALI 1x14/24/220-240 DIM	0,96	15,4	1x1200	+10…50	360	30	21	350	20	305
	0,98	25,3	1x1750							
	0,98	25,3	1x1800							
QTi DALI 1x21/39/220-240 DIM	0,96	23,1	1x1900	+10…50	360	30	21	350	20	305
	0,98	41,8	1x3100							
	0,98	41,8	1x3500							
	0,99	65,2	1x6300	–10…50						
QTi DALI 1x28/54/220-240 DIM	0,97	30,1	1x2600	+10…50	360	30	21	350	20	305
	0,99	58,8	1x4450							
	0,99	58,8	1x4800							
QTi DALI 1x35/49/80/220-240 DIM	0,96	37,8	1x3300	+10…50	360	30	21	350	20	305
	0,98	53,4	1x4300							
	0,99	88,1	1x6150							
	0,99	88,1	1x6000							

For general information see page 9.46

For DALI® product features see page 9.46

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) No effect lighting with DL and DF lamps
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C
6) Lamp ignition only above 198 V
7) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® INTELLIGENT DIMMABLE with DALI® interface for HE and HO (T5/Ø 16 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT DALI for HE and HO lamps – two-lamp version						
QTi DALI 2x14/24/220-240 DIM	4050300**870861**	2xHE 14	198…264	154…276	53…120	0,14
		2xHO 24				0,22
		2xDL 24[4]				0,22
QTi DALI 2x21/39/220-240 DIM	4050300**870489**	2xHE 21	198…264	154…276	44…120	0,21
		2xHO 39				0,36
		2xDL 40[4]				0,36
		2xL 70				0,56
QTi DALI 2x28/54/220-240 DIM	4050300**870502**	2xHE 28	198…264	154…276	44…120	0,27
		2xHO 54				0,51
		2xDL 55[4]				0,51
QTi DALI 2x35/49/220-240 DIM	4050300**870465**	2xHE 35	198…264	154…276	44…120	0,33
		2xHO 49				0,45
QTi DALI 2x35/49/80/220-240 DIM	4050300**870441**	2xHE 35	198…264	154…276	44…120	0,34
		2xHO 49				0,46
		2xHO 80				0,74
		2xDL 80[4]				0,74

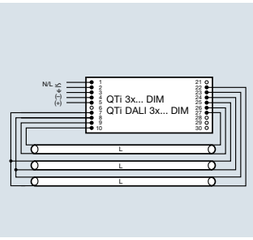
Product reference	λ	W SYSTEM [3]	lm [3][7]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi DALI 2x14/24/220-240 DIM	0,96	30,6	2x1200	+10…50	423	30	21	415	20	370
	0,96	49,3	2x1750							
	0,96	49,3	2x1800							
QTi DALI 2x21/39/220-240 DIM	0,96	45,0	2x1900	+10…50	423	30	21	415	20	370
	0,96	82,0	2x3100							
	0,97	82,0	2x3500							
	0,99	128,0	2x6300	–10…50						
QTi DALI 2x28/54/220-240 DIM	0,97	60,2	2x2600	+10…50	423	30	21	415	20	370
	0,98	115,0	2x4450							
	0,98	115,0	2x4800							
QTi DALI 2x35/49/220-240 DIM	0,95	74,5	2x3300	+10…50	423	30	21	415	20	370
	0,97	103,6	2x4300							
QTi DALI 2x35/49/80/220-240 DIM	0,95	74,0	2x3300	+10…50	423	30	21	415	20	400
	0,97	101,0	2x4300							
	0,99	165,0	2x6150							
	0,99	165,0	2x6000							

For general notes see page 9.46

For DALI® product features see page 9.46

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) No effect lighting with DL and DF lamps
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C
6) Lamp ignition only above 198 V
7) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® INTELLIGENT DIMMABLE with DALI® interface for HE and HO (T5/Ø 16 mm) and L (T8/Ø 26 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT DALI for HE and HO lamps – three and four-lamp versions						
QTi DALI 3x14/24/220-240 DIM	4008321**069955**	3xHE 14	198…264	154…276	40…100	0,20
		3xHO 24				0,32
		3xDL 24[7]				0,32
QTi DALI 4x14/24/220-240 DIM	4008321**070036**	4xHE 14	198…264	154…276	40…100	0,27
		4xHO 24				0,43
		4xDL 24[7]				0,43

Product reference	λ	W SYSTEM [3]	lm [4]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi DALI 3x14/24/220-240 DIM	0,97	45,3	3x1200	+10…50	360	40	21	350	20	420
	0,99	73,4	3x1750	+10…50						
	0,99	73,4	3x1800	+10…50						
QTi DALI 4x14/24/220-240 DIM	0,97	60,4	4x1200	+10…50	360	40	21	350	20	420
	0,99	97,6	4x1750	+10…50						
	0,99	97,6	4x1800	+10…50						

Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT DALI for L lamps – three and four-lamp versions						
QTi DALI 3x18/220-240 DIM	4008321**069979**	3xL 18	198…264	154…276	40…100	0,24
		3xDL 18[7]				0,24
QTi DALI 4x18/220-240 DIM	4008321**070050**	4xL 18	198…264	154…276	40…100	0,31
		4xDL 18[7]				0,31

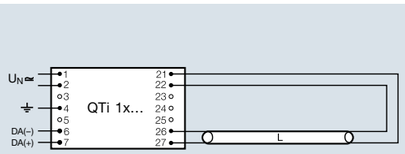
Product reference	λ	W SYSTEM [3]	lm [3]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi DALI 3x18/220-240 DIM	0,98	53,6	3x1350	–20…+50	360	40	21	350	20	420
	0,98	53,6	3x1200	+10…50						
QTi DALI 4x18/220-240 DIM	0,98	69,3	4x1350	–20…+50	360	40	21	350	20	420
	0,98	69,3	4x1200	+10…50						

For general information see page 9.46

For DALI® product features see page 9.46

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C for T5 lamps and –25 °C to +50 °C for T8 lamps
6) Lamp ignition only above 198 V
7) No effect lighting with DL and DF lamps

QUICKTRONIC® INTELLIGENT DIMMABLE with DALI® interface for L (T8/Ø 26 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT DALI for L lamps – single-lamp version						
QTi DALI 1x18/220-240 DIM	4050300**870403**	1xL 18	198…264	154…276	50…120	0,08
		1xDL 18[4]				
QTi DALI 1x36/220-240 DIM	4050300**870427**	1xL 36	198…264	154…276	50…120	0,16
		1xDL 36[4]				
QTi DALI 1x58/220-240 DIM	4050300**870823**	1xL 58	198…264	154…276	45…120	0,25

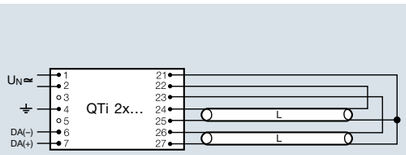
Product reference	λ	W SYSTEM [3]	lm [3]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi DALI 1x18/220-240 DIM	0,97	18,3	1x1350	–20…+50	360	30	21	350	20	305
		18,3	1x1200	+10…50						
QTi DALI 1x36/220-240 DIM	0,97	36,0	1x3350	–20…+50	360	30	21	350	20	305
		36,0	1x2900	+10…50						
QTi DALI 1x58/220-240 DIM	0,99	55,6	1x5200	–20…+50	360	30	21	350	20	305

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Digitally controlled preheating
  – Lamp start within 0.6 s
  – Optimum preheating in any dimmer setting
  – Cut-off above 80% luminous flux
- Lamp start from any dimmer setting throughout the temperature range
- Constant output during line voltage fluctuations
- Same luminous flux with direct and alternating current
- Dimming range 100 to 1% luminous flux
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A1
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

DALI® product features:
- Control via the DALI® interface
- The control input of the DALI® interface is protected against overvoltage and polarity reversal in all OSRAM ECGs
- ***Touch DIM®*** and ***Touch DIM® Sensor*** functions[7]

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) No effect lighting with DL and DF lamps
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C for T5 lamps and –25 °C to +50 °C for T8 lamps
6) Lamp ignition only above 198 V
7) ***Touch DIM®*** and ***Touch DIM® Sensor*** functions for OSRAM QTi DALI ... DIM ECGs are not part of the DALI® standard

QUICKTRONIC® INTELLIGENT DIMMABLE with DALI® interface for L (T8/Ø 26 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT DALI for L lamps – two-lamp version						
QTi DALI 2x18/220-240 DIM	4050300**870526**	2xL 18	198…264	154…276	50…120	0,16
		2xDL 18[4]				0,16
QTi DALI 2x36/220-240 DIM	4050300**870885**	2xL 36	198…264	154…276	50…120	0,31
		2xDL 36[4]				0,31
QTi DALI 2x58/220-240 DIM	4050300**870847**	2xL 58	198…264	154…276	45…120	0,47

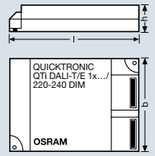
Product reference	λ	W SYSTEM [3]	lm [3]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi DALI 2x18/220-240 DIM	0,97	36,5	2x1350	–20…+50	423	30	21	415	20	370
	0,97	36,5	2x1200	+10…50						
QTi DALI 2x36/220-240 DIM	0,98	69	2x3350	–20…+50	423	30	21	415	20	370
	0,98	69	2x2900	+10…50						
QTi DALI 2x58/220-240 DIM	0,99	108	2x5200	–20…+50	423	30	21	415	20	370

For general notes see page 9.46

For DALI® product features see page 9.46

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) No effect lighting with DL and DF lamps
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C for T5 lamps and –25 °C to +50 °C for T8 lamps
6) Lamp ignition only above 198 V

QUICKTRONIC® INTELLIGENT DIMMABLE with DALI® interface for T/E fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max.	kHz ECG [2]	A [3]
QUICKTRONIC® DALI for T/E lamps – single-lamp version						
QTi DALI-T/E 1x18-57/220-240 DIM	400832**060808**	1xT/E18	198…264	154…276	42…130	0,09
		1xT/E26				0,13
		1xT/E32				0,16
		1xT/E42				0,21
		1xT/E57				0,27

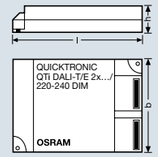
Product reference	λ	W SYSTEM [3]	lm [3]	°C min.-max. [4]	l [mm]	b [mm]	h [mm]	g
QTi DALI-T/E 1x18-57/220-240 DIM	0,95	19,8	1x1200	+10…50	123	79	33	220
	0,97	27,0	1x1800					
	0,98	38,5	1x2400					
	0,99	47,1	1x3200					
	0,99	62,1	1x4300					

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Digitally controlled preheating
  – Lamp start within 0.6 s
  – Optimum preheating in any dimmer setting
  – Cut-off above 80% luminous flux
- Lamp start from any dimmer setting throughout the temperature range
- Constant output during line voltage fluctuations
- Same luminous flux with direct and alternating current
- Dimming range 100 to 3% luminous flux
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A1
- Suitable for use in emergency lighting systems with central batteries
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

DALI® product features:
- Control via the DALI® interface
- The control input of the DALI® interface is protected against overvoltage and polarity reversal in all OSRAM ECGs
- ***Touch DIM®*** and ***Touch DIM® Sensor*** functions[5]

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) System temperature (lamp and ECG) without any restriction on the dimming range, undimmed lamp start down to –20 °C
5) ***Touch DIM®*** and ***Touch DIM® Sensor*** functions for OSRAM QTi DALI ... DIM ECGs are not part of the DALI® standard

QUICKTRONIC® INTELLIGENT DIMMABLE with DALI® interface for T/E fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max.	kHz ECG [2]	A [3]
QUICKTRONIC® DALI for T/E lamps – two-lamp version						
QTi DALI-T/E 2x18-42/220-240 DIM	400832**060822**	T/E 18[5]	198…264	154…276	42…140	0,17
		T/E 26[5]				0,25
		T/E 32				0,30
		T/E 42				0,39

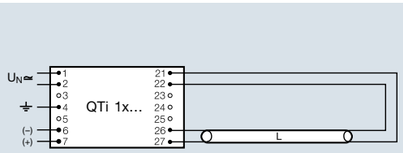
Product reference	λ	W SYSTEM [3]	lm [3]	°C min.-max. [4]	l [mm]	b [mm]	h [mm]	g
QTi DALI-T/E 2x18-42/220-240 DIM	0,95	34,5	2x1200	+10…50	123	79	33	240
	0,98	55,6	2x1800					
	0,99	68,1	2x2400					
	0,99	89,7	2x3200					

For general notes see page 9.48

For DALI® product features see page 9.48

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) System temperature (lamp and ECG) without any restriction on the dimming range, undimmed lamp start down to –20 °C
5) Also for D/E lamps

QUICKTRONIC® INTELLIGENT DIMMABLE with 1…10 V interface for HE and HO (T5/Ø 16 mm) fluorescent lamps



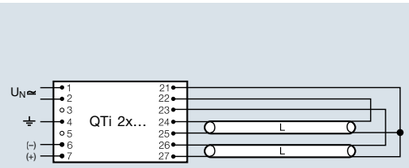
Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT for HE and HO lamps – single-lamp version						
QTi 1x14/24/220-240 DIM	4050300**870922**	1xHE 14	198…264	154…276	53…120	0,07
		1xHO 24				0,11
		1xDL 24[4]				0,11
QTi 1x21/39/220-240 DIM	4050300**870564**	1xHE 21	198…264	154…276	44…120	0,11
		1xHO 39			0,18	
		1xDL 40[4]			0,18	
		1xL 70				0,29
QTi 1x28/54/220-240 DIM	4050300**870588**	1xHE 28	198…264	154…276	44…120	0,14
		1xHO 54				0,26
		1xDL 55[4]				0,26
QTi 1x35/49/80/220-240 DIM	4050300**870540**	1xHE 35	198…264	154…276	44…120	0,17
		1xHO 49				0,24
		1xHO 80				0,39
		1xDL 80[4]				0,39

Product reference	λ	W SYSTEM [3]	lm [3][7]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi 1x14/24/220-240 DIM	0,96	15,9	1x1200	+10…50	360	30	21	350	20	305
	0,98	25,3	1x1750							
	0,98	25,3	1x1800							
QTi 1x21/39/220-240 DIM	0,96	23,1	1x1900	+10…50	360	30	21	350	20	305
	0,98	41,8	1x3100							
	0,98	41,8	1x3500							
	0,99	65,2	1x6300	–10…50						
QTi 1x28/54/220-240 DIM	0,97	30,1	1x2600	+10…50	360	30	21	350	20	305
	0,99	58,8	1x4450							
	0,99	58,8	1x4800							
QTi 1x35/49/80/220-240 DIM	0,96	37,8	1x3300	+10…50	360	30	21	350	20	305
	0,98	53,9	1x4300							
	0,99	88,1	1x6150							
	0,99	88,1	1x6000							

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Digitally controlled preheating
  – Lamp start within 0.6 s
  – Optimum preheating in any dimmer setting
  – Cut-off above 80% luminous flux
- Same luminous flux with direct and alternating current
- Dimming range 100 to 1% luminous flux
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A1
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Control via the 1…10 V interface
- Additional features:

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) No effect lighting with DL and DF lamps
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C
6) Lamp ignition only above 198 V
7) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® INTELLIGENT DIMMABLE with 1…10 V interface for HE and HO (T5/Ø 16 mm) fluorescent lamps



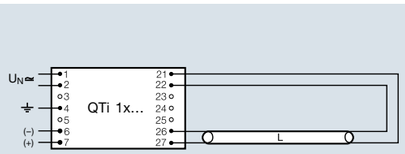
Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT for HE and HO lamps – two-lamp version						
QTi 2x14/24/220-240 DIM	4050300**870946**	2xHE 14	198…264	154…276	53…120	0,14
		2xHO 24				0,22
		2xDL 24[4]				0,22
QTi 2x21/39/220-240 DIM	4050300**870694**	2xHE 21	198…264	154…276	44…120	0,21
		2xHO 39				0,36
		2xDL 40[4]				0,36
		2xL 70				0,56
QTi 2x28/54/220-240 DIM	4050300**870717**	2xHE 28	198…264	154…276	44…120	0,27
		2xHO 54				0,51
		2xDL 55[4]				0,51
QTi 2x35/49/220-240 DIM	4050300**870670**	2xHE 35	198…264	154…276	44…120	0,33
		2xHO 49				0,45
QTi 2x35/49/80/220-240 DIM	4050300**870984**	2xHE 35	198…264	–	44…120	0,34
		2xHO 49				0,46
		2xHO 80				0,74
		2xDL 80[4]				0,74

Product reference	λ	W SYSTEM [3]	lm [3][7]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi 2x14/24/220-240 DIM	0,96	30,6	2x1200	+10…50	423	30	21	415	20	370
	0,96	49,3	2x1750							
	0,96	49,3	2x1800							
QTi 2x21/39/220-240 DIM	0,96	45,0	2x1900	+10…50	423	30	21	415	20	370
	0,96	82,0	2x3100							
	0,97	82,0	2x3500							
	0,99	128,0	2x6300							
QTi 2x28/54/220-240 DIM	0,97	60,2	2x2600	+10…50	423	30	21	415	20	370
	0,98	115,0	2x4450							
	0,98	115,0	2x4800							
QTi 2x35/49/220-240 DIM	0,95	74,5	2x3300	+10…50	423	30	21	415	20	370
	0,97	103,6	2x4300							
QTi 2x35/49/80/220-240 DIM	0,95	74,0	2x3300	+10…50	423	30	21	415	20	400
	0,97	101,0	2x4300							
	0,99	165	2x6150							
	0,99	165	2x6000							

For general notes see page 9.50

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) No effect lighting with DL and DF lamps
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C
6) Lamp ignition only above 198 V
7) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® INTELLIGENT DIMMABLE with 1…10 V interface for L (T8/Ø 26 mm) fluorescent lamps



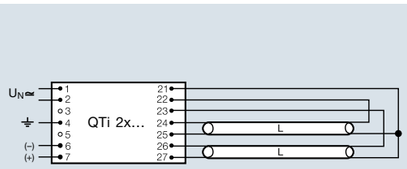
Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT for L lamps – single-lamp version						
QTi 1x18/220-240 DIM	4050300**870601**	1xL 18	198…264	154…276	50…120	0,08
		1xDL 18[4]				
QTi 1x36/220-240 DIM	4050300**870625**	1xL 36	198…264	154…276	50…120	0,16
		1xDL 36[4]				
QTi 1x58/220-240 DIM	4050300**870908**	1xL 58	198…264	154…276	45…120	0,25

Product reference	λ	W SYSTEM [3]	lm [3]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi 1x18/220-240 DIM	0,97	18,3	1x1350	–20…50	360	30	21	350	20	305
		18,3	1x1200	+10…50						
QTi 1x36/220-240 DIM	0,97	36,0	1x3350	–20…50	360	30	21	350	20	305
		36,0	1x2900	+10…50						
QTi 1x58/220-240 DIM	0,99	55,6	1x5200	–20…50	360	30	21	350	20	305

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Digitally controlled preheating
  – Lamp start within 0.6 s
  – Optimum preheating in any dimmer setting
  – Cut-off above 80% luminous flux
- Same luminous flux with direct and alternating current
- Dimming range 100 to 1% luminous flux
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A1
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Control via the 1…10 V interface
- Additional features:

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) No effect lighting with DL and DF lamps
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C for T5 lamps and –25 °C to +50 °C for T8 lamps
6) Lamp ignition only above 198 V

QUICKTRONIC® INTELLIGENT DIMMABLE with 1…10 V interface for L (T8/Ø 26 mm) fluorescent lamps



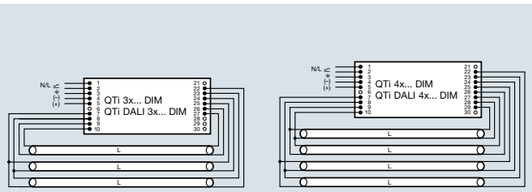
Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT for L lamps – two-lamp version						
QTi 2x18/220-240 DIM	4050300**870960**	2xL 18	198…264	154…276	50…120	0,16
		2xDL 18[4]				0,16
QTi 2x36/220-240 DIM	4050300**870755**	2xL 36	198…264	154…276	50…120	0,31
		2xDL 36[4]				0,31
QTi 2x58/220-240 DIM	4050300**870731**	2xL 58	198…264	154…276	45…120	0,47

Product reference	λ	W SYSTEM [3]	lm [3]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi 2x18/220-240 DIM	0,97	36,5	2x1350	–20…50	423	30	21	415	20	370
	0,97	36,5	2x1200	+10…50						
QTi 2x36/220-240 DIM	0,98	69,0	2x3350	–20…50	423	30	21	415	20	370
	0,98	69,0	2x2900	+10…50						
QTi 2x58/220-240 DIM	0,99	108,0	2x5200	–20…50	423	30	21	415	20	370

For general notes see page 9.52

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) No effect lighting with DL and DF lamps
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C for T5 lamps and –25 °C to +50 °C for T8 lamps
6) Lamp ignition only above 198 V

QUICKTRONIC® INTELLIGENT DIMMABLE with 1…10 V interface for HE and HO (T5/Ø 16 mm) and L (T8/Ø 26 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT for HE and HO lamps – three and four-lamp versions						
QTi 3x14/24/220-240 DIM	4008321**069719**	3xHE 14	198…264	154…276	40…100	0,20
		3xHO 24				0,32
		3xDL 24 [7]				0,32
QTi 4x14/24/220-240 DIM	4008321**069993**	4xHE 14	198…264	154…276	40…100	0,27
		4xHO 24				0,43
		4xDL 24 [7]				0,43

Product reference	λ	W SYSTEM [3]	lm [3][4]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi 3x14/24/220-240 DIM	0,97	45,3	3x1200	+10…50	360	40	21	350	20	420
	0,99	73,4	3x1750	+10…50						
	0,99	73,4	3x1800	+10…50						
QTi 4x14/24/220-240 DIM	0,97	60,4	4x1200	+10…50	360	40	21	350	20	420
	0,99	97,6	4x1750	+10…50						
	0,99	97,6	4x1800	+10…50						

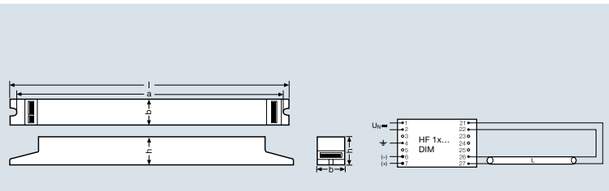
Product reference	Product number		V min.-max. [1]	V min.-max. [6]	kHz ECG [2]	A [3]
QUICKTRONIC® INTELLIGENT for L lamps – three and four-lamp versions						
QTi 3x18/220-240 DIM	4008321**069931**	3xL 18	198…264	154…276	40…100	0,24
		3xDL 18 [7]				0,24
QTi 4x18/220-240 DIM	4008321**070012**	4xL 18	198…264	154…276	40…100	0,31
		4xDL 18 [7]				0,31

Product reference	λ	W SYSTEM [3]	lm [3]	°C min.-max. [5]	l [mm]	b [mm]	h [mm]	a mm		g
QTi 3x18/220-240 DIM	0,98	53,6	3x1350	–20…+50	360	40	21	350	20	420
	0,98	53,6	3x1200	+10…50						
QTi 4x18/220-240 DIM	0,98	69,3	4x1350	–20…+50	360	40	21	350	20	420
	0,98	69,3	4x1200	+10…50						

For general notes see page 9.52

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37
5) System temperature (lamp and ECG) without any restriction on the dimming range. Undimmed system temperature –20 °C to +50 °C for T5 lamps and –25 °C to +50 °C for T8 lamps
6) Lamp ignition only above 198 V
7) No effect lighting with DL and DF lamps

QUICKTRONIC® DIMMABLE with 1…10 V interface for L (T8/Ø 26 mm) fluorescent lamps



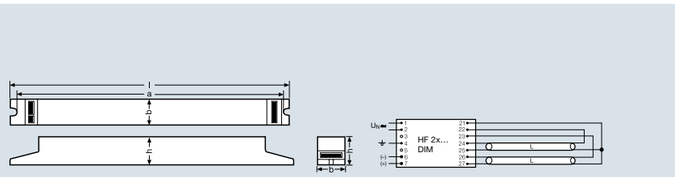
Product reference	Product number		V min.-max. [2]	V min.-max.	kHz ECG	A [1]
QUICKTRONIC® DE LUXE DIMMABLE – single-lamp version						
HF 1x18/230-240 DIM	4050300**319254**	1xL 18	198…264	154…276	40…100	0,09
HF 1x36/230-240 DIM	4050300**297705**	1xL 36	198…264	154…276	40…100	0,17
HF 1x58/230-240 DIM	4050300**297729**	1xL 58	198…264	154…276	40…100	0,25

Product reference	λ	W SYSTEM [1]	lm [1]	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
HF 1x18/230-240 DIM	0,95	19	1x1300	0…50	360	30	30	350	20	300
HF 1x36/230-240 DIM	0,97	36	1x3200	0…50	360	30	30	350	20	300
HF 1x58/230-240 DIM	0,98	56	1x5000	0…50	360	30	30	350	20	300

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Digitally controlled preheating
  – Lamp start within 0.6 s
  – Optimum preheating in any dimmer setting
  – Cut-off above 80% luminous flux
- Same luminous flux with direct and alternating current
- Dimming range 100 to 1% luminous flux
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A1
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Control via the 1…10 V interface

1) At 100% luminous flux
2) Sinusoidal supply voltage

QUICKTRONIC® DIMMABLE with 1…10 V interface for L (T8/Ø 26 mm) fluorescent lamps



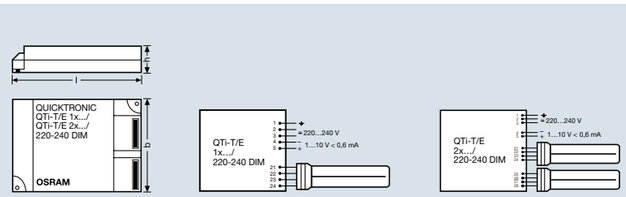
Product reference	Product number		V min.-max. 3)	V min.-max.	kHz ECG	A 1)
QUICKTRONIC® DE LUXE DIMMABLE – two-lamp version						
HF 2x18/230-240 DIM 2)	4050300**350950**	2xL 18	198…264	154…276	40…100	0,17
HF 2x36/230-240 DIM 2)	4050300**350974**	2xL 36	198…264	154…276	40…100	0,31
HF 2x58/230-240 DIM 2)	4050300**350998**	2xL 58	198…264	154…276	40…100	0,48

Product reference	λ	W SYSTEM 1)	lm 1)	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
HF 2x18/230-240 DIM 2)	0,97	36	2x1300	0…50	423	30	30	415	20	430
HF 2x36/230-240 DIM 2)	0,99	71	2x3200	0…50	423	30	30	415	20	430
HF 2x58/230-240 DIM 2)	0,99	111	2x5000	0…50	423	30	30	415	20	430

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Digitally controlled preheating
  – Lamp start within 0.6 s
  – Optimum preheating in any dimmer setting
  – Cut-off above 80% luminous flux
- Same luminous flux with direct and alternating current
- Dimming range 100 to 1% luminous flux
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A1
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Control via the 1…10 V interface

1) At 100% luminous flux
2) Connections 24-27 must be the same length (max. difference of 5 cm), otherwise there may be differences in brightness
3) Sinusoidal supply voltage

QUICKTRONIC® DIMMABLE with 1…10 V interface for OSRAM DULUX® D/E and T/E fluorescent lamps



Product reference	Product number			5)	V min.-max. 1)	V min.-max.	kHz ECG 2)	A 3)
QTi-T/E 1x18-57/220-240 DIM	4008321**060860**			1xT/E 18 5)	198…264	154…276	42…130	0,09
				1xT/E 26 5)				0,13
				1xT/E 32				0,16
				1xT/E 42				0,21
				1xT/E 57				0,27

Product reference	λ	W SYSTEM 3)	lm 3)	°C min.-max. 4)	l [mm]	b [mm]	h [mm]	g
QTi-T/E 1x18-57/220-240 DIM	0,95	19,8	1x1200	+10…50	123	79	33	220
	0,97	27,0	1x1800					
	0,98	38,5	1x2400					
	0,99	47,1	1x3200					
	0,99	62,1	1x4300					

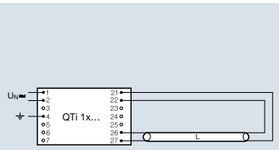
Product reference	Product number			V min.-max. 1)	V min.-max.	kHz ECG 2)	A 3)
QTi-T/E 2x18-42/220-240 DIM	4008321**060846**		2xT/E 18	198…264	154…276	42…140	0,17
			2xT/E 26				0,25
			2xT/E 32				0,30
			2xT/E 42				0,39

Product reference	λ	W SYSTEM 3)	lm 3)	°C min.-max. 4)	l [mm]	b [mm]	h [mm]	g
QTi-T/E 2x18-42/220-240 DIM	0,95	34,5	2x1200	+10…50	123	79	33	240
	0,98	55,6	2x1800					
	0,99	68,1	2x2400					
	0,99	89,7	2x3200					

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Digitally controlled preheating
  – Lamp start within 0.6 s
  – Optimum preheating in any dimmer setting
  – Cut-off above 80% luminous flux
- Same luminous flux with direct and alternating current
- Dimming range 100 to 3% luminous flux
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A1
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Control via the 1…10 V interface
- Additional features:

1) Sinusoidal line voltage
2) Depending on the lamp used
3) At 100% luminous flux
4) System temperature (lamp and ECG) without any restriction on the dimming range, undimmed lamp start down to –20 °C
5) Also for D/E lamps

QUICKTRONIC® INTELLIGENT QTi for HE and HO (T5/Ø 16 mm) fluorescent lamps



Product reference	Product number		V min.-max. 1)	V min.-max.	kHz ECG	A
QUICKTRONIC® INTELLIGENT for HO and HE lamps – single-lamp version						
QTi 1x14/24/21/39	4050300**796871**	1xHE 14	198…264	176…264	45…70	0,09
		1xHO 24				0,13
		1xHE 21				0,12
		1xHO 39				0,19
QTi 1x28/54	4050300**796857**	1xHE 28	198…264	176…264	45…70	0,15
		1xHO 54				0,27
QTi 1x35/49/80	4050300**796833**	1xHE 35	198…264	176…264	45…70	0,16
		1xHO 49				0,25
		1xHO 80				0,40
		1xDL 80				0,40

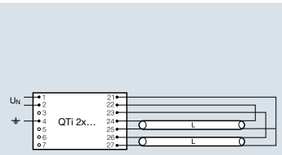
Product reference	λ	W SYSTEM	lm 2)	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTi 1x14/24/21/39	0,97	16	1x1200	–20…+50	360	30	21	350	20	310
	0,98	27	1x1750							
	0,98	25	1x1900							
	0,98	43	1x3100							
QTi 1x28/54	0,98	32	1x2600	–20…+50	360	30	21	350	20	310
	0,99	61	1x4450							
QTi 1x35/49/80	0,97	39	1x3300	–20…+50	360	30	21	350	20	310
	0,98	55	1x4300							
	0,98	91	1x6150							
	0,98	91	1x6000							

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Suitable for emergency lighting (DC operation)
- Lamp start: Lamp start within 1 s with optimum filament preheating
- Same luminous flux with direct and alternating current; the battery voltage may drop to 176 V. Ignition must take place above 198 V
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A2
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® INTELLIGENT QTi for HE and HO (T5/Ø 16 mm) fluorescent lamps



