



QUICKTRONIC® ECONOMIC: Replace and profit.

The electronic alternative to CCG/LLG:
Compact, efficient, simple

SEE THE WORLD IN A NEW LIGHT



The electronic alternative to CCG/LLG: QUICKTRONIC® ECONOMIC

With its innovative QUICKTRONIC® ECONOMIC electronic control gear family, OSRAM offers an electronic alternative to conventional and low-loss control gear (CCG/LLG) – and provides simple cost-effective entry into the world of modern ECG operation.

QUICKTRONIC® ECONOMIC products have typical CCG geometries, cover a wide performance range and are available in single-lamp and now double-lamp designs.



Conventional control gear has had its day

In most European countries and beyond, the use of conventional control gear (CCG) is increasingly restricted and in some cases completely prohibited.

There are good reasons for this: Compared with electronic control gear, CCG and most low-loss gear (LLG) have obvious disadvantages with regards to energy consumption, light comfort, safety and running costs.

Low-loss gear – a short-term “emergency solution”:

LLGs work on the same principle as CCGs: The lamp current follows the timing of the line voltage, which means that even LLGs do not provide constant, flicker-free light. Every line voltage zero pass produces a current gap in the LLG until the lamp ignites again. Each lamp ignition requires the charge carrier to be recharged. This results in inefficient lamp operation.

Everything points to electronic control gear

In ECG operation, the lamp current is independent of the line voltage timing as an average electrode density that is constant over time is achieved in high-frequency operation. The high operating frequency in ECG operation therefore ensures constant, flicker-free light without stroboscopic effects. As the current gaps are missing, there is no need, unlike in LLG operation, for the charge carrier in the lamp to be recharged.

Extensive and comfortable: With QUICKTRONIC® ECONOMIC, numerous different types of lamp can easily, safely and economically meet the aims of energy efficiency.



This is why identical lamp types connected to a high-frequency power supply have the same luminous flux but need less energy. This reduced power consumption leads to lower loads on the lamp and therefore to a significant increase in service life, improved efficiency and lower energy consumption.

Optimised preheat starting – a “must” for modern ECGs.

In addition, modern ECGs bring the lamp filaments to their optimum emission temperature before ignition. This is particularly important for lamps with low power as they are usually fitted with very sensitive lamp filaments.

However, this important factor should not be overlooked when searching for a CCG alternative, as only optimised preheat starting can ensure that the number of switching cycles does not have a negative effect on the lamp service life.

Cost comparison: LLGs versus QT-ECO

Example: Luminaire with 2x26 W compact fluorescent lamps

	LLG	QT-ECO T/E 2x26
Control gear	2x 1.05 €	8.00 €
Capacitor	0.40 €	
	2.50 €	8.00 €
Additional acquisition cost		5.50 €
Wattage per luminaire	66 W	52 W
Service hours/year	3000 h	3000 h
Energy costs/year (0.10 EUR/kWh)	19.80 €	15.60 €
Maintenance costs/year	5.78 €	3.47 €
Costs for material, lamp replacement, disposal after	8000 h*	13000 h*
	25.58 €	19.07 €
Additional operating costs/year	6.51 €	
Payback time		10.1 months

*average lamp service life with LLG or QT-ECO

The clever solution: QUICKTRONIC® ECONOMIC



Complete range – with typical CCG geometries

With QUICKTRONIC® ECONOMIC, OSRAM offers a new electronic alternative to CCG and LLG, with which a wide variety of lights can be converted easily, safely and economically to energy-efficient ECG operation. Eleven ECG types and three typical CCG geometries cover a total of 33 lamp types and wattages.

Practical and efficient: Most QT-ECO types are also designed as MULTIWATT electronic control gear – this reduces planning, logistics and production outlay. In total, 15 different tubular and circular fluorescent and compact fluorescent lamps can be operated with the QT-ECO 1x4-16/220-240, for example.

