



# The perfect match for a building-wide lighting control system.

OSRAM QTl DALI® ECG.

SEE THE WORLD IN A NEW LIGHT



# It's nice when a lighting plan works.

*Dear new buildings,*

*There really are much simpler projects than you. On the one hand we have to be creative and use glass, brick and concrete to turn you into reality. On the other hand you need us to be realists who keep a watchful eye on practical aspects, safety, and above all costs, costs, costs. Now help is at hand – at every stage from planning to implementation: OSRAM QUICKTRONIC® INTELLIGENT DALI® – the intelligent DALI® ECG.*

OSRAM QT<sup>i</sup> DALI® is the innovative alternative to a conventional DALI® ECG. It is incredibly versatile, simple and efficient.

True to the motto: “it is a clever man who knows where to find what he is looking for”, over the next few pages you can find all you need to know about the new OSRAM QT<sup>i</sup> DALI® ECG.

So for your next project you should create a bridge between creativity and practical necessity – with OSRAM QT<sup>i</sup> DALI®.



# With DALI® you can do anything. Except the wrong thing.

## DALI® in detail.

DALI® is the perfect way to turn your plans into reality. Whatever you want to illuminate, DALI® makes lighting planning as uncomplicated as installing the equipment itself.

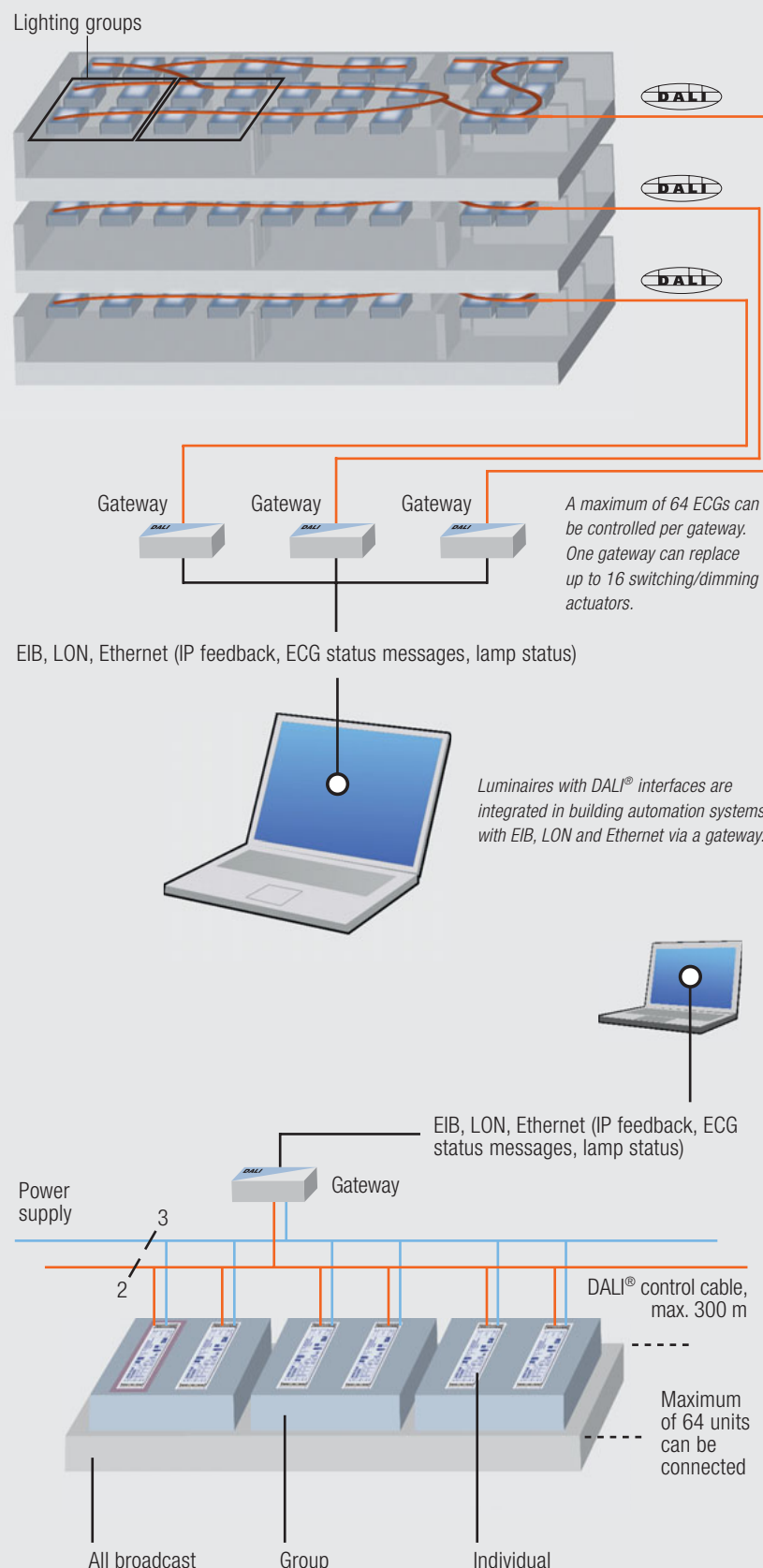
The **D**igital **A**ddressable **L**ighting **I**nterface or DALI® for short is the interface protocol for controlling digital lighting equipment in buildings (for example electronic transformers, ECGs and electronic dimmers). Each unit that has a DALI® interface can be individually controlled via its DALI® address.

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

The lighting groups do not have to be assigned at the planning stage. They are simply assigned via the gateway. Even planning of the control line can be separate from planning of the power supply. From now on, we can talk about time and not pressure. Defining the lighting groups is stress-free.

This makes planning and installation easier and you get greater functionality.

And the best thing is that OSRAM has launched QTl DALI® ECGs, which are even more efficient, versatile and innovative. It's good that advanced technology is becoming more and more popular, starting with you.

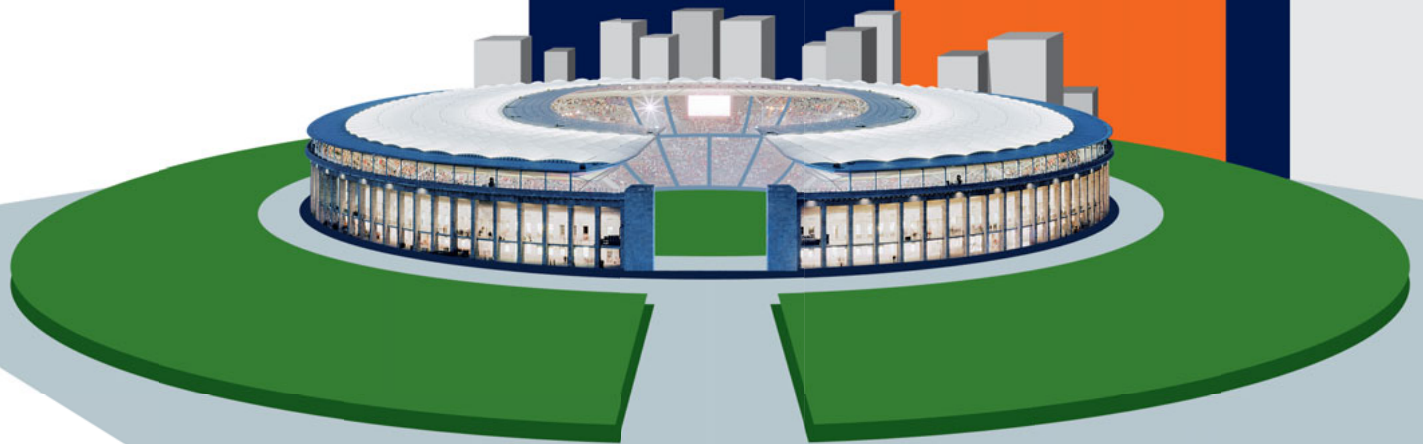


# Perfect teamwork: OSRAM QT<sup>i</sup> DALI®.

If you plan your building-wide lighting control system right from the start with QT<sup>i</sup> DALI® you can look forward to dream combinations every bit as accomplished as a top soccer team. QT<sup>i</sup> DALI® is the perfect partner for building-wide lighting control.