Product reference	Product number		V min.-max. 1)	V min.-max.	kHz ECG	A
QUICKTRONIC® INTELLIGENT for HO and HE lamps – two-lamp version						
QTi 2x14/24/21/39	4050300**797090**	2xHE 14	198…264	176…264	45…70	0,15
		2xHO 24				0,24
		2xHE 21				0,21
		2xHO 39				0,39
QTi 2x28/54	4050300**797076**	2xHE 28	198…264	176…264	45…70	0,29
		2xHO 54				0,53
QTi 2x35/49	4050300**796895**	2xHE 35	198…264	176…264	45…70	0,35
		2xHO 49				0,48
QTi 2x35/49/80	4008321**174291**	2xHE 35	198…264	176…264	44…91	0,34
		2xHO 49				0,46
		2xHO 80				0,74
		2xDL 80				0,74

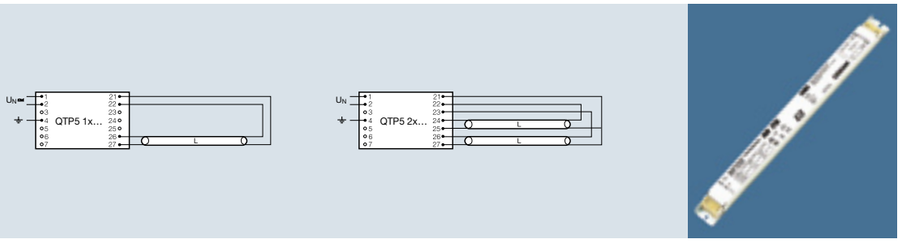
Product reference	λ	W SYSTEM	lm 2)	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTi 2x14/24/21/39	0,97	32	2x1200	–20…+50	423	30	21	415	20	390
	0,98	54	2x1750							
	0,98	47	2x1900							
	0,98	88	2x3100							
QTi 2x28/54	0,98	63	2x2600	–20…+50	423	30	21	415	20	390
	0,99	119	2x4450							
QTi 2x35/49	0,97	79	2x3300	–20…+50	423	30	21	415	20	390
	0,98	110	2x4300							
QTi 2x35/49/80	0,95	74	2x3300	–20…+50	423	30	21	415	20	400
	0,97	103	2x4300							
	0,99	165	2x6150							
	0,99	165	2x6000							

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Suitable for emergency lighting (DC operation)
- Lamp start: Lamp start within 1 s with optimum electrode preheating
- Same luminous flux with direct and alternating current; the battery voltage may drop to 176 V. Ignition must take place above 198 V
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A2
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® PROFESSIONAL T5 for HE (T5/Ø 16 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max.	kHz ECG	A
QUICKTRONIC® PROFESSIONAL T5 for HE lamps – single-lamp version						
QTP5 1x14-35	4008321**061515**	1xHE 14	198…264	154…276	45…50	0,08
		1xHE 21				0,11
		1xHE 28				0,14
		1xHE 35				0,18

Product reference	λ	W SYSTEM	lm [2]	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP5 1x14-35	0,93 c	16	1x1200	–20…+50	360	30	21	350	20	280
	0,95	24	1x1900							
	0,96	32	1x2600							
	0,97	39	1x3300							

Product reference	Product number		V min.-max. [1]	V min.-max.	kHz ECG	A
QUICKTRONIC® PROFESSIONAL T5 for HE lamps – two-lamp version						
QTP5 2x14-35	4008321**061539**	2xHE 14	198…264	154…276	40…50	0,15
		2xHE 21				0,21
		2xHE 28				0,28
		2xHE 35				0,35

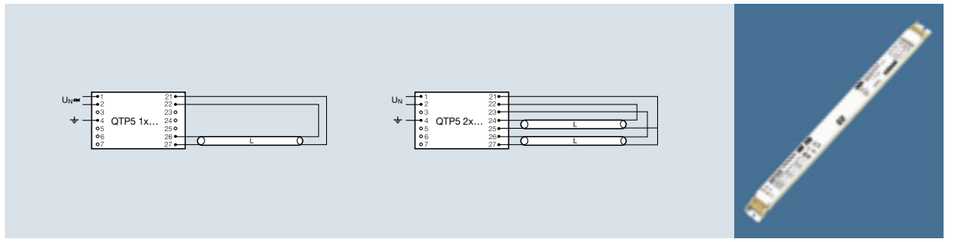
Product reference	λ	W SYSTEM	lm [2]	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP5 2x14-35	0,98	32	2x1200	–20…+50	423	30	21	415	20	400
	0,98	46	2x1900							
	0,98	62	2x2600							
	0,99	78	2x3300							

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 to 60 Hz
- Suitable for emergency lighting (DC operation)
- Lamp start: Lamp start within 1 s with optimum filament preheating. If there is a temporary interruption in the power supply (< 0.5 s) the lamp will start within 0.3 s
- Same luminous flux with direct and alternating current; the battery voltage may drop to 176 V. Ignition must take place above 198 V
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A2
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® PROFESSIONAL T5 for HO (T5/Ø 16 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	V min.-max.	kHz ECG	A
QUICKTRONIC® PROFESSIONAL T5 for HO lamps – single-lamp version						
QTP5 1x24-39	4008321**123190**	1xHO 24	198…264	154…276	40…50	0,12
		1xHO 39				0,20
QTP5 1x49	4008321**061614**	1xHO 49	198…264	154…276	40…50	0,24
QTP5 1x54	4008321**061553**	1xHO 54	198…264	154…276	40…50	0,27
QTP5 1x80	4008321**061591**	1xHO 80	198…264	154…276	40…50	0,39

Product reference	λ	W SYSTEM	lm [2]	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP5 1x24-39	0,95	27	1x1750	–20…+50	360	30	21	350	20	280
	0,95	44	1x3100							
QTP5 1x49	0,99	55	1x4300	–20…+50	360	30	21	350	20	280
QTP5 1x54	0,98	61	1x4450	–20…+50	360	30	21	350	20	280
QTP5 1x80	0,98	88	1x6150	–20…+50	360	30	21	350	20	280

Product reference	Product number		V min.-max. [1]	V min.-max.	kHz ECG	A
QUICKTRONIC® PROFESSIONAL T5 for HO lamps – two-lamp version						
QTP5 2x24-39	4008321**123671**	2xHO 24	198…264	154…276	40…50	0,22
		2xHO 39				0,36
QTP5 2x49	4008321**123831**	2xHO 49	198…264	154…276	40…50	0,48
QTP5 2x54	4008321**061577**	2xHO 54	198…264	154…276	40…50	0,53
QT-FQ 2x80	4050300**825564**	2xHO 80	198…264	–	70…75	0,76
		2xDL 80				0,76
		2xDL 55				0,59

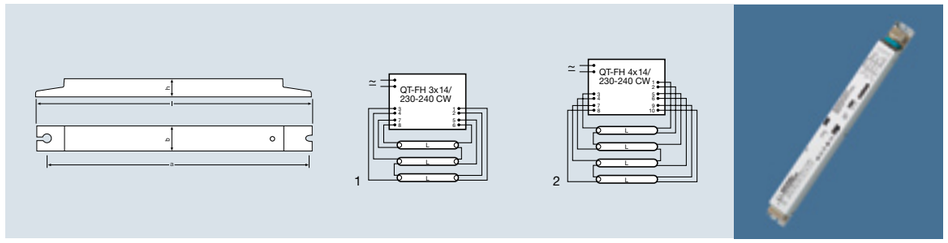
Product reference	λ	W SYSTEM	lm [2]	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP5 2x24-39	0,98	54	2x1750	–20…+50	423	30	21	415	20	415
	0,98	84	2x3100							
QTP5 2x49	0,99	110	2x4300	–20…+50	423	30	21	415	20	415
QTP5 2x54	0,98	119	2x4450	–20…+50	423	30	21	415	20	415
QT-FQ 2x80	0,98	175	2x6150	–20…+50	423	30	21	415	20	400
	0,98	175	2x6150							
	0,98	122	2x4800							

For general notes see page 9.60

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® for HE fluorescent lamps (T5/Ø 16 mm)



Product reference	Product number			V min.-max. 1)		V min.-max.		kHz ECG		A
QUICKTRONIC® for HE lamps – three and four-lamp versions										
QT-FH 3x14/230-240 CW	4050300**459073**	3xHE 14		198…264		154…276		ca. 45…50		0,22
QT-FH 4x14/230-240 CW	4050300**459097**	4xHE 14		198…264		154…276		ca. 45…50		0,29

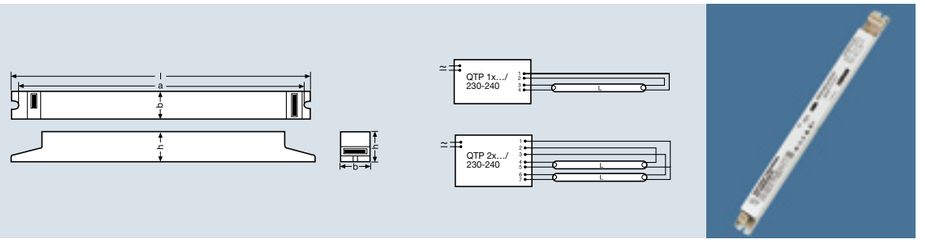
Product reference	λ	W SYSTEM	lm 2)	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g	No.
QT-FH 3x14/230-240 CW	0,99	48	3x1200	–20…+50	423	40	30	415	20	395	1
QT-FH 4x14/230-240 CW	0,99	65	4x1200	–20…+50	423	40	30	415	20	395	2

General:
- Supply voltage: 230 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Suitable for emergency lighting (DC operation)
- Lamp start: Lamp start within 1 s with optimum filament preheating. If there is a temporary interruption in the power supply (< 0.5 s) the lamp will start within 0.3 s
- Same luminous flux with direct and alternating current
- The battery voltage may drop to 176 V. Ignition must take place above 198 V however
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A2
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® PROFESSIONAL for T8/Ø 26 mm fluorescent lamps



Product reference	Product number		V min.-max. 1)		V min.-max.		kHz ECG		A
QUICKTRONIC® PROFESSIONAL for T8 lamps – single-lamp version									
QTP8 1x18	4008321**131584**	1xL 18		198…264		154…276		50	0,09
QTP8 1x36	4008321**131621**	1xL 36 (L 38)		198…264		154…276		60	0,16
QTP8 1x58	4008321**131669**	1xL 58		198…264		154…276		45	0,24

Product reference	λ	W SYSTEM	W LAMP	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP8 1x18	0,96	18	16	1x1300	–25…+50	360	30	30	350	20	280
QTP8 1x36	0,96	35	32	1x3200	–25…+50	360	30	30	350	20	280
QTP8 1x58	0,98	55	50	1x5000	–25…+50	360	30	30	350	20	280

Product reference	Product number		V min.-max. 1)		V min.-max.		kHz ECG		A
QUICKTRONIC® PROFESSIONAL for T8 lamps – two-lamp version									
QTP8 2x18	4008321**131607**	2xL 18		198…264		154…276		50	0,17
QTP8 2x36	4008321**131645**	2xL 36 (L 38)		198…264		154…276		30	0,31
QTP8 2x58	4008321**131683**	2xL 58		198…264		154…276		30	0,45

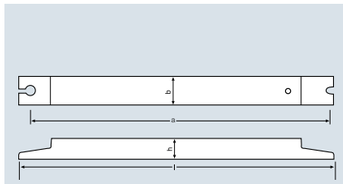
Product reference	λ	W SYSTEM	W LAMP	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP8 2x18	0,97	35	32	2x1300	–25…+50	423	30	30	415	20	415
QTP8 2x36	0,98	71 (70)	64 (64)	2x3200	–25…+50	423	30	30	415	20	415
QTP8 2x58	0,98	110	100	2x5000	–25…+50	423	30	30	415	20	415

Suitable for master/slave circuits and damp-proof luminaires.

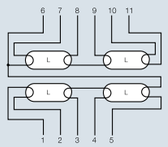
General:
- Supply voltage: 230 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Lamp start: Lamp start within 2 s with optimum filament preheating. If there is a temporary interruption in the power supply (< 0.5 s) the lamp will start within 0.3 s
- Same luminous flux with direct and alternating current
- The battery voltage may drop to 154 V; ignition must take place above 198 V
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A2
- Single-lamp operation possible for 2-lamp ECGs
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015, EN 55022
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547

1) Sinusoidal line voltage

QUICKTRONIC® PROFESSIONAL for T8/Ø 26 mm fluorescent lamps



Lines 3, 4:
Leave terminals open
Keep lines 1, 2, 10, 11 short



Keep lines 1, 2, 10, 11 short

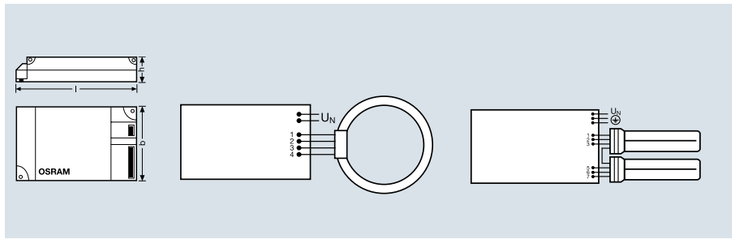
Product reference	Product number		V min.-max. [1]	V min.-max.	kHz ECG	A	λ
QUICKTRONIC® PROFESSIONAL for T8 lamps – three and four-lamp versions							
QTP8 3x18, 4x18	4008321**131706**	3xL 18	198…264	154…276	43	0,26	0,99
		4xL 18				0,32	

Product reference	W SYSTEM	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP8 3x18, 4x18	56	3x1300	–25…+50	423	40	30	415	20	490
	73	4x1300							

General:
- Supply voltage: 230 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Suitable for emergency lighting (DC operation)
- Lamp start: Lamp start within 2 s with optimum filament preheating. If there is a temporary interruption in the power supply (< 0.5 s) the lamp will start within 0.3 s
- Same luminous flux with direct and alternating current
- The battery voltage may drop to 154 V. Ignition must take place above 198 V
- Single-lamp operation possible
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A2
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547

1) Sinusoidal line voltage

QUICKTRONIC® for FC® (T5/Ø 16 mm) fluorescent lamps



Product reference	Product number		V min.-max. [1]	kHz ECG	A	λ
QUICKTRONIC® for FC® lamps – single-lamp version						
QT-M 1x26-42/230-240 S	4050300**609256**	1xFC 22, 40	198…254	ap. 40	0,11	0,97
QT-M 1x26-42/220-240 SE[3]	4050300**817699**	1xFC 22, 40			0,18	
QT-FC 1x55/230-240 S	4050300**526096**	1xFC 55	198…254	ap. 40	0,27	0,99

Product reference	W SYSTEM	lm [2]	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-M 1x26-42/230-240 S	26/44	1x1800/1x3200	–20…+50	103	67	31	110	20	160
QT-M 1x26-42/220-240 SE[3]	26/44	1x1800/1x3200	–25…+60	123	79	33	129,5	20	240
QT-FC 1x55/230-240 S	60	1x4200	–15…+50	123	79	33	129,5	20	250

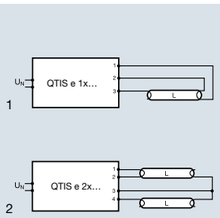
Product reference	Product number		V min.-max. [1]	kHz ECG	A	λ
QUICKTRONIC® for FC® lamps – two-lamp version						
QT-M 2x26-32/230-240 S	4050300**624969**	2xFC 22, 40	198…254	ap. 40	0,23	0,97
		1xFC 22+1xFC 40			0,30	
QT-M 2x26-42/220-240 S	4008321**110022**	2xFC 22, 2xFC 40	198…254	ap. 40	0,36	0,97
		1xFC 22+1xFC 40				

Product reference	W SYSTEM	lm [2]	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-M 2x26-32/230-240 S	54	2x1800	–20…+50	123	79	33	129,5	20	240
	70	1800+3200							
QT-M 2x26-42/220-240 S	88	2x3200	–20…+50	123	79	33	129,5	20	280

General:
- Supply voltage: 230 to 240 V or 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Lamp start: Lamp start within 1.0 s with optimum filament preheating. If there is a temporary interruption in the power supply (< 0.5 s) the lamp will start within 0.3 s
- QT-FC 1x55/230-240 S: Lamp start: Lamp start within 2 s with optimum filament preheating. If there is a temporary interruption in the power supply (< 0.5 s) the lamp will start within 0.3 s
- Same luminous flux with direct and alternating current. The battery voltage may drop to 176 V. The lamps must be ignited at over 198 V
- Automatic restart after lamp replacement
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage
2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37
3) Optimized for outdoor use

QUICKTRONIC® INSTANT START economic



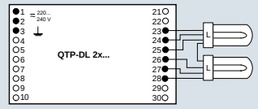
Product reference	Product number		V min.-max. 1)	kHz ECG	A	λ
QUICKTRONIC® INSTANT START economic						
QTIS e 1x18/220-240	4050300**775388**	1xL 18 W	198…254	45…50	0,09	0,94 c
QTIS e 1x30/220-240	4008321**200143**	1xL 30 W	198…254	45…50	0,12	0,97
QTIS e 1x36/220-240	4050300**940649**	1xL 36 W	198…254	45…50	0,16	0,95
QTIS e 1x58/220-240	4050300**940625**	1xL 58 W	198…254	45…50	0,24	0,95
QTIS e 2x18/220-240	4050300**775401**	2xL 18 W	198…254	45…50	0,16	0,96
QTIS e 2x36/220-240	4050300**940663**	2xL 36 W	198…254	45…50	0,30	0,95
QTIS e 2x58/220-240	4050300**940618**	2xL 58 W	198…254	45…50	0,47	0,95
QTIS e 3x/4x18/220-240	4050300**940670**	3xL 18 W	198…254	45…50	0,29	0,95
		4xL 18 W			0,32	
QTIS e 3x36/220-240 CW	4008321**104687**	3xL 36 W	198…254	35…50	0,44	0,95

Product reference	W SYSTEM	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g	No.
QTIS e 1x18/220-240	18	1x1300	–15…+50	360	30	30	350	20	250	1
QTIS e 1x30/220-240	28	1x2250	–15…+50	360	30	30	350	20	300	1
QTIS e 1x36/220-240	36	1x3200	–15…+50	360	30	30	350	20	300	1
QTIS e 1x58/220-240	58	1x5000	–15…+50	360	30	30	350	20	315	1
QTIS e 2x18/220-240	36	2x1300	–15…+50	360	30	30	350	20	360	2
QTIS e 2x36/220-240	70	2x3200	–15…+50	360	30	30	350	20	360	2
QTIS e 2x58/220-240	112	2x5000	–15…+50	360	30	30	350	20	360	2
QTIS e 3x/4x18/220-240	62	3x1300	–15…+50	360	30	30	350	20	360	3
	70	4x1300	–15…+50							4
QTIS e 3x36/220-240 CW	99	3x3200	–15…+50	423	40	30	415	20	440	5

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50, 60 Hz
- Lamp start: Instant start within 0.3 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life
- Automatic restart after lamp replacement
- Energy Efficiency Index EEI = A3
- Approval marks:
- Safety acc. to IEC 61347
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547

1) Sinusoidal line voltage

QUICKTRONIC® PROFESSIONAL for OSRAM DULUX® L and OSRAM DULUX® F lamps



Product reference	Product number		V min.-max. 1)	kHz ECG	A	λ	W SYSTEM
QUICKTRONIC® PROFESSIONAL for OSRAM DULUX® L and OSRAM DULUX® F							
QTP-DL 1x18-24/220-240	4008321**117861**	1xDL 18, 1xDF 18	198…264	45-50	0,085	0,95	18
		1xDL 24, 1xDF 24		45-50	0,115	0,95	26
QTP-DL 2x18-24/220-240	4008321**117885**	2xDL 18, 2xDF 18	198…264	41-46	0,16	0,95	36
		2xDL 24, 2xDF 24		41-46	0,22	0,95	49
QTP-DL 1x36-40/220-240	4008321**117908**	1xDL 36, 1xDF 36	198…264	45-50	0,17	0,99	35
		1xDL 40		45-50	0,21	0,99	45
QTP-DL 2x36-40/220-240	4008321**117922**	2xDL 36, 2xDF 36	198…264	45-50	0,33	0,99	68
		2xDL 40		45-50	0,41	0,99	90

Product reference	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP-DL 1x18-24/220-240	1x1200, 1x1100	–20…+50	239	30	28	229	20	190
	1x1800, 1x1700							
QTP-DL 2x18-24/220-240	2x1200, 2x1100	–20…+50	239	40	28	229	20	230
	2x1800, 2x1700							
QTP-DL 1x36-40/220-240	1x2900, 1x2800	–20…+50	239	30	28	229	20	190
	1x3500							
QTP-DL 2x36-40/220-240	2x2900, 2x2800	–20…+50	280	40	28	270	20	290
	2x3500							

For ECGs for OSRAM DULUX® L 80 see page 9.117.

General:
- Supply voltage: 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- Lamp start: Lamp start within 1 s with optimum filament preheating
- The battery voltage may drop to 176 V. The lamps must be ignited at over 198 V; 100% of the luminous flux with DC operation
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Suitable for use in emergency lighting systems with central batteries
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage

QUICKTRONIC® PROFESSIONAL
for OSRAM DULUX® L and OSRAM DULUX® F lamps

Product reference	Product number		V min.-max. 1)	kHz ECG	A	λ	W SYSTEM
QUICKTRONIC® PROFESSIONAL for OSRAM DULUX® L and OSRAM DULUX® F							
QTP-DL 1x55/220-240	4008321**117946**	1xDL 55	198…264	45	0,28	0,95	59
QTP-DL 2x55/220-240	4008321**117960**	2xDL 55	198…264	45	0,55	0,95	128

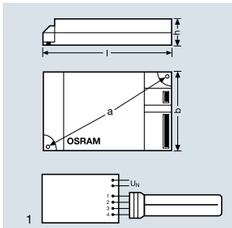
Product reference	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QTP-DL 1x55/220-240	1x4800	–20…+50	360	30	21	350	20	260
QTP-DL 2x55/220-240	2x4800	–20…+50	423	30	21	415	20	400

For ECGs for OSRAM DULUX® L 80 see page 9.117.

For general notes see page 9.67

1) Sinusoidal line voltage

QUICKTRONIC® (PROFESSIONAL)
for OSRAM DULUX® T/E, D/E, S/E and HO compact fluorescent lamps



Product reference	Product number		V min.-max. 1)	kHz ECG	A	λ
QUICKTRONIC® for compact fluorescent lamps – single-lamp version						
QTP-D/E 1x10-13/220-240	4008321**181572**	1xDS/E 9	198…264	ap. 44	0,05	0,92 c
		1xDD/E 10			0,05	0,95
		1xDS/E 11			0,06	0,95
		1xDD/E 13, DT/E 13			0,07	0,95
QTP-T/E 1x18/220-240	4008321**181701**	1xDD/E 18, DT/E 18	198…264	ap. 44	0,08	0,99
QT-M 1x26-42/230-240 S*)	4050300**609256**	1xDD/E 26, DT/E 26	198…254	ap. 40	0,12	0,97
		1xDT/E 32			0,15	
		1xDT/E 42			0,20	
QT-T/E 1x57/230-240	4050300**605357**	1xDT/E 57	198…254	ap. 40	0,28	0,99
QT-T/E 1x70/230-240	4050300**792002**	1xDT/E 70	198…254	ap. 40	0,35	0,98
QTi 1x26-120*)	4008321**040893**	1xDULUX HO 120	198…254	50	0,58	0,99
QT-M 1x26-42/220-240 SE3)	4050300**817699**	1xDD/E 26, DT/E 26	198…254	ap. 40	0,12	0,97
		1xDT/E 32			0,15	
		1xDT/E 42			0,20	

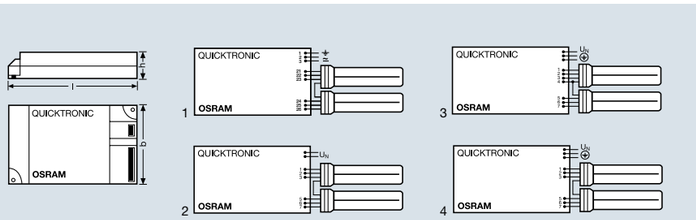
Product reference	W SYSTEM	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g	No.
QTP-D/E 1x10-13/220-240	9,5	1x600	–20…+50	93	58	29	96	20	95	3
	11,5	1x600								
	11,5	1x900								
	15,5	1x900								
QTP-T/E 1x18/220-240	20	1x1200	–20²)…+50	103	67	31	110	20	125	3
QT-M 1x26-42/230-240 S*)	27	1x1750	–20²)…+50	103	67	31	110	20	160	1
	35	1x2400								
	46	1x3200								
QT-T/E 1x57/230-240	62	1x4300	–20²)…+50	123	79	33	129,5	20	240	1
QT-T/E 1x70/230-240	77	1x5200	–20²)…+50	123	79	33	129,5	12	190	2
QTi 1x26-120*)	132	1x9000	–20…+50	163	88	39	150	6	350	
QT-M 1x26-42/220-240 SE3)	27	1x1750	–25…+60	123	79	33	129,5	20	240	1
	35	1x2400								
	46	1x3200								

*) For further information see page 9.71

General:
- Supply voltage: 230 to 240 V or 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- DC voltage range: 176 to 254 V or 176 to 276 V; lamps must be ignited at over 198 V however
- Lamp start: Lamp start within approx. 1 or 1.5 s with optimum filament preheating
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:
- QT-M 1x26-42/220-240 SE: Optimized for outdoor use, additional corrosion protection, immunity to a 3 kV surge and extended temperature range t_a –25 to +60 °C

1) Sinusoidal line voltage
2) Amalgam lamps, e.g. OSRAM DULUX® T/E…IN, are suitable, with restrictions, for outdoor lighting
3) Optimized for outdoor use

QUICKTRONIC® (PROFESSIONAL)
for OSRAM DULUX® T/E, D/E and S/E compact fluorescent lamps



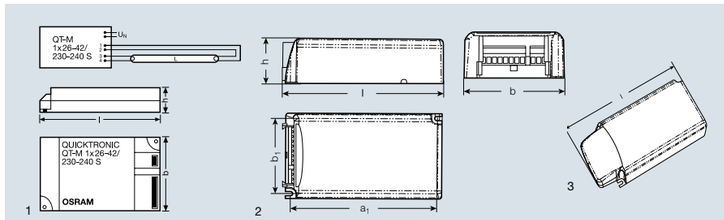
Product reference	Product number		V min.-max. [1]	kHz ECG	A	λ
QUICKTRONIC® for compact fluorescent lamps – two-lamp version						
QTP-D/E 2x10-13/220-240	4008321**181596**	2xDS/E 9	198…264	ap. 44	0,09	0,92 c
		2xDD/E 10			0,09	0,95
		2xDS/E 11			0,12	0,95
		2xDD/E 13, DT/E 13			0,13	0,95
QTP-T/E 2x18/220-240	4008321**181619**	2xDD/E 18, DT/E 18	198…264	ap. 44	0,16	0,99
QT-M 2x26-32/230-240 S	4050300**624969**	2xDD/E 26, DT/E 26	198…254	ap. 40	0,23	0,97
		2xDT/E 32				0,30
QT-M 2x26-42/220-240 S	4008321**110022**	2xDD/E 26, DT/E 26	198…254	ap. 40	0,23	0,97
		2xDT/E 32				0,30
		2xDT/E 42				0,39
QT-T/E 2x42-57/230-240	4050300**829814**	2xDT/E 42	198…264	ap. 40	0,40	0,98
		2xDT/E 57				0,60
QT CABLE CLAMP K2	4008321**190727**					
QT CABLE CLAMP K3	4008321**190741**					

Product reference	W SYSTEM	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g	No.
QTP-D/E 2x10-13/220-240	18	2x600	–20…+50	123	79	33	129,5	20	170	1
	21	2x600								
	27	2x900								
	29	2x900								
QTP-T/E 2x18/220-240	36	2x1200	–20[2]…+50	123	79	33	129,5	20	170	1
QT-M 2x26-32/230-240 S	54	2x1750	–20[2]…+50	123	79	33	129,5	20	240	2
	70	2x2400								
QT-M 2x26-42/220-240 S	54	2x1750	–20…+50	123	79	33	129,5	20	280	4
	70	2x2400								
	92	2x3200								
QT-T/E 2x42-57/230-240	90	2x3200	–20[2]…+50	158	102	39	171	9	330	3
	122	2x4300								
QT CABLE CLAMP K2				147	71	33		10		
QT CABLE CLAMP K3				168	87	37		10		

General:
- Supply voltage: 230 to 240 V or 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- DC voltage range: 176 to 254 V or 176 to 276 V; lamps must be ignited at over 198 V however
- Lamp start: Lamp start within approx. 1 or 1.5 s with optimum filament preheating
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Cable clamp optional (for QTP-D/E and QTP-T/E)
- Automatic restart after lamp replacement
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage
2) Amalgam lamps, e.g. OSRAM DULUX® T/E…IN, are suitable, with restrictions, for outdoor lighting

QUICKTRONIC® MULTIWATT, QUICKTRONIC® INTELLIGENT
for (compact) fluorescent lamps



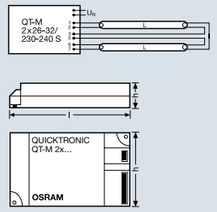
Product reference	Product number		W SYSTEM	lm	A
QUICKTRONIC® MULTIWATT, QUICKTRONIC® INTELLIGENT for (compact) fluorescent lamps – single-lamp version					
QT-M 1x26-42/230-240 S QT-M 1x26-42/220-240 SE[4]	4050300**609256** 4050300**817699**	DD/E 26, DT/E 26	27	1750	0,12
		DT/E 32	35	2400	0,15
		DT/E 42	46	3200	0,20
		DL 18, DF 18	18	1150, 1050	0,09
		DL 24, DF 24	26	1750, 1650	0,12
		DL 36, DF 36	35	2800, 2700	0,15
		DL 40	44	3500	0,19
		L 18 (∅ 26 mm)	19	1300	0,09
		L 36 (∅ 26 mm)	35	3200	0,15
		FC 22	26	1800[3]	0,11
		FC 40	44	3200[3]	0,18
		HO 24	27	1750[3]	0,12
		HO 39	40	3000[3]	0,17
QTi 1x26-120	4008321**040893**	DD/E 26, DT/E 26	28	1800	0,14
		DD/E 32	35	2400	0,17
		DD/E 42	46	3200	0,20
		DT/E 57	63	4300	0,28
		DT/E 70	78	5200	0,35
		DULUX HO 120	132	9000	0,58
		HO 85 W	96	6000	0,42
		HO 60 W	68	4000	0,30
PTU-SR	4050300**939896**	Cable clamp for QTi 1x26-120			

Product reference	V min.-max.	kHz ECG	λ	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g	No.
QT-M 1x26-42/230-240 S	198…254	ap. 40	0,97	–20[2]…+50	103	67	31	110	20	160	1
QTi 1x26-120	198…254	40…80	0,9-0,99	–20…+50	163	88	39	150	6	350	2
QTi 1x26-120 + PTU-SR					190						3

General:
- Supply voltage: 230 to 240 V or 220 to 240 V
- Line frequency: 0, 50 to 60 Hz
- DC voltage range: 176 to 254 V; lamps must be ignited at over 198 V however
- Lamp start: Lamp start within 1 s with optimum filament preheating. If there is a temporary interruption in the power supply (< 0.5 s) the lamp will start within 0.3 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage
2) Amalgam lamps, e.g. OSRAM DULUX® T/E…IN, are suitable, with restrictions, for outdoor lighting
3) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37
4) Optimized for outdoor use

QUICKTRONIC® MULTIWATT for (compact) fluorescent lamps



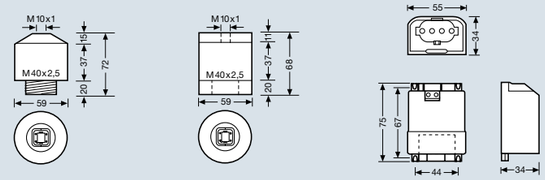
Product reference	Product number		W SYSTEM	lm	A
QUICKTRONIC® MULTIWATT for (compact) fluorescent lamps – two-lamp version					
QT-M 2x26-32/230-240 S	4050300**624969**	2xDD/E 26, DT/E 26	54	2x1750	0,23
		2xDT/E 32	70	2x2400	0,30
		2xDL 18, DF 18	35	2x1150, 1050	0,16
		2xDL 24, DF 24	54	2x1750, 1650	0,23
		2xDL 36, DF 36	70	2x2800, 2700	0,30
		2xL 18 (∅ 26 mm)	35	2x1300	0,16
		2xFC 22	54	2x1800[3]	0,23
		1xFC 22+1xFC 40	70	1800[3] + 3200[3]	0,30
		2xHO 24	54	2x1750[3]	0,23
QT-M 2x26-42/220-240 S	4008321**110022**	2xDD/E 26, DT/E 26	54	2x1750	0,23
		2xDT/E 32	70	2x2400	0,30
		2xDT/E 42	92	2x3200	0,39
		2xDL 24, DF 24	54	2x1750	0,23
		2xDL 36, DF 36	70	2x2800	0,30
		2xL 36	70	2x3200	0,30
		2xFC 22	54	2x1800[3]	0,23
		1xFC 22+1xFC 40	70	1800[3] + 3200[3]	0,30
		2xFC 40	88	2x3200[3]	0,36
		2xHO 24	54	2x1750[3]	0,23

Product reference	V min.-max. [1]	kHz ECG	λ	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-M 2x26-32/230-240 S	198…254	ap. 40	0,97	–20[2]…+50	123	79	33	129,5	20	240
QT-M 2x26-42/220-240 S	198…254	ap. 40	0,97	–20…+50	123	79	33	129,5	20	280

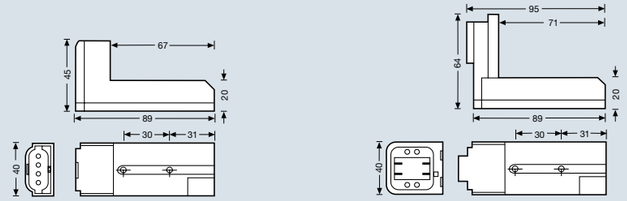
General:
- Supply voltage: 230 to 240 V or 220 to 240 V
- Line frequency: 0, 50 to 60 Hz[1]
- DC voltage range: 176 to 254 V; lamps must be ignited at over 198 V however
- Lamp start: Lamp start within 1 s with optimum filament preheating. If there is a temporary interruption in the power supply (< 0.5 s) the lamp will start within 0.3 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Approval marks:
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage
2) Amalgam lamps, e.g. OSRAM DULUX® T/E…IN, are suitable, with restrictions, for outdoor lighting
3) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

DULUXTRONIC® for OSRAM DULUX® S/E, D/E and T/E fluorescent lamps with integrated lampholders



P version **C version** **S version**



L version (5 W–11 W) **L version (10 W–18 W)**

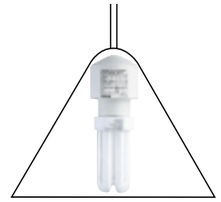
DULUXTRONIC® – the major benefits at a glance

Simple wiring
- Only a line connection is required; there is no need for wiring between the ECG and the lampholder
- Three of the five DULUXTRONIC® versions have integrated cable clamps

Greater lighting comfort
- Flicker-free starting
- Flicker-free light
- Silent operation
- No flickering of the lamp at the end of its life thanks to automatic shutdown

Greater economy
- Much longer lamp life thanks to gentle electronic operation
- Low power loss for further energy savings

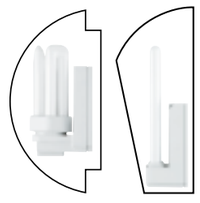
Greater safety and reliability
- Suitable for emergency lighting
- No adverse effect from frequent on/off switching thanks to optimized hot restart
- Around 80% lower thermal output compared with ordinary light bulbs



DULUXTRONIC® Version P
The perfect cylindrical unit with a conical end for pendant and floor-standing luminaires.