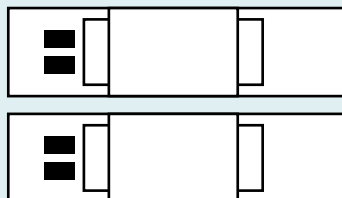
QUICKTRONIC® ECONOMIC in double-lamp designs

**TOTALLY
NEW!**

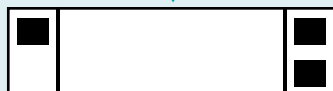
The new double-lamp versions QUICKTRONIC® ECONOMIC QT-ECO 2x5-11/220-240 S, QT-ECO T/E 2x18/220-240 and QT-ECO T/E 2x26/220-240 make installation particularly easy – saving costs, material and space. For example, the QT-ECO 2x5-11/220-240 S can be used to drive any two of eight different fluorescent and compact fluorescent lamps.

NEW!

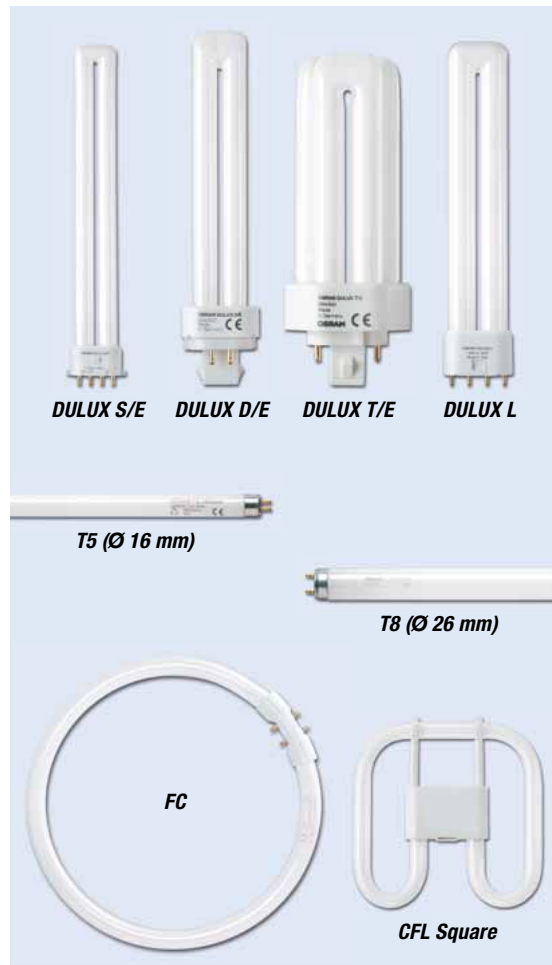
*Previously:
For two lamps
two single-lamp CCGs*



*Now:
For two lamps, just
one double-lamp QT-ECO*



Lamp/ECG overview



Lamps
DULUX S/E 5 W
DULUX S/E 7 W
DULUX S/E 9 W
DULUX S/E 11 W
DULUX D/E 10 W
DULUX D/E 13 W
DULUX T/E 13 W PLUS
DULUX D/E 18 W
DULUX T/E 18 W PLUS
DULUX D/E 26 W
DULUX T/E 26 W PLUS
DULUX L 18 W
DULUX F 18 W
DULUX L 24 W
DULUX F 24 W
HE 14 W (Ø 16 mm)
HE 21 W (Ø 16 mm)
HO 24 W (Ø 16 mm)
L 4 W (Ø 16 mm)
L 6 W (Ø 16 mm)
L 8 W (Ø 16 mm)
L 13 W (Ø 16 mm)
L 10 W (Ø 26 mm)
L 15 W (Ø 26 mm)
L 16 W (Ø 26 mm)
L 18 W (Ø 26 mm)
L 36 W (Ø 26 mm)
L 58 W (Ø 26 mm)
FC 22 W
L 22 W C
L 18 W U
CFL Square 10 W
CFL Square 21 W

*in preparation, probably av

QUICKTRONIC®

- Approx. 30% energy saving
- Lower maintenance costs
- Flicker-free start
- Constant, flicker-free light
- Improved lamp life



*Trend-setting solutions:
QUICKTRONIC® ECONOMIC
 save approx. 30% energy
 compared to CCGs.*