See for yourself just what modern interplay in the world of lighting really means.

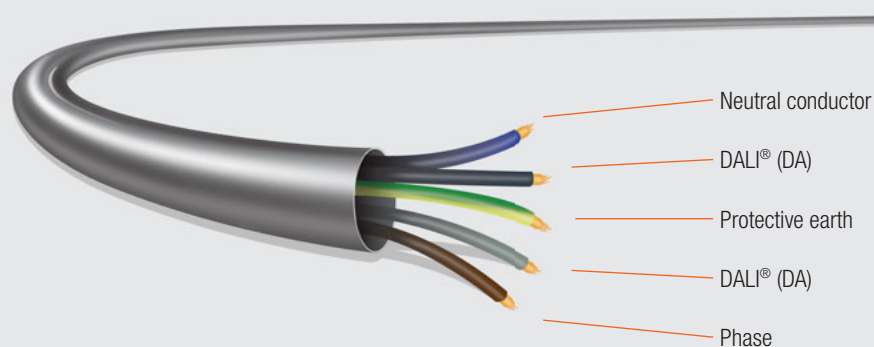
*Olympic Stadium, Berlin.  
Equipped with QT<sup>i</sup> DALI® ECGs.*





# Your greatest advantage: there are no disadvantages.

## Five quick reasons for OSRAM QT<sup>i</sup> DALI®.



**Optimized system performance:** For OSRAM QT<sup>i</sup> DALI® ECGs this means achieving the same amount of light with less energy and therefore lower energy costs.

**Multilamping:** Just a few different ECGs can be used to operate more than 26 different fluorescent and compact fluorescent lamps at their rated data. Luminaires with a length of 1.5 meters for example can be equipped with 35, 49 or 80 W T5 fluorescent lamps. Up to three different lighting levels can therefore be achieved with just one luminaire.

**Ident number:** Each QT<sup>i</sup> DALI® ECG has a readable identity number which makes commissioning really easy (for example on the building site). Faster, simpler and more cost-effective.

**0.5 s:** QT<sup>i</sup> DALI® ECGs from OSRAM start lamps in only 0.5 seconds, which is much gentler on the lamp. This ensures that the lamps reach their full service life even with frequent on/off switching and dimming.

**Hot/cold:** In combination with dimmable amalgam fluorescent lamps, such as the new OSRAM DULUX® HO CONSTANT, not an extra watt is used to provide full light output. You therefore always get sufficient light, even in particularly hot or cold environments.

No problem: With OSRAM QT<sup>i</sup> DALI® you have to try very hard to get things wrong.



# If you use your energy wisely you don't risk burning out too soon.

This applies not only to people working 50 hours a week and more, but also for lamps expected to last 18,000 hours. In a typical office application that is equivalent to a lamp life of up to 7 years – thanks to OSRAM DALI® ECGs. Fluorescent lamps therefore not only burn longer, they use up to 11 % less energy. Hour after hour after hour.

*BMW headquarters, Munich.  
Equipped with OSRAM QTi DALI® ECGs.*



# Sustainability also means sustaining your interest.

## OSRAM QT<sub>i</sub> DALI® – the same light from lower power consumption throughout the entire dimming range.

Developed to be efficient. OSRAM QT<sub>i</sub> DALI® ECGs are renowned for their optimized system output. In the dimming range from 80 to 100 % we even switch off electrode preheating. For a 54 W ECG and a 54 W lamp they achieve the greatest energy savings of up to 11 % and a life of 22 years. Good news for nature, and for the accounts department.

### Energy savings of up to 11 %.

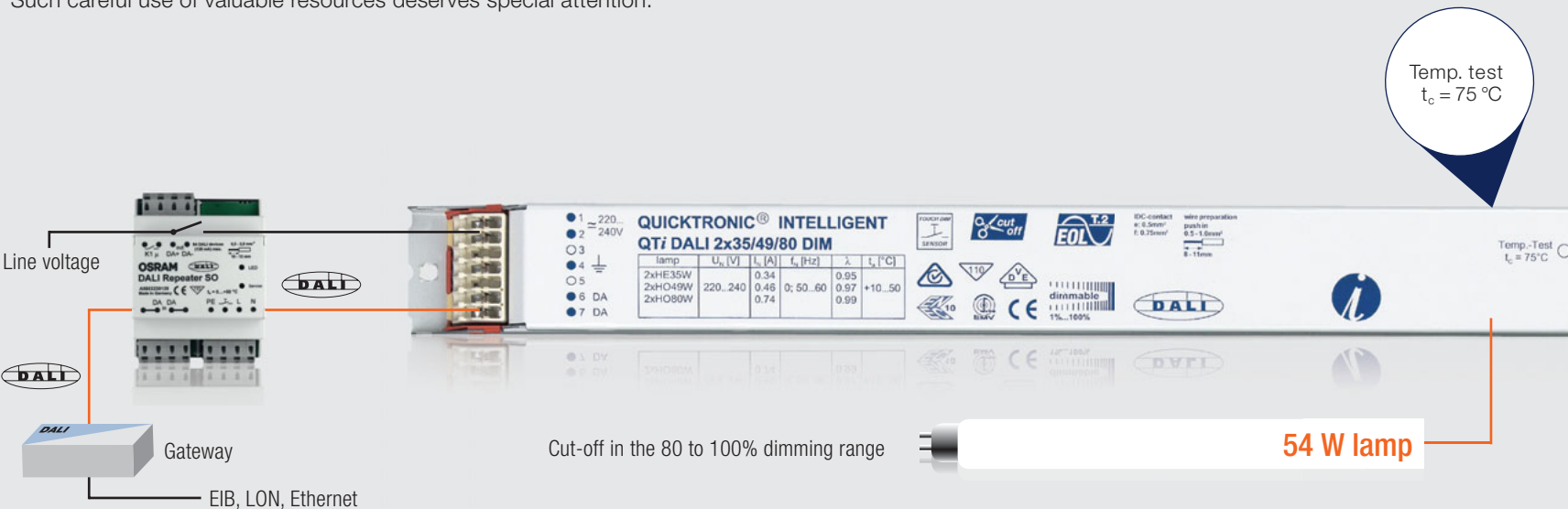
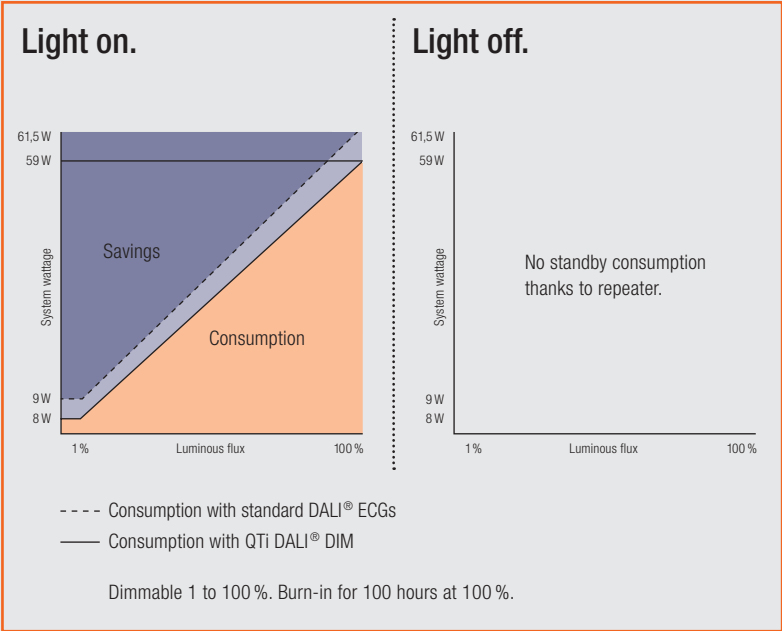
Records are there to be beaten. This is why OSRAM is constantly working on innovative solutions. The results of this work have made QT<sub>i</sub> DALI® ECGs up to 10 % more economical than conventional DALI® ECGs. Or to be more precise, for a luminous flux of 1 % you get up to 11 % savings. And a full 4 % at 100 % luminous flux. And of course performance remains unchanged.