DULUXTRONIC® Version C
The cylindrical unit for slim spotlights – also suitable for downlights.

DULUXTRONIC® Version S
The super-compact unit for low-profile wall and ceiling luminaires and also for emergency lighting and illuminated signs.



DULUXTRONIC® Version L
The L unit has the lampholder mounted in front to reduce the overall length. Ideal for compact wall and ceiling luminaires and also for emergency lighting and illuminated signs (available in two models).

DULUXTRONIC®
for OSRAM DULUX® S/E with integrated lampholder

Product reference	Product number		V min.-max. [2]	V min.-max.	kHz ECG	A	λ
DULUXTRONIC® (S version)							
DT-S/E 5-11/220-240 S[1]	4008321**181459**	DS/E 5	198…254	176…254	40	0,06	0,6 c
		DS/E 7				0,07	
		DS/E 9				0,08	
		DS/E 11				0,10	

Product reference	W SYSTEM	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm	a1 mm		g
DT-S/E 5-11/220-240 S[1]	7,5	250	–15…+50	75	55	34	44	67	20	75
	9,5	400								
	11,5	600								
	13,5	850								

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 Hz
- 0 Hz DC and 60 Hz operation are possible; EMC compliance in 0 and 60 Hz operation is the responsibility of the luminaire manufacturer
- Lamp start: Lamp start within 1.5 s with optimum filament preheating
- The battery voltage may drop to 176 V. The lamps must be ignited at over 198 V however
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- With integrated cable clamp[1]
- Maximum connected load per luminaire 25 W

S version

1) The cable clamp is only effective in conjunction with cable type H03VH2-F and with the terminal cover locked in place
2) Sinusoidal line voltage

DULUXTRONIC®
for OSRAM DULUX® D/E and T/E with integrated lampholder

Product reference	Product number		V min.-max. [2]	V min.-max.	kHz ECG	A
DULUXTRONIC® for OSRAM DULUX® D/E and T/E (C version)						
DT-D/E 10-13/220-240 C[1]	4008321**181510**	DD/E 10	198…254	176…254	40	0,09
		DD/E 13, DT/E 13				0,11
DT-T/E 18/230-240 C[1]	4008321**421384**	DD/E 18, DT/E 18	198…254	176…254	40	0,1

Product reference	λ	W SYSTEM	lm	°C min.-max.	l [mm]	d [mm]		g
DT-D/E 10-13/220-240 C[1]	0,6 c	12	600	–15…+50	68	59	20	110
		15,5	900					
DT-T/E 18/230-240 C[1]	0,85-0,9 c	20	1200	–20…+50	68	59	20	180

Product reference	Product number		V min.-max. [2]	V min.-max.	kHz ECG	A
DULUXTRONIC® for OSRAM DULUX® D/E and T/E (P version)						
DT-D/E 10-13/220-240 P[3][4]	4008321**181534**	DD/E 10	198…254	176…254	40	0,09
		DD/E, DT/E 13				0,11
DT-T/E 18/230-240 P[3][4]	4008321**421421**	DD/E, DT/E 18	198…254	176…254	40	0,1

Product reference	λ	W SYSTEM	lm	°C min.-max.	l [mm]	d [mm]		g
DT-D/E 10-13/220-240 P[3][4]	0,6 c	12	600	–15…+50	72	59	20	110
		15,5	900					
DT-T/E 18/230-240 P[3][4]	0,85…0,9 c	20	1200	–20…+50	72	59	20	180

General:
- Supply voltage: 230 to 240 V or 220 to 240 V
- Line frequency: 0 Hz for DT-S/E 5-11, DT-D/E 10-13 0 Hz DC and 60 Hz operation are possible. EMC compliance in 0 and 60 Hz operation is the responsibility of the luminaire manufacturer
- Line frequency: 0, 50 to 60 Hz for DT-T/E 18
- Lamp start: Lamp start within 1.5 s with optimum filament preheating
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Maximum connected load per luminaire 25 W
- The battery voltage may drop to 176 V. The lamps must be ignited at over 198 V however
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- With integrated cable clamp

C version

P version

1) The 20 mm high ring is decorative only. If, for example, a reflector is to be attached between the ring and the ECG, this can be done with the P version
2) Sinusoidal line voltage
3) Maximum load capacity (e.g. glass shield) 15 kg
4) Shipment includes retaining ring (M40 x 2,5) for attaching a shield

DULUXTRONIC®
for OSRAM DULUX® S/E, D/E and T/E with integrated lampholder

Product reference	Product number		V min.-max. [2]	V min.-max.	kHz ECG	A
DULUXTRONIC® for OSRAM DULUX® S/E (L version)						
DT-S/E 5-11/220-240 L	4008321**181473**	DS/E 5	198…254	176…254	40	0,06
		DS/E 7				0,07
		DS/E 9				0,08
		DS/E 11				0,10

Product reference	λ	W SYSTEM	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
DT-S/E 5-11/220-240 L	0,6 c	7,5	250	–15…+50	89	40	45	30	20	75
		9,5	400							
		11,5	600							
		13,5	850							

Product reference	Product number		V min.-max. [2]	V min.-max.	kHz ECG	A
DULUXTRONIC® for OSRAM DULUX® D/E and T/E (L version)						
DT-D/E 10-13/220-240 L	4008321**181497**	DD/E 10	198…254	176…254	40	0,09
		DD/E 13, DT/E 13				0,11
DT-T/E 18/230-240 L[1]	4008321**406404**	DD/E 18, DT/E 18	198…254	176…254	40	0,10

Product reference	λ	W SYSTEM	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
DT-D/E 10-13/220-240 L	0,6 c	12	600	–15…+50	95	40	64	30	20	110
		15,5	900							
DT-T/E 18/230-240 L[1]	0,85-0,9 c	20	1200	–20…+50	95	40	64	30	20	180

General:
- Supply voltage: 230 to 240 V or 220 to 240 V
- Line frequency: 0 Hz for DT-S/E 5-11, DT-D/E 10-13 0 Hz DC and 60 Hz operation are possible. EMC compliance in 0 and 60 Hz operation is the responsibility of the luminaire manufacturer
- Line frequency: 0, 50 to 60 Hz for DT-T/E 18
- Lamp start: Lamp start within 1.5 s with optimum filament preheating
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- The battery voltage may drop to 176 V. The lamps must be ignited at over 198 V however.
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Maximum connected load per luminaire 25 W

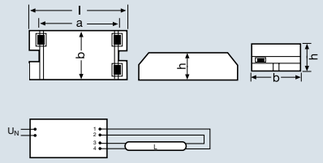
L version (5 W–11 W)

L version (10 W–18 W)

1) DT-T/E 18/230-240 L is not approved for use in ceiling luminaires unless additional equipment is installed (such as a heat-dissipating reflector) because of the heat rising from the lamp. The maximum T_C temperature of 70 °C must not be exceeded

2) Sinusoidal line voltage

QUICKTRONIC® ECONOMIC
for (compact) fluorescent lamps



Product reference	Product number		W SYSTEM	lm	A
QUICKTRONIC® ECONOMIC for (compact) fluorescent lamps – single-lamp version					
QT-ECO 1x4-16/220-240 S	4050300**638584**	DS/E 5	7,5	250	0,06
		DS/E 7	9	400	0,06
		DS/E 9	10	600	0,07
		DS/E 11	13	900	0,09
		DD/E 10	11,5	600	0,08
		DD/E 13, DT/E 13	14	800	0,10
		HE 14	15	1200[2]	0,10
		L 4 (∅ 16 mm)	6,5	120	0,05
		L 6 (∅ 16 mm)	8,5	240	0,06
		L 8 (∅ 16 mm)	10,5	450	0,07
		L 13 (∅ 26 mm)	15	950	0,08
		L 10 (∅ 26 mm)	12	650	0,10
		L 16 (∅ 26 mm)	16	1100	0,11

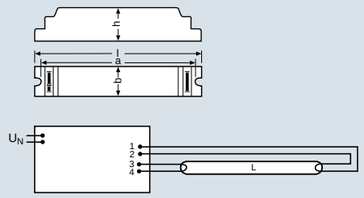
Product reference	V min.-max. [1]	kHz ECG	λ	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-ECO 1x4-16/220-240 S	198…254	ap. 40	0,6 c	–15…+50	80	40	22	72...75	50	50

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 Hz
- Lamp start: Preheat start within approx. 1 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Suitable for use in emergency lighting systems with central batteries
- Maximum connected load per luminaire: 25 W
- Maximum permitted cable length between the ECG and lamp: < 1.0 m (PIN 1, 2); < 0.5 m (PIN 3, 4)
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- 0 Hz DC and 60 Hz operation are possible; EMC compliance is the responsibility of the luminaire manufacturer
- Additional features:

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® ECONOMIC
for (compact) fluorescent lamps



Product reference	Product number		W SYSTEM	lm	A
QUICKTRONIC® ECONOMIC for (compact) fluorescent lamps – single-lamp version					
QT-ECO 1x4-16/220-240 L	4050300**660370**	DS/E 5	7,5	250	0,06
		DS/E 7	9	400	0,06
		DS/E 9	10	600	0,07
		DS/E 11	13	900	0,09
		DD/E 10	11,5	600	0,08
		DD/E 13, DT/E 13	14	800	0,10
		HE 14	15	1200[2)]	0,10
		L 4 (∅ 16 mm)	6,5	120	0,05
		L 6 (∅ 16 mm)	8,5	240	0,06
		L 8 (∅ 16 mm)	10,5	450	0,07
		L 13 (∅ 26 mm)	15	950	0,08
		L 10 (∅ 26 mm)	12	650	0,10
		L 16 (∅ 26 mm)	16	1100	0,11

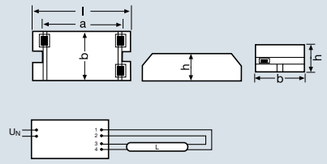
Product reference	V min.-max. [1)]	kHz ECG	λ	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-ECO 1x4-16/220-240 L	198…254	ap. 40	0,6 c	–15…+50	150	22	22	140	50	50

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 Hz
- Lamp start: Preheat start within approx. 1 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Suitable for use in emergency lighting systems with central batteries
- Maximum connected load per luminaire: 25 W
- Maximum permitted cable length between the ECG and lamp: < 1.0 m (PIN 1, 2); < 0.5 m (PIN 3, 4)
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- 0 Hz DC and 60 Hz operation are possible; EMC compliance is the responsibility of the luminaire manufacturer
- Additional features:

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® ECONOMIC
for (compact) fluorescent lamps



Product reference	Product number		W SYSTEM	lm	A
QUICKTRONIC® ECONOMIC for (compact) fluorescent lamps – single-lamp version					
QT-ECO 1x18-21/220-240 S	4050300**794907**	DD/E 18, DT/E 18	19	1150	0,14
		HE 21	23	1800[2)]	0,17
QT-ECO 1x18-24/220-240 S	4050300**638560**	DL 18, DF 18	18	1100, 1000	0,13
		DL 24, DF 24	22,5	1600, 1500	0,16
		FC 22	22,5	1650[2)]	0,16
		HO 24	22	1600[2)]	0,15
		L 15 (∅ 26 mm)	17	950	0,13
		L 18 (∅ 26 mm)	19	1250	0,14
		L 18 U	19,5	900	0,14
		L 22 C	20	1100	0,14
QT-ECO 1x26/220-240 S	4008321**065971**	DD/E 26, DT/E 26	23,5	1600	0,18

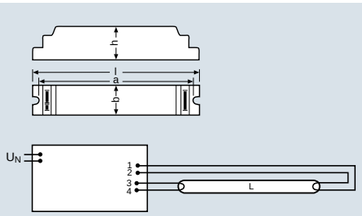
Product reference	V min.-max. [1)]	kHz ECG	λ	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-ECO 1x18-21/220-240 S	198…254	ap. 40	0,6 c	–15…+50	80	40	22	72…75	50	50
QT-ECO 1x18-24/220-240 S	198…254	ap. 40	0,6 c	–15…+50	80	40	22	72…75	50	50
QT-ECO 1x26/220-240 S	198…254	ap. 40	0,6 c	–15…+50	80	40	22	72…75	50	50

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 Hz
- Lamp start: Preheat start within approx. 1.5 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Suitable for use in emergency lighting systems with central batteries
- Maximum connected load per luminaire: 25 W
- Maximum permitted cable length between the ECG and lamp: < 1.0 m (PIN 1, 2); < 0.5 m (PIN 3, 4)
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- 0 Hz DC and 60 Hz operation are possible; EMC compliance is the responsibility of the luminaire manufacturer
- Additional features:

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® ECONOMIC
for (compact) fluorescent lamps



Product reference	Product number		W SYSTEM	lm	A
QUICKTRONIC® ECONOMIC for (compact) fluorescent lamps – single-lamp version					
QT-ECO 1x18-24/220-240 L	4050300**660417**	DL 18, DF 18	18	1100, 1000	0,13
		DL 24, DF 24	22,5	1600, 1500	0,16
		FC 22	22,5	1650[2]	0,16
		HO 24	22	1600[2]	0,15
		L 15 (∅ 26 mm)	17	950	0,13
		L 18 (∅ 26 mm)	19	1250	0,14
		L 18 U	19,5	900	0,14
		L 22 C	20	1100	0,14

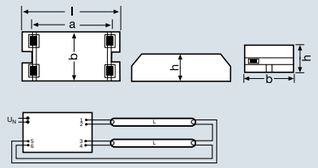
Product reference	V min.-max. [1]	kHz ECG	λ	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-ECO 1x18-24/220-240 L	198…254	ap. 40	0,6 c	–15…+50	150	22	22	140	50	50

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 Hz
- Lamp start: Preheat start within approx. 1.5 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Suitable for use in emergency lighting systems with central batteries
- Maximum connected load per luminaire: 25 W
- Maximum permitted cable length between the ECG and lamp: < 1.0 m (PIN 1, 2); < 0.5 m (PIN 3, 4)
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- 0 Hz DC and 60 Hz operation are possible; EMC compliance is the responsibility of the luminaire manufacturer
- Additional features:

1) Sinusoidal line voltage

2) As with fluorescent lamps in general, the rated luminous flux for T5 fluorescent lamps is specified at 25 °C. The maximum luminous flux here however is measured at 34 °C to 38 °C. Please refer to the luminous flux/temperature curve on page 4.37

QUICKTRONIC® ECONOMIC
for (compact) fluorescent lamps



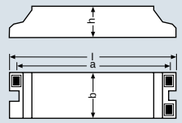
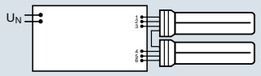
Product reference	Product number		W SYSTEM	lm	A
QUICKTRONIC® ECONOMIC for (compact) fluorescent lamps – two-lamp version					
QT-ECO 2x5-11/220-240 S	4050300**821504**	2xDS/E 5	12,5	2x250	0,10
		2xDS/E 7	15,0	2x350	0,11
		2xDS/E 9	18,0	2x500	0,13
		2xDS/E 11	23,5	2x700	0,16
		2xDD/E 10	20,0	2x600	0,14
		2xL 6 (∅ 16 mm)	14,5	2x240	0,11
		2xL 8 (∅ 16 mm)	17,5	2x400	0,13
		2xL 10 (∅ 26 mm)	20,0	2x600	0,14

Product reference	V min.-max. [1]	kHz ECG	λ	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-ECO 2x5-11/220-240 S	198…254	ap. 40	0,6 c	–15…+50	80	40	22	72…75	50	55

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 Hz
- Lamp start: Preheat start within approx. 2.0 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Suitable for use in emergency lighting systems with central batteries
- Maximum connected load per luminaire: 25 W
- Maximum permitted cable length between the ECG and lamp: < 1.0 m (PIN 1, 2, 3, 4); < 0.5 m (PIN 5, 6)
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- 0 Hz DC and 60 Hz operation are possible; EMC compliance is the responsibility of the luminaire manufacturer
- Additional features:

1) Sinusoidal line voltage

QUICKTRONIC® ECONOMIC
for (compact) fluorescent lamps

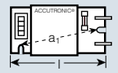
Product reference	Product number		W SYSTEM	lm	A
QUICKTRONIC® ECONOMIC for (compact) fluorescent lamps – two-lamp version					
QT-ECO T/E 2x18/220-240	4050300**803982**	2xDD/E 18, DT/E 18	36	2x1200	0,18
QT-ECO T/E 2x26/220-240	4050300**804002**	2xDD/E 26, DT/E 26	52	2x1800	0,25

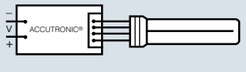
Product reference	V min.-max. [1]	kHz ECG	λ	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-ECO T/E 2x18/220-240	198…254	ap. 45	0,95	–15…+50	150	41	28	140	50	190
QT-ECO T/E 2x26/220-240	198…254	ap. 45	0,95	–15…+50	150	41	28	140	50	190

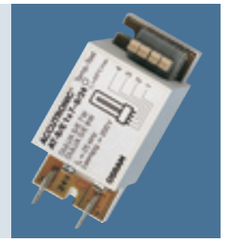
General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 to 60 Hz
- Lamp start: Preheat start within 2.0 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Suitable for use in emergency lighting systems with central batteries
- Maximum permitted cable length between the ECG and lamp: < 1.0 m (PIN 1, 2, 3, 4); < 0.5 m (PIN 5, 6)
- Approval marks:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- DC operation possible, EMC compliance is the responsibility of the luminaire manufacturer

1) Sinusoidal line voltage

ACCUTRONIC®







Product reference	Product number		V	V min.-max.	A	W SYSTEM	W LAMP	lm
ACCUTRONIC®								
AT 7-9/12 L	4050300**273754**	DS/E 7	12 DC	10,5	0,7	8	7	400
		DS/E 9		to	0,8	10	9	600
		DD/E 10		14,5[1]	0,9	11	10	600
		L 8			0,8	9	8	430
AT 7-9/24 L	4050300**308913**	DS/E 7	24 DC	21,0	0,3	8	7	400
		DS/E 9		to	0,4	10	9	600
		DD/E 10		28,0[2]	0,5	11	10	600
		L 8			0,4	9	8	430

Product reference		°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
AT 7-9/12 L	DS/E 7	–10…+50	82	40	30	73	10	70
	DS/E 9							
	DD/E 10							
	L 8							
AT 7-9/24 L	DS/E 7	–10…+50	82	40	30	73	10	70
	DS/E 9							
	DD/E 10							
	L 8							

ACCUTRONIC® for OSRAM DULUX® S/E 7 W, 9 W and OSRAM DULUX® D/E 10 W and L 8 W.
This electronic control gear for 12 V and 24 V DC operation enables light to be provided from local power sources. This separate unit enables lighting systems to be operated with virtually any type of power supply. Ordinary batteries, rechargeable batteries and solar power can be used. This combination is therefore ideal for all applications in which ac line power is not available, such as on ships, in caravans and in remote mountain huts.

ACCUTRONIC® was developed specifically for OSRAM DULUX® S/E 7 W, 9 W and OSRAM DULUX® D/E 10 W and L 8 W energy-saving compact fluorescent lamps.

ACCUTRONIC® is a built-in unit; in other words, EMC depends on the application.

Economy:
With its optimum utilization of available electricity and minimal power loss, the combination of ACCUTRONIC® and OSRAM DULUX® gives light more than three times longer from the same battery source than an incandescent lamp of the same brightness.

Benefits:
- Extremely low power consumption
- Minimal power loss of less than one watt
- Light for around three times longer than with incandescent lamps from the same battery capacity

Comfort:
- Long lamp life
- No adverse effect from frequent on/off switching
- Reliable starting over a wide range of temperatures
- Shutdown of faulty lamps
- No-load protection

Applications:
- Solar power systems
- Summer houses, hunting lodges and mountain chalets
- Caravans and campers
- Boats
- Beacon buoys, signal and navigation lamps

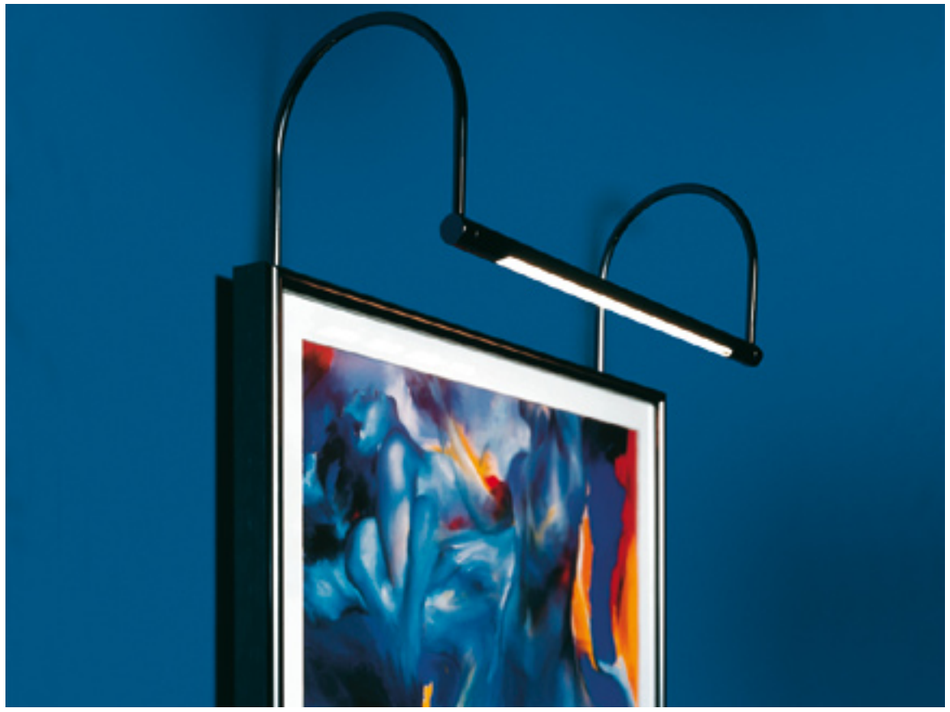
1) If a supply voltage ≤ 11 V is applied for a long time the life of the lamp is likely to be shortened
2) If a supply voltage ≤ 23 V is applied for a long time the life of the lamp is likely to be shortened

QUICKTRONIC® for FM® (T2/Ø 7 mm) miniature fluorescent lamps

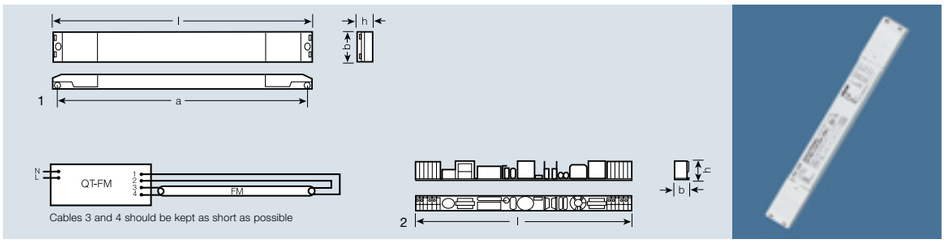
Exceptional lighting solutions call for exceptional components. A good example of innovative components is the FLUORESCENT MINIATURE (FM®) lighting system from OSRAM. FM® fluorescent lamps are characterized by an extremely slim tube diameter of just 7 mm. Because of their electrical and geometric data, these miniature fluorescent lamps can only be operated reliably with electronic control gear. There is a choice of three QUICKTRONIC® ECGs to operate the four wattages (6 W, 8 W, 11 W and 13 W):

- **QT-FM…L:** Low-profile casing version with cable clamp suitable for through-wiring (dimensions: 276 mm x 32 mm x 16 mm)
- **QT-FM…LB:** Slim space-saving board version for applications that make special demands on the geometry (dimensions: 225 mm x 18 mm x 13 mm)
- **QT-ECO FM:** Built-in unit with slim compact plastic casing (dimensions: 150 mm x 22 mm x 22 mm)

Applications:
- Shelf and display cabinet lighting
- Mirror, furniture and picture lights
- Acrylic displays
- Small and stylish table, wall and ceiling lights



QUICKTRONIC® for FM® (T2/Ø 7 mm) miniature fluorescent lamps



Product reference	Product number		V min.-max. 1)	kHz ECG	A	λ	W SYSTEM
QUICKTRONIC® for FM® fluorescent lamps – with plastic casing and cable clamp							
QT-FM 1x6/230-240 L	4050300**511139**	FM 6	198…254	ap. 45	0,04	0,97	9
QT-FM 1x8/230-240 L	4050300**511153**	FM 8	198…254	ap. 45	0,05	0,97	11
QT-FM 1x11/230-240 L	4050300**511177**	FM 11	198…254	ap. 45	0,06	0,97	14
QT-FM 1x13/230-240 L	4050300**511191**	FM 13	198…254	ap. 45	0,07	0,97	16

Product reference	lm	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g	No.
QT-FM 1x6/230-240 L	330	0…+50	276	32	16	263	20	130	1
QT-FM 1x8/230-240 L	540	0…+50	276	32	16	263	20	130	1
QT-FM 1x11/230-240 L	750	0…+50	276	32	16	263	20	130	1
QT-FM 1x13/230-240 L	930	0…+50	276	32	16	263	20	130	1

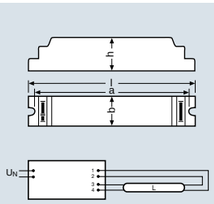
Product reference	Product number		V min.-max. 1)	kHz ECG	A	λ	W SYSTEM
QUICKTRONIC® for FM® fluorescent lamps – without casing, long board, with insulating foil							
QT-FM 1x8/230-240 LB	4050300**363523**	FM 8	198…254	ap. 45	0,05	0,97	11
QT-FM 1x11/230-240 LB	4050300**363547**	FM 11	198…254	ap. 45	0,06	0,97	14
QT-FM 1x13/230-240 LB	4050300**363561**	FM 13	198…254	ap. 45	0,07	0,97	16

Product reference	lm	°C min.-max.	l [mm]	b [mm]	h [mm]		g	No.
QT-FM 1x8/230-240 LB	540	0…+50	225	13	18	20	130	2
QT-FM 1x11/230-240 LB	750	0…+50	225	13	18	20	130	2
QT-FM 1x13/230-240 LB	930	0…+50	225	13	18	20	130	2

General:
- Supply voltage: 230 to 240 V
- Line frequency: 50 to 60 Hz[1)]
- Lamp start: Preheat start within 2 s
- Not suitable for DC operation
- Approval marks:
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Safety acc. to EN 61347-2-3
- Lamp operation acc. to EN 60929
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Additional features:

1) Sinusoidal line voltage

QUICKTRONIC® ECONOMIC for FM® (T2/Ø 7 mm) miniature fluorescent lamps



Product reference	Product number		V min.-max. [1]	kHz ECG	A	λ	W SYSTEM	lm
QUICKTRONIC® ECONOMIC for FM® fluorescent lamps – built-in unit with plastic casing								
QT-ECO FM 1x6-8/220-240	4050300**797502**	FM 6	198…254	ap. 45	0,06	0,6 c	7,5	330
		FM 8			0,07		10	540
QT-ECO FM 1x11-13/220-240	4050300**799780**	FM 11	198…254	ap. 45	0,10	0,6 c	13	750
		FM 13			0,12		16	930

Product reference	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT-ECO FM 1x6-8/220-240	–15…+50	150	22	22	140	50	50
QT-ECO FM 1x11-13/220-240	–15…+50	150	22	22	140	50	50

General:
- Supply voltage: 220 to 240 V
- Line frequency: 50 Hz[1]
- Lamp start: Preheat start within 1.5 s
- Automatic safety shutdown of lamps in the event of a defect or at end of life (EOL)
- Automatic restart after lamp replacement
- Not suitable for DC operation
- Maximum connected load per luminaire: 25 W
- Max. permitted cable length between ECG and lamp < 1.0 m (PIN 1, 2); < 0.5 (PIN 3, 4)
- Approval marks:
- Additional features:
- Safety acc. to EN 61347-2-3
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547

1) Sinusoidal line voltage

POWERTRONIC®

POWERTRONIC® for HCI® and HQI® metal halide lamps
POWERTRONIC® ECG have a wide variety of uses. OSRAM can supply the right electronic control gear for any application between 20 W and 150 W, whether for installation in luminaires or installed separately with cable clamps.
Its low weight and small volume increase the scope for luminaire design and system planning. Thanks to the built-in microcontroller, POWERTRONIC® ECG make the economical light from metal halide lamps even more comfortable, reliable and safe by constantly monitoring lamp starts and lamp operation.