QT-ECO
 1x4-16/220-240 S
 1x18-21/220-240 S
 1x18-24/240-240 S
 1x26/220-240 S*

QT-ECO
 1x4-16/220-240 L
 1x18-24/240-240 L

QT-ECO
 2x5-11/220-240 S

QT-ECO
 T/E 2x18/220-240
 T/E 2x26/220-240

QT-ECO
 1x36/230-240
 1x58/230-240



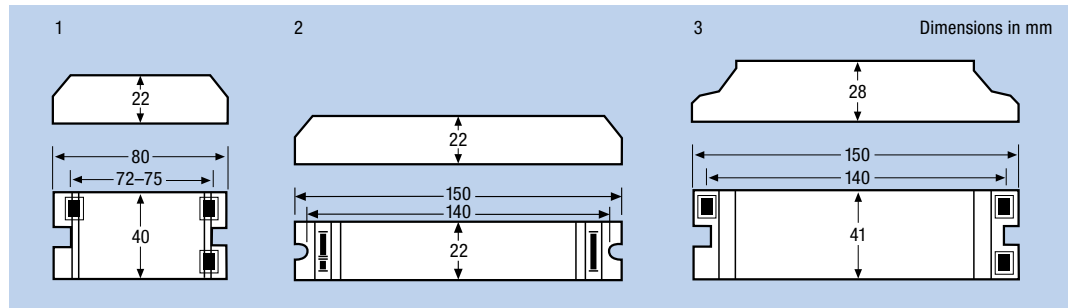
QT-ECO 1x4-16	QT-ECO 1x18-24	QT-ECO 1x18-21	QT-ECO 1x26*	QT-ECO 2x5-11	QT-ECO T/E 2x18	QT-ECO T/E 2x26	QT-ECO 1x36	QT-ECO 1x58

available from November 2005

ECONOMIC – the main benefits at a glance:

- Energy savings compared to CCGs in energy class C
- Low maintenance costs due to longer lamp life
- Fluorescent-free light without stroboscopic effects
- High efficiency
- Safety shutdown for defective lamps and lamps at the end of their service life
- Relamping: automatic restart after lamp replacement
- CCG design (hole spacing: 72-75 mm or 140 mm), this allows EU directive 2000/55/EC to be met with a minimum of design changes to the luminaire.