And if an SO type repeater is used then there is not even any standby power consumption.

### Long life.

Like any fine cigar, an ECG keeps best at the right temperature. OSRAM QT<sub>i</sub> DALI® ECGs are the “humidors” of the lighting world. The temperature at the  $t_c$  measuring point has a direct bearing on the life of the unit. If the ECG operates for 10 hours a day at a  $t_c$  temperature of 65 °C, that translates into a life of at least 22 years. Enough time to appreciate the maturity of your project.

Such careful use of valuable resources deserves special attention.



# Welcome in the best hotels in the world.

How do you get accepted into the best hotels in town?  
If you want to move in high places you need to show  
that others can rely on you completely. That's why we  
have the OSRAM System<sup>+</sup> Guarantee. It reassures you  
that you can expect very long life from OSRAM QT<sup>i</sup> DALI<sup>®</sup>.  
The strictest quality tests in this segment prove it.

What's more, large projects call for flexible solutions.  
With OSRAM QT<sup>i</sup> DALI<sup>®</sup> ECGs the uses to which a  
building can be put are limited only by your imagination.  
To ensure that the lighting in your building remains as  
versatile as possible, you should be able to equip your  
luminaires with a wide range of different lamp wattages.



*SAS Radisson Hotel in Frankfurt.  
Equipped with OSRAM QT<sup>i</sup> DALI<sup>®</sup> ECGs.*



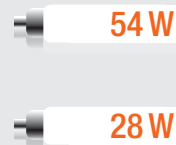
# If building usage can change day by day then OSRAM QT<sub>i</sub> DALI® certainly can.

Lifetime, flexibility and quality guaranteed.



## No chance of incorrect wattages.

OSRAM QT<sub>i</sub> DALI® offers you maximum flexibility. It gives you the option of equipping the same types of luminaire with different lamp wattages. It doesn't matter if there is a change of use for the building, the lamp wattages can change too. You can no longer get it wrong!



## The OSRAM System<sup>+</sup> Guarantee

OSRAM gives you a guarantee – not just on innovative lighting solutions but specifically on the OSRAM QUICKTRONIC® ECGs, including dimmable ECGs. The guarantee is for five years. In the unlikely event of a fault, OSRAM will refund any ECG that has failed because of a material defect or manufacturing fault. You can find all the details at [www.osram.com/system\\_guarantee](http://www.osram.com/system_guarantee).

But the most important aspects are, and always will be flexibility and ease of use. We have therefore developed OSRAM QT<sub>i</sub> DALI® in particular with a view to making your job easier.



# Every DALI® ECG has its own address. Just like in real life.

Higher, faster, further. Life in the 21st century is getting more and more hectic, particularly in terms of technology. If you do not keep pace you soon fall well behind. It seems as though life is getting easier only for system integrators.

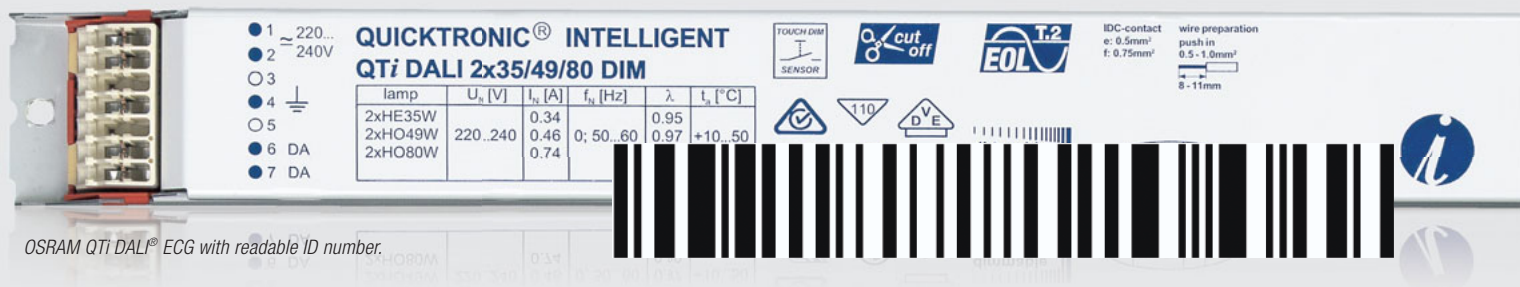
If, for example, thousands of luminaires are to be installed in a building there is no need to assign thousands of addresses. OSRAM QT<sub>i</sub> DALI® does it all automatically. Welcome to the 21st century.

*Sihlcity shopping center in Zurich.  
Equipped with OSRAM QT<sub>i</sub> DALI® ECGs.*



# The first navigation system for stress-free DALI® addressing.

Three steps to a fully addressed DALI® system.



Step 1.

The luminaire manufacturer supplies luminaires with a removable ID sticker. After the luminaire has been installed the ID sticker is placed on the building plan.

Step 2.

The system integrator reads the barcode from the building plan into a commissioning tool and defines the individual groups.

Step 3.

The group addresses are transferred to the DALI® controller and then via the DALI® interface to the QTI DALI® ECGs.

But it is not only assignment that is really quick. OSRAM has succeeded in making the light even faster.

Light when you want it.  
As often as you want it.  
As quickly as you want it.