Benefits of POWERTRONIC® ECG:
- Flicker-free light thanks to square-wave operation
- Greater color stability and less color shift
- Reliable shutdown of faulty lamps or lamps in abnormal operating states for much greater system safety and reliability
- Restricted ignition time prevents attempts to ignite faulty or old lamps and therefore prevents lamp cycling and radio interference
- High-quality components combined with sophisticated thermal management ensure robust operation and long ECG life
- Compact designs and low weight for small modern luminaires

Better economy with POWERTRONIC® ECG compared with conventional control gear:
- Up to 15% higher system efficacy
- Up to 20% better luminous flux maintenance and smaller spread of luminous flux
- Up to 30% longer lamp life

Applications:
- Shop interiors/shop windows
- Foyers/entrance halls
- Production facilities/industrial plants
- Public buildings
- Art galleries/museums/exhibition rooms

HCI/PTi System + Guarantee
Electronic control gear from OSRAM is noted for its state-of-the-art circuit design and high-quality components. These ECGs achieve their optimum functionality when operating as a system in conjunction with innovative lamps from OSRAM because OSRAM lamps and OSRAM ECGs are always perfectly matched to one another.

Thanks to innovative ECG technologies and quality without compromise, OSRAM is in a position to offer its customers a unique guarantee on its HID systems:

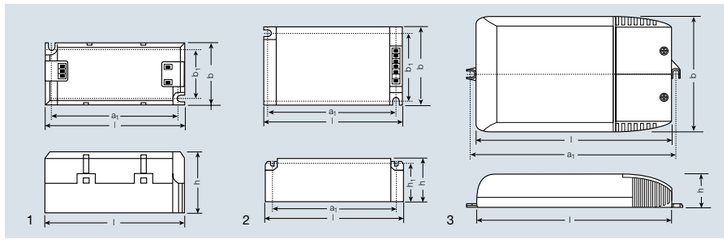
Power W	30	70	150
Lamp			
HCI®-T	●	●	●
HCI®-TS	–	●	●
HCI®-TC	●	●	–

- 5-year guarantee for OSRAM POWERTRONIC® ECGs in combination with HCI®/HQI® lamps
- 3 year guarantee for POWERTRONIC® ECGs if used without an OSRAM lamp
- 1 year guarantee for HCI®/HQI® lamps if used with PTi ECGs

For more information on the system guarantee and the terms and conditions of the guarantee go to www.osram.com/system-guarantee

PTi S – the high-class built-in ECG
- Compact dimensions and low weight for small luminaire designs
- Extremely long ECG life of 40,000 hours at maximum permitted temperatures
- Excellent thermal behavior for very high limit temperatures t_c and t_a
- High-quality metal casing for optimum thermal link between the ECG and the luminaire

PTi I – highly practical with cable clamp
- Small casing dimensions make the units suitable also for small ceiling openings
- Large terminal compartment makes the units easier to install
- 2 durable connected PE terminals enable the luminaire to be grounded via the ECG
- Screw-down cable clamps for reliable clamping
- Screwless plug-in terminals for rapid and precise cabling
- Split cable clamps for easier advance cabling work with tried and trusted cable connection systems



Product reference	Product number			Hz ECG	A	λ	T_a	T_c
POWERTRONIC® – single-lamp units								
PT 20/220-240 S	4008321**916181**	Built-in unit	HCI	130	0,16	0,61c	–25 to +45	60
PTi 35/220-240 S	4008321**073112**	Built-in unit	HCI	165	0,19	0,95	–25 to +65	85
PTi 35/220-240 I	4008321**099488**	With cable clamp	HCI	165	0,19	0,95	–25 to +65	80
PTi 70/220-240 S	4008321**049629**	Built-in unit	HCI, HQI	165	0,35	0,95	–25 to +55	85
PTi 70/220-240 I	4008321**099501**	With cable clamp	HCI, HQI	165	0,35	0,95	–25 to +50	75

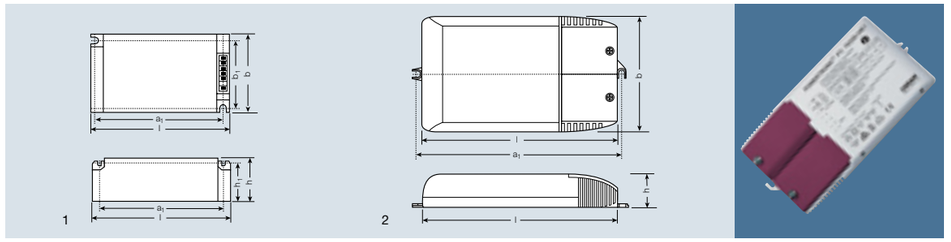
Product reference	ECG/CCG	W LAMP	kV START	max.		l [mm]	b [mm]	h [mm]	a_1 mm	b_1 mm		No.
PT 20/220-240 S	22	20	4	0,6		97	43	31	88	34	12	1
PTi 35/220-240 S	43/50	39	4,5	1,5		110	75	30	99	64	20	2
PTi 35/220-240 I	43/50	39	4,5	1,5		155	83	32	163		20	3
PTi 70/220-240 S	80/92	73	4,5	1,5		110	75	30	99	64	20	2
PTi 70/220-240 I	80/92	73	4,5	1,5		155	83	32	163		20	3

Product reference	Product number			Hz ECG	A	λ	T_a	T_c
POWERTRONIC® – single-lamp units								
PTi 100/220-240 S	4008321**926630**	Built-in unit	HCI, HQI	165	0,49	0,95	–25 to +55	80
PTi 100/220-240 I	4008321**926654**	With cable clamp	HCI, HQI	165	0,49	0,95	–25 to +55	70
PTi 150/220-240 S	4008321**188090**	Built-in unit	HCI, HQI	165	0,72	0,95	–25 to +55	85
PTi 150/220-240 I	4008321**915535**	With cable clamp	HCI, HQI	165	0,72	0,95	–25 to +50	75

Product reference	ECG/CCG	W LAMP	kV START	max.		l [mm]	b [mm]	h [mm]	a_1 mm	b_1 mm		No.
PTi 100/220-240 S	109/116	100	4,5	1,5		150	85	31	137	74	20	1
PTi 100/220-240 I	109/116	100	4,5	1,5		185	96	33	203		20	2
PTi 150/220-240 S	163/170	150	4,5	1,5		150	85	31	137	74	20	1
PTi 150/220-240 I	163/170	150	4,5	1,5		185	96	33	203		20	2

General:
- Supply voltage: 220 V – 10%/240 V + 6%
- Line frequency: 50, 60 Hz
- RI suppression: acc. to EN 55015
- Safety acc. to EN 61347-2-12
- Line harmonics: acc. to EN 61000-3-2
- Immunity: acc. to EN 61547
- Luminous flux factor 1 compared with CCG operation
- Instant hot restart not possible

POWERTRONIC®



Product reference	Product number			Hz ECG	A	λ	T_a	T_c
POWERTRONIC® – two-lamp units								
PTi 2x35/220-240 S	4008321**122247**	Built-in unit	HCI	165	0,38	0,95	–25 to +55	80
PTi 2x35/220-240 I	4008321**122261**	With cable clamp	HCI	165	0,38	0,95	–25 to +55	75
PTi 2x70/220-240 S	4008321**910028**	Built-in unit	HCI, HQI	165	0,75	0,95	–25 to +55	80
PTi 2x70/220-240 I	4008321**910042**	With cable clamp	HCI, HQI	165	0,75	0,95	–25 to +55	75

Product reference	ECG CCG	W LAMP	kV START	max. l		l [mm]	b [mm]	h [mm]	a_1 mm	b_1 mm		No.
PTi 2x35/220-240 S	86/100	2x39	4,5	1,5		135	75	30	124	64	20	1
PTi 2x35/220-240 I	86/100	2x39	4,5	1,5		180	83	32	188		20	2
PTi 2x70/220-240 S	160/184	2x73	4,5	1,5		165	90	30	153	80	20	1
PTi 2x70/220-240 I	160/184	2x73	4,5	1,5		210	98	32	218		20	2

2-lamp units – the clever alternative
- Up to 40% smaller volume for even more compact multi-lamp luminaire designs for 2 HCI or HQI metal halide lamps
- The integrated cable clamp reduces the wiring and installation costs
- If one lamp fails the other continues to operate. This is achieved by two separate internal lamp circuits
- With its excellent thermal properties the PTi has a life of 40,000 hours at maximum temperature – exactly the same as its single-lamp counterpart

General:
- Supply voltage: 220 V – 10%/240 V + 6%
- Line frequency: 50, 60 Hz
- Safety acc. to EN 61347-2-12
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity: acc. to EN 61547
- Luminous flux factor 1 compared with CCG operation
- Instant hot restart not possible

QUICKTRONIC® for OSRAM ENDURA®

QUICKTRONIC® specifically for OSRAM ENDURA®
This high-frequency electronic control gear was developed specifically for the ENDURA® electrode-less high-performance fluorescent lamp. These lamps are installed wherever relamping costs are high. The combination of ENDURA® lamps and the extremely reliable QUICKTRONIC® QT ENDURA control gear ensures maximum lamp life and maximum luminous efficacy. Maintenance intervals are therefore longer and more energy savings can be made.

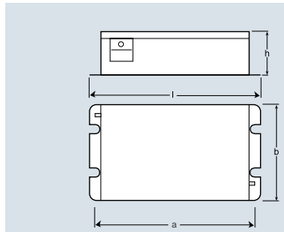
Economy:
In view of its extremely long life and high luminous efficacy, the ENDURA® system is ideal for applications in which relamping involves high costs and in which economy and reliability are important considerations. The system offers real benefits in these respects. With its low maintenance costs, low power consumption and reduced material and personnel costs, this lighting system offers much lower overall costs in the long term.

Comfort:
- Flicker-free ignition and flicker-free light with no annoying hum
- High reliability leads to an extremely average long life of 60,000 hours with a failure rate of only 10%, for $t_c = t_{c\ Max}$
- No adverse effect from frequent on/off switching

Safety:
- Complies with European standards for safety and EMC
- All units are VDE tested
- Suitable for use in emergency lighting systems with central batteries

Applications:
- Factory ceilings
- Tunnels in constant use
- Street lighting

QUICKTRONIC® for OSRAM ENDURA®



Product reference	Product number		V min.-max.	kHz ECG	A	λ	W SYSTEM	lm
QUICKTRONIC® for OSRAM ENDURA®								
QT ENDURA 70-100/120-240 S	4050300**804668**	100	108…264	ap. 250	0,47	>0,95	107	8000
		70	108…264	ap. 250	0,34	>0,95	82	6500
QT ENDURA 100-150/120-240 S	4050300**662589**	150	108…264	ap. 250	0,66	>0,95	157	12000
		100	108…264	ap. 250	0,59	>0,95	146	11000

Product reference	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm		g
QT ENDURA 70-100/120-240 S	–40…50[1)]	181	100	43	170	5	860
QT ENDURA 100-150/120-240 S	–40…50	181	100	43	170	5	860

General:
- Safety acc. to EN 60928
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity: acc. to EN 61547
- Approval marks:
- Line frequency: 0, 50 to 60 Hz
- Supply voltage: 120 to 240 V
- DC voltage range: 176 to 275 V; lamps must be ignited at over 198 V however

1) –25 to 50 °C for 70 W

HALOTRONIC®

HALOTRONIC® with and without casing: for separate installation or installation in luminaires

HALOTRONIC® is primarily intended for:
- recessed and surface-mounted ceiling luminaires
- tube lighting systems
- domestic lighting (lighting installed in and on furniture)

Versions:
- Long with casing and cable clamp (L)
- With low-profile casing and cable clamp (LF)
- Built-in version with casing (S)

HTM Mouse® is available as a compact standard unit with cable clamp for shallow suspended ceilings.
New: Connections for 2 luminaires.

HTN (HT NANO) is ideal in systems with OSRAM MINISTAR® lamps for particularly tight spaces. Excellent thermal behavior despite its small size – brilliant white halogen light even at high ambient temperatures.

Thanks to its low power loss it generates much less heat than a conventional transformer. Part-load operation prolongs the life of the lamp.

Applications:
- Foyers/reception areas
- Passages/corridors
- Shops and exhibition rooms
- Offices and conference rooms
- Living rooms
- Accent lighting
- Decorative lighting

Prescribed dimmer for HALOTRONIC®

HTL 105/230-240	L,C
HTL 225/230-240	L,C
HT 120/230-240/12 LF	C
HTM 70/230-240	L,C
HTM 105/230-240	L,C
HTM 150/230-240	L,C
HTN 75/230-240 I, …S	C
ET-BI 70/220-240 S	L,C
ET-BI 105/220-240 S	L,C

C with trailing-edge phase dimmer
L with leading-edge phase dimmer for inductives loads
L,C with trailing-edge for leading-edge phase dimmers for inductive loads

Dimmers for ohmic loads are not suitable

Comfort:
- Since it weighs around 80% less and takes up 40% less space than normal transformers it gives much greater scope for planning halogen-based lighting systems
- Dimmable
- Electronically reversible cutout to protect against short circuits, overloads and overtemperature

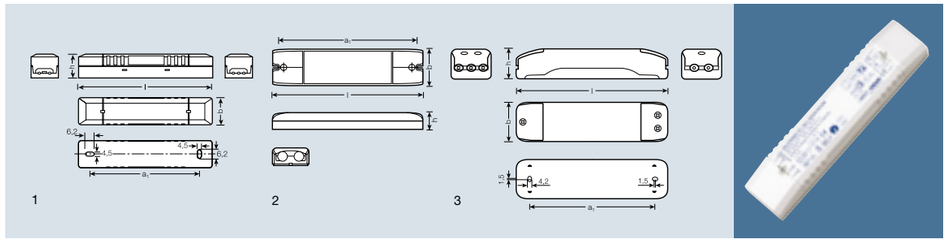
Economy:
- Protective operation throughout the entire partial load range
- No additional safety measures required for connecting the unit
- Approx. 60% lower power loss compared with conventional transformers

Safety:
- All units are VDE tested
- Suitable for mounting on wooden surfaces
- Devices for separate installation have labels
- Suitable, without any additional measures, for luminaires in protection classes II and III, luminaires with and labels and luminaires with and labels
- Complies with international, European and German standards for safety, operation and EMC

Ease of installation

L version
- Two terminal pairs on primary side for looping from unit to unit
- Three large terminal pairs on the secondary side for connecting up to six luminaires in parallel
- Suitable without restriction for emergency power operation. All shutdowns reversible even in DC mode
- Reliable strain relief for various cables

LF version
- Low-profile design
- Two terminal pairs on primary side for looping from unit to unit
- Cable clamp on the primary side for two cables up to NYM 3 x 1.5 mm^2
- Two terminal pairs on the secondary side for connecting two luminaires in parallel



Product reference	Product number		V	Hz	kHz ECG	A
HALOTRONIC® – long with casing for separate installation with cable clamp						
HTi DALI 150/220-240 DIM	4050300**807782**		220–10%/240+10%	50/60	20-35	0,80
HT 120/230/12 LF	4050300**461342**	Flat with casing	230–10%/240+6%	50	~50	0,48
HTL 105/230-240[2)]	4008321**927019**		230–10%/240+6%	0/50/60	40	0,60
HTL 225/230-240[2)]	4008321**927026**		230–10%/240+6%	0/50/60	50	1,50

Product reference	λ	W min.-max.	V_{OUT}	°C min.-max.	W	
HTi DALI 150/220-240 DIM	0,95	35…150	11,7±5%	–20…+45	DALI interface[1)]	NEW
HT 120/230/12 LF	0,95	35…120	11,3 (120 W)/11,5 (35W)	–20…+45	Trailing-edge phase dimmer	
HTL 105/230-240	0,95	35…105	11,6 (105 W)/11,3 (35W)	0…+50	Trailing-edge phase dimmer	NEW
					+ leading-edge phase control	
HTL 225/230-240	0,95	50…225	11,6 (225 W)/11,8 (50W)	0…+50	Trailing-edge phase dimmer	NEW
					+ leading-edge phase control	

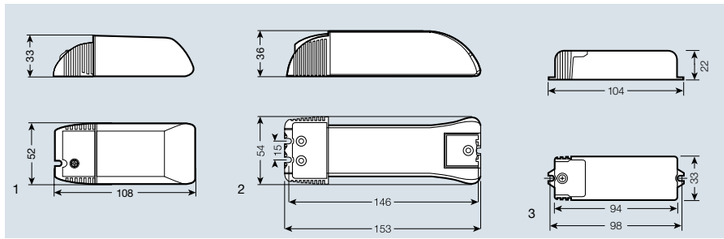
Product reference		l [mm]	b [mm]	h [mm]	a_1 mm		g	No.	
HTi DALI 150/220-240 DIM		220	47	44	180	10	280	1	NEW
HT 120/230/12 LF		172	42	20	164	20	170	2	
HTL 105/230-240	*	170	44	34	140	10	160	3	NEW
HTL 225/230-240	*	170	44	34	140	10	200	3	NEW

For further information please refer to the HALOTRONIC® product guide.

* in preparation

General:
- Short-circuit protection: electronically reversible
- Overload protection: electronically reversible
- Overtemperature protection: electronically reversible
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Product acc. to EN 61347-2-2
- Immunity acc. to EN 61547

1) ***Touch DIM®*** and ***Touch DIM® Sensor*** functions of the HTi DALI 150 DIM are not part of the DALI® standard
2) Suitable for use in emergency lighting systems with central batteries

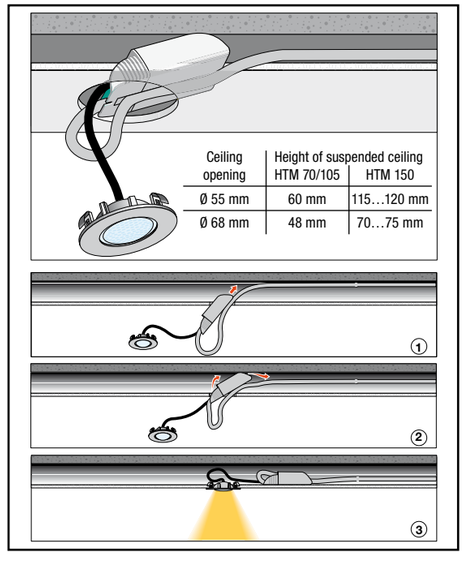


Product reference	Product number		V	Hz	kHz ECG	A
HALOTRONIC MOUSE® and HALOTRONIC® NANO – compact, for separate installation with cable clamp						
HTM 70/230-240	4050300**442310**	Compact	230–10%/240+6%	50/60	ap. 48	0,27
HTM 105/230-240	4050300**442334**	Compact	230–10%/240+6%	50/60	ap. 40	0,42
HTM 150/230-240[2)]	4050300**581415**	Compact	230–10%/240+6%	50/60	ap. 35	0,57
HTN 75/230-240 I	4008321**073037**	Very small	230–10%/240+6%	50/60	ap. 50	0,32

Product reference	λ	W min.-max.	V_{OUT}	°C min.-max.	W	
HTM 70/230-240	0,95	20-70	11,2 (70 W) /11,2 (20 W)	0…+50	with leading-edge phase dimmer[1)]	
					or trailing-edge phase dimmer	
HTM 105/230-240	0,95	35-105	11,3 (105 W)/11,4 (35 W)	0…+45	with leading-edge phase dimmer[1)]	
					or trailing-edge phase dimmer	
HTM 150/230-240[2)]	0,95	50-150	11,4 (150 W)/11,5 (50 W)	0…+45	with leading-edge phase dimmer[1)]	
					or trailing-edge phase dimmer	
HTN 75/230-240 I	0,95	20-75	11,5 (75 W) /11,7 (20 W)	0…+50	with leading-edge phase dimmer	

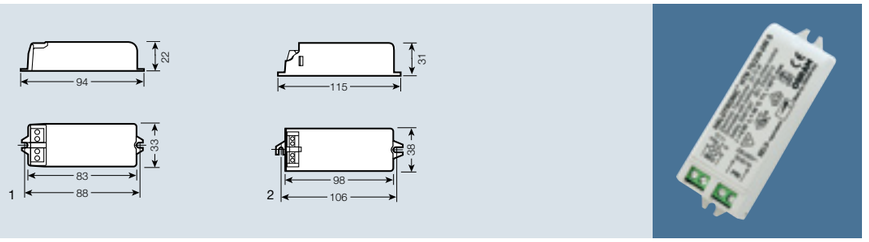
Product reference		l [mm]	b [mm]	h [mm]		g	No.
HTM 70/230-240		108	52	33	20	110	1
HTM 105/230-240		108	52	33	20	120	1
HTM 150/230-240[2)]		153	54	36	10	200	2
HTN 75/230-240 I		104	33	22	20	70	3

General:
- Short-circuit protection: electronically reversible
- Overload protection: electronically reversible
- Overtemperature protection: electronically reversible
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Product acc. to EN 61347-2-2
- Immunity acc. to EN 61547



1) For inductive loads

2) Simple installation of HTM 150:
– two terminal pairs on primary side for looping from unit to unit
– three terminal pairs on the secondary side for connecting up to six luminaires



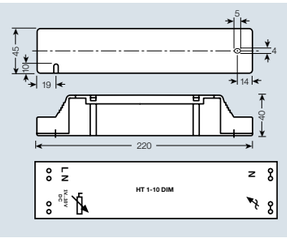
Product reference	Product number		V	Hz	kHz ECG	A
Electronic transformers – for installation in luminaires						
HTN 75/230-240 S	4008321**909329**	1	230–10 %, 240 +6%	50/60	50	0,3
ET-BI 70/220-240 S	4008321**158123**	2	220–10 %, 240 +6%	50/60	50	0,3
ET-BI 105/220-240 S	4008321**158147**	2	220–10 %, 240 +6%	50/60	40	0,45

Product reference	λ	W min.-max.	V_{OUT}	°C min.-max.	W	
HTN 75/230-240 S	0,95	20…75	11,5 (75 W)/11,7 (20 W)	0…50	Trailing-edge phase dimmer	
ET-BI 70/220-240 S	0,95	20…70	11,7 (70 W)/11,8 (20 W)	0…45	with leading-edge phase dimmer	
					or trailing-edge phase dimmer	
ET-BI 105/220-240 S	0,95	35…105	11,7 (105 W)/11,8 (35 W)	0…40	with leading-edge phase dimmer	
					or trailing-edge phase dimmer	

Product reference		l [mm]	b [mm]	h [mm]		g	No.
HTN 75/230-240 S		94	33	22	20	70	1
ET-BI 70/220-240 S		115	38	31	50	105	2
ET-BI 105/220-240 S		115	38	31	50	120	2

For further information please refer to the HALOTRONIC® product guide.

General:
- Short-circuit protection: electronically reversible
- Overload protection: electronically reversible
- Overtemperature protection: electronically reversible
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Immunity acc. to EN 61547
- Product acc. to EN 61347-2-2



Product reference	Product number		A	W LAMP		W
HT 1-10 DIM	405030**451350**		ap. 3	60–700 at t_a 45 °C		Trailing-edge phase dimmer
				60–750 at t_a 40 °C		

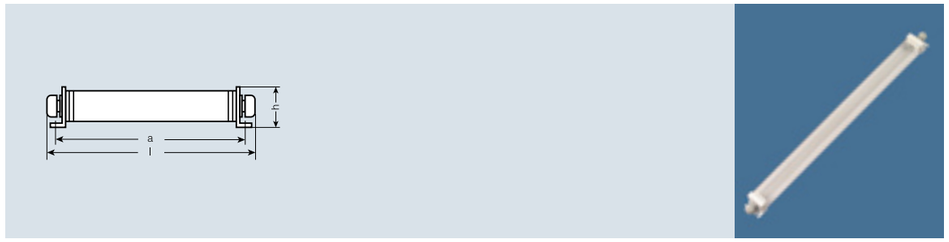
Product reference	V	Hz	°C min.-max.
HT 1-10 DIM	230	50	0…+45

Product reference		l [mm]	b [mm]	h [mm]	g	CONTROL
HT 1-10 DIM	[1]	220	45	40	ap. 240	1…10 V interface

General:
- Short-circuit protection: electronically reversible
- Overload protection: electronically reversible
- Overtemperature protection: electronically reversible
- RI suppression: acc. to EN 55015
- Line harmonics: acc. to EN 61000-3-2
- Product acc. to EN 61347-2-2
- Immunity acc. to EN 61547, EN 61047

1) In preparation

OUT KIT® – protective housing for ECGs in type of protection IP67



Product reference	Product number	°C min.-max.	l [mm]	b [mm]	h [mm]	a mm	
OUT KIT® – New: now also available for ECGs with a height of 21 mm							
OUT KIT® 30 short							
for ECG dimensions: 360 x 30 x 30 mm	4008321**159533**	–25…+50	466	38	38	430	20
OUT KIT® 21 short							
for ECG dimensions: 360 x 30 x 21 mm	4008321**159571**	–25…+50	456	38	28,5	430	20
OUT KIT® 30 long							
for ECG dimensions: 423 x 30 x 30 mm	4008321**159557**	–25…+50	531	38	38	495	20
OUT KIT® 21 long							
for ECG dimensions: 423 x 30 x 21 mm	4008321**159595**	–25…+50	521	38	28,5	495	20

Protective housing for electronic control gear in humid applications
Electronic control gear for fluorescent lamps now plays a major role in indoor lighting. If the benefits of energy saving and low maintenance costs that ECG operation brings are to be enjoyed in outdoor systems as well, these valuable ECGs have to be protected against moisture. In other words, they need a special housing.

Areas of application:
Outdoor lighting applications in which the ECG requires a high level of protection against moisture, such as advertising panels

General:
- Type of protection: IP67
- Self-heating: only 5 K higher than an open ECG

OPTOTRONIC®

OPTOTRONIC® specially for LED systems
LED systems from OSRAM provide the basis for intelligent lighting solutions in a wide range of applications. To achieve optimum functionality and efficiency it is crucial for the LED module and control gear to be perfectly matched to one another. In combination with LED modules, OPTOTRONIC® control gear provides the flexibility needed to create individual lighting.

The LED modules from OSRAM comprise constant voltage modules with supply voltages of 10 V and 24 V on the one hand and constant current modules and individual LED with supply currents of 350 mA and 700 mA on the other. The OPTOTRONIC® series of control gear has been designed specifically to meet the requirements of the LED module types and achieve optimum results.

The constant current LED modules are supplied with the necessary operating current without the need for any additional electronic circuitry. This is a highly efficient way of powering the LED modules. Within the specified output range the LED modules can be connected in series. OSRAM offers SELV and SELV-equivalent control gear for the relevant LED system solutions. The converters in the constant current series are available with outputs from 8.5 W to 35 W.

In the constant voltage LED systems the operating current for the LEDs is set by an integrated current regulation circuit on the LED module. The constant voltage supply for these LED modules makes it easy for users to install even very large LED systems. The system design of the OPTOTRONIC® constant voltage units with integrated current control on the LED module means that the latest generations of LEDs can always be used on the modules, such as high-flux LEDs. Within the specified output range the LED modules can be connected in parallel. The constant voltage units are SELV or SELV-equivalent units and in some cases are suitable for outdoor use. The converters in the constant voltage series are available with outputs from 6 W to 75 W.

OPTOTRONIC® units supply an electronically stabilized DC voltage or current with excellent efficiency. The electrical isolation between the primary and secondary sides and the reversible protection mechanisms on the OPTOTRONIC® units for overload, short-circuit and overtemperature enable the LED systems to be set up safely and reliably.

All the OPTOTRONIC® units meet the necessary standards for lighting technology: safety (DIN EN 61347-2-13), performance (DIN IEC 62384), radiated and line-bound radio interference suppression (EN 55015), harmonics (DIN IEC 6100-3-2) and EMC immunity (DIN IEC 61547).

Trouble-free integration of LED modules in safe lighting systems is therefore guaranteed.

Counter lighting in a café in Munich, Germany.

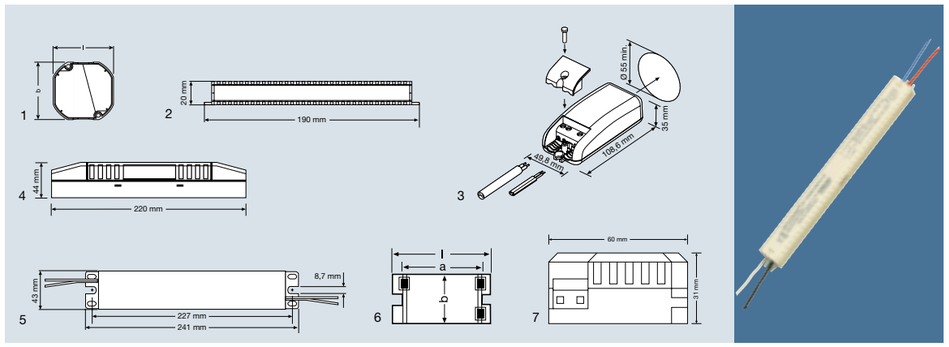
OPTOTRONIC® control gear:
Durable, reliable, energy-saving

OPTOTRONIC® units create the ideal conditions for long, reliable and economical operation.
The benefits at a glance:

- OPTOTRONIC® ensures optimum operation of LED systems. Only in this way can the required quality of light and level of reliability for the LED systems be achieved.
- Very low power consumption thanks to extremely high efficiency.
- Small space requirements thanks to compact functional design.
- Several modules can be connected in parallel or in series within the specified output range.
- Flexibility for lighting design.
- Impressive reliability through long life.
- Wide permitted ambient temperature range.
- Electrical isolation between the primary side and the secondary side (SELV or SELV-equivalent).
- Long permitted secondary cables.
- Protection class III luminaires and luminaires with F and SELV labels can be operated without the need for additional measures.
- Protection mechanisms for short-circuits, over-temperature and overloads are implemented in OPTOTRONIC®.
- All the units meet the necessary standards for lighting technology. It is therefore easy for them to be integrated in luminaires.

