



## OSRAM SubstiTUBE® T8 CONNECTED LIGHT MANAGEMENT MADE EASY!

The system solution OSRAM SubstiTUBE T8 Connected allows smart lighting of car parks without the need for programming

### CHALLENGES:

Installing conventional systems with motion sensors in car parks can often be a complicated and expensive task. This is because cables have to be laid for rewiring or DALI cabling, the cable

### OUR SOLUTION:

OSRAM SubstiTUBE® T8 Connected LED tubes, e. g. installed in Damp Proof Housing and controlled wirelessly. The LED tubes can be connected via LEDVANCE Connected Sensors on the basis of the ZigBee 3.0 Open Standard Protocol. The benefit of this is that existing tubes and starters simply have to be replaced by new LED tubes and starters and the sensors installed and supplied with electricity.



### FEATURES:

OSRAM SubstiTUBE® T8 Connected:

- For CCG operated luminaires or 230 V AC mains
- Complete portfolio in glass design with shatter protection film
- Very high efficiency of up to 150 lm/W

LEDVANCE Connected Sensor:

- Every sensor controls up to 50 SubstiTUBE T8 Connected LED tubes
- Two sensors for different installation heights: LB (Low Bay) up to 4 m in height; HB (High Bay)
- Multi sensor (table and ceiling) for multi-zone control
- Innovative motion sensor: Passive Infra Red (PIR) sensor
- Potentiometer can be adjusted individually: Ambient light intensity: 2 - 1,000 lux; time delay: 1 - 10 min
- Individualised remote control possible



### ENERGY SAVING

Lighting technology	Luminous flux/	Number of luminaires	Output incl. luminaire	Total connected load	Total power consumption	Total electricity costs annually	Electricity cost savings annually compared to	Relative energy saving compared to legacy	Electricity cost savings annually with LMS	Relative energy savings with LMS compared to legacy system
Conventional: Damp-proof luminaire T8	3454	15	70 W	1050 W	4 368.00 kWh	€ 873.60				
DAMP PROOF HOUSING with SubstiTUBE Advanced T8	315615		24 W	360 W	901.06 kWh	€ 180.21	693.39	79 %	1751.30	86 %

OPERATING DATA: Operation per year (days): 260 • Operation per day (hours): 16 • Estimated active times per day (hours) (8 hours:100 %/8 hours: 20 %) 8 • (floor area 495 mtwosuperior)

Electricity price: Euro 0.20/kWh • Specific connected load: 0.73 W/m  
 Assumed saving with LMS in relation to the new system with LED: 40 %; based on the following assumptions: motion sensor with comfort dimming; installation is only dimmed down to 20 % during hours of operation. This ensures higher comfort levels for users when entering rooms, as rooms are not in full darkness. The relevant assumptions for the LMS savings are estimated values and are based on empirical values from the lighting sector. The calculation of energy savings with LMS usage must always be made in general relative to the specific project.

## OSRAM SubstiTUBE® T8 MOTION SENSOR SUPER SMART ENERGY SAVINGS!

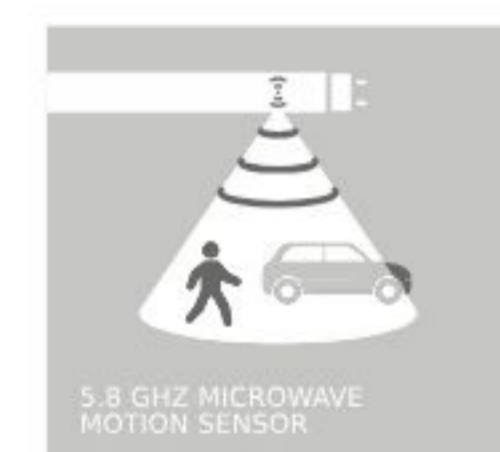


The new SubstiTUBE® T8 Motion Sensor, which is suitable for CCG AC mains controlled luminaires, allows energy savings of up to <sup>1</sup> thanks to the integrated sensor and is ideal for



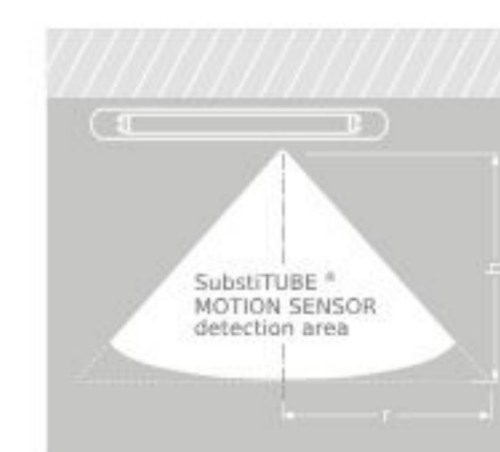
### HIGH ENERGY SAVINGS GUARANTEED

If the sensor does not detect motion for a period of five minutes, the LED tube is dimmed automatically to 20 % light intensity. After a further two minutes without motion, the SubstiTUBE Motion Sensor switches off completely – but without any loss of user comfort. That's because the slightest movement causes the LED lamp to switch on again immediately.



### STRONG SENSOR, STRONG PERFORMANCE

The SubstiTUBE® T8 Motion Sensor is fitted with an integrated microwave sensor with motion detection. The sensor operates at 5.8 GHz and is also ideal for use in enclosed luminaires thanks to the microwave technology used.