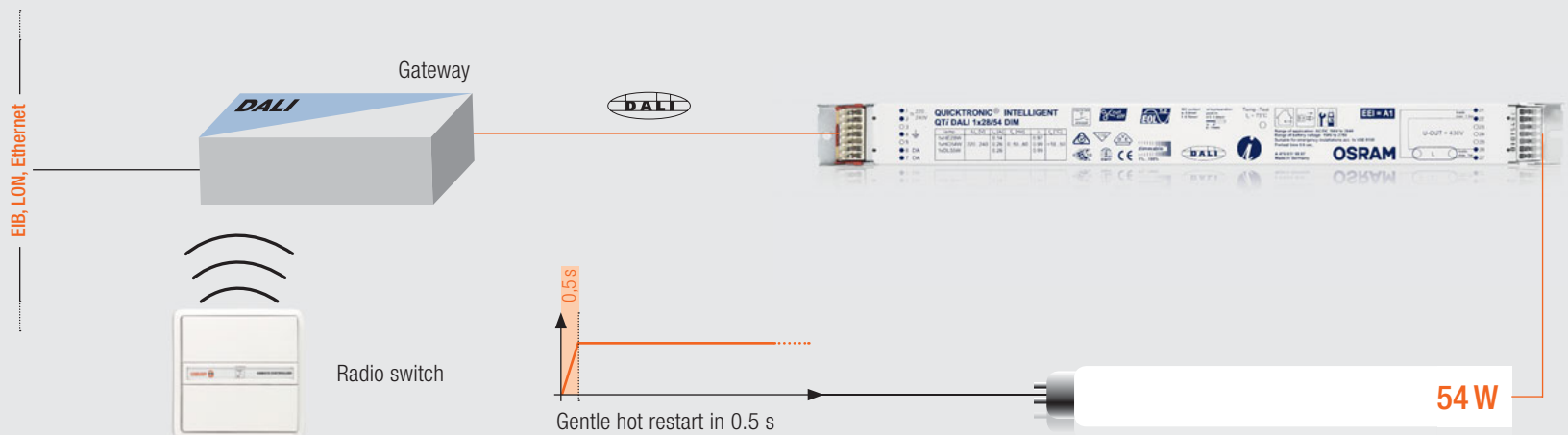
It's like driving a car. Your foot is resting on the gas pedal. Sometimes you give more gas, sometimes you take your foot off, depending on how much power you need at the time. In the world of lighting planning the gas pedal is called OSRAM QT<sub>i</sub> DALI®. It ensures the lamps start first time and then lets you provide as much or as little light as you want.

*Headquarters of Süddeutscher Verlag, Munich.  
Equipped with QT<sub>i</sub> DALI® ECGs.*

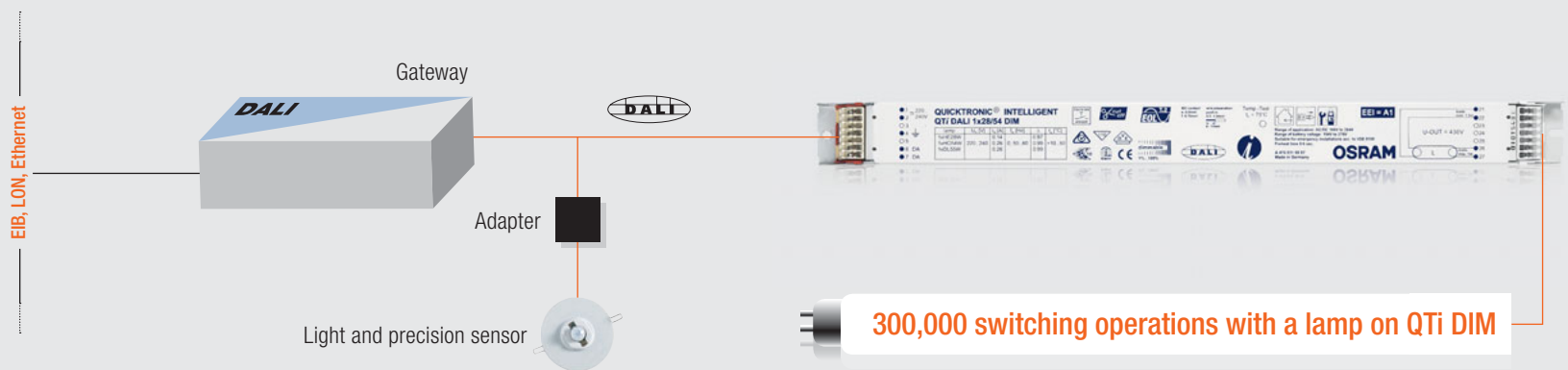




## From 0 to 300,000 km/s in 0.5 seconds.



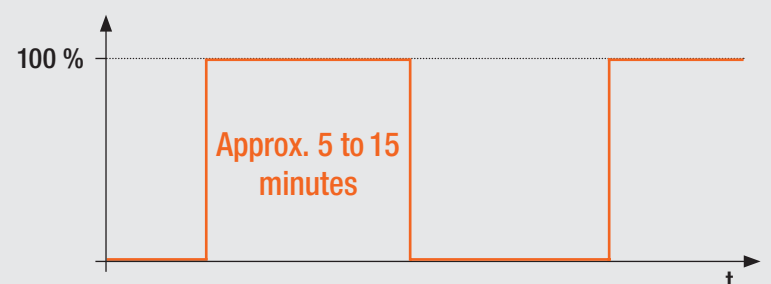
Fast zero-delay lamp starts are extremely important, particularly in connection with BMS systems or radio switches. OSRAM QTl DALI® offers quick and gentle hot restarts, making them ideal for buildings with networked systems or radio switches. The hot restart process takes just 0.5 seconds thanks to optimum control of electrode preheating.



## 300,000 switching operations with no effect on lifetime.

Fluorescent lamps are the perfect partners for OSRAM QTl DALI®. Particularly if they are highly active. To be more precise, if the lamps are frequently switched on and off or faded up and down. "Frequently" in this context means 300,000 switching operations. That's how many times you can control the lamps without affecting their lifetime.

And now? Now the weather just needs to play its part.



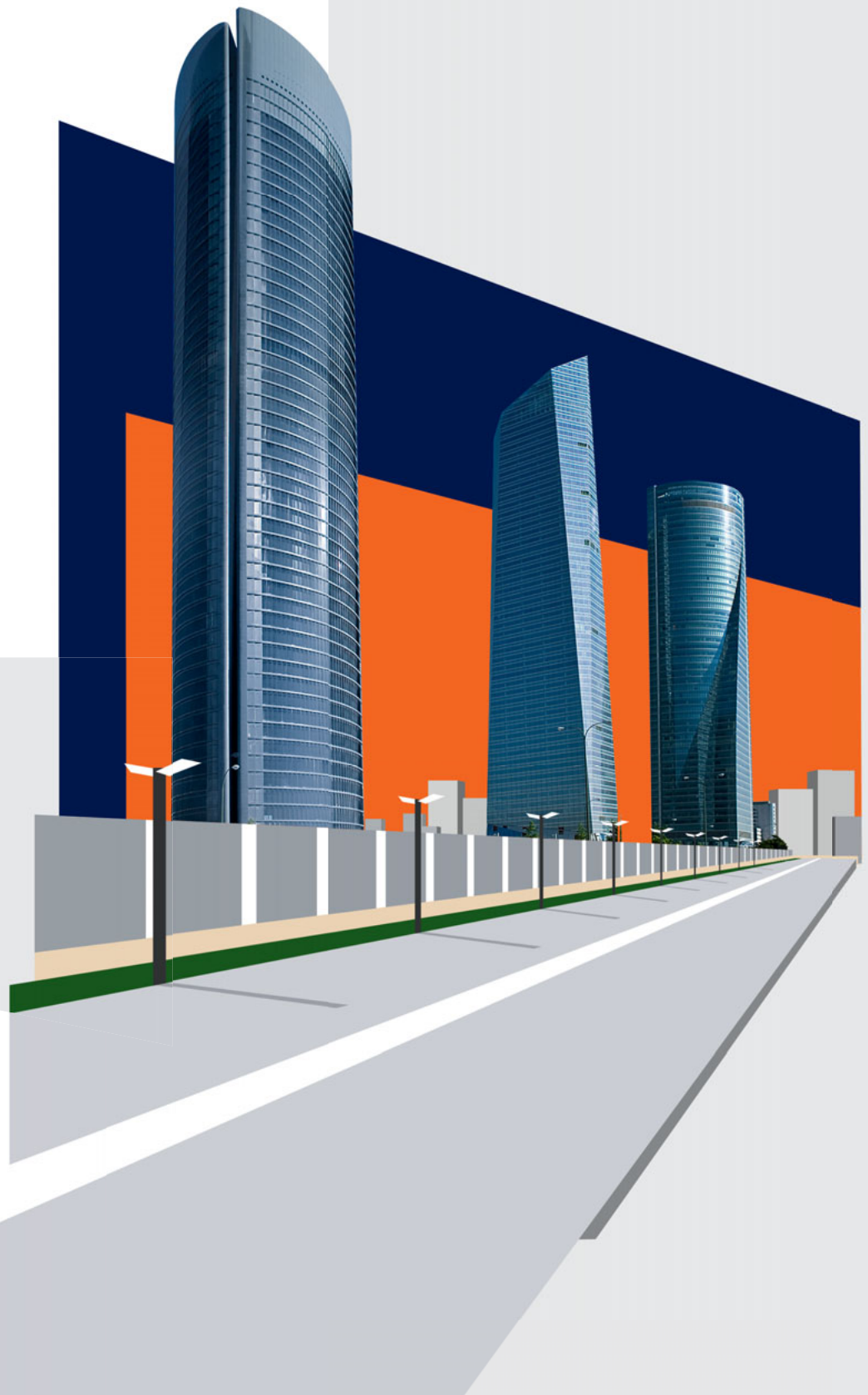
Thanks to a presence sensor the light automatically switches off within 5 to 15 minutes if no presence is detected (project-dependent). When someone next enters the room the light automatically switches on again.