Control gear OPTOTRONIC® / LED modules	10 V units					24 V units							350/700 mA units						Com-bined units		Controllers					
	OT 6/10 CE	OT 12	OT 12 LE (IP protection)	OT 50	OT 50 E (IP protection)	OT 6/24 CE	OT 8	OT 20	OT 20 S	OT 75	OT 75 E (IP protection)	OT 9/350	OT 9/350 DIM (10-24V)	OT 9/350 DIM (200-240V)	OT 18/700 DIM[3]	OT 35/700	OT Easy 60/24	OT DALI 25/24	OT DIM[2]	OT RGB DIM[2]	OT RGB Sequencer[2]	OT DMX RGB DIM[2]	OT DMX 3x1 RGB DIM[2]	OTi DALI DIM[2]
BACKlight BL02	●	●	●	●	●														●	●	●	●	●	●
BACKlight BL03	●	●	●	●	●														●	●	●	●	●	●
BACKlight BL04	●	●	●	●	●														●	●	●	●	●	●
COINlight®						●	●	●	●	●	●						●	●	●	●	●	●	●	●
COINlight-OSTAR®							●	●	●	●							●	●	●	●	●	●	●	●
DRAGONchain™						(●)	(●)	●	●	●	●						●	●	●	●	●	●	●	●
DRAGONeye®												●	●	●	●									
DRAGONtape®												●	●	●	●									
DRAGONpuck®												●	●	●	●									
DRAGON-X												●	●	●	●									
OSTAR®-Lighting (4 Chip)												●	●	●	●	●								
OSTAR®-Lighting (6 Chip)												●	●	●	●	●								
OSTAR®hex. (6 Chip)												●	●	●	●	●								
EFFECTlight						●	●	●	●	●	●						●	●	●	●	●	●	●	●
LINEARlight	●	●	●	●	●														●	●	●	●	●	●
LINEARlight Colormix						●[1]	●[1]	●[1]	●[1]	●[1]	●[1]						●	●	●	●	●	●	●	●
LINEARlight Colormix Flex						●[1]	●[1]	●[1]	●[1]	●[1]	●[1]						●	●	●	●	●	●	●	●
LINEARlight-DRAGON®								●	●	●	●						●	●	●	●	●	●	●	●
LINEARlight Flex® (LM10A)						●	●	●	●	●	●						●	●	●	●	●	●	●	●
LINEARlight Flex® (LM11A)	●	●	●	●	●														●	●	●	●	●	●
LINEARlight POWER Flex						●	●	●	●	●	●						●	●	●	●	●	●	●	●

1) RGB in combination with controllers
2) In combination with control gear
3) Supplied with fixed resistor for 500 mA units



Product reference	Product number		V min.-max.	Hz	W MODULE	SYSTEM	V_{OUT}
10 V OPTOTRONIC® units							
OT 6/100-120/10 CE[1]	4008321**128911**	10 V LED modules	90-132	50/60	6	72	10 V_{DC}
OT 6/200-240/10 CE[1]	4008321**113306**	10 V LED modules	198-254	50/60	6	72	10 V_{DC}
OT 12/220-240/10 LE[1]	4008321**174253**	10 V LED modules	198-254	0/50/60	12	80	10 V_{DC}
OT 12/230-240/10	4050300**609232**	10 V LED modules	207-254	0/50/60	12	77	10 V_{DC}
OT 50/220-240/10[2]	4050300**817491**	10 V LED modules	198-254	0/50/60	50	90	10 V_{DC}
OT 50/120-277/10 E[1)2)]	4050300**861500**	10 V LED modules	108-305	0/50/60	50	90	10 V_{DC}
24 V OPTOTRONIC® units							
OT 6/100-120/24 CE[1]	4008321**129130**	24 V LED modules	90-132	50/60	6	72	24 V_{DC}
OT 6/200-240/24 CE[1]	4008321**113269**	24 V LED modules	198-254	50/60	6	72	24 V_{DC}
OT 8/200-240/24	4008321**040169**	24 V LED modules	180-254	0/50/60	8	75	24 V_{DC}
OT 20/230-240/24	4050300**618111**	24 V LED modules	207-254	0/50/60	20	83	24 V_{DC}
OT 20/120-240/24 S	4050300**662626**	24 V LED modules	108-254	0/50/60	20	83	24 V_{DC}
OT 75/220-240/24[2]	4050300**817477**	24 V LED modules	198-254	0/50/60	75	90	24 V_{DC}
OT 75/120-277/24 E[1)2)]	4050300**861487**	24 V LED modules	108-305	0/50/60	75	87	24 V_{DC}

Product reference	°C min.-max.	l [mm]	b [mm]	h [mm]		No.
10 V OPTOTRONIC® units						
OT 6/100-120/10 CE[1]	–20…+50	51	50	22	20	1
OT 6/200-240/10 CE[1]	–20…+50	51	50	22	20	1
OT 12/220-240/10 LE[1]	–20…+50	190	20	20	10	2
OT 12/230-240/10	–20…+50	109	50	35	20	3
OT 50/220-240/10[2]	–20…+50	220	47	44	10	4
OT 50/120-277/10 E[1)2)]	–25…+60	241	43	30	10	5
24 V OPTOTRONIC® units						
OT 6/100-120/24 CE[1]	–20…+50	51	50	22	20	1
OT 6/200-240/24 CE[1]	–20…+50	51	50	22	20	1
OT 8/200-240/24	–20…+50	80	40	22	50	6
OT 20/230-240/24	–20…+45	109	50	35	20	3
OT 20/120-240/24 S	–20…+50	60	60	31	30	7
OT 75/220-240/24[2]	–20…+50	220	47	44	10	4
OT 75/120-277/24 E[1)2)]	–25…+60	241	43	30	10	5

1) Units with IP 6X protection
2) Smart power supply

OPTOTRONIC®
LED control opens up so many opportunities

The complete system
OPTOTRONIC® dimmers for constant voltage applications (10 V and 24 V) round off the LED system from OSRAM. In addition to the LED modules and the OPTOTRONIC® converters, various OT dimmers are available. The OPTOTRONIC® dimmers are used on the secondary side of the power supplies. This means they are connected between the OPTOTRONIC® constant voltage supply and the LED modules.

OT DIM
- 1-channel 1…10 V dimmer for comfortable dimming of LED systems.
- Supplied by 10 V or 24 V OPTOTRONIC® units.
- Dimming of the LED modules by PWM (pulse width modulation).
- Control input isolated according to SELV requirements.

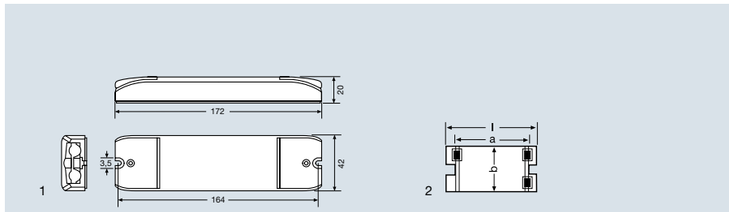
OT RGB DIM
- 3-channel 1…10 V dimmer for individual dimming and regulating of 3 LED modules or RGB LED modules.
- Supplied by 10 V or 24 V OPTOTRONIC® units.
- Dimming of the LED modules by PWM (pulse width modulation).
- Output terminals with common + pole.

OT RGB Sequencer
- For dynamic color chases on RGB LED systems.
- The sequence speed, the brightness and any of eight preprogrammed sequences can be selected via 3 x 1…10 V control inputs. A particular color can be permanently set if required.
- Supplied by 10 V or 24 V OPTOTRONIC® units.
- Dimming of the LED modules by PWM (pulse width modulation).
- Output terminals with common + pole.

OT DMX RGB DIM and **OT DMX 3 x 1 RGB DIM**
- 3-channel DMX dimmers enable RGB LED modules to be individually dimmed and controlled.
- Supplied by 10 V or 24 V OPTOTRONIC® units.
- Dimming of the LED modules by PWM (pulse width modulation).
- 3 independent DMX control circuits (3 DMX addresses).
- Rotary switches or dip switches provide a simple means of setting the DMX address.
- Output terminals with common + pole.

Special features of OPTOTRONIC® dimmers
- The five types cover a very wide range of applications.
- Standard actuators and also potentiometers and digital signals can be connected via the 1…10 V interface for control purposes.
- Control via DMX interface through standard DMX controllers. Addressing with rotary switches or dip switches.
- For 1-channel dimmers multiple LED modules can be connected in parallel on two terminal pairs.
- Low power loss.
- Operation in ambient temperatures of –20 °C to +50 °C.
- Slim low-profile casing with cable clamp for separate installation or without cable clamp for luminaire installation.
- The controllers are suitable for both 10 V and 24 V LED systems and can therefore be used universally.

Variable wall system for creating different moods indoors.

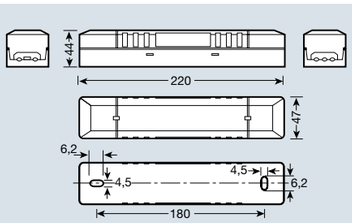


Product reference	Product number		V min.-max.	W MODULE
OPTOTRONIC® dimmers				
OT DIM[1]	4050300**943459**	10 V LED modules	10-24 V_{DC}	50
		24 V LED modules		120
OT RGB DIM[1]	4050300**793108**	10 V LED modules	10-24 V_{DC}	20 W per channel
		24 V LED modules		48 W per channel
OT RGB Sequencer[1]	4050300**792460**	10 V LED modules	10-24 V_{DC}	20 W per channel
		24 V LED modules		48 W per channel
OT DMX RGB DIM[1]	4008321**160829**	10 V LED modules	10-24 V_{DC}	20 W per channel
		24 V LED modules		48 W per channel
OT DMX 3 x 1 RGB DIM[2]	4008321**279835**	10 V LED modules	10-24 V_{DC}	10 W per channel
		24 V LED modules		24 W per channel

Product reference	V_{OUT}		No. of CONTROL INPUTS	No. of OUTPUTS	°C min.-max.	l [mm]	b [mm]	h [mm]	
OT DIM[1]	10-24 V_{DC}	1…10 V	1	1	–20…+50	172	42	20	20
OT RGB DIM[1]	10-24 V_{DC}	1…10 V	3	3	–20…+50	172	42	20	20
OT RGB Sequencer[1]	10-24 V_{DC}	1…10 V	1	3	–20…+50	172	42	20	20
OT DMX RGB DIM[1]	10-24 V_{DC}	DMX	1	3[3]	–20…+50	172	42	20	20
OT DMX 3 x 1 RGB DIM[2]	10-24 V_{DC}	DMX	1	3[3]	–20…+50	80	40	22	10

1) Fig. no. 1
2) Fig. no. 2
3) Addressable

OPTOTRONIC®
Dynamic LED light – so simple.



Product reference	Product number			V min.-max.	Hz	W MODULE		SYSTEM
OPTOTRONIC® for EASY Color Control								
OT EASY 60/220-240/24 RGB + W	4008321**187796**		24 V module	198-254	50/60	60 W distributed		88

Product reference	V_{OUT}		No. of CONTROL INPUTS	No. of OUTPUTS	°C min.-max.	l [mm]	b [mm]	h [mm]	
OT EASY 60/220-240/24 RGB + W	24 V_{DC}	EASY	1	4	–20…+50	220	47	44	20

OT EASY 60/220-240/24 RGB is a combined unit. It integrates the control gear, controller and dimmer in one unit. It is operated via the EASY Color Control lighting management system, opening up many different possible applications (see page 9.24) with extremely simple operation and installation.

Special features:
- 60 W unit with integrated EASY control and PWM dimmer for 24 V LED modules.
- Integrated PWM dimmer has 4 x 24 V PWM outputs.
- The output power of 60 W is distributed among four channels, i.e. 60 W is possible on one channel.
- Integrated RGB+W sequencer and scene controller.
- Lighting scenes can be retrieved as sequences or static scenes.
- Easy to configure with EASY Color Control lighting management system, via EASY Color Control software with USB adapter, IR remote control in combination with IR receiver or switch coupler.

OT EASY 60/220-240/24 RGB can be easily combined with different operating elements.

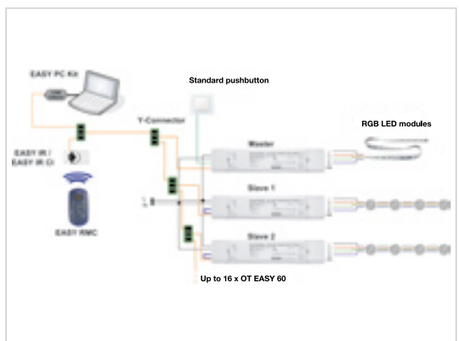
Colors and lighting scenes can be easily set in conjunction with the **EASY IR** Sensor and the **EASY RMC** remote control. Scenes and colors can also be set with the aid of the **EASY PUSH BUTTON** coupler and conventional pushbutton units from any range.

The Windows interface of the **EASY COLOR CONTROL** software with USB adapter enables all the functions of the OT EASY 60/220-240/24 RGB to be visualized and interactively used.

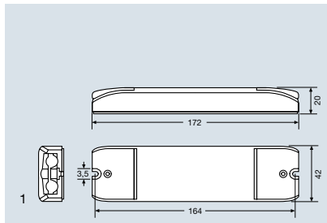
With the master/slave function of the OT EASY 60/220-240/24 RGB, lighting systems can be expanded quickly and easily with the **Y-Connector**.

It is therefore no problem at all to provide dynamic LED lighting.

Product reference	Product number
Accessories: EASY Color Controller	
EASY RMC remote control	4008321**053152**
Infrared receiver EASY IR	4008321**053138**
Infrared receiver for ceiling installation EASY IR CI	4008321**915573**
Y connector	4050300**803142**
Coupling for pushbutton EASY PB COUPLER	4008321**915597**
EASY PC KIT	4008321**915559**
DALI® EASY II Controller	4008321**053046**



Integration of LED light in a general lighting system



Product reference	Product number			V min.-max.	Hz	W MODULE
OPTOTRONIC® dimmers						
OTi DALI DIM[1)2)]	4008321**061195**		10 V LED modules	10-24 V_{DC}	0	50
			24 V LED modules		0	120
OT DALI 25/220-240/24[3)]	4050300**829463**		24 V LED modules	198…254	0/50/60	25 W distributed

Product reference	V_{OUT}		No. of CONTROL INPUTS	No. of OUTPUTS	°C min.-max.	l [mm]	b [mm]	h [mm]	
OTi DALI DIM[1)2)]	10-24 V_{DC}	DALI	1	1[4)]	–20…+50	172	42	20	20
OT DALI 25/220-240/24[3)]	24 V_{DC}	DALI	1	3[4)]	–20…+45	167	42	31	20

OTi DALI DIM
- 1-channel DALI®-compatible electronic dimmer with intelligent processor technology.
- Integrated ***Touch DIM®*** function in combination with a standard switch enables the LED modules to be dimmed with one-switch operation and the switch-on value to be saved by double-clicking. A ***Touch DIM® Sensor*** enables motion-dependent lighting effects to be produced.[1)]
- Supplied by 10 V or 24 V OPTOTRONIC® units.
- Dimming of the LED modules by PWM (pulse width modulation).
- Slim low-profile casing with cable clamp for separate installation.

OT DALI 25/220-240/24
- A line voltage converter and PWM dimmer integrated in a single unit.
- DALI® addressable converter for 24 V LED modules.
- One DALI® input for three addressable output channels.
- 25 W output distributed among 3 x 24 V PWM output signals.
- Casing for independent installation with cable clamp.

Special features for OTi DALI DIM and OT DALI 25/220-240/24:
- Control via DALI® interface by DALI® controllers such as DALI EASY II.
- Full DALI® functionality.
- Electronically reversible cutout for short-circuits, overloads and overheating.
- All the units meet the necessary standards for lighting technology. It is therefore easy for them to be integrated in luminaires.

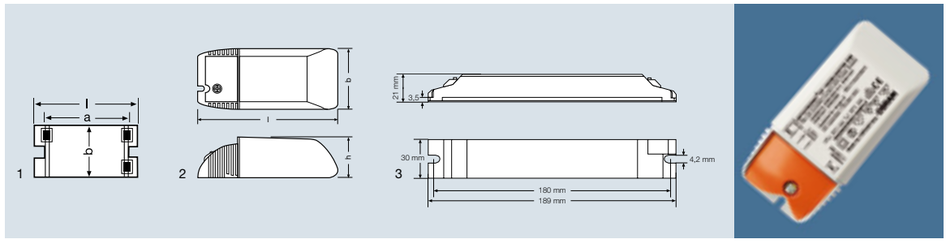
1) ***Touch DIM®*** and ***Touch DIM® Sensor*** functions for OSRAM DALI DIM ECGs are not part of the DALI® standard
2) Fig. no. 1
3) Fig. no. 2
4 Addressable

OPTOTRONIC® electronic control gear for operating LED modules with constant current
In addition to OPTOTRONIC® units with output voltages of 10 V or 24 V, OSRAM offers units with a constant output current. These have been designed specifically to operate LED with a current of 350 mA (e.g. Golden DRAGON® based modules such as DRAGONeye®, DRAGONpuck® and DRAGON-X®) and 700 mA (e.g. OSTAR®-Lighting/ OSTARhex®).

Starlight ceiling with Golden DRAGON® LED in a theater.

350 mA: DRAGON® LEDs
The units in the OT 9 family are compact electronically controlled constant current power supply units (350 mA) with a maximum output of 8.5 W. They are therefore suitable for operating the DRAGON® LED family.
Because of its extremely small dimensions, **OT 9/200-240/350** is ideal for line voltage operation in various applications in which space is at a premium.
OT 9/100-120/350 E corresponds to the OT 9/200-240/350 but is designed to operate with a rated voltage of 110 V.
OT 9/200-240/350 DIM is a compact dimmable unit for operating the DRAGON® family of LED and 350 mA high-flux LED. The operating current can be controlled via a control input (10 V max.) or a fixed value can be set via a resistor. The brightness of the LED can therefore be adjusted as required or the operating current of the LED can be adapted to suit the thermal conditions for the particular application.
OT 9/10-24/350 DIM is a dimmable electronic unit which
- enables high-flux LED to be integrated in DC supply systems (yachts, boats, mobile homes, solar lights, etc.)
- allows OSRAM's standard range of LED to be combined with high-flux modules (e.g. LINEARlight together with DRAGONtape® in one application)

700 mA: OSTAR®-Lighting
OT 18/200-240/700 DIM corresponds to OT 9/200-240/350 DIM but provides a maximum output of 17.5 W at a maximum output current of 700 mA. This unit is therefore ideal for operating modules equipped with OSTAR®-Lighting LED (4-chip or 6-chip).
OT 35/200-240/700 is a compact electronically controlled constant current power supply unit (700 mA) with a maximum output of 35 W.
OT 35/200-240/700 is suitable for operating a maximum of three OSTAR®-Lighting (4-chip) units or two OSTAR®-Lighting (6-chip) units.



Product reference	Product number		V min.-max.	Hz	W MODULE	SYSTEM
OPTOTRONIC®						
OT 9/200-240/350	4050300**888262**	350 mA LED modules	180-254	0/50/60	8,5	75
OT 9/200-240/350 DIM	4008321**187321**	350 mA LED modules	180-254	50/60	8,5	80
OT 9/100-120/350 E	4050300**888835**	350 mA LED modules	90-132	50/60	8,5	74
OT 9/10-24/350 DIM	4050300**888897**	350 mA LED modules	10-24 V_{DC}	0	8,5	80
OT 18/200-240/700 DIM	4008321**139320**	700 mA LED modules	180-254	50/60	18	80
OT 35/200-240/700	4008321**169365**	700 mA LED modules	180-254	50/60	35	88

Product reference	V_{OUT}	°C min.-max.	l [mm]	b [mm]	h [mm]		No.
OT 9/200-240/350	1,8-25 V_{DC}	–20…+50	80	40	22	50	1
OT 9/200-240/350 DIM	0-25 V_{DC}	–20…+55	108	53	33	20	2
OT 9/100-120/350 E	1,8-25 V_{DC}	–20…+50	80	40	22	50	1
OT 9/10-24/350 DIM	0-24,5 V_{DC}	–20…+50	80	40	22	50	1
OT 18/200-240/700 DIM	0-25 V_{DC}	–20…+50	108	53	33	20	2
OT 35/200-240/700	0-50 V_{DC}	–20…+50	190	30	21	24	3

Special features
- Electronically stabilized constant DC current irrespective of the ambient temperature or fluctuations in the line voltage.
- Electronic reversible cutout for short-circuits, overloads and overheating.
- All the units meet the necessary standards for lighting technology. It is therefore easy for them to be integrated in luminaires.

Possible application for OSTAR®-Lighting LED.

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG	Lamp luminous flux with ECG
HE 14 W	1	QTi DALI 1x14/24/220-240 DIM	4050300**870380**	360x30x21	15,4	1x1200
HE 14 W	2	QTi DALI 2x14/24/220-240 DIM	4050300**870861**	423x30x21	30,6	2x1200
HE 14 W	3	QTi DALI 3x14/24/220-240 DIM	4008321**069955**	360x40x21	45,3	3x1200
HE 14 W	4	QTi DALI 4x14/24/220-240 DIM	4008321**070036**	360x40x21	60,4	4x1200
HE 14 W	1	QTi 1x14/24/220-240 DIM	4050300**870922**	360x30x21	15,4	1x1200
HE 14 W	2	QTi 2x14/24/220-240 DIM	4050300**870946**	423x30x21	30,6	2x1200
HE 14 W	3	QTi 3x14/24/220-240 DIM	4008321**069719**	360x40x21	45,3	3x1200
HE 14 W	4	QTi 4x14/24/220-240 DIM	4008321**069993**	360x40x21	60,4	4x1200
HE 14 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	16	1x1200
HE 14 W	1	QTi 1x28/54	4050300**796857**	360x30x21	32	1x1200
HE 14 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	39	1x1200
HE 14 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	32	2x1200
HE 14 W	2	QTi 2x28/54	4050300**797076**	423x30x21	63	2x1200
HE 14 W	2	QTi 2x35/49	4050300**796895**	423x30x21	79	2x1200
HE 14 W	1	QTP5 1x14-35	4008321**061515**	360x30x21	17	1x1200
HE 14 W	2	QTP5 2x14-35	4008321**061539**	360x30x21	33	2x1200
HE 14 W	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	15	1x1100
HE 14 W	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	15	1x1100
HE 21 W	1	QTi DALI 1x21/39/220-240 DIM	4050300**870366**	360x30x21	23,1	1x1900
HE 21 W	2	QTi DALI 2x21/39/220-240 DIM	4050300**870489**	423x30x21	45,0	2x1900
HE 21 W	1	QTi 1x21/39/220-240 DIM	4050300**870564**	360x30x21	23,1	1x1900
HE 21 W	2	QTi 2x21/39/220-240 DIM	4050300**870694**	423x30x21	45,0	2x1900
HE 21 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	25	1x1900
HE 21 W	1	QTi 1x28/54	4050300**796857**	360x30x21	25	1x1900
HE 21 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	25	1x1900
HE 21 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	47	2x1900
HE 21 W	2	QTi 2x28/54	4050300**797076**	423x30x21	47	2x1900
HE 21 W	2	QTi 2x35/49	4050300**796895**	423x30x21	47	2x1900
HE 21 W	1	QTP5 1x14-35	4008321**061515**	360x30x21	24	1x1900
HE 21 W	2	QTP5 2x14-35	4008321**061539**	423x30x21	46	2x1900
HE 21 W	1	QT-ECO 1x18-21/220-240 S	4050300**794907**	80x40x22	23	1x1800
HE 28 W	1	QTi DALI 1x28/54/220-240 DIM	4050300**870809**	360x30x21	30,1	1x2600
HE 28 W	2	QTi DALI 2x28/54/220-240 DIM	4050300**870502**	423x30x21	60,2	2x2600
HE 28 W	1	QTi 1x28/54/220-240 DIM	4050300**870588**	360x30x21	30,1	1x2600
HE 28 W	2	QTi 2x28/54/220-240 DIM	4050300**870717**	423x30x21	60,2	2x2600
HE 28 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	32	1x2600
HE 28 W	1	QTi 1x28/54	4050300**796857**	360x30x21	32	1x2600
HE 28 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	32	1x2600
HE 28 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	63	2x2600
HE 28 W	2	QTi 2x28/54	4050300**797076**	423x30x21	63	2x2600
HE 28 W	2	QTi 2x35/49	4050300**796895**	423x30x21	63	2x2600
HE 28 W	1	QTP5 1x14-35	4008321**061515**	360x30x21	32	1x2600
HE 28 W	2	QTP5 2x14-35	4008321**061539**	423x30x21	61	2x2600

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG	Lamp luminous flux with ECG
HE 35 W	1	QTi DALI 1x35/49/80/220-240 DIM	4050300**870342**	360x30x21	37,8	1x3300
HE 35 W	2	QTi DALI 2x35/49/220-240 DIM	4050300**870465**	423x30x21	74,5	2x3300
HE 35 W	2	QTi DALI 2x35/49/80/220-240 DIM	4050300**870441**	423x30x21	74,0	2x3300
HE 35 W	1	QTi 1x35/49/80/220-240 DIM	4050300**870540**	360x30x21	37,8	1x3300
HE 35 W	2	QTi 2x35/49/220-240 DIM	4050300**870670**	423x30x21	74,5	2x3300
HE 35 W	2	QTi 2x35/49/80/220-240 DIM	4050300**870984**	423x30x21	74,0	2x3300
HE 35 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	39	1x3300
HE 35 W	1	QTi 1x28/54	4050300**796857**	360x30x21	39	1x3300
HE 35 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	39	1x3300
HE 35 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	79	2x3300
HE 35 W	2	QTi 2x28/54	4050300**797076**	423x30x21	79	2x3300
HE 35 W	2	QTi 2x35/49	4050300**796895**	423x30x21	79	2x3300
HE 35 W	2	QTi 2x35/49/80	4008321**174291**	423x30x21	79	2x3300
HE 35 W	1	QTP5 1x14-35	4008321**061515**	360x30x21	39	1x3300
HE 35 W	2	QTP5 2x14-35	4008321**061539**	423x30x21	77	2x3300
HO 24 W	1	QTi DALI 1x14/24/220-240 DIM	4050300**870380**	360x30x21	25,3	1x1750
HO 24 W	2	QTi DALI 2x14/24/220-240 DIM	4050300**870861**	423x30x21	49,3	2x1750
HO 24 W	3	QTi DALI 3x14/24/220-240 DIM	4008321**069955**	360x40x21	73,4	3x1750
HO 24 W	4	QTi DALI 4x14/24/220-240 DIM	4008321**070036**	360x40x21	97,6	4x1750
HO 24 W	1	QTi 1x14/24/220-240 DIM	4050300**870922**	360x30x21	26	1x1750
HO 24 W	2	QTi 2x14/24/220-240 DIM	4050300**870946**	423x30x21	50	2x1750
HO 24 W	3	QTi 3x14/24/220-240 DIM	4008321**069719**	360x40x21	74	3x1750
HO 24 W	4	QTi 4x14/24/220-240 DIM	4008321**069993**	360x40x21	98	4x1750
HO 24 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	27	1x1750
HO 24 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	54	2x1750
HO 24 W	1	QTP5 1x24-39	4008321**123190**	360x30x21	27	1x1750
HO 24 W	2	QTP5 2x24-39	4008321**123671**	423x30x21	54	2x1750
HO 24 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	27	1x1750
HO 24 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	27	1x1750
HO 24 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	54	2x1750
HO 24 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	54	2x1750
HO 24 W	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	22	1x1600
HO 24 W	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	22	1x1600
HO 39 W	1	QTi DALI 1x21/39/220-240 DIM	4050300**870366**	360x30x21	41,8	1x3100
HO 39 W	2	QTi DALI 2x21/39/220-240 DIM	4050300**870489**	423x30x21	82,0	2x3100
HO 39 W	1	QTi 1x21/39/220-240 DIM	4050300**870564**	360x30x21	41,8	1x3100
HO 39 W	2	QTi 2x21/39/220-240 DIM	4050300**870694**	423x30x21	82,0	2x3100
HO 39 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	43	1x3100
HO 39 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	88	2x3100
HO 39 W	1	QTP5 1x24-39	4008321**123190**	360x30x21	44	1x3100
HO 39 W	2	QTP5 2x24-39	4008321**123671**	423x30x21	84	2x3100
HO 39 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	40	1x3000
HO 39 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	40	1x3000

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG	Lamp luminous flux with ECG
HO 49 W	1	QTi DALI 1x35/49/80/220-240 DIM	4050300**870342**	360x30x21	53,4	1x4300
HO 49 W	2	QTi DALI 2x35/49/220-240 DIM	4050300**870465**	423x30x21	103,6	2x4300
HO 49 W	2	QTi DALI 2x35/49/80/220-240 DIM	4050300**870441**	423x30x21	101,0	2x4300
HO 49 W	1	QTi 1x35/49/80/220-240 DIM	4050300**870540**	360x30x21	53,4	1x4300
HO 49 W	2	QTi 2x35/49/220-240 DIM	4050300**870670**	423x30x21	103,6	2x4300
HO 49 W	2	QTi 2x35/49/80/220-240 DIM	4050300**870984**	423x30x21	101,0	2x4300
HO 49 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	55	1x4300
HO 49 W	2	QTi 2x35/49	4050300**796895**	423x30x21	110	2x4300
HO 49 W	2	QTi 2x35/49/80	4008321**174291**	423x30x21	103	2x4300
HO 49 W	1	QTP5 1x49	4008321**061614**	360x30x21	55	1x4300
HO 49 W	2	QTP5 2x49	4008321**123831**	423x30x21	110	2x4300
HO 54 W	1	QTi DALI 1x28/54/220-240 DIM	4050300**870809**	360x30x21	58,8	1x4450
HO 54 W	2	QTi DALI 2x28/54/220-240 DIM	4050300**870502**	423x30x21	115,0	2x4450
HO 54 W	1	QTi 1x28/54/220-240 DIM	4050300**870588**	360x30x21	58,8	1x4450
HO 54 W	2	QTi 2x28/54/220-240 DIM	4050300**870717**	423x30x21	115	2x4450
HO 54 W	1	QTi 1x28/54	4050300**796857**	360x30x21	61	1x4450
HO 54 W	2	QTi 2x28/54	4050300**797076**	423x30x21	119	2x4450
HO 54 W	1	QTP5 1x54	4008321**061553**	360x30x21	61	1x4450
HO 54 W	2	QTP5 2x54	4008321**061577**	423x30x21	119	2x4450
HO 80 W	1	QTi DALI 1x35/49/80/220-240 DIM	4050300**870342**	360x30x21	88,1	1x6150
HO 80 W	2	QTi DALI 2x35/49/80/220-240 DIM	4050300**870441**	423x30x21	165,0	2x6150
HO 80 W	1	QTi 1x35/49/80/220-240 DIM	4050300**870540**	360x30x21	88,1	1x6150
HO 80 W	2	QTi 2x35/49/80/220-240 DIM	4050300**870984**	423x30x21	165,0	2x6150
HO 80 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	91	1x6150
HO 80 W	2	QTi 2x35/49/80	4008321**174291**	423x30x21	165	2x6150
HO 80 W	1	QTP5 1x80	4008321**061591**	360x30x21	88	1x6150
HO 80 W	2	QT-FQ 2x80	4050300**825564**	423x30x21	176	2x6150
FC 22 W	1	QTi DALI 1x14/24/220-240 DIM	4050300**870380**	360x30x21	25,3	1x1750
FC 22 W	2	QTi DALI 2x14/24/220-240 DIM	4050300**870861**	423x30x21	49,3	2x1750
FC 22 W	3	QTi DALI 3x14/24/220-240 DIM	4008321**069955**	360x40x21	73,4	3x1750
FC 22 W	4	QTi DALI 4x14/24/220-240 DIM	4008321**070036**	360x40x21	97,6	4x1750
FC 22 W	1	QTi DALI-TE 1x18-57 DIM	4008321**060808**	123x79x33	26,0	1x1750
FC 22 W	2	QTi DALI-T/E 2x18-42 DIM	4008321**060822**	123x79x33	51,5	2x1800
FC 22 W	1	QTi 1x14/24/220-240 DIM	4050300**870922**	360x30x21	25,3	1x1750
FC 22 W	2	QTi 2x14/24/220-240 DIM	4050300**870946**	423x30x21	49,3	2x1750
FC 22 W	3	QTi 3x14/24/220-240 DIM	4008321**069719**	360x40x21	73,4	3x1750
FC 22 W	4	QTi 4x14/24/220-240 DIM	4008321**069993**	360x40x21	97,6	4x1750
FC 22 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	26	1x1750
FC 22 W	2	QTi-T/E 2x18-42 DIM	4008321**060846**	123x79x33	51,5	2x1800
FC 22 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	26	1x1750
FC 22 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	54	2x1750
FC 22 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	26	1x1800
FC 22 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	26	1x1800
FC 22 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	54	2x1800
FC 22 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	54	2x1800
FC 22 W	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	22,5	1x1650
FC 22 W	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	22,5	1x1650
FC 22+40 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	70	1800+3200
FC 22+40 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	70	1800+3200