Technical data



Type designation	Product number (EAN)	Fig.	Lamps	HF-lamp wattage [W _{HF}]	System wattage [W]	Line current [A]	Luminous flux at 25°C [lm]	Power factor [λ]	Dimensions l x w x h [mm]	Hole spacing [mm]
QT-ECO 1x4-16/ 220-240 S ¹⁾	4050300 638584	1	DULUX S/E 5 W	5,5	7,5	0,06	250	λ = 0,6	80 x 40 x 22	72-75
			DULUX S/E 7 W	7	9	0,06	400			
			DULUX S/E 9 W	8	10	0,07	600			
QT-ECO 1x4-16/ 220-240 L ¹⁾	4050300 660370	2	DULUX S/E 11 W	11	13	0,09	900	λ = 0,6	150 x 22 x 22	140
			DULUX D/E 10 W	9,5	11,5	0,8	600			
			DULUX D/E 13 W	11,5	14	0,1	800			
			DULUX T/E 13 W PLUS	11,5	14	0,1	800			
			HE 14 W (Ø 16 mm)	12,5	15	0,1	1200			
			L 4 W (Ø 16 mm)	4,5	6,5	0,05	120			
			L 6 W (Ø 16 mm)	6,5	8,5	0,06	240			
			L 8 W (Ø 16 mm)	8,5	10,5	0,07	450			
			L 13 W (Ø 16 mm)	12	15	0,1	950			
			L 10 W (Ø 26 mm)	10	12	0,08	650			
			L 16 W (Ø 26 mm)	13	16	0,11	1100			
			CFL Square 10 W	10	12	0,09	700			
			QT-ECO 1x18-24/ 220-240 S ¹⁾	4050300 638560	1	DULUX L 18 W	15			
DULUX F 18 W	15	18				0,13	1000			
QT-ECO 1x18-24/ 220-240 L ¹⁾	4050300 660417	2	DULUX L 24 W	20	22,5	0,16	1600	λ = 0,6	150 x 22 x 22	140
			DULUX F 24 W	20	22,5	0,16	1500			
			FC 22 W	20	22,5	0,16	1650			
			HO 24 W (Ø 16 mm)	18,5	22	0,15	1600			
			L 15 W (Ø 26 mm)	14,5	17	0,13	950			
			L 18 W (Ø 26 mm)	16,5	19	0,14	1250			
			L 18 W U	17	19,5	0,14	900			
			L 22 W C	17	20	0,14	1100			
QT-ECO 1x18-21/ 220-240 S ¹⁾	4050300 794907	1	DULUX D/E 18 W	16,5	19	0,14	1150	λ = 0,6	80 x 40 x 22	72-75
			DULUX T/E 18 W PLUS	16,5	19	0,14	1150			
			HE 21 W (Ø 16 mm)	19	23	0,17	1800			
			CFL Square 21 W	17	19,5	0,14	1200			
QT-ECO 1x26/ 220-240 S ¹⁾²⁾	4008321 065971	1	DULUX D/E 26 W	21,5	23,5	0,12	1600	λ = 0,6	80 x 40 x 22	72-75
			DULUX T/E 26 W PLUS	21,5	23,5	0,12	1600			
QT-ECO 2x5-11/ 220-240 S ¹⁾	4050300 821504	1	DULUX S/E 5 W	11	12,5	0,1	2 x 250	λ = 0,6	80 x 40 x 22	72-75
			DULUX S/E 7 W	13	15	0,11	2 x 350			
			DULUX S/E 9 W	16	18	0,13	2 x 500			
			DULUX S/E 11 W	21	23,5	0,16	2 x 700			
			DULUX D/E 10 W	18	20	0,14	2 x 600			
			L 6 W (Ø 16 mm)	12	14,5	0,11	2 x 240			
			L 8 W (Ø 16 mm)	15	17,5	0,13	2 x 400			
			L 10 W (Ø 26 mm)	18	20	0,14	2 x 600			
QT-ECO T/E 2x18/ 220-240	4050300 803982	3	DULUX D/E 18 W	2 x 16,5	36	0,18	2 x 1150	λ = 0,95	150 x 41 x 28	140
			DULUX T/E 18 W PLUS	2 x 16,5	36	0,18	2 x 1150			
QT-ECO T/E 2x26/ 220-240	4050300 804002	3	DULUX D/E 26 W	2 x 24	52	0,25	2 x 1800	λ = 0,95	150 x 41 x 28	140
			DULUX T/E 26 W PLUS	2 x 24	52	0,25	2 x 1800			
QT-ECO 1x36/230-240	4050300 940656	3	L 36 W	31	36	0,16	2900	λ = 0,95	150 x 41 x 28	140
QT-ECO 1x58/230-240	4050300 940656	3	L 58 W	50	58	0,25	4800	λ = 0,95	150 x 41 x 28	140

General technical data for all QUICKTRONIC® ECONOMIC:

- Line voltage: 220–240 V or 230–240 V
- Voltage range: [AC]: 198–254 V
- Line frequency: 50 Hz or 50–60 Hz
- Operating frequency: 30–45 kHz
- Interference suppression: as per EN 55015/CISPR 15
- Harmonic content: as per EN 61000-3-2/IEC 61000-3-2
- Immunity: as per EN 61547/IEC 61547
- Ambient temp. t_a : –15°C bis +50°C
- Enclosure temp. t_c : max. +70°C
- Test mark

¹⁾ ECGs are suitable for luminaires with a maximum connected load of 25 W.

²⁾ in preparation, probably available from November 2005

Another clever CCG alternative from OSRAM: QUICKTRONIC® INSTANT START economic

Once again, OSRAM offers another clever and economic electronic alternative to general conventional control gear and low-loss gear with their new T8 electronic control gear family QUICKTRONIC® INSTANT START economic (QTIS e). QTIS e from OSRAM is available for operating 1, 2, 3 and 4-lamp luminaires equipped with T8 lamps (26 mm tube diameter) in the standard wattages of 18, 36 and 58 W.