# -20 °C to +35 °C.

Sunshine throughout the year. Every day a wonderful 28 °C. If this dream weather really does exist then it's probably on some remote South Sea island. The rest of us however have to deal with whatever the weather throws at us – sun and rain, heat and cold.

Until someone invents a switch for the weather your OSRAM QT<sup>i</sup> DALI<sup>®</sup> and HO CONSTANT lamps will deal with all climates and all temperatures.

*Cuatro Torres Business Area, Spain.  
Equipped with QT<sup>i</sup> DALI<sup>®</sup> ECGs.  
Photo: Roberto Ruiz*



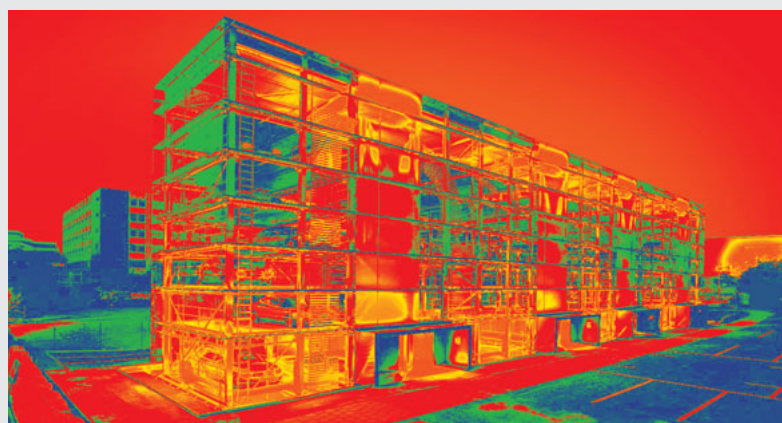
# If you're at home everywhere you don't complain about the climate.

Indoors or outdoors. OSRAM QT<sup>i</sup> DALI® and HO CONSTANT lamps don't care what the temperature is.

Come rain, come shine. These are two close allies that wind and weather cannot tear apart. OSRAM QT<sup>i</sup> DALI® and HO CONSTANT lamps create light irrespective of the temperature. They give you so many options for energy-efficient lighting. The new OSRAM DULUX® HO CONSTANT fluorescent lamp is ideal for example. This amalgam lamp can even be dimmed and does not waste a single watt, whatever its ambient temperature.



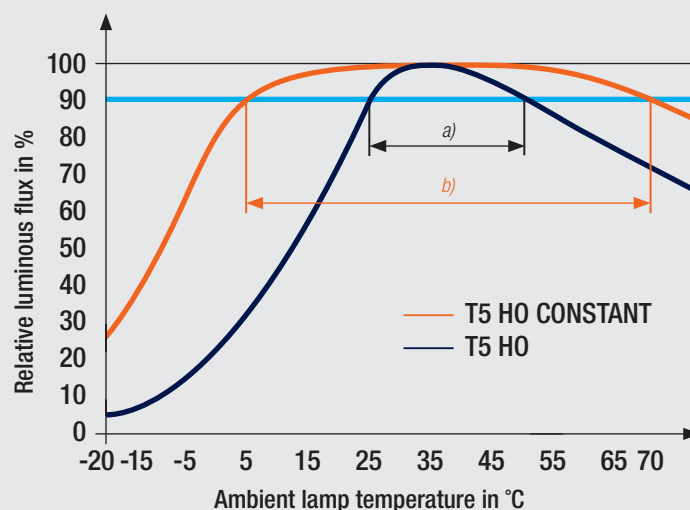
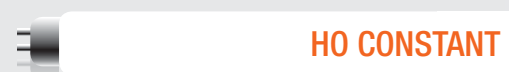
Low ambient temperature: -20 °C.



High ambient temperature: +35 °C.

## The benefits of amalgam technology.

- Up to 30 % more light and 90 % luminous flux at a lamp ambient temperature between +5 °C and +70 °C
- Reliable ignition down to -20 °C
- Stable dimming even at the minimum dimmer setting
- Down to 1 % output for T5 CONSTANT and OSRAM DULUX® L CONSTANT; 3 % output for OSRAM DULUX® T/E IN



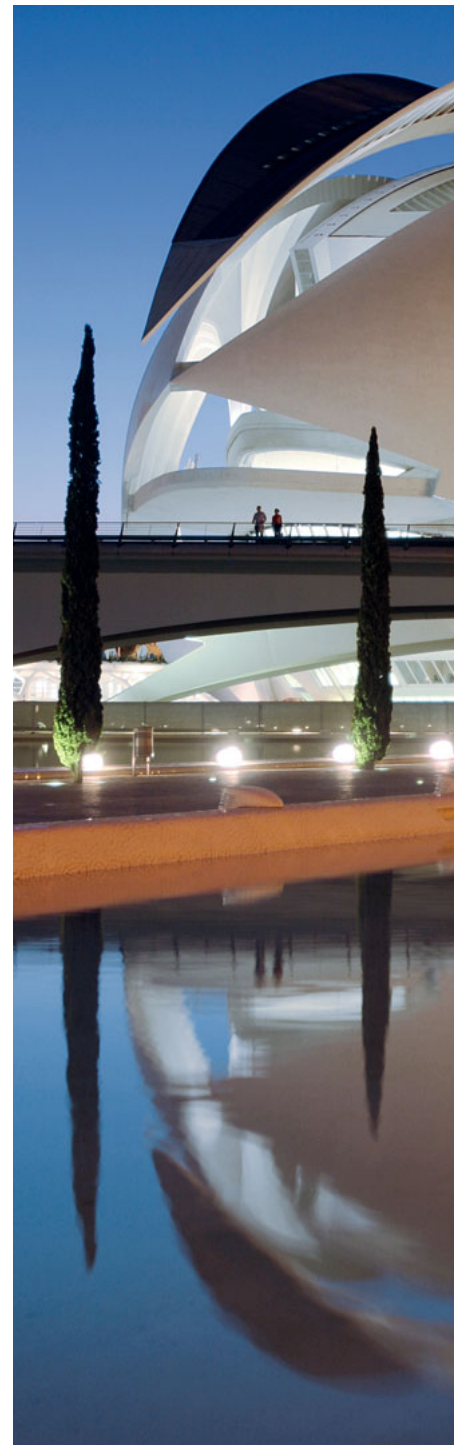
The extended temperature range of the new OSRAM T5 HO CONSTANT (b) compared with that of the LUMILUX® T5 HO (a)

But the best systems are the ones that keep coming up with the goods. Perhaps that's one reason why so many major projects involve OSRAM QT<sup>i</sup> DALI®.