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG/CCG/LLG	Lamp luminous flux with ECG/CCG
FC 40 W	1	QTi DALI 1x21/39/220-240 DIM	4050300**870366**	360x30x21	41,8	1x3100
FC 40 W	2	QTi DALI 2x21/39/220-240 DIM	4050300**870489**	423x30x21	82,0	2x3100
FC 40 W	1	QTi DALI-T/E 1x18-57 DIM	4008321**060808**	123x79x33	44,0	1x3200
FC 40 W	2	QTi DALI-T/E 2x18-42 DIM	4008321**060822**	123x79x33	84	2x3200
FC 40 W	1	QTi 1x21/39/220-240 DIM	4050300**870564**	360x30x21	41,8	1x3100
FC 40 W	2	QTi 2x21/39/220-240 DIM	4050300**870694**	423x30x21	82,0	2x3100
FC 40 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	44,0	1x3200
FC 40 W	2	QTi-T/E 2x18-42 DIM	4008321**060846**	123x79x33	84	2x3200
FC 40 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	44	1x3200
FC 40 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	88	2x3200
FC 40 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	44	1x3200
FC 40 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	44	1x3200
FC 40 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	88	2x3200
FC 55 W	1	QTi DALI 1x28/54/220-240 DIM	4050300**870809**	360x30x21	58,8	1x4450
FC 55 W	2	QTi DALI 2x28/54/220-240 DIM	4050300**870502**	423x30x21	115,0	2x4450
FC 55 W	1	QTi 1x28/54/220-240 DIM	4050300**870588**	360x30x21	59	1x4450
FC 55 W	2	QTi 2x28/54/220-240 DIM	4050300**870717**	423x30x21	115	2x4450
FC 55 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	60	1x4000
FC 55 W	1	QT-FC 1x55/230-240 S	4050300**526096**	123x79x33	60	1x4000
L 4 W (Ø 16 mm)	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	6,5/10/8	1x120/1x120
L 4 W (Ø 16 mm)	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	6,5/10/8	1x120/1x120
L 6 W (Ø 16 mm)	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	8,5/12/10	1x240/1x240
L 6 W (Ø 16 mm)	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	8,5/12/10	1x240/1x240
L 6 W (Ø 16 mm)	2	QT-ECO 2x5-11/220-240 S	4050300**821504**	80x40x22	14,5	2x240/2x240
L 8 W (Ø 16 mm)	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	10,5/14/11	1x450/1x450
L 8 W (Ø 16 mm)	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	10,5/14/11	1x450/1x450
L 8 W (Ø 16 mm)	2	QT-ECO 2x5-11/220-240 S	4050300**821504**	80x40x22	17,5	2x400/2x400
L 8 W (Ø 16 mm)	1	AT 7-9/12 L	4050300**273754**	82x40x30	9/14/11	1x430/1x430
L 8 W (Ø 16 mm)	1	AT 7-9/24 L	4050300**308913**	82x40x30	9/14/11	1x430/1x430
L 13 W (Ø 16 mm)	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	15/19/17	1x950/1x950
L 13 W (Ø 16 mm)	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	15/19/17	1x950/1x950
L 10 W (Ø 26 mm)	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	12/14/11	1x650/1x650
L 10 W (Ø 26 mm)	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	12/14/11	1x650/1x650
L 10 W (Ø 26 mm)	2	QT-ECO 2x5-11/220-240 S	4050300**821504**	80x40x22	20	2x600/2x600
L 15 W (Ø 26 mm)	1	QTP-DL 1x18-24	4008321**117861**	239x30x28	17/25/23	1x950/1x950
L 15 W (Ø 26 mm)	2	QTP-DL 2x18-24	4008321**117885**	239x40x28	32/50/46	2x950/2x950
L 15 W (Ø 26 mm)	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	17/25/24	1x950/1x950
L 15 W (Ø 26 mm)	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	17/25/24	1x950/1x950
L 16 W (Ø 26 mm)	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	16/21/19	1x1100/1x1100
L 16 W (Ø 26 mm)	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	16/21/19	1x1100/1x1100

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG/CCG/LLG	Lamp luminous flux with ECG/CCG
L 18 W (Ø 26 mm)	1	QTi DALI 1x18/220-240 DIM	4050300**870403**	360x30x21	18,3	1x1350/1x1350
L 18 W (Ø 26 mm)	2	QTi DALI 2x18/220-240 DIM	4050300**870526**	423x30x21	36,5	2x1350/2x1350
L 18 W (Ø 26 mm)	3	QTi DALI 3x18/220-240 DIM	4008321**069979**	360x40x21	53,6	3x1350/3x1350
L 18 W (Ø 26 mm)	4	QTi DALI 4x18/220-240 DIM	4008321**070050**	360x40x21	69,3	4x1350/4x1350
L 18 W (Ø 26 mm)	1	QTi 1x18/220-240 DIM	4050300**870601**	360x30x21	18,3	1x1350/1x1350
L 18 W (Ø 26 mm)	2	QTi 2x18/220-240 DIM	4050300**870960**	423x30x21	36,5	2x1350/2x1350
L 18 W (Ø 26 mm)	3	QTi 3x18/220-240 DIM	4008321**069931**	360x40x21	53,6	3x1350/3x1350
L 18 W (Ø 26 mm)	4	QTi 4x18/220-240 DIM	4008321**070012**	360x40x21	69,3	4x1350/4x1350
L 18 W (Ø 26 mm)	1	HF 1x18/230-240 DIM	4050300**319254**	360x30x30	19	1x1300/1x1350
L 18 W (Ø 26 mm)	2	HF 2x18/230-240 DIM	4050300**350950**	423x30x30	36	2x1300/2x1350
L 18 W (Ø 26 mm)	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	20/30/29	2x1300/2x1350
L 18 W (Ø 26 mm)	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	40/60/58	2x1300/2x1350
L 18 W (Ø 26 mm)	1	QTP8 1x18/230-240	4008321**131584**	360x30x30	18/30/29	1x1300/1x1350
L 18 W (Ø 26 mm)	2	QTP8 2x18/230-240	4008321**131607**	423x30x30	38/46/44	2x1300/2x1350
L 18 W (Ø 26 mm)	3	QTP8 3x18, 4x18/230-240	4008321**131706**	423x30x30	56/73	3x1300/4x1300
L 18 W (Ø 26 mm)	1	QTP-DL 1x18-24	4008321**117861**	239x30x28	19/28/26	1x1300/1x1350
L 18 W (Ø 26 mm)	2	QTP-DL 2x18-24	4008321**117885**	239x40x28	38/56/52	2x1300/2x1350
L 18 W (Ø 26 mm)	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	19/30/29	1x1300/1x1350
L 18 W (Ø 26 mm)	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	19/30/29	1x1300/1x1350
L 18 W (Ø 26 mm)	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	35/46/44	2x1300/2x1350
L 18 W (Ø 26 mm)	1	QTIS e 1x18/220-240	4008321**091949**	360x30x30	18/30/29	1x1300/1x1350
L 18 W (Ø 26 mm)	2	QTIS e 2x18/220-240	4050300**775401**	360x30x30	36/46/44	2x1300/2x1350
L 18 W (Ø 26 mm)	3	QTIS e 3x18, 4x18/220-240	4050300**940670**	361x30x30	62	3x1300/3x1350
L 18 W (Ø 26 mm)	4	QTIS e 3x18, 4x18/220-240	4050300**940670**	361x30x30	70	4x1300/4x1350
L 18 W (Ø 26 mm)	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	19/30/29	1x1250/1x1350
L 18 W (Ø 26 mm)	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	19/30/29	1x1250/1x1350
L 20 W (Ø 38 mm)	1	HF 1x18/230-240 DIM	4050300**319254**	360x30x30	19	1x1300/1x1200
L 20 W (Ø 38 mm)	2	HF 2x18/230-240 DIM	4050300**250950**	423x30x30	36	2x1300/2x1200
L 30 W (Ø 26 mm)	1	QTi DALI 1x36/220-240 DIM	4050300**870427**	360x30x21	36	1x2250/1x2400
L 30 W (Ø 26 mm)	2	QTi DALI 2x36/220-240 DIM	4050300**870885**	423x30x21	69	2x2250/2x2400
L 30 W (Ø 26 mm)	1	QTi 1x36/220-240 DIM	4050300**870625**	360x30x21	36	1x2250/1x2400
L 30 W (Ø 26 mm)	2	QTi 2x36/220-240 DIM	4050300**870755**	423x30x21	69	2x2250/2x2400
L 30 W (Ø 26 mm)	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	36/40/38	1x2350/1x2400
L 30 W (Ø 26 mm)	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	66/84/80	2x2350/2x2400
L 30 W (Ø 26 mm)	1	QTP5 1x24-39	4008321**123190**	360x30x21	32/40/38	1x2250/1x2400
L 30 W (Ø 26 mm)	2	QTP5 2x24-39	4008321**123671**	423x30x21	65/84/80	2x2250/2x2400
L 30 W (Ø 26 mm)	1	QTIS e 1x30/220-240	4008321**200142**	360x30x30	28/40/38	1x2250/1x2400

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG/CCG/LLG	Lamp luminous flux with ECG/CCG
L 36 W (Ø 26 mm)	1	QTi DALI 1x36/220-240 DIM	4050300**870427**	360x30x21	36	1x3350/1x3350
L 36 W (Ø 26 mm)	2	QTi DALI 2x36/220-240 DIM	4050300**870885**	423x30x21	69	2x3350/2x3350
L 36 W (Ø 26 mm)	1	QTi 1x36/220-240 DIM	4050300**870625**	360x30x21	36	1x3350/1x3350
L 36 W (Ø 26 mm)	2	QTi 2x36/220-240 DIM	4050300**870755**	423x30x21	69	2x3350/2x3350
L 36 W (Ø 26 mm)	1	HF 1x36/230-240 DIM	4050300**297705**	360x30x30	36	1x3200/1x3350
L 36 W (Ø 26 mm)	2	HF 2x36/230-240 DIM	4050300**350974**	423x30x30	71	2x3200/2x3350
L 36 W (Ø 26 mm)	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	35/46/44	1x3200/1x3350
L 36 W (Ø 26 mm)	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	71/95/89	2x3200/2x3350
L 36 W (Ø 26 mm)	1	QTP8 1x36/230-240	4008321**131621**	361x30x30	35/46/44	1x3200/1x3350
L 36 W (Ø 26 mm)	2	QTP8 2x36/230-240	4008321**131645**	423x30x30	71/95/89	2x3200/2x3350
L 36 W (Ø 26 mm)	1	QTIS e 1x36/220-240	4050300**940649**	360x30x30	36/46/44	1x3200/1x3350
L 36 W (Ø 26 mm)	2	QTIS e 2x36/220-240	4050300**940663**	361x30x30	70/95/89	2x3200/2x3350
L 36 W (Ø 26 mm)	3	QTIS e 3x36/220-240 CW	4008321**104687**	423x40x30	99/140/128	3x3200/3x3350
L 36 W (Ø 26 mm)	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	35/46/44	1x3200/1x3350
L 36 W (Ø 26 mm)	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	35/46/44	1x3200/1x3350
L 36 W (Ø 26 mm)	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	70/95/89	2x3200/2x3350
L 36 W (Ø 26 mm)	1	QT-ECO 1x36/230-240	4050300**940656**	150x41x28	36/46/44	1x2900/1x3350
L 36 W-1 (Ø 26 mm)	1	QTi DALI 1x36/220-240 DIM	4050300**870427**	360x30x21	36	1x2700/1x3100
L 36 W-1 (Ø 26 mm)	2	QTi DALI 2x36/220-240 DIM	4050300**870885**	423x30x21	69	2x2700/2x3100
L 36 W-1 (Ø 26 mm)	1	QTi 1x36/220-240 DIM	4050300**870625**	360x30x21	36	1x2700/1x3100
L 36 W-1 (Ø 26 mm)	2	QTi 2x36/220-240 DIM	4050300**870755**	423x30x21	69	2x2700/2x3100
L 36 W-1 (Ø 26 mm)	1	HF 1x36/230-240 DIM	4050300**297705**	360x30x30	36	1x2700/1x3100
L 36 W-1 (Ø 26 mm)	2	HF 2x36/230-240 DIM	4050300**350974**	423x30x30	71	2x2700/2x3100
L 38 W (Ø 26 mm)	1	QTi DALI 1x36/220-240 DIM	4050300**870427**	360x30x21	36	1x3300/1x3300
L 38 W (Ø 26 mm)	2	QTi DALI 2x36/220-240 DIM	4050300**870885**	423x30x21	69	2x3300/2x3300
L 38 W (Ø 26 mm)	1	QTi 1x36/220-240 DIM	4050300**870625**	360x30x21	36	1x3300/1x3300
L 38 W (Ø 26 mm)	2	QTi 2x36/220-240 DIM	4050300**870755**	423x30x21	69	2x3300/2x3300
L 38 W (Ø 26 mm)	1	HF 1x36/230-240 DIM	4050300**297705**	360x30x30	36	1x3200/1x3300
L 38 W (Ø 26 mm)	2	HF 2x36/230-240 DIM	4050300**350974**	423x30x30	71	2x3200/2x3300
L 38 W (Ø 26 mm)	1	QT-ECO 1x36/230-240	4050300**940656**	150x41x28	36/50/46	1x3200/1x3300
L 40 W (Ø 38 mm)	1	HF 1x36/230-240 DIM	4050300**297705**	360x30x30	36	1x3200/1x3000
L 40 W (Ø 38 mm)	2	HF 2x36/230-240 DIM	4050300**350974**	423x30x30	71	2x3200/2x3000
L 40 W (Ø 38 mm)	1	QTP8 1x36/230-240	4008321**131621**	361x30x30	36/50/46	1x3000/1x3000
L 40 W (Ø 38 mm)	2	QTP8 2x36/230-240	4008321**131645**	423x30x30	71/103/95	2x3000/2x3000

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG/CCG/LLG	Lamp luminous flux with ECG/CCG
L 58 W (Ø 26 mm)	1	QTi DALI 1x58/220-240 DIM	4050300**870823**	360x30x21	56	1x5000/1x5200
L 58 W (Ø 26 mm)	2	QTi DALI 2x58/220-240 DIM	4050300**870847**	423x30x21	108	2x5000/2x5200
L 58 W (Ø 26 mm)	1	QTi 1x58/220-240 DIM	4050300**870908**	360x30x21	56	1x5000/1x5200
L 58 W (Ø 26 mm)	2	QTi 2x58/220-240 DIM	4050300**870731**	423x30x21	108	2x5000/2x5200
L 58 W (Ø 26 mm)	1	HF 1x58/230-240 DIM	4050300**297729**	360x30x30	56	1x5000/1x5200
L 58 W (Ø 26 mm)	2	HF 2x58/230-240 DIM	4050300**350998**	423x30x30	111	2x5000/2x5200
L 58 W (Ø 26 mm)	1	QTi 1x28/54	4050300**796857**	360x30x21	55/71/68	1x5000/1x5200
L 58 W (Ø 26 mm)	2	QTi 2x28/54	4050300**797076**	423x30x21	110/145/139	2x5000/2x5200
L 58 W (Ø 26 mm)	1	QTP8 1x58/230-240	4008321**131669**	360x30x30	55/71/68	1x5000/1x5200
L 58 W (Ø 26 mm)	2	QTP8 2x58/230-240	4008321**131683**	423x30x30	110/145/139	2x5000/2x5200
L 58 W (Ø 26 mm)	1	QTiS e 1x58/220-240	4050300**940625**	361x30x30	58/71/68	1x5000/1x5200
L 58 W (Ø 26 mm)	2	QTiS e 2x58/220-240	4050300**940618**	360x30x30	112/145/139	2x5000/2x5200
L 58 W (Ø 26 mm)	1	QT-ECO 1x58/230-240	4050300**940632**	150x41x28	58/71/68	1x4800/1x5200
L 65 W (Ø 38 mm)	1	HF 1x58/230-240 DIM	4050300**297729**	360x30x30	56	1x4000/1x4800
L 65 W (Ø 38 mm)	2	HF 2x58/230-240 DIM	4050300**350998**	423x30x30	111	2x4000/2x4800
L 65 W (Ø 38 mm)	1	QTP8 1x58/230-240	4008321**131669**	360x30x30	55/78/75	1x4000/1x4800
L 70 W (Ø 26 mm)	1	QTi DALI 1x21/39/220-240 DIM	4050300**870366**	360x30x21	65,2	1x6300/1x6300
L 70 W (Ø 26 mm)	2	QTi DALI 2x21/39/220-240 DIM	4050300**870489**	423x30x21	128,0	2x6300/2x6300
L 70 W (Ø 26 mm)	1	QTi 1x21/39/220-240 DIM	4050300**870564**	360x30x21	65,2	1x6300/1x6300
L 70 W (Ø 26 mm)	2	QTi 2x21/39/220-240 DIM	4050300**870694**	423x30x21	128,0	2x6300/2x6300
L 70 W (Ø 26 mm)	1	QTi 1x28/54	4050300**796857**	360x30x21	68/83/80	1x6300/1x6300
L 70 W (Ø 26 mm)	1	QT8 1x70	4008321**154774**	360x30x30	65/83/80	1x6000/1x6300
L 70 W (Ø 26 mm)	2	QT8 2x70	4008321**154798**	423x30x30	126/165/160	2x6000/2x6300
L 22 W C	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	22,5/54/52	1x1250/1x1250
L 22 W C	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	22,5/54/52	1x1250/1x1250
L 22 W C	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	43/54/52	2x1250/2x1250
L 22 W C	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	22,5/54/52	1x1250/1x1250
L 22 W C	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	22,5/54/52	1x1250/1x1250
L 32 W C	1	HF 1x36/230-240 DIM	4050300**297705**	360x30x30	36	1x2250/1x2100
L 32 W C	1	QTP8 1x36/230-240	4008321**131621**	361x30x30	36/46/41	1x2050/1x2100
L 32 W C	2	QTP8 2x36/230-240	4008321**131645**	423x30x30	69/84/82	2x2050/2x2100

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG/CCG/LLG	Lamp luminous flux with ECG/CCG
L 40 W C	1	HF 1x36/230-240 DIM	4050300**297705**	360x30x30	36	1x2600/1x2800
L 40 W C	1	QTP8 1x36/230-240	4008321**131621**	361x30x30	39/53/51	1x2700/1x2800
L 40 W C	2	QTP8 2x36/230-240	4008321**131645**	423x30x30	75/109/105	2x2700/2x2800
L 18 W U	1	HF 1x36/230-240 DIM	4050300**297705**	360x30x30	19,5	1x1100/1x1200
L 18 W U	1	QTP8 1x18/230-240	4008321**131584**	360x30x30	19,5/30/29	1x1100/1x1200
L 18 W U	2	QTP8 2x18/230-240	4008321**131607**	423x30x30	36/46/44	2x1100/2x1200
L 18 W U	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	19,5/30/29	1x1100/1x1200
L 18 W U	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	19,5/30/29	1x1100/1x1200
L 36 W U	1	QTP8 1x36/230-240	4008321**131621**	361x30x30	35/46/44	1x2600/1x3000
L 36 W U	2	QTP8 2x36/230-240	4008321**131645**	423x30x30	71/95/89	2x2600/2x3000
L 58 W U	1	QTP8 1x58/230-240	4008321**131669**	360x30x30	54/71/68	1x4300/1x4700
FM 6 W	1	QT-FM 1x6/230-240 L	4050300**511139**	276x32x16	9	1x330
FM 6 W	1	QT-ECO FM 1x6-8/220-240	4050300**797502**	150x22x22	7,5	1x330
FM 8 W	1	QT-FM 1x8/230-240 L	4050300**511153**	276x32x16	11	1x540
FM 8 W	1	QT-FM 1x8/230-240 LB	4050300**363523**	225x18x13	11	1x540
FM 8 W	1	QT-ECO FM 1x6-8/220-240	4050300**797502**	150x22x22	10	1x540
FM 11 W	1	QT-FM 1x11/230-240 L	4050300**511177**	276x32x16	14	1x750
FM 11 W	1	QT-FM 1x11/230-240 LB	4050300**363547**	225x18x13	14	1x750
FM 13 W	1	QT-FM 1x13/230-240 L	4050300**511191**	276x32x16	16	1x930
FM 13 W	1	QT-FM 1x13/230-240 LB	4050300**363561**	225x18x13	16	1x930
FM 13 W	1	QT-ECO FM 1x11-13/220-240	4050300**799780**	150x22x22	16	1x930

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG/CCG/LLG	Lamp luminous flux with ECG/CCG
DULUX L 18 W	1	QTi DALI 1x18/220-240 DIM	4050300**870403**	360x30x21	18,3	1x1200
DULUX L 18 W	2	QTi DALI 2x18/220-240 DIM	4050300**870526**	423x30x21	36,5	2x1200
DULUX L 18 W	3	QTi DALI 3x18/220-240 DIM	4008321**069979**	360x40x21	53,6	3x1200
DULUX L 18 W	4	QTi DALI 4x18/220-240 DIM	4008321**070050**	360x40x21	69,3	4x1200
DULUX L 18 W	1	QTi 1x18/220-240 DIM	4050300**870601**	360x30x21	18,3	1x1200
DULUX L 18 W	2	QTi 2x18/220-240 DIM	4050300**870960**	423x30x21	36,5	2x1200
DULUX L 18 W	3	QTi 3x18/220-240 DIM	4008321**069931**	360x40x21	53,6	3x1200
DULUX L 18 W	4	QTi 4x18/220-240 DIM	4008321**070012**	360x40x21	69,3	4x1200
DULUX L 18 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	18/30/29	1x1200/1x1200
DULUX L 18 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	40/46/44	2x1200/2x1200
DULUX L 18 W	1	QTP-DL 1x18-24	4008321**117861**	239x30x28	20/30/29	1x1200/1x1200
DULUX L 18 W	2	QTP-DL 2x18-24	4008321**117885**	239x40x28	20/30/29	2x1200/2x1200
DULUX L 18 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	18/30/29	1x1150/1x1200
DULUX L 18 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	18/30/29	1x1150/1x1200
DULUX L 18 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	35/46/44	2x1150/2x1200
DULUX L 18 W	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	18/30/29	1x1100/1x1200
DULUX L 18 W	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	18/30/29	1x1100/1x1200
DULUX L 24 W	1	QTi DALI 1x14/24/220-240 DIM	4050300**870380**	360x30x21	25,3	1x1600
DULUX L 24 W	2	QTi DALI 2x14/24/220-240 DIM	4050300**870861**	423x30x21	49,3	2x1800
DULUX L 24 W	3	QTi DALI 3x14/24/220-240 DIM	4008321**069955**	360x40x21	73,4	3x1800
DULUX L 24 W	4	QTi DALI 4x14/24/220-240 DIM	4008321**070036**	360x40x21	97,6	4x1800
DULUX L 24 W	1	QTi 1x14/24/220-240 DIM	4050300**870922**	360x30x21	25,3	1x1800
DULUX L 24 W	2	QTi 2x14/24/220-240 DIM	4050300**870946**	423x30x21	49,3	2x1800
DULUX L 24 W	3	QTi 3x14/24/220-240 DIM	4008321**069719**	360x40x21	73,4	3x1800
DULUX L 24 W	4	QTi 4x14/24/220-240 DIM	4008321**069993**	360x40x21	97,6	4x1800
DULUX L 24 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	22,5/35/32	1x1600/1x1800
DULUX L 24 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	22,5/35/32	2x1600/2x1800
DULUX L 24 W	1	QTP-DL 1x18-24	4008321**117861**	239x30x28	22,5/35/32	1x1800/1x1800
DULUX L 24 W	2	QTP-DL 2x18-24	4008321**117885**	239x40x28	50/70/60	2x1800/2x1800
DULUX L 24 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	26/35/32	1x1750/1x1800
DULUX L 24 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	26/35/32	1x1750/1x1800
DULUX L 24 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	54/70/60	2x1750/2x1800
DULUX L 24 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	54/70/60	2x1750/2x1800
DULUX L 24 W	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	22,5/35/32	1x1600/1x1800
DULUX L 24 W	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	22,5/35/32	1x1650/1x1800
DULUX L 36 W	1	QTi DALI 1x36/220-240 DIM	4050300**870427**	360x30x21	36,0	1x2900
DULUX L 36 W	2	QTi DALI 2x36/220-240 DIM	4050300**870885**	423x30x21	69,0	2x2900
DULUX L 36 W	1	QTi 1x36/220-240 DIM	4050300**870625**	360x30x21	36,0	1x2900
DULUX L 36 W	2	QTi 2x36/220-240 DIM	4050300**870755**	423x30x21	69,0	2x2900
DULUX L 36 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	35/46/42	1x2800/1x2900
DULUX L 36 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	70/95/89	2x2800/2x2900
DULUX L 36 W	1	QTP-DL 1x36-40	4008321**117908**	239x30x28	38/46/42	1x2900/1x2900
DULUX L 36 W	2	QTP-DL 2x36-40	4008321**117922**	280x40x28	70/95/89	2x2900/2x2900
DULUX L 36 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	35/46/42	1x2800/1x2900
DULUX L 36 W	1	QT-M 1x26-42/230-240 SE	4050300**817699**	123x79x33	35/46/42	1x2800/1x2900
DULUX L 36 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	70/95/89	2x2800/2x2900
DULUX L 36 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	70/95/89	2x2800/2x2900

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG/CCG/LLG	Lamp luminous flux with ECG/CCG
DULUX L 40 W	1	QTi DALI 1x21/39/220-240 DIM	4050300**870366**	360x30x21	41,8	1x3500
DULUX L 40 W	2	QTi DALI 2x21 /39/220-240 DIM	4050300**870489**	423x30x21	82,0	2x3500
DULUX L 40 W	1	QTi 1x21/39/220-240 DIM	4050300**870564**	360x30x21	41,8	1x3500
DULUX L 40 W	2	QTi 2x21/39/220-240 DIM	4050300**870694**	423x30x21	82,0	2x3500
DULUX L 40 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	44,0	1x3500
DULUX L 40 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	85,0	2x3500
DULUX L 40 W	1	QTP-DL 1x36-40	4008321**117908**	239x30x28	44,0	1x3500
DULUX L 40 W	2	QTP-DL 2x36-40	4008321**117922**	280x40x28	90,0	1x3500
DULUX L 40 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	44,0	1x3500
DULUX L 40 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	44,0	1x3500
DULUX L 55 W	1	QTi DALI 1x28/54/220-240 DIM	4050300**870809**	360x30x21	58,8	1x4800
DULUX L 55 W	2	QTi DALI 2x28/54/220-240 DIM	4050300**870502**	423x30x21	115,0	2x4800
DULUX L 55 W	1	QTi 1x28/54/220-240 DIM	4050300**870588**	360x30x21	58,8	1x4800
DULUX L 55 W	2	QTi 2x28/54/220-240 DIM	4050300**870717**	423x30x21	115,0	2x4800
DULUX L 55 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	61	1x4800
DULUX L 55 W	2	QT-FQ 2x80	4050300**825564**	423x30x21	119	2x4800
DULUX L 55 W	1	QTP-DL 1x55	4008321**117946**	360x30x21	61	1x4800
DULUX L 55 W	2	QTP-DL 2x55	4008321**117960**	423x30x21	121	2x4800
DULUX L 55 W	1	QT-FC 1x55/230-240 S	4050300**526096**	123x79x33	60	1x4700
DULUX L 80 W	1	QTi DALI 1x35/49/80/220-240 DIM	4050300**870342**	423x30x21	88,1	1x6000
DULUX L 80 W	2	QTi DALI 2x35/49/80/220-240 DIM	4050300**870441**	423x30x21	165,0	2x6000
DULUX L 80 W	1	QTi 1x35/49/80/220-240 DIM	4050300**870540**	360x30x21	88,1	1x6000
DULUX L 80 W	2	QTi 2x35/49/80/220-240 DIM	4050300**870984**	423x30x21	165,0	2x6000
DULUX L 80 W	1	QTi 1x35/49/80	4050300**796833**	360x30x21	91	1x6000
DULUX L 80 W	2	QTi 2x35/49/80	4008321**174291**	423x30x21	165	2x6000
DULUX L 80 W	1	QTP5 1x80	4008321**061591**	360x30x21	88	1x6000
DULUX L 80 W	2	QT-FQ 2x80	4050300**825564**	423x30x21	176	2x6150
DULUX F 18 W	1	QTi DALI 1x18/220-240 DIM	4050300**870403**	360x30x21	18,3	1x1100
DULUX F 18 W	2	QTi DALI 2x18/220-240 DIM	4050300**870526**	423x30x21	36,5	2x1100
DULUX F 18 W	3	QTi DALI 3x18/220-240 DIM	4008321**069979**	360x40x21	53,6	3x1100
DULUX F 18 W	4	QTi DALI 4x18/220-240 DIM	4008321**070050**	360x40x21	69,3	4x1100
DULUX F 18 W	1	QTi 1x18/220-240 DIM	4050300**870601**	360x30x21	18,3	1x1100
DULUX F 18 W	2	QTi 2x18/220-240 DIM	4050300**870960**	423x30x21	36,5	2x1100
DULUX F 18 W	3	QTi 3x18/220-240 DIM	4008321**069931**	360x40x21	53,6	3x1100
DULUX F 18 W	4	QTi 4x18/220-240 DIM	4008321**070012**	360x40x21	69,3	4x1100
DULUX F 18 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	18/30/29	1x1100/1x1100
DULUX F 18 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	36/46/44	2x1100/2x1100
DULUX F 18 W	1	QTP-DL 1x18-24	4008321**117861**	239x30x28	20/30/29	1x1100/1x1100
DULUX F 18 W	2	QTP-DL 2x18-24	4008321**117885**	239x40x28	36/46/44	2x1100/2x1100
DULUX F 18 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	18/30/29	1x1050/1x1100
DULUX F 18 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	18/30/29	1x1050/1x1100
DULUX F 18 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	35/46/44	2x1050/2x1100
DULUX F 18 W	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	18/30/29	1x1000/1x1100
DULUX F 18 W	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	18/30/29	1x1000/1x1100