# From professionals for professionals.

Here is a selection of leading suppliers of BMS solutions who have placed their trust in OSRAM QTi DALI®.

	EIB	LON	Ethernet	BACnet
<b>ABB AG</b> <a href="http://www.abb.com">www.abb.com</a>	☀			
<b>Albrecht Jung GmbH &amp; Co. KG</b> <a href="http://www.gb.jung.de">www.gb.jung.de</a>	☀			
<b>Altenburger Electronic GmbH</b> <a href="http://www.altenburger.de">www.altenburger.de</a>	☀			
<b>Beckhoff Industrie Elektronik</b> <a href="http://www.beckhoff.com">www.beckhoff.com</a>	☀	☀	☀	
<b>Berker</b> <a href="http://www.berker.com">www.berker.com</a>	☀			
<b>delmatic Ltd</b> <a href="http://www.delmatic.com">www.delmatic.com</a>		☀		
<b>ELSO GmbH</b> <a href="http://www.else.de">www.else.de</a>		☀		
<b>Giersiepen GmbH &amp; Co. KG</b> <a href="http://www.gira.com">www.gira.com</a>	☀			
<b>Infranet Partners</b> <a href="http://www.infranet-partners.com">www.infranet-partners.com</a>		☀	☀	
<b>IPAS GmbH</b> <a href="http://www.ipas-products.com">www.ipas-products.com</a>	☀			
<b>LOYTEC electronics GmbH</b> <a href="http://www.loytec.com">www.loytec.com</a>		☀	☀	
<b>Merten GmbH</b> <a href="http://www.merten.com">www.merten.com</a>	☀			
<b>REGULEX Automation GmbH</b> <a href="http://www.regulex.de">www.regulex.de</a>		☀		
<b>Siemens AG A&amp;D</b> <a href="http://www.automation.siemens.com">www.automation.siemens.com</a>	☀		☀	
<b>Siemens Building Technologies</b> <a href="http://www.buildingtechnologies.siemens.com">www.buildingtechnologies.siemens.com</a>		☀	☀	☀
<b>Svea Building Control Systems GmbH &amp; Co.</b> <a href="http://www.svea-bcs.de">www.svea-bcs.de</a>		☀		
<b>Wago Kontakttechnik GmbH &amp; Co. KG</b> <a href="http://www.wago.com">www.wago.com</a>	☀	☀	☀	☀





Only the best are involved in these projects.  
Nice to be part of it.



*Palau de les Arts Reina Sofia in Valencia.  
Concert halls equipped  
with QTI DALI® ECGs.*

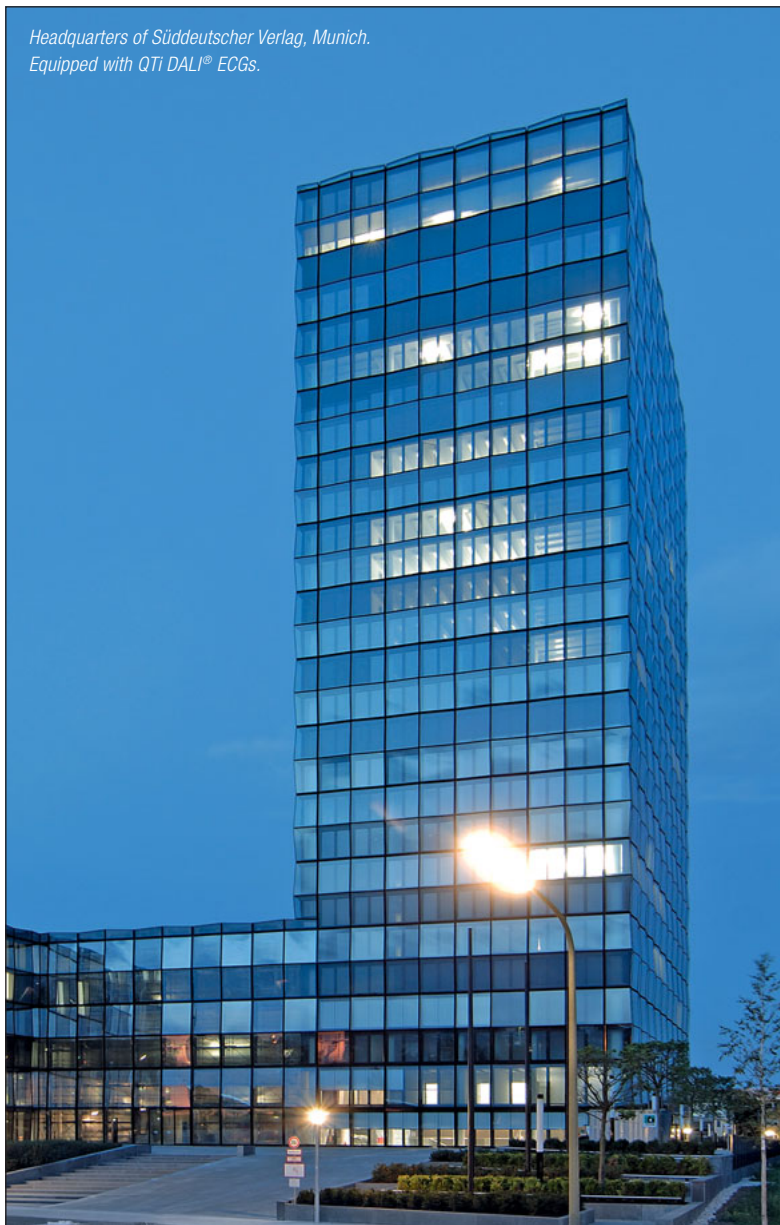


*Tonhalle in Dusseldorf  
Ceiling lighting equipped  
with QTI DALI® ECGs.  
Photo: Thomas Riehle*