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG/CCG/LLG	Lamp luminous flux with ECG/CCG
DULUX F 24 W	1	QTi DALI 1x14/24/220-240 DIM	4050300**870380**	360x30x21	25,3	1x1700
DULUX F 24 W	2	QTi DALI 2x14/24/220-240 DIM	4050300**870861**	423x30x21	49,3	2x1700
DULUX F 24 W	3	QTi DALI 3x14/24/220-240 DIM	4008321**069955**	360x40x21	73,4	3x1700
DULUX F 24 W	4	QTi DALI 4x14/24/220-240 DIM	4008321**070036**	360x40x21	97,6	4x1700
DULUX F 24 W	1	QTi 1x14/24/220-240 DIM	4050300**870922**	360x30x21	25,3	1x1700
DULUX F 24 W	2	QTi 2x14/24/220-240 DIM	4050300**870946**	423x30x21	49,3	2x1700
DULUX F 24 W	3	QTi 3x14/24/220-240 DIM	4008321**069719**	360x40x21	73,4	3x1700
DULUX F 24 W	4	QTi 4x14/24/220-240 DIM	4008321**069993**	360x40x21	97,6	4x1700
DULUX F 24 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	22,5/35/32	1x1500/1x1700
DULUX F 24 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	50/70/60	2x1500/2x1700
DULUX F 24 W	1	QTP-DL 1x18-24	4008321**117861**	239x30x28	26/35/32	1x1700/1x1700
DULUX F 24 W	2	QTP-DL 2x18-24	4008321**117885**	239x40x28	49/70/60	2x1700/2x1700
DULUX F 24 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	26/35/32	1x1650/1x1700
DULUX F 24 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	26/35/32	1x1650/1x1700
DULUX F 24 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	54/70/60	2x1650/2x1700
DULUX F 24 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	54/70/60	2x1650/2x1700
DULUX F 24 W	1	QT-ECO 1x18-24/220-240 S	4050300**638560**	80x40x22	22,5/35/32	1x15001x1700
DULUX F 24 W	1	QT-ECO 1x18-24/220-240 L	4050300**660417**	150x22x22	22,5	1x1500/1x1700
DULUX F 36 W	1	QTi DALI 1x36/220-240 DIM	4050300**870427**	360x30x21	36,0	1x2700
DULUX F 36 W	2	QTi DALI 2x36/220-240 DIM	4050300**870885**	423x30x21	69,0	2x2700
DULUX F 36 W	1	QTi 1x36/220-240 DIM	4050300**870625**	360x30x21	36,0	1x2700
DULUX F 36 W	2	QTi 2x36/220-240 DIM	4050300**870755**	423x30x21	69,0	2x2700
DULUX F 36 W	1	QTi 1x14/24/21/39	4050300**796871**	360x30x21	35/46/42	1x2700/1x2800
DULUX F 36 W	2	QTi 2x14/24/21/39	4050300**797090**	423x30x21	70/95/89	2x2700/2x2800
DULUX F 36 W	1	QTP-DL 1x36-40	4008321**117908**	239x30x28	38/46/42	1x2800/1x2800
DULUX F 36 W	2	QTP-DL 2x36-40	4008321**117922**	280x40x28	70/95/89	2x2800/2x2800
DULUX F 36 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	35/46/42	1x2700/1x2800
DULUX F 36 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	35/46/42	1x2700/1x2800
DULUX F 36 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	70/95/89	2x2700/2x2800
DULUX F 36 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	70/95/89	2x2700/2x2800
DULUX S/E 5 W	1	DT-S/E 5-11/220-240 S	4008321**181459**	75x55x34	7,5	1x250
DULUX S/E 5 W	1	DT-S/E 5-11/220-240 L	4008321**181473**	89x40x45	7,5	1x250
DULUX S/E 5 W	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	7,5	1x250
DULUX S/E 5 W	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	7,5	1x250
DULUX S/E 5 W	2	QT-ECO 2x5-11/220-240 S	4050300**821504**	80x40x22	12,5	2x250
DULUX S/E 7 W	1	DT-S/E 5-11/220-240 S	4008321**181459**	75x55x34	9,5	1x400
DULUX S/E 7 W	1	DT-S/E 5-11/220-240 L	4008321**181473**	89x40x45	9,5	1x400
DULUX S/E 7 W	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	9	1x400
DULUX S/E 7 W	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	9	1x400
DULUX S/E 7 W	2	QT-ECO 2x5-11/220-240 S	4050300**821504**	80x40x22	15	2x350
DULUX S/E 7 W	1	AT 7-9/12 L	4050300**273754**	82x40x30	8	1x400
DULUX S/E 7 W	1	AT 7-9/24 L	4050300**308913**	82x40x30	8	1x400

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG	Lamp luminous flux with ECG
DULUX S/E 9 W	1	QTP-D/E 1x10-13	4008321**181572**	93x58x29	9,5	1x600
DULUX S/E 9 W	2	QTP-D/E 2x10-13	4008321**181596**	123x79x33	18	2x600
DULUX S/E 9 W	1	DT-S/E 5-11/220-240 S	4008321**181459**	75x55x34	11,5	1x600
DULUX S/E 9 W	1	DT-S/E 5-11/220-240 L	4008321**181473**	89x40x45	11,5	1x600
DULUX S/E 9 W	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	10	1x600
DULUX S/E 9 W	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	10	1x600
DULUX S/E 9 W	2	QT-ECO 2x5-11/220-240 S	4050300**821504**	80x40x22	18	2x500
DULUX S/E 9 W	1	AT 7-9/12 L	4050300**273754**	82x40x30	10	1x600
DULUX S/E 9 W	1	AT 7-9/24 L	4050300**308913**	82x40x30	10	1x600
DULUX S/E 11 W	1	QTP-D/E 1x10-13	4008321**181572**	93x58x29	14	1x900
DULUX S/E 11 W	2	QTP-D/E 2x10-13	4008321**181596**	123x79x33	27	2x900
DULUX S/E 11 W	1	DT-S/E 5-11/220-240 S	4008321**181459**	75x55x34	13,5	1x850
DULUX S/E 11 W	1	DT-S/E 5-11/220-240 L	4008321**181473**	89x40x45	13,5	1x850
DULUX S/E 11 W	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	13	1x900
DULUX S/E 11 W	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	13	1x900
DULUX S/E 11 W	2	QT-ECO 2x5-11/220-240 S	4050300**821504**	80x40x22	23,5	2x700
DULUX D/E 10 W	1	QTP-D/E 1x10-13	4008321**181572**	93x58x29	11,5	1x600
DULUX D/E 10 W	2	QTP-D/E 2x10-13	4008321**181596**	123x79x33	21	2x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 L	4008321**181497**	95x40x64	12	1x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 P	4008321**181534**	Ø59x72	12	1x600
DULUX D/E 10 W	1	DT-D/E 10-13/220-240 C	4008321**181510**	Ø59x68	12	1x600
DULUX D/E 10 W	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	11,5	1x600
DULUX D/E 10 W	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	11,5	1x600
DULUX D/E 10 W	2	QT-ECO 2x5-11/220-240 S	4050300**821504**	80x40x22	20	2x600
DULUX D/E 10 W	1	AT 7-9/12 L	4050300**273754**	82x40x30	11	1x600
DULUX D/E 10 W	1	AT 7-9/24 L	4050300**308913**	82x40x30	11	1x600
DULUX D/E 13 W	1	QTP-D/E 1x10-13	4008321**181572**	93x58x29	15,5	1x900
DULUX D/E 13 W	2	QTP-D/E 2x10-13	4008321**181596**	123x79x33	29	2x900
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 L	4008321**181497**	95x40x64	15,5	1x900
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 P	4008321**181534**	Ø59x72	15,5	1x900
DULUX D/E 13 W	1	DT-D/E 10-13/220-240 C	4008321**181510**	Ø59x68	15,5	1x900
DULUX D/E 13 W	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	14	1x800
DULUX D/E 13 W	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	14	1x800
DULUX D/E 18 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	19,8	1x1200
DULUX D/E 18 W	2	QTi-T/E 2x18-42 DIM	4008321**060846**	123x79x33	34,5	2x1200
DULUX D/E 18 W	1	QTi DALI-T/E 1x18-57 DIM	4008321**060808**	123x79x33	19,8	1x1200
DULUX D/E 18 W	2	QTi DALI-T/E 2x18-42 DIM	4008321**060822**	123x79x33	34,5	2x1200
DULUX D/E 18 W	1	QTP-T/E 1x18	4008321**181701**	103x67x31	18,7	1x1200
DULUX D/E 18 W	2	QTP-T/E 2x18	4008321**181619**	123x79x33	37	2x1200
DULUX D/E 18 W	1	DT-T/E 18/230-240 L	4050300**406404**	95x40x64	20	1x1200
DULUX D/E 18 W	1	DT-T/E 18/230-240 C	4050300**421384**	Ø59x68	20	1x1200
DULUX D/E 18 W	1	DT-T/E 18/230-240 P	4050300**421421**	Ø59x72	20	1x1200
DULUX D/E 18 W	1	QT-ECO 1x18-21/220-240 S	4050300**794907**	80x40x22	19	1x1150
DULUX D/E 18 W	2	QT-ECO T/E 2x18/220-240	4050300**803982**	150x41x28	36	2x1200

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG	Lamp luminous flux with ECG
DULUX D/E 26 W	1	QTi DALI-T/E 1x18-57 DIM	4008321**060808**	123x79x33	27,0	1x1800
DULUX D/E 26 W	2	QTi DALI-T/E 2x18-42 DIM	4008321**060822**	123x79x33	55,6	2x1800
DULUX D/E 26 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	27,0	1x1800
DULUX D/E 26 W	2	QTi-T/E 2x18-42 DIM	4008321**060846**	123x79x33	55,6	2x1800
DULUX D/E 26 W	1	QTi 1x26-120	4008321**040893**	163x88x39	28	1x1800
DULUX D/E 26 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	27	1x1750
DULUX D/E 26 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	27	1x1750
DULUX D/E 26 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	54	2x1750
DULUX D/E 26 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	54	2x1750
DULUX D/E 26 W	1	QT-ECO 1x26/220-240 S	4008321**065971**	80x40x22	23,5	1x1600
DULUX D/E 26 W	2	QT-ECO T/E 2x26/220-240	4050300**804002**	150x41x28	52	2x1800
DULUX T/E 13 W	1	QTP-D/E 1x10-13	4008321**181572**	93x58x29	15,5	1x900
DULUX T/E 13 W	2	QTP-D/E 2x10-13	4008321**181596**	123x79x33	29	2x900
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 L	4008321**181497**	95x40x64	15,5	1x900
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 P	4008321**181534**	Ø59x72	15,5	1x900
DULUX T/E 13 W	1	DT-D/E 10-13/220-240 C	4008321**181510**	Ø59x68	15,5	1x900
DULUX T/E 13 W	1	QT-ECO 1x4-16/220-240 S	4050300**638584**	80x40x22	14	1x800
DULUX T/E 13 W	1	QT-ECO 1x4-16/220-240 L	4050300**660370**	150x22x22	14	1x800
DULUX T/E 18 W	1	QTi DALI-T/E 1x18-57 DIM	4008321**060808**	123x79x33	19,8	1x1200
DULUX T/E 18 W	2	QTi DALI-T/E 2x18-42 DIM	4008321**060822**	123x79x33	34,5	2x1200
DULUX T/E 18 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	19,8	1x1200
DULUX T/E 18 W	2	QTi-T/E 2x18-42 DIM	4008321**060846**	123x79x33	34,5	2x1200
DULUX T/E 18 W	1	QTP-T/E 1x18	4008321**181701**	103x67x31	18,7	1x1200
DULUX T/E 18 W	2	QTP-T/E 2x18	4008321**181619**	123x79x33	37	2x1200
DULUX T/E 18 W	2	QT-T/E 2x18/230-240	4050300**312576**	123x79x33	37	2x1150
DULUX T/E 18 W	1	DT-T/E 18/230-240 L	4050300**406404**	95x40x64	20	1x1200
DULUX T/E 18 W	1	DT-T/E 18/230-240 C	4050300**421384**	Ø59x68	20	1x1200
DULUX T/E 18 W	1	DT-T/E 18/230-240 P	4050300**421421**	Ø59x72	20	1x1200
DULUX T/E 18 W	1	QT-ECO 1x18-21/220-240 S	4050300**794907**	80x40x22	19	1x1150
DULUX T/E 18 W	2	QT-ECO T/E 2x18/220-240	4050300**803982**	150x41x28	36	2x1200
DULUX T/E 26 W	1	QTi DALI-T/E 1x18-57 DIM	4008321**060808**	123x79x33	27,0	1x1800
DULUX T/E 26 W	2	QTi DALI-T/E 2x18-42 DIM	4008321**060822**	123x79x33	55,6	2x1800
DULUX T/E 26 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	27,0	1x1800
DULUX T/E 26 W	2	QTi-T/E 2x18-42 DIM	4008321**060846**	123x79x33	55,6	2x1800
DULUX T/E 26 W	1	QTi 1x26-120	4008321**040893**	163x88x39	28	1x1800
DULUX T/E 26 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	27	1x1750
DULUX T/E 26 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	27	1x1750
DULUX T/E 26 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	54	2x1750
DULUX T/E 26 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	54	2x1750
DULUX T/E 26 W	1	QT-ECO 1x26/220-240 S	4008321**065971**	80x40x22	23,5	1x1600
DULUX T/E 26 W	2	QT-ECO T/E 2x26/220-240	4050300**804002**	150x41x28	52	2x1800

Summary of lamp/ECG combinations

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG	Lamp luminous flux with ECG
DULUX T/E 32 W	1	QTi DALI-T/E 1x18-57 DIM	4008321**060808**	123x79x33	38,5	1x2400
DULUX T/E 32 W	2	QTi DALI-T/E 2x18-42 DIM	4008321**060822**	123x79x33	68,1	2x2400
DULUX T/E 32 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	38,5	1x2400
DULUX T/E 32 W	2	QTi-T/E 2x18-42 DIM	4008321**060846**	123x79x33	68,1	2x2400
DULUX T/E 32 W	1	QTi 1x26-120	4008321**040893**	163x88x39	35	1x2400
DULUX T/E 32 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	35	1x2400
DULUX T/E 32 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	35	1x2400
DULUX T/E 32 W	2	QT-M 2x26-32/230-240 S	4050300**624969**	123x79x33	70	2x2400
DULUX T/E 32 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	70	2x2400
DULUX T/E 42 W	1	QTi DALI-T/E 1x18-57 DIM	4008321**060808**	123x79x33	47,1	1x3200
DULUX T/E 42 W	2	QTi DALI-T/E 2x18-42 DIM	4008321**060822**	123x79x33	89,7	2x3200
DULUX T/E 42 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	47,1	1x3200
DULUX T/E 42 W	2	QTi-T/E 2x18-42 DIM	4008321**060846**	123x79x33	89,7	2x3200
DULUX T/E 42 W	1	QTi 1x26-120	4008321**040893**	163x88x39	92	1x6400
DULUX T/E 42 W	1	QT-M 1x26-42/230-240 S	4050300**609256**	103x67x31	46	1x3200
DULUX T/E 42 W	1	QT-M 1x26-42/220-240 SE	4050300**817699**	123x79x33	46	1x3200
DULUX T/E 42 W	2	QT-M 2x26-42/220-240 S	4008321**110022**	123x79x33	92	2x3200
DULUX T/E 42 W	2	QT-T/E 2x42-57/230-240	4050300**829814**	158x102x39	90	2x3200
DULUX T/E 57 W	1	QTi DALI-T/E 1x18-57 DIM	4008321**060808**	123x79x33	62,1	1x4300
DULUX T/E 57 W	1	QTi-T/E 1x18-57 DIM	4008321**060860**	123x79x33	62,1	1x4300
DULUX T/E 57 W	1	QTi 1x26-120	4008321**040893**	163x88x39	63	1x4300
DULUX T/E 57 W	1	QT-T/E 1x57/230-240	4050300**605357**	123x79x33	62	1x4300
DULUX T/E 57 W	2	QT-T/E 2x42-57/230-240	4050300**829814**	158x102x39	122	2x4300
DULUX T/E 70 W	1	QTi 1x26-120	4008321**040893**	163x88x39	78	1x5200
DULUX T/E 70 W	1	QT-T/E 1x70/230-240	4050300**792002**	123x79x33	77	1x5200
DULUX 120 W HO	1	QTi 1x26-120	4008321**040893**	163x88x39	132	1x9000

ENDURA®

Lamp	Ip	ECG type	EAN	L/W/H	System wattage with ECG	Lamp luminous flux with ECG
Endura 70 W	1	QT ENDURA 70-100/120-240 S	4050300**804668**	181x100x43	82	1x6500
Endura 100 W	1	QT ENDURA 70-100/120-240 S	4050300**804668**	181x100x43	107	1x8000
Endura 100 W	1	QT ENDURA 100-150/120-240 S	4050300**662589**	181x100x43	146	1x11000
Endura 150 W	1	QT ENDURA 100-150/120-240 S	4050300**662589**	181x100x43	157	1x12000

Summary of lamp/ECG combinations

POWERTRONIC®

Lamp	Ip	ECG type	EAN	L/W/H	System wattage in W with ECG
HCI-TF, HCI-TC, HCI-PAR, HCI-R111	1	PT 1x20/220-240 S	4008321**916181**	97x43x31	22±0,5
HCI-T, HCI-E/P, HCI-PAR, HCI-R111	1	PTi 1x35/220-240 S	4008321**073112**	155x83x32	43±2
	1	PTi 1x35/220-240 I	4008321**099488**	135x75x30	43±2
	2	PTi 2x35/220-240 S	4008321**122247**	135x75x30	86±4
	2	PTi 2x35/220-240 I	4008321**122261**	180x83x32	86±4
HCI-T, HCI-TC, HCI-TS, HCI-E/P, HCI-T/P, HCI-PAR, HCI-R111, HQI-T, HQI-TS, HQI-E	1	PTi 1x70/220-240 S	4008321**049629**	110x75x30	80±3
	1	PTi 1x70/220-240 I	4008321**099501**	155x83x32	80±3
	2	PTi 2x70/220-240 S	4008321**910035**	165x90x30	159±6
	2	PTi 2x70/220-240 I	4008321**910042**	207x96x32	159±6
HCI-T, HCI-E/P, HCI-T/P	1	PTi 1x100/220-240 S	4008321**926630**	150x85x31	109±3
	1	PTi 1x100/220-240 I	4008321**926654**	185x96x33	109±3
HCI-T, HCI-TS, HCI-E/P, HCI-T/P, HQI-T, HQI-TS, HQI-E	1	PTi 1x150/220-240 S	4008321**188090**	150x85x32	160±3
	1	PTi 1x150/220-240 I	4008321**915535**	165x90x30	160±3

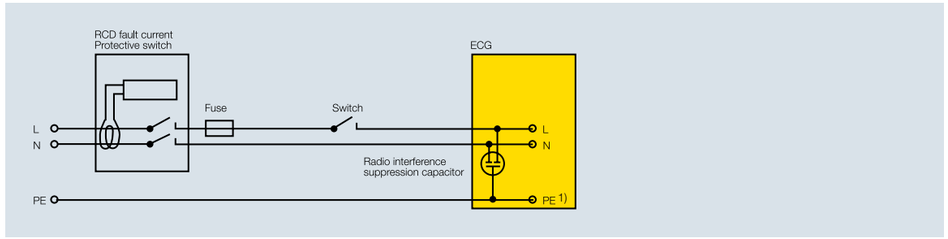
HALOTRONIC®

Lamp	ECG type	EAN	L/W/H	System wattage in W	Load range	Dimmer
for independent installation with cable clamp						
Low-voltage halogen	HT 120/230-240LF	4050300**461342**	172/42/20	126	35-120W	C
	HTM 70/230-240	4050300**442310**	108/52/33	74	20-70W	L,C
	HTM 105/230-240	4050300**442334**	108/52/33	111	35-105W	L,C
	HTM 150/230-240	4050300**581415**	153/54/36	157	50-150W	L,C
	HTL 105/230-240	4008321**927019**	170/44/34	110	35-105W	L,C
	HTL 225/230-240	4008321**927026**	170/44/34	235	50-225W	L,C

Summary of LED-module/ECG combinations

Control gear OPTOTRONIC® / LED modules	10 V units					24 V units						350/700 mA units					Combined units		Controllers					
	4008321**113306**	4050300**609232**	4008321**174253**	4050300**817491**	4050300**861500**	4008321**113269**	4008321**040169**	4050300**618111**	4050300**662626**	4050300**817477**	4050300**861487**	4050300**888262**	4050300**888897**	4008321**187321**	4008321**139320**	4008321**169365**	4008321**187796**	4050300**829463**	4050300**943459**	4050300**793108**	4050300**792460**	4008321**160829**	4008321**279835**	4008321**061195**
	OT 6/10 CE	**OT 12**	**OT 12 LE (IP protection)**	**OT 50**	**OT 50 E (IP protection)**	**OT 6/24 CE**	**OT 8**	**OT 20**	**OT 20 S**	**OT 75**	**OT 75 E (IP protection)**	**OT 9/350**	**OT 9/350 DIM (10-24V)**	**OT 9/350 DIM (200-240V)**	**OT 18/700 DIM[3]**	**OT 35/700**	**OT Easy 60/24**	**OT DALI 25/24**	**OT DIM[2]**	**OT RGB DIM[2]**	**OT RGB Sequencer[2]**	**OT DMX RGB DIM[2]**	**OT DMX 3x1 RGB DIM[2]**	**OTi DALI DIM[2]**
BACKlight BL02	●	●	●	●	●														●	●	●	●	●	●
BACKlight BL03	●	●	●	●	●														●	●	●	●	●	●
BACKlight BL04	●	●	●	●	●														●	●	●	●	●	●
COINlight®						●	●	●	●	●	●						●	●	●	●	●	●	●	●
COINlight-OSTAR®								●	●	●	●						●	●	●	●	●	●	●	●
DRAGONchain™						(●)	(●)	●	●	●	●						●	●	●	●	●	●	●	●
DRAGONeye®												●	●	●	●									
DRAGONtape®												●	●	●	●									
DRAGONpuck®												●	●	●	●									
DRAGON-X												●	●	●	●									
OSTAR®-Lighting (4 Chip)												●	●	●	●	●								
OSTAR®-Lighting (6 Chip)												●	●	●	●	●								
OSTAR®hex. (6 Chip)												●	●	●	●	●								
EFFECTlight						●	●	●	●	●	●						●	●	●	●	●	●	●	●
LINEARlight	●	●	●	●	●														●	●	●	●	●	●
LINEARlight Colormix						●[1]	●[1]	●[1]	●[1]	●[1]	●[1]						●	●	●	●	●	●	●	●
LINEARlight Colormix Flex						●[1]	●[1]	●[1]	●[1]	●[1]	●[1]						●	●	●	●	●	●	●	●
LINEARlight-DRAGON®								●	●	●	●						●	●	●	●	●	●	●	●
LINEARlight Flex® (LM10A)						●	●	●	●	●	●						●	●	●	●	●	●	●	●
LINEARlight Flex® (LM11A)	●	●	●	●	●														●	●	●	●	●	●
LINEARlight POWER Flex						●	●	●	●	●	●						●	●	●	●	●	●	●	●

1) RGB in combination with OPTOTRONIC® dimmer
2) In combination with control gear
3) Supplied with fixed resistor for 500 mA



The following installation and operating instructions have been included to help you to get the most out of your electronic control gear.

For more detailed information see the Technical Guides at
www.osram.com/ecg-downloads

Requirements:
The requirements to be met by lighting systems with luminaires operated with ECGs fall into the following categories:

1. Fault currents/RCD
2. Rating for automatic line protection systems/ inrush currents
3. ECGs in three-phase operation (overvoltages/ undervoltages/missing neutral conductor)
4. ECGs in emergency lighting systems (voltage ranges and switch-on times)
5. Power factor/compensation
6. Permissible cable lengths
7. Faults in infrared controls/transmission systems (IR remote control, sound transmission, audio frequency ripple control, paging systems)
8. Dimming
9. Luminaires for ECGs
10. Ambient and ECG temperatures
11. ECGs for outdoor lighting
12. Wiring of the ECGs
13. Life and reliability of ECGs

1) Grounding requirements (PE):
- For Protection Class I equipment the protective earth (PE) must make contact with the casing via a serrated washer
- For dimmable ECGs the earth conductor must always be connected to reduce radio interference

1. Fault currents/RCD
Problem:
For ECGs with protective earth (PE) both the high short-duration in-rush current and the small leakage current from the interference suppression capacitors in the ECGs can trigger the residual current detector.
Solution:
- Divide the luminaires across the three phases and use three-phase RCDs
- Use surge-current-resistant short-delay RCDs
- If permissible, use 30 mA RCDs
- Connect a maximum of 45 ECGs per phase and RCD
- For a 3-phase RCD, a maximum of 3 x 45 = 135 ECGs can be connected

2. Ratings for automatic line protection systems
In a choke/starter circuit the lamps do not all ignite simultaneously; in an ECG circuit all the fluorescent lamps ignite simultaneously.
On switch-on at peak voltage, the storage capacitors of electronic control gear cause a high but very brief current pulse.
In this case, the simultaneous charging of these capacitors in ECG operation can mean a higher system switch-on current than with a choke/starter circuit.
This reduces the maximum number of luminaires allowed per automatic line protection unit (see tables on the following pages).
For example, the maximum number of luminaires allowed on a 10 A automatic system reduces from 15 luminaires with 2 x 58 W lamps with conventional control gear in a twin circuit to 8 luminaires in an ECG circuit.

10 A circuit breaker

Maximum permissible number of ECGs for operating T8 fluorescent lamps (L 18W, L 36W, L 58W) with an N circuit breaker 10 A, single-pole, type B (made by Siemens).

	ECG type 1-lamp	Max. no. of ECGs	LLG 1-lp. uncomp.	LLG 1-lp. parallel comp.	ECG type 2-lamp	Max. no. of ECGs	LLG 2-lp. DUO
L 18W	QTi 1x14/24/21/39	26	27	32	QTi 2x14/24/21/39	19	23
	QTP8 1x18	36	27	32	QTP8 2x18	25	23
	QTIS e 1x18	17	27	32	QTIS e 2x18	17	23
L 36W	QTi 1x14/24/21/39	26	23	32	QTi 2x14/24/21/39	19	23
	QTP8 1x36	25	23	32	QTP8 2x36	17	23
	QTIS e 1x36	17	23	32	QTIS e 2x36	5	23
	QT-ECO 1x36	17	23	32	–		
L 58W	QTi 1x28/54	26	15	20	QTi 2x28/54	19	15
	QTP8 1x58	17	15	29	QTP8 2x58	8	15
	QTIS e 1x58	8	15	20	QTIS e 2x58	5	15
	QT-ECO 1x58	17	15	20	–		

	ECG type 3-lamp	Max. no. of ECGs	ECG type 4-lamp	Max. no. of ECGs
L 18W	QTP8 3x18, 4x18	17	QTP8 3x18, 4x18	17
	QTIS e 3x18, 4x18	8	QTIS e 3x18, 4x18	8

16 A circuit breaker

Maximum permissible number of ECGs for operating T8 fluorescent lamps (L 18W, L 36W, L 58W) with an N circuit breaker 16 A, single-pole, type B (made by Siemens).

	ECG type 1-lamp	Max. no. of ECGs	LLG 1-lp. uncomp.	LLG 1-lp. parallel comp.	ECG type 2-lamp	Max. no. of ECGs	LLG 2-lp. DUO
L 18W	QTi 1x14/24/21/39	41	43	51	QTi 2x14/24/21/39	31	
	QTP8 1x18	59	43	51	QTP8 2x18	31	
	QTIS e 1x18	28	43	51	QTIS e 2x18	28	
L 36W	QTi 1x14/24/21/39	41	43	51	QTi 2x14/24/21/39	31	
	QTP8 1x36	41	43	51	QTP8 2x36	28	
	QTIS e 1x36	28	43	51	QTIS e 2x36	8	
	QT-ECO 1x36	28	43	51	–		
L 58W	QTi 1x28/54	41	24	33	QTi 2x28/54	31	
	QTP8 1x58	28	24	33	QTP8 2x58	13	
	QTIS e 1x58	13	24	33	QTIS e 2x58	8	
	QT-ECO 1x58	28	24	33	–		

	ECG type 3-lamp	Max. no. of ECGs	ECG type 4-lamp	Max. no. of ECGs
L 18W	QTP8 3x18, 4x18	28	QTP8 3x18, 4x18	28
	QTIS e 3x18, 4x18	13	QTIS e 3x18, 4x18	13

Installation and operating instructions
Ratings for automatic line protection systems

When using the values given in these tables please note the following:

- In ECG operation the load data relates to switching on at peak voltage
- The type and characteristics of the circuit breaker: The specified load from fluorescent lamps and the associated control gear applies to N circuit breakers of Type 5 SN1–6 and 5 SX with B characteristics. If the above circuit breaker types with C characteristics are used the number of permitted luminaires for ECG operation can be doubled. (Note in particular VDE 0100 Part 410).
- Circuit breaker design: The specified loading is for single-pole circuit breakers. When multi-pole circuit breakers are employed (2-pole, 3-pole) the number of permitted luminaires is reduced by 20%.
- Lamp switch-on:
  The specified load applies:
  – to the joint and group-wise starting of the relevant number of luminaires in “choke operation”
  – to the maximum permissible number of luminaires switched (with one switching operation) in the case of “ECG operation”
- Circuit impedance: The specified loading applies with reference to a line impedance of 800 mΩ. (This corresponds to a 15 m, 1.5 mm^2 cable from the distribution board to the first luminaire and a further distance of 20 m to the middle of the circuit. At a line impedance of 400 mΩ, the permitted values are reduced by 10%, and by 20% for a line impedance of 200 mΩ).

In-rush currents for ECGs
Measured at $U_N = 230V_{AC}$

ECG	I_P/A	T_H/µs	Max. no. of ECGs on circuit breakers 10A	16A
QUICKTRONIC® INTELLIGENT dimmable (DALI/DIM) for T5 and T8 fluorescent lamps				
QTi (DALI) 1x14/24 DIM	25	175	17	28
QTi (DALI) 1x18 DIM	25	175	17	28
QTi (DALI) 1x21/39 DIM	25	175	17	28
QTi (DALI) 1x28/54 DIM	25	175	17	28
QTi (DALI) 1x35/49/80 DIM	30	225	12	19
QTi (DALI) 1x36 DIM	25	175	17	28
QTi (DALI) 1x58 DIM	25	175	17	28
QTi (DALI) 2x14/24 DIM	35	180	12	19
QTi (DALI) 2x18 DIM	35	180	12	19
QTi (DALI) 2x21/39 DIM	45	205	8	13
QTi (DALI) 2x28/54 DIM	45	205	8	13
QTi (DALI) 2x35/49 DIM	45	205	8	13
QTi (DALI) 2x36 DIM	45	205	8	13
QTi (DALI) 2x58 DIM	45	205	8	13
QTi (DALI) 2x35/49/80 DIM	60	230	5	9
QTi (DALI) 3x14/24 DIM	35	180	12	19
QTi (DALI) 4x14/24 DIM	45	205	8	13
QTi (DALI) 3x18 DIM	25	175	17	28
QTi (DALI) 4x18 DIM	35	180	12	19
QUICKTRONIC® T5 for HO (T5) fluorescent lamps				
QTP5 1x24-39	24	240	17	28
QTP5 1x49	33	180	17	28
QTP5 1x54	50	160	11	19
QTP5 1x80	57	150	8	13
QTP5 2x24-39	57	150	8	13
QTP5 2x49	53	190	8	13
QTP5 2x54	50	160	8	13
QT-FQ 2x80	60	230	5	9

ECG	I_P/A	T_H/µs	Max. no. of ECGs on circuit breakers 10A	16A
QUICKTRONIC® INTELLIGENT QTi				
QTi 1x14/24/21/39	1	155	26	41
QTi 1x28/54	1	155	26	41
QTi 1x35/49/80	1	155	26	41
QTi 2x14/24/21/39	1	200	19	31
QTi 2x28/54	1	200	19	31
QTi 2x35/49	1	200	19	31
QTi 2x35/49/80	60	230	9	15

In-rush currents for ECGs
Measured at $U_N = 230V_{AC}$

ECG	I_P/A	T_H/µs	Max. no. of ECGs on circuit breakers 10A	16A
QUICKTRONIC® MULTIWATT for HE (T5) fluorescent lamps				
QTP5 1x14-35	24	230	16	43
QTP5 2x14-35	20	210	11	19
QUICKTRONIC® DIMMABLE with 1…10 V interface for T8 fluorescent lamps				
HF 1x18/230-240 DIM	14	140	37	61
HF 1x36/230-240 DIM	17	170	25	41
HF 1x58/230-240 DIM	20	210	17	28
HF 2x18/230-240 DIM	25	165	17	28
HF 2x36/230-240 DIM	25	165	17	28
HF 2x58/230-240 DIM	40	230	8	13
QUICKTRONIC® PROFESSIONAL for T8 fluorescent lamps				
QTP8 1x18/230-240	14	140	36	59
QTP8 1x36/230-240	17	155	25	41
QTP8 1x58/230-240	20	210	17	28
QTP8 2x18/230-240	17	155	25	41
QTP8 2x36/230-240	20	210	17	28
QTP8 2x58/230-240	28	230	8	13
QTP8 3x18, 4x18/230-240	20	210	17	28

ECG	I_P/A	T_H/µs	Max. no. of ECGs on circuit breakers 10A	16A
QUICKTRONIC® ECO for T8 fluorescent lamps				
QT-ECO 1x36/230-240	15	200	17	28
QT-ECO 1x58/230-240	15	200	17	28
QUICKTRONIC® QTIS e				
QTIS e 1x18	20	210	17	28
QTIS e 1x30	20	210	17	28
QTIS e 1x36	20	210	17	28
QTIS e 1x58	28	230	8	13
QTIS e 2x18	20	210	17	28
QTIS e 2x36	48	260	5	8
QTIS e 2x58	48	260	5	8
QTIS e 3x18, 4x18	28	230	8	13
QTIS e 3x36	48	260	5	8
QUICKTRONIC® for FC (T5) ring lamps				
QT-FC 1x55/230-240 S	28	230	8	13
QUICKTRONIC® for OSRAM DULUX L				
QTP-DL 1x18-24	13	320	17	28
QTP-DL 1x36-40	13	320	17	28
QTP-DL 1x55	23	250	12	19
QTP-DL 2x18-24	13	320	17	28
QTP-DL 2x36-42	23	250	12	19
QTP-DL 2x55	28	230	8	13
QUICKTRONIC® DALI and QUICKTRONIC® DIMMABLE with 1…10 V interface for T/E compact fluorescent lamps				
QTi (DALI)-T/E 1x18-57 DIM	30	225	12	19
QTi (DALI)-T/E 2x18-42 DIM	45	205	8	13

In-rush currents for ECGs
Measured at $U_N = 230 V_{AC}$

ECG	I_P/A	T_H/µs	Max. no. of ECGs on circuit breakers 10 A	16 A
QUICKTRONIC® MULTIWATT QT-M				
QT-M 1x26-42/230-240 S/SE	20	210	17	28
QT-M 2x26-32/230-240 S	20	210	17	28
QT-M 2x26-42/220-240 S	28	230	8	13
QTi 1x26-120	1	200	19	31
QUICKTRONIC® for OSRAM DULUX S/E, D/E and T/E				
QTP-D/E 1x10-13	7	150	25	41
QTP-T/E 1x18	16	160	25	41
QT-T/E 1x57/230-240	20	210	17	28
QTP-D/E 2x10-13	20	200	16	28
QTP-D/E 2x18	20	200	16	28
QT-T/E 2x42-57/230-240	28	230	8	13
QUICKTRONIC® ECONOMIC				
QT-ECO 1x4-16/220-240	10	75	68	112
QT-ECO 1x18-21/220-240	13	100	36	59
QT-ECO 1x18-24/220-240	13	100	36	59
QT-ECO 1x26/220-240	14	120	31	50
QT-ECO 1x36/230-240	15	200	17	28
QT-ECO 1x58/230-240	15	200	17	28
QT-ECO 2x5-11/220-240	12	100	52	84
QT-ECO T/E 2x18/220-240	11	150	35	56
QT-ECO T/E 2x26/220-240	16	200	23	37

ECG	I_P/A	T_H/µs	Max. no. of ECGs on circuit breakers 10 A	16 A
QUICKTRONIC® for FM (T2) fluorescent lamps				
QT-FM 1x6/230-240 L	7,5	190	36	59
QT-FM 1x8/230-240 L	7,5	190	36	59
QT-FM 1x11/230-240 L	7,5	190	36	59
QT-FM 1x13/230-240 L	7,5	190	36	59
QT-ECO FM 1x6-8/220-240	7	70	80	130
QT-ECO FM 1x11-13/220-240	13,5	90	40	65
DULUXTRONIC® for OSRAM DULUX S/E, D/E and T/E with integrated lampholder				
DT-S/E 5-11/220-240	6,2	110	33	90
DT-D/E 10-13/220-240	8	120	22	60
DT-T/E 18/230-240	3,5	590	15	25
POWERTRONIC®				
PT 20/220-240/S	21	140	11	18
PTi 35/220-240/S/I	30	150	15	26
PTi 70/220-240/S/I	40	250	7	13
PTi 100/220-240/S/I	60	250	5	8
PTi 150/220-240/S/I	70	250	4	7
PTi 2x70/220-240/S/I	70	250	4	7

Installation and operating instructions

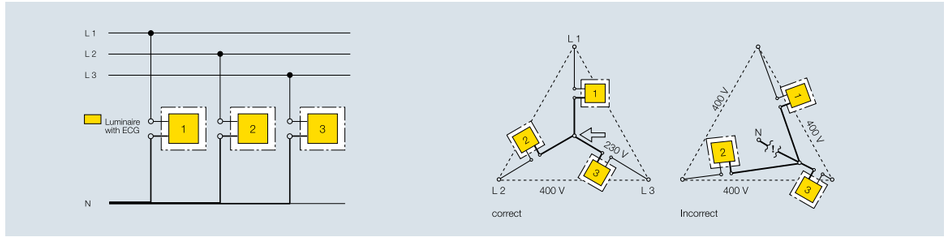
2a) Maximum permitted number of ECGs connected to automatic line protection systems

Maximum permissible number of HALOTRONIC® units on an automatic circuit breaker.

Circuit breaker		HTM 70	HTN 75 I/S	HTM 105	
HALOTRONIC®					
Characteristic B	B 10	37	33	23	
	B 16	59	53	38	
Circuit breaker		HT 120 LF	HTM 150	HTL 105	HTL 225
HALOTRONIC®					
Characteristic B	B 10	16	16	23	11
	B 16	21	26	38	18

Maximum permissible number of OPTOTRONIC® units on an automatic circuit breaker.

ECG	I_P/A	T_H/µs	Max. no. of ECGs on circuit breakers 10 A	16 A
OPTOTRONIC®				
OT 6/100-120/10 CE	10	170	35	56
OT 6/200-240/10 CE	15	120	30	48
OT 12 LE	8	170	44	70
OT 50	33	195	7	12
OT 50 E	50	150	7	12
OT 6/100-120/24 CE	10	170	35	56
OT 6/200-240/24 CE	15	120	30	48
OT 20	10	170	42	68
OT 20 S	45	150	7	11
OT 75	35	165	7	11
OT 75 E	50	150	7	12
OT DALI 25	–	–	66	112
OT EASY 60	30	170	12	19
OT 9/200-240/350	15	120	30	48
OT 9/100-120/350	25	90	–	–
OT 9/200-240/350 DIM	15	170	30	48
OT 18/200-240/700 DIM	15	170	30	48
OT 35/200-240/700	30	200	7	11



The diagram above shows the wiring for luminaires or luminaire groups in 3-phase circuits and with a common neutral conductor. If the common neutral conductor is interrupted in a 3-phase star configuration and voltage is present, then luminaires or groups of luminaires operated with electronic control gear may be exposed to unacceptably high voltages and the ECG itself may be destroyed.

3. ECGs in three-phase operation
– Overvoltages/undervoltages/no neutral conductor

1. Check whether the line voltage is within the application range of the ECG (DC/AC range from 198 V to 254 V).

2. The line connection should only be made to the luminaire terminal. For luminaires or groups of luminaires in 3-phase circuits.

3. Make absolutely sure that the neutral conductor is correctly connected to all the ECG luminaires and that it is making proper contact.

4. Cables should only be disconnected or connected when no voltage is present.

5. For 3 x 230/240 V supply networks in triangular circuit arrangements, protection by way of common disconnection of the phase conductor is necessary.

Important:

- In new systems the loads must not be connected when the insulation resistance is measured with 500 V DC, since according to VDE 0100 T600 Section 9 the test voltage is also applied between the neutral conductor (N) and all three external lines (L1, L2, L3). In existing systems it is sufficient to carry out an insulation test between the external lines (L1, L2, L3) and the protective earth without disconnecting the loads. The neutral conductor (N) and the protective earth (PE) must not be electrically connected in any way when this is done. For this insulation measurement (500 V DC to ground) the neutral conductor disconnection terminal may only be opened with the line voltage switched off.

- Before the equipment is put into operation, make sure that the N conductor is correctly connected.

- During operation do not disconnect the N conductor under any circumstances.

Installation and operating instructions

4. ECGs in emergency lighting systems with DC voltage

Permitted battery voltage	Upper limit	Lower limit[1)]
QUICKTRONIC® INTELLIGENT DALI…DIM	264 V	154 V
QUICKTRONIC® INTELLIGENT DIM	264 V	154 V
QUICKTRONIC® INTELLIGENT	264 V	176 V
QUICKTRONIC® DIMMABLE (HF … DIM)	264 V	154 V
QUICKTRONIC® T5 (FQ + FH)	254 V	176 V
QUICKTRONIC® … F/CW	Not permitted for DC operation	
QUICKTRONIC® PROFESSIONAL T5	276 V	154 V
QUICKTRONIC® PROFESSIONAL T8	276 V	154 V
QUICKTRONIC® PROFESSIONAL DL	276 V	154 V
QUICKTRONIC® PROFESSIONAL (D/E, T/E)	276 V	154 V
QUICKTRONIC® INSTANT START economic	Not permitted for DC operation	
QUICKTRONIC MULTIWATT®	264 V	176 V
QUICKTRONIC® FM, ECO-FM	Not permitted for DC operation	
QUICKTRONIC® ECONOMIC	254 V	176 V
DULUXTRONIC®	254 V	176 V
QUICKTRONIC® ENDURA S	290 V	176 V
HALOTRONIC®[3)]	264 V	176 V
OPTOTRONIC®	264 V	176 V
POWERTRONIC®[2)]	Not permitted for DC operation	

Switch-on times	Maintained Supply is switched from AC to DC	Non-maintained Emergency luminaires are switched on from cold
QUICKTRONIC® INTELLIGENT DALI…DIM	< 0,6 s	< 0,6 s
QUICKTRONIC® INTELLIGENT DIM	< 0,6 s	< 0,6 s
QUICKTRONIC® INTELLIGENT	< 1 s	< 1 s
QUICKTRONIC® DIMMABLE (HF … DIM)	< 0,6 s	< 0,6 s
QUICKTRONIC® T5 (FQ + FH)	< 0,5 s	< 1 s
QUICKTRONIC® PROFESSIONAL T5	< 0,5 s	< 1 s
QUICKTRONIC® PROFESSIONAL T8	< 0,5 s	< 2 s
QUICKTRONIC® PROFESSIONAL DL	< 1,0 s	< 1 s
QUICKTRONIC® PROFESSIONAL DL55	< 0,5 s	< 1 s
QUICKTRONIC® PROFESSIONAL D/E, T/E	< 1 s	< 1 s
QUICKTRONIC® INSTANT START economic	–	–
QUICKTRONIC MULTIWATT®	< 0,5 s	< 1 s
QUICKTRONIC® FM	–	–
QUICKTRONIC® ECONOMIC	< 0,5 s	< 2 s
DULUXTRONIC®	< 0,5 s	< 2 s
QUICKTRONIC® ENDURA S	< 0,5 s	< 0,5 s
HALOTRONIC®	< 0,5 s	< 0,5 s
OPTOTRONIC®	< 0,2 s	< 1 s
POWERTRONIC®[2)]	–	–

1) The lamps must be ignited at over 198 V however.
2) If POWERTRONIC® is switched on from cold, it takes 1 to 2 minutes for the lamp to reach 70% of the luminous flux.
3) For suitable types see page 9.94 f.

5. Power factor/compensation

The power factor λ for an electrical load is the ratio of the effective power (P_{eff} = voltage x effective current) to the apparent power (P_{app} = voltage x current). This value is affected both by the phase displacement cos φ between the current and the voltage and by the current distortion ε.

$$\lambda = \frac{P_{eff}}{P_{app}} = \varepsilon \cdot \cos \varphi$$

In contrast to conventional control gear (inductive, 50 Hz), there is hardly any phase displacement (cos φ = 0.95) with electronic control gear (high frequency).
This means that correction is not required.
However distortion in the sine-wave current supply occurs during operation of electronic control gear. Generally speaking, these distortions are classified by integer multiples of the line frequency (harmonics). The harmonic content of the line current is strictly controlled by national and international standards (IEC 61000-3-2).
OSRAM ECGs have integrated active electronic harmonic filters for this purpose, which ensure a value for ε of more than 0.95 and therefore a power factor λ greater than 0.9. Exceptions: QT-ECO, DT, QT 1x6-13 < 25 W).

6. Permissible cable lengths

QUICKTRONIC®:
When ECGs are used in luminaires the cables, if correctly routed within the luminaires, produce little interference. When ECGs are used in master/slave circuits the maximum permissible cable length between the ECG and the lamp must not be exceeded.

HALOTRONIC®:
The maximum 12 V cable length must be less than 2 m to comply with radio interference limit values. This means that luminaires can be installed within a radius of 2 m around HALOTRONIC®. The recommended minimum cross-section is 1 mm².

Cable routing:
The supply cable should not be routed alongside the HALOTRONIC® casing nor alongside the high-frequency 12 V secondary cable. This avoids high-frequency interference on the supply cable.
Instruments for measuring the secondary voltage:
An instrument for measuring the secondary voltage must be a true RMS meter and have a bandwidth greater than or equal to 250 kHz (–3 dB). Any other instrument will give false readings.

OPTOTRONIC®:
Maximum low-voltage cable length from OPTOTRONIC® to the LED module:

	Max. cable length for AC operation
OT 6/100-120/10 CE	10 m
OT 6/100-120/24 CE	10 m
OT 6/200-240/10 CE	10 m
OT 6/200-240/24 CE	10 m
OT 8/200-240/24	10 m
OT 12/220-240/10 LE	10 m
OT 12/230-240/10	4 m
OT 20/230-240/24	10 m
OT 20/120-240/24 S	10 m
OT 50/120-277/10 E	10 m
OT 50/220-240/10	10 m
OT 75/120-277/24 E	10 m
OT 75/220-240/24	10 m
OT EASY 60/220-240/24 RGB+W	10 m
OT DALI 25/220-240/24 RGB	10 m
OT 9/200-240/350	10 m
OT 9/100-120/350 E	10 m
OT 9/200-240/350 DIM	10 m
OT 9/10-24/350 DIM	10 m
OT 18/200-240/700 DIM	10 m
OT 35/200-240/700	10 m

In DC operation the maximum length may have to be shortened. The cable lengths are determined by the interference suppression threshold values.
Cable routing:
For reasons of interference suppression, the power cable should not be laid parallel to the casing and/or the secondary cable. This will avoid high-frequency coupling effects.
Measurement of the secondary voltage:
Standard multimeters with appropriate accuracy can be used.

POWERTRONIC®:
The maximum cable lengths between the lamp and POWERTRONIC® depend on the type of cable and how it is routed. For all PTis the maximum permitted cable capacitance of the ECG/lamp is 120 pF. The following maximum cable lengths can be used as guidelines: Max. cable length for AC operation

	Max. cable length for AC operation
PT 20/220-240	0,6 m
PTi 35/220-240/S/I	1,5 m
PTi 70/220-240/S/I	1,5 m
PTi 100/220-240/S/I	1,5 m
PTi 150/220-240/S/I	1,5 m
PTi 2x35/220-240/S/I	1,5 m
PTi 2x70/220-240/S/I	1,5 m

Installation and operating instructions

7. Faults in infrared control/transmission systems

Fluorescent lamps have an emission in the wavelength range which is also used for infra-red transmission and which can be affected by the lamp. Since the IR receivers used are largely non-selective, interference may occur in the IR system. The operating frequency of the ECGs is between 20 and 120 kHz. The light emitted from the fluorescent lamp is modulated at twice the operating frequency. Interference is produced by signals in the same frequency range.
POWERTRONIC®, HALOTRONIC® and OPTOTRONIC® are exceptions since they do not cause any disturbance.
IR remote control:
Systems operating at a sufficiently high carrier frequency (400 to 1500 kHz) are unlikely to suffer interference.
Sound transmission:
Up to now the carrier signal frequency for sound transmission has been 95 kHz and higher, which has led to serious disturbance from the 3rd, 5th and 7th harmonics of the ECG operating frequency (20 to 120 kHz in normal operation and up to 100 kHz with dimming). Headphone manufacturers have adopted higher and higher frequencies such as 2.3 MHz and 2.8 MHz.
Simultaneous interpreting systems also operate in the 95 kHz to 250 kHz range so it is best not to use the first six transmission channels, particularly channel 1, of the 32 available channels since these are likewise affected by the harmonics of the basic ECG frequencies.
High-frequency ripple control:
The carrier frequencies used are around 120 kHz. Transmission can be adversely affected by radio interference suppression capacitors which are included in all ECGs and other electronic loads, such as the power supplies of PCs.
Paging systems:
Generally only HF paging systems (operating in the MHz range) should be used. If inductive paging systems are used (25 to 40 kHz) reliable operation is not possible.
Electronic merchandise security systems:
In many shops nowadays, merchandise such as CDs, hifi equipment and clothing is protected against theft by electronic security systems. These systems typically operate with resonance frequencies in the kHz range (e.g. a pulse is emitted which causes an amorphous metal in the security tag to resonate; one of the largest suppliers uses a security system that operates at 58 kHz).
In unfavorable conditions, these systems may suffer from interference if the operating frequency is between 30 kHz and 150 kHz. Such interference can be eliminated by increasing the distance between the luminaires and the transmitting/receiving system and by using luminaires with metallic louvers.

8. Dimming

a) QUICKTRONIC® units that can be dimmed have the letters ...DIM in their references. They are dimmed via the 1…10 V interface (QTi-…DIM), or via the DALI interface (QTi DALI … DIM) or via ***Touch DIM®*** (also with QTi DALI … DIM), see pp. 9.35 ff. For special technical data, such as wiring and associated control components, please refer to the technical guides for QUICKTRONIC® DIMMABLE (for the 1…10 V interface) or QUICKTRONIC® DALI DIMMABLE (for the DALI interface and ***Touch DIM®***). Allow new lamps to burn in for 100 hours at 100% luminous flux since only after this time will they exhibit stable values. A master/slave circuit (one ECG for two separate luminaires with wiring) is not permitted for dimmable ECGs.
b) HALOTRONIC® can be controlled with various dimmers (see page 9.93) or dimming modules (see page 9.97). Since the interface between the dimmer and the electronic transformer is not standardized, there may be malfunctions in individual cases.
c) POWERTRONIC® ECGs are not suitable for dimming since the metal halide lamps that they operate should not be dimmed for functional and photometric reasons.
d) OPTOTRONIC® must not be dimmed with standard dimmers. There are special dimming modules to be connected on the secondary side (p. 9.103).

9. Luminaires with ECGs

The following general points apply to luminaires with electronic control gear:

a) The temperature limits of the electronic control gear as regards ambient temperature and measuring point temperature on the ECG must not be exceeded (see 10. Ambient and ECG temperatures).
b) The maximum permissible radio interference suppression values (EN 55015) must not be exceeded. Make sure the protective conductor and the function earth are correctly connected. Running the lamp cables and protective conductor together (e.g. NYM cables) may lead to problems due to high-frequency interference.
c) After being installed or replaced, the lamps must be burned in at full load for 100 hours to stabilize the discharge process.

10. Ambient and ECG temperatures
The temperature ranges specified for the relevant control gear must be maintained to enable the ECG to operate reliably. Generally speaking, lower operating temperatures extend the life of electronic control gear.
When ECGs are built into luminaires the measuring point temperature t_c on the casing is the crucial parameter. The maximum permissible value specified for the ECG concerned must not be exceeded.

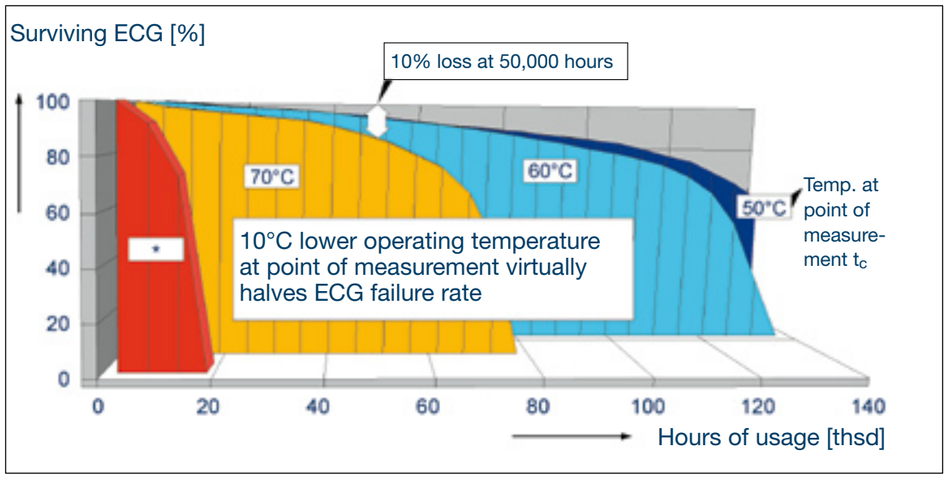
11. ECGs for outdoor luminaires
When using electronic control gear in outdoor luminaires it must be remembered that the electronic control gear may be exposed to humidity depending on the luminaire.
1. For luminaires of protection type 5 (protected against water jets, IP65 for example) standard ECGs can be used since moisture cannot penetrate this type of luminaire, so there is little chance of ECG corrosion.
2. For luminaires of protection type 3 (protected against splash water, IP43 for example) it is likely that water droplets will penetrate and thus cause corrosion and failure of unprotected standard ECGs. In cases of doubt (e.g. bollard luminaires, outdoor displays), additional protective measures should be taken such as using OUTKIT (see page 9.98).

12. Wiring of the ECGs
Parallel connection of HALOTRONIC® and OPTOTRONIC® is not permitted on the secondary side. Series connection of HALOTRONIC® and OPTOTRONIC® to increase the voltage or for voltage matching is not permitted on the secondary side. Lamp-side connection is not recommended. For details see the Technical Guides.

13. Life and reliability of ECGs
The failure rate of electronic components depends not only on the component specification and quality but also very considerably on the operating temperature. OSRAM's ECGs are designed so that at the maximum permissible ECG temperature (t_c max.) a failure rate of fewer than 2 per thousand ECGs per 1000 hours of operation can be expected. This corresponds to an ECG life of 50,000 hours at a percentage ECG failure rate of 10%.
The following have different lives:
1. 30,000 hours for QUICKTRONIC® QT-ECO and QTIS e, HALOTRONIC® HTM Mouse® and HTN at a failure rate of < 10%
2. 60,000 hours for QT ENDURA at a failure rate of < 10%
3. OPTOTRONIC® 30,000 or 50,000 hours at a failure rate of < 10%

Subject to change without notice. Errors and omission excepted.
This catalogue information supersedes all previous information.

Special applications, such as operation in corrosive atmospheres, strong vibrations, impermissible voltage conditions etc., may necessitate further protection measures.



* If the maximum permissible temperature at the t_c point is exceeded the failure rate may increase dramatically.

	Wiring Sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27		Type
QUICKTRONIC INTELLIGENT DALI-/1…10 V interface										
QTi (DALI) 1x14/24/220-240 DIM	21-27	1,5	1,5				1	1		W1
QTi (DALI) 1x18/220-240 DIM	21-24	1,5	1,5				1	1		W1
QTi (DALI) 1x21/39/220-240 DIM	21-24	1,5	1,5				1	1		W1
QTi (DALI) 1x28/54/220-240 DIM	21-24	1,5	1,5				1	1		W1
QTi (DALI) 1x35/49/80/220-240 DIM	21-24	1,5	1,5				1	1		W1
QTi (DALI) 1x36/220-240 DIM	21-24	1,5	1,5				1	1		W1
QTi (DALI) 1x58/220-240 DIM	21-24	1,5	1,5				1	1		W1
QTi (DALI) 2x14/24/220-240 DIM	21-27	1,5	1,5	1,5	1	1	1	1		W1
QTi (DALI) 2x18/220-240 DIM	21-27	1,5	1,5	1,5	1	1	1	1		W1
QTi (DALI) 2x21/39/220-240 DIM	21-27	1,5	1,5	1,5	1	1	1	1		W1
QTi (DALI) 2x28/54/220-240 DIM	21-27	1,5	1,5	1,5	1	1	1	1		W1
QTi (DALI) 2x35/49/220-240 DIM	21-27	1,5	1,5	1,5	1	1	1	1		W1
QTi (DALI) 2x36/220-240 DIM	21-27	1,5	1,5	1,5	1	1	1	1		W1
QTi (DALI) 2x58/220-240 DIM	21-27	1,5	1,5	1,5	1	1	1	1		W1
QTi (DALI) 2x35/49/80/220-240 DIM	21-27	1,5	1,5	1,5	1	1	1	1		W1

	Wiring Sequence	PIN 7	PIN 8	PIN 9	PIN 10	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	PIN 29	Type
QUICKTRONIC (DALI)														
QTi (DALI) 3x18 DIM		0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	–	–	W1
QTi (DALI) 4x18 DIM		0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	W1
QTi (DALI) 3x14/24 DIM		0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	–	–	W1
QTi (DALI) 4x14/24 DIM		0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	W1

	Wiring Sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	Type
QUICKTRONIC DALI-/1…10 V interface for T/E (T4/Ø 12 mm) fluorescent lamps										
QTi (DALI)-T/E 1x18-57 DIM	21-24	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	W
QTi (DALI)-T/E 2x18-42 DIM	21-28	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	W

	Wiring Sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27		Type
QUICKTRONIC INTELLIGENT										
QTi 1x14/24/21/39/220-240	21-27	2	2				1	1		W1
QTi 1x28/54/220-240	21-27	2	2				1	1		W1
QTi 1x35/49/80/220-240	21-27	2	2				1	1		W1
QTi 2x14/24/21/39/220-240	21-27	2	2	2	1	1	1	1		W1
QTi 2x28/54/220-240	21-27	2	2	2	1	1	1	1		W1
QTi 2x35/49/220-240	21-27	2	2	2	1	1	1	1		W1
QTi 2x35/49/80/220-240	21-27	2	2	2	1	1	1	1		W1
QT-FQ 2x80	21-27	0,5	0,5	0,5		1,5	1,5	1,5		W1

For the latest data go to www.osram.com
M: Type Metalluk
W: Type WAGO 250
W1: Type WAGO 251 mini
W2: Type WAGO 251

Overview of ECGs (cable lengths in meters, wiring by PIN)

	Wiring Sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27		Type
QUICKTRONIC DE LUXE DIMMABLE										
HF 1x18/230-240 DIM	21-27	2	2				1,5	1,5		W
HF 1x36/230-240 DIM	21-27	2	2				1,5	1,5		W
HF 1x58/230-240 DIM	21-27	2	2				1,5	1,5		W
HF 2x18/230-240 DIM	21-27	2	2	2	1,5	1,5	1,5	1,5		W
HF 2x36/230-240 DIM	21-27	2	2	2	1,5	1,5	1,5	1,5		W
HF 2x58/230-240 DIM	21-27	2	2	2	1,5	1,5	1,5	1,5		W
QUICKTRONIC for HO lamps										
QTP5 1x24-39	21-27	2	2				1	1		W1
QTP5 1x49	21-27	2	2				1	1		W1
QTP5 1x54	21-27	2	2				1	1		W1
QTP5 1x80	21-27	2	2				1	1		W1
QTP5 2x24-39	21-27	2	2	1	1	1	1	1		W1
QTP5 2x49	21-27	2	2	1	1	1	1	1		W1
QTP5 2x54	21-27	2	2	1	1	1	1	1		W1
QT-FQ 2x80	21-27	0,5	0,5	0,5		1,5	1,5	1,5		W1
QUICKTRONIC for HE lamps										
QTP5 1x14-35	21-27	2	2				1	1		W1
QTP5 2x14-35	21-27	2	2	1	1	1	1	1		W1

	Wiring Sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	Type
QUICKTRONIC PROFESSIONAL										
QTP8 1x18/230-240	21-24	3	3	1,5	1,5					W1
QTP8 1x36/230-240	21-24	3	3	1,5	1,5					W1
QTP8 1x58/230-240	21-24	3	3	1,5	1,5					W1
QTP8 2x18/230-240	21-27	3	3	3	1,5	1,5	1,5	1,5		W1
QTP8 2x36/230-240	21-27	3	3	3	1,5	1,5	1,5	1,5		W1
QTP8 2x58/230-240	21-27	3	3	3	1,5	1,5	1,5	1,5		W1
QTP8 3x18/4x18/230-240[1)]	21-31	1	1	1,5	1,5	1,5	1,5	1,5	1,5	W1

	Wiring Sequence	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	Type
QUICKTRONIC ECONOMIC for T8 lamps										
QT-ECO 1x36/230-240	1-4	3	3	1,5	1,5					W
QT-ECO 1x58/230-240	1-4	3	3	1,5	1,5					W
QUICKTRONIC INSTANT START economic										
QTIS e 1x18/220-240	1-3	2	2	1						W1
QTIS e 1x30/220-240	1-3	2	2	1						W1
QTIS e 1x36/220-240	1-3	2	2	1						W1
QTIS e 1x58/220-240	1-3	2	2	1						W1
QTIS e 2x18/220-240	1-4	2	2	1	1					W1
QTIS e 2x36/220-240	1-4	2	2	1	1					W1
QTIS e 2x58/220-240	1-4	2	2	1	1					W1
QTIS e 3x/4x18/220-240	1-4	2	2	1	1					W1
QTIS e 3x36/220-240	1-7	2	2	1	1	1	1	1		W2

For the latest data go to www.osram.com

1) PIN 29, 30, 31: 1,5 m

M: Type Metalluk
W: Type WAGO 250
W1: Type WAGO 251 mini
W2: Type WAGO 251

Overview of ECGs (cable lengths in meters, wiring by PIN)
Tender documents

	Wiring Sequence	PIN 21	PIN 22	PIN 23	PIN 24	PIN 25	PIN 26	PIN 27	PIN 28	Type
QUICKTRONIC for (compact) fluorescent lamps										
QTP-DL 1x18-24	21-27	1	1				2	2		W1
QTP-DL 1x36-40	21-27	1	1				2	2		W1
QTP-DL 1x55	21-27	2	2				1	1		W1
QTP-DL 2x18-24	21-30			1	1	1	1	2	2	W1
QTP-DL 2x36-40	21-30			1	1	1	1	2	2	W1
QTP-DL 2x55	21-27		1	1	2	2	1	1		W1
QTP-D/E 1x10-13	21-24	2	2	1	1					W
QTP-T/E 1x18	21-24	2	2	1	1					W
QTP-D/E 2x10-13	21-26	2	2	2	2	1	1			W
QTP-D/E 2x18	21-26	2	2	2	2	1	1			W

	Wiring Sequence	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	Type
QUICKTRONIC for (compact) fluorescent lamps										
QT-M 1x26-42/230-240	1-4	2	2	1	1					M
QT-T/E 1x57/230-240	1-4	2	2	1	1					M
QT-M 2x26-32/230-240	1-7	2	2	2		2	1	1		M
QT-M 2x26-42/220-240	1-7	2	2	2		2	1	1		M
QT-T/E 2x42-57/230-240	1-7	2	2	2	2	2	1	1		M
QTi 1x26-120	1-4	2	2	1	1					S
QT-FC 1x55/230-240 S	1-4	2	2	1	1					M
QUICKTRONIC ECONOMIC for (compact) fluorescent lamps										
QT-ECO 1x4-16	1-4	1	1	0,5	0,5					W
QT-ECO 1x18-21	1-4	1	1	0,5	0,5					W
QT-ECO 1x18-24	1-4	1	1	0,5	0,5					W
QT-ECO 1x26	1-4	1	1	0,5	0,5					W
QT-ECO 2x5-11	1-6	1	1	1	1	0,5	0,5			W
QT-ECO T/E 2x18	1-6	1	1	1	1	0,5	0,5			W
QT-ECO T/E 2x26	1-6	1	1	1	1	0,5	0,5			W

Tender documents

The tender documents are available in pdf format at
http://www.osram.com/ecg

M: Type Metalluk
S: Stelvio MRT15
W: Type WAGO 250
W1: Type WAGO 251 mini
W2: Type WAGO 251