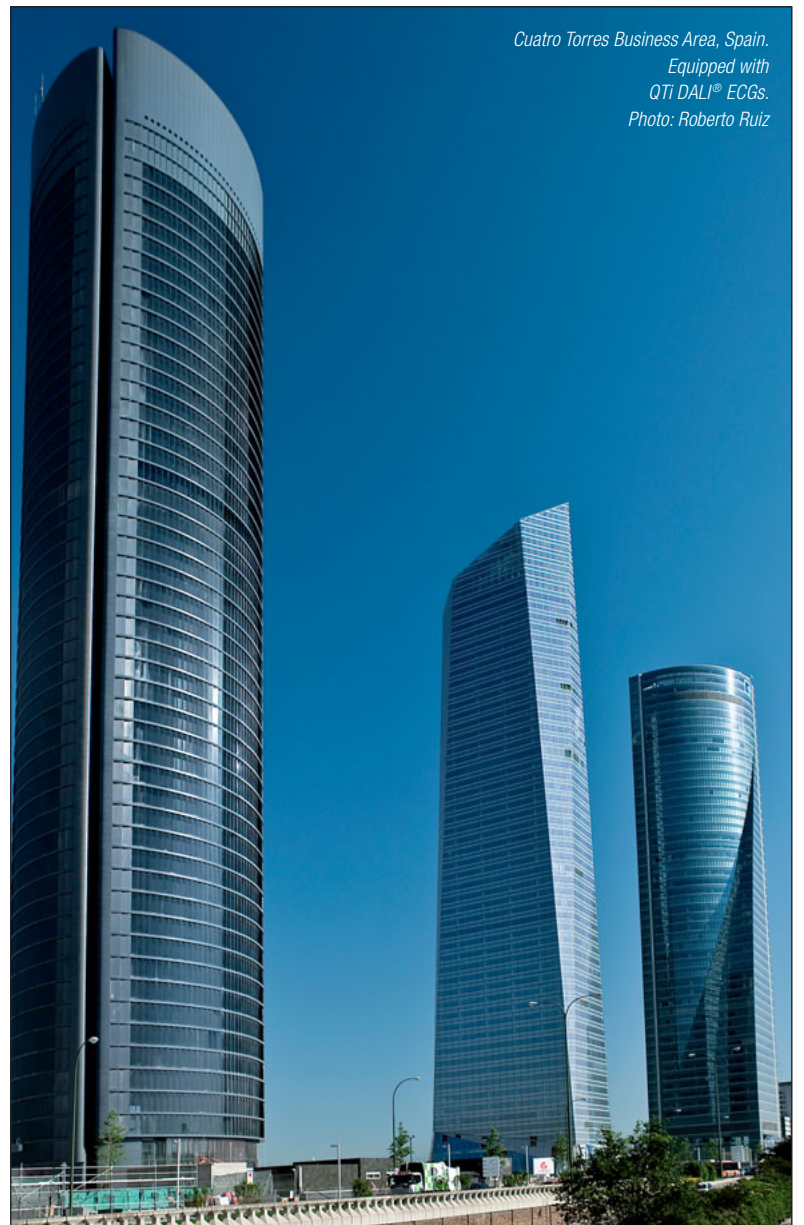




*Sihlcity shopping center in Zurich.  
Equipped with QTI DALI® ECGs.*



*Headquarters of Süddeutscher Verlag, Munich.  
Equipped with QTI DALI® ECGs.*



*Cuatro Torres Business Area, Spain.  
Equipped with  
QTI DALI® ECGs.  
Photo: Roberto Ruiz*



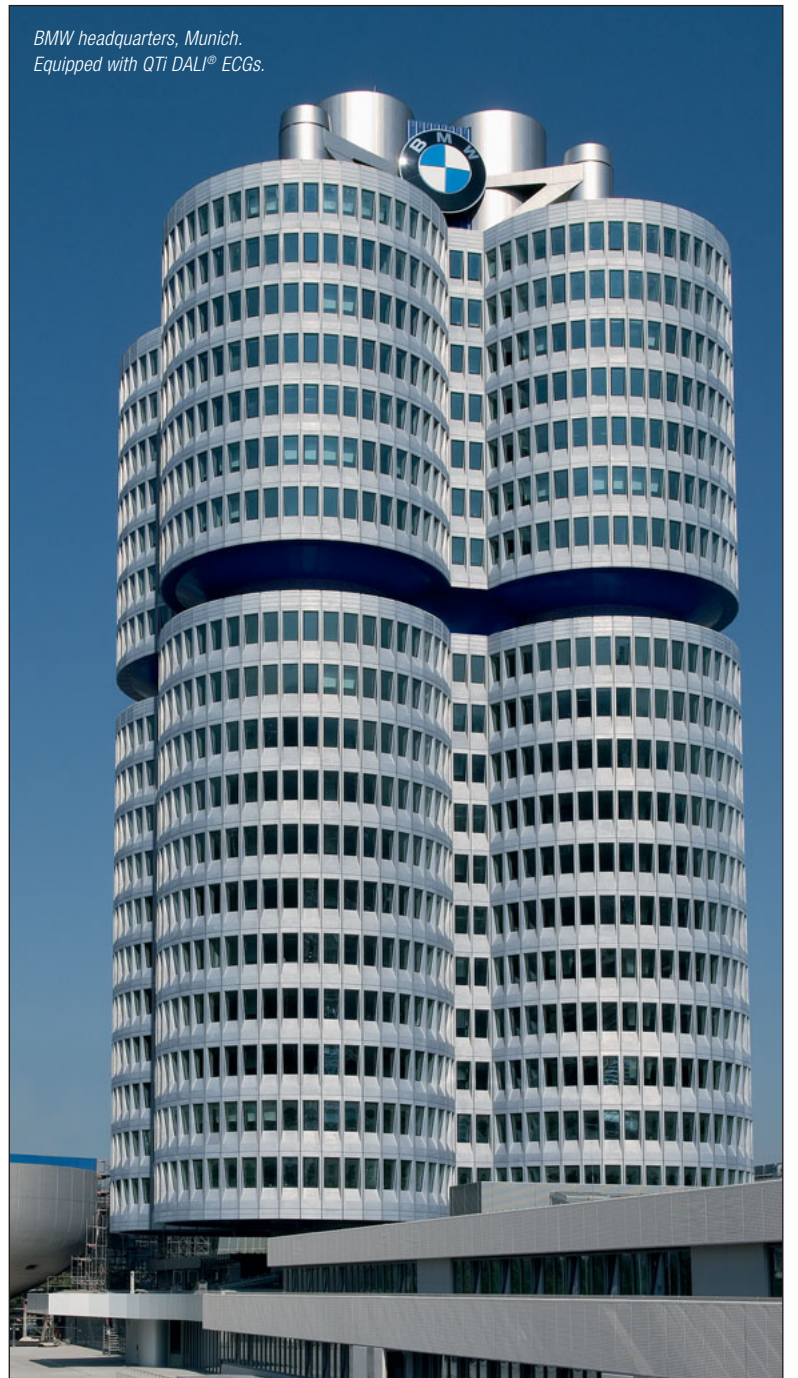
*Olympic Stadium, Berlin.  
Equipped with QTi DALI® ECGs.*



*SAS Radisson Hotel in Frankfurt.  
Equipped with QTi DALI® ECGs.*



*BMW headquarters, Munich.  
Equipped with QTi DALI® ECGs.*



# Don't keep looking for OSRAM QT<sup>i</sup> DALI<sup>®</sup>, find it!

Ask for luminaires with QT<sup>i</sup> DALI<sup>®</sup> inside:

**ateljé Lyktan (SE)**  
[www.atelje-lyktan.se](http://www.atelje-lyktan.se)

**Bega (DE)**  
[www.bega.com](http://www.bega.com)

**Berlux (LU)**  
[www.berlux.com](http://www.berlux.com)

**BPS Leuchten (DE)**  
[www.bps-leuchten.com](http://www.bps-leuchten.com)

**Bright (GR)**  
[www.bright.gr](http://www.bright.gr)

**Cohausz Leuchten (DE)**  
[www.cohausz.net](http://www.cohausz.net)

**Compass (HU)**  
[www.compass-lighting.com](http://www.compass-lighting.com)

**der Kluth (DE)**  
[www.derkluth.com](http://www.derkluth.com)

**Deska (DE)**  
[www.deska.de](http://www.deska.de)

**Dijkstra Lampen (NL)**  
[www.dijkstra.com](http://www.dijkstra.com)

**durlum (DE)**  
[www.durlum.com](http://www.durlum.com)

**elmotec (DE)**  
[www.elmotec-leuchten.de](http://www.elmotec-leuchten.de)

**ERCO (DE)**  
[www.ereco.com](http://www.ereco.com)

**ETAP (BE)**  
[www.etaplighting.com](http://www.etaplighting.com)

**Exporlux (PT)**  
[www.exporlux.pt](http://www.exporlux.pt)

**Fagerhult (SE)**  
[www.fagerhult.com](http://www.fagerhult.com)

**Glashütte Limburg (DE)**  
[www.glashuette-limburg.com](http://www.glashuette-limburg.com)

**hatec Lichttechnik (DE)**  
[www.hatec-licht.de](http://www.hatec-licht.de)

**Huco (CH)**  
[www.hucoag.com](http://www.hucoag.com)

**iGuzzini (IT)**  
[www.iguzzini.com](http://www.iguzzini.com)

**Inge (CZ)**  
[www.inge.cz](http://www.inge.cz)

**Interlight (GR)**  
[www.interlight.gr](http://www.interlight.gr)

**Intra Lighting (SLO)**  
[www.intra-lighting.com](http://www.intra-lighting.com)

**IWS Lichttechnik (DE)**  
[iwslicht@aol.com](mailto:iwslicht@aol.com)

**Kalfex (GR)**  
[www.kalfex.com](http://www.kalfex.com)

**Konrath (DE)**  
[www.konrath.de](http://www.konrath.de)

**Kotzolt (DE)**  
[www.kotzolt.com](http://www.kotzolt.com)

**Leccor (DE)**  
[www.leccor.com](http://www.leccor.com)

**Lighting Innovations (ZA)**  
[www.lightinginnovations.co.za](http://www.lightinginnovations.co.za)

**Lite-Licht (DE)**  
[www.lite-licht.com](http://www.lite-licht.com)

**Louis Poulsen (DK/DE)**  
[www.louis-poulsen.com](http://www.louis-poulsen.com)

**Ludwig Leuchten (DE)**  
[www.ludwig-leuchten.com](http://www.ludwig-leuchten.com)

**Lug (PL)**  
[www.lug.com.pl](http://www.lug.com.pl)

**MP Illumination (GR)**  
[www.mpillumination.com](http://www.mpillumination.com)

**NORKA (DE)**  
[www.norka.de](http://www.norka.de)

**Petridis Lighting (GR)**  
[www.petridis-lighting.gr](http://www.petridis-lighting.gr)

**Pracht Lichttechnik (DE)**  
[www.pracht-lichttechnik.de](http://www.pracht-lichttechnik.de)

**Prolicht (AT)**  
[www.prolicht.at](http://www.prolicht.at)

**Rademacher (DE)**  
[www.rademacher-gmbh.de](http://www.rademacher-gmbh.de)

**Regent (CH)**  
[www.regent.ch](http://www.regent.ch)

**Regiolux (DE)**  
[www.regiolux.de](http://www.regiolux.de)

**Ribag (CH)**  
[www.ribag-licht.com](http://www.ribag-licht.com)

**Ridi (DE)**  
[www.ridi.de](http://www.ridi.de)

**Riegens (UK/DK)**  
[www.riegens.com](http://www.riegens.com)

**RSL (DE)**  
[www.rsl.de](http://www.rsl.de)

**Ruco Licht (DE)**  
[www.rucolicht.de](http://www.rucolicht.de)

**Schmitz-Leuchten (DE)**  
[www.schmitz-leuchten.com](http://www.schmitz-leuchten.com)

**Schuch (DE)**  
[www.schuch.de](http://www.schuch.de)

**Semperlux (DE)**  
[www.selux.com](http://www.selux.com)

**Siteco (DE)**  
[www.siteco.com](http://www.siteco.com)

**Smedmarks (SE)**  
[www.smedmarks.com](http://www.smedmarks.com)

**spectral (DE)**  
[www.spectral-lichttechnik.de](http://www.spectral-lichttechnik.de)

**Trilux (DE)**  
[www.trilux.de](http://www.trilux.de)

**Tulux (CH)**  
[www.tulux.ch](http://www.tulux.ch)

**Veko (NL)**  
[www.veko.nl](http://www.veko.nl)

**Waco (BE)**  
[www.waco.be](http://www.waco.be)

**Waldmann (DE)**  
[www.waldmann.com](http://www.waldmann.com)

**Wila (DE)**  
[www.wila.com](http://www.wila.com)

**XAL (AT)**  
[www.xal.com](http://www.xal.com)

**Zumtobel (AT)**  
[www.zumtobel.com](http://www.zumtobel.com)



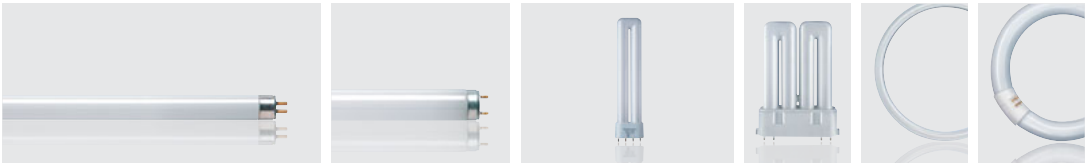
# There is no “one-size-fits-all” DALI®.


## But there is the right DALI® that fits all situations.

We'll stop trying to convince you now. We want you to do it for yourself.

It's now up to you to choose OSRAM QT<sub>i</sub> DALI®. And you'd be in the best company. If you need any more good reasons why you should benefit from OSRAM QT<sub>i</sub> DALI® simply go to [www.osram.com/qti](http://www.osram.com/qti). Tender documents are available at [www.osram.com/ecg-tender](http://www.osram.com/ecg-tender).

### Lamp/ECG combinations for QT<sub>i</sub>, QT<sub>i</sub> DALI® DIM and QT<sub>i</sub> (1-10 V) DIM.



Operation at rated parameters		HE 14 W	HE 21 W	HE 28 W	HE 35 W	HO 24 W	HO 39 W	HO 49 W	HO 54 W	HO 80 W	L 18 W	L 30 W	L 36 W	L 58 W	L 70 W	DL 18 W	DL 24 W	DL 36 W	DL 40 W	DL 55 W	DL 80 W	DF 18 W	DF 24 W	DF 36 W	FC 22 W	FC 40 W	FC 55 W	L 22 W-C	L 32 W-C	L 40 W-C
QT <sub>i</sub> 1x14/24/21/39																														
QT <sub>i</sub> 1x28/54																														
QT <sub>i</sub> 1x35/49/80																														
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QT <sub>i</sub> 2x28/54																														
QT <sub>i</sub> 2x35/49																														
QT <sub>i</sub> 2x35/49/80																														
QT-FQ 2x80																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 1x14/24 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 1x21/39 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 1x28/54 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 1x35/49/80 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 1x18 DIM*																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 1x36 DIM*																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 1x58 DIM*																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 2x14/24 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 2x21/39 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 2x28/54 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 2x35/49 DIM																														
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QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 2x58 DIM*																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 3x14/24 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 3x18 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 4x14/24 DIM																														
QT <sub>i</sub> DALI/QT <sub>i</sub> (1...10 V) 4x18 DIM																														

Possible combinations

\* In the 1-10 V versions HF...DIM ECGs with a 30 x 30-mm cross-section for L 18 W, L 36 W, L 58 W are also available. \*\* Released with restrictions.

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