SubstiTUBE® Motion Sensor Detecting Area

h	r
2.5	4.5
3.5	5.0
4.0	4.5
4.5	4.0
5.0	4.0

### A QUESTION OF HEIGHT

The detection radius for movements depends on the respective installation height of the LED tubes. The sensor can detect movements at a maximum radius of up to five metres. The maximum recommended mounting



### EM OR HF: FIND THE RIGHT TECHNOLOGY

**STARTER TEST**  
See whether the luminaire in which you want to use the new lamp has a T8 EM for use on a CCG. If it does not, you should use a CCG-compatible universal variant.

**CAMERA TEST**  
If the relevant luminaire still has a functioning T8 fluorescent lamp fitted, examine it with a digital camera (e.g. on a smartphone). If it does not, you should use the CCG-compatible universal variant.

<sup>1</sup> Compared to conventional fluorescent tube EM on CCG. Check compatibility at [www.ledvance.co.uk/ecg-compatibility](http://www.ledvance.co.uk/ecg-compatibility)



SubstiTUBE Advanced Ultra Output - High performance LED tubes for electromagnetic control gears, shatterproof

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Advanced Ultra Output														
ST8AU-EM 15.1 W/3000K 1200 mm	T8AU0430	4058075136298	G13	1212	15.1	2250	149	3000	190	83	60000	A++	10	1
ST8AU-EM 15.1 W/4000K 1200 mm	T8AU0440	4058075136311	G13	1212	15.1	2500	165	4000	190	83	60000	A++	10	1
ST8AU-EM 15.1 W/6500K 1200 mm	T8AU0465	4058075136335	G13	1212	15.1	2500	165	6500	190	83	60000	A++	10	1

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Advanced Ultra Output														
ST8AU-EM 22.4 W/3000K 1500 mm	T8AU0530	4058075136359	G13	1513	22.4	3330	148	3000	190	83	60000	A++	10	1
ST8AU-EM 22.4 W/4000K 1500 mm	T8AU0540	4058075136373	G13	1513	22.4	3700	165	4000	190	83	60000	A++	10	1
ST8AU-EM 22.4 W/6500K 1500 mm	T8AU0565	4058075136397	G13	1513	22.4	3700	165	6500	190	83	60000	A++	10	1

- No bending thanks to glass technology
- Quick, simple and safe replacement without rewiring
- Energy savings of up to 63 % (compared to T8 fluorescent lamp on CCG)
- Instant-on light, therefore ideally suitable in combination with sensor technology

SubstiTUBE Advanced - High performance LED tubes for electromagnetic control gears, shatterproof

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Advanced														
ST8A-EM 7.3 W/4000K 600 mm	T8A240	4058075136410	G13	603	7.3	1100	150	4000	190	83	50000	A++	10	1
ST8A-EM 7.3 W/6500K 600 mm	T8A265	4058075136434	G13	603	7.3	1100	150	6500	190	83	50000	A++	10	1

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Advanced														
ST8A-EM 11.3 W/4000K 900 mm	T8A340	4058075136458	G13	908	11.3	1700	150	4000	190	83	50000	A++	10	1
ST8A-EM 11.3 W/6500K 900 mm	T8A365	4058075136472	G13	908	11.3	1700	150	6500	190	83	50000	A++	10	1

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Advanced														
ST8A-EM 14 W/4000K 1200 mm	T8A440	4058075136496	G13	1212	14	2100	150	4000	190	83	50000	A++	10	1
ST8A-EM 14 W/6500K 1200 mm	T8A465	4058075136519	G13	1212	14	2100	150	6500	190	83	50000	A++	10	1

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Advanced														
ST8A-EM 20.6 W/4000K 1500 mm	T8A540	4058075136533	G13	1513	20.6	3100	150	4000	190	83	50000	A++	10	1
ST8A-EM 20.6 W/6500K 1500 mm	T8A565	4058075136557	G13	1513	20.6	3100	150	6500	190	83	50000	A++	10	1

- No bending thanks to glass technology
- Instant-on light, therefore ideally suitable in combination with sensor technology
- Quick, simple and safe replacement without rewiring
- Energy savings of up to 60 % (compared to T8 fluorescent lamp on CCG)

<sup>1</sup> L70/B50 bar<sup>2</sup> Energy efficiency class (EEC) on a scale of A++ (highest efficiency) to E (lowest efficiency)



SubstiTUBE Value - Economic LED tubes for electromagnetic control gears

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Value														
ST8V-EM 7.6 W/3000K 600 mm EM	T8V230	4058075024618	G13	603	7.6	720	943000	190	80	30000	A+	10	1	1
ST8V-EM 7.6 W/4000K 600 mm EM	T8V240	4058075024632	G13	603	7.6	800	105 4000	190	80	30000	A+	10	1	1
ST8V-EM 7.6 W/6500K 600 mm EM	T8V265	4058075024656	G13	603	7.6	800	105 6500	190	80	30000	A+	10	1	1

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Value														
ST8V-EM 16.2 W/3000K 1200 mm EM	T8V430	4058075024670	G13	1212	16.2	1530	943000	190	80	30000	A+	10	1	1
ST8V-EM 16.2 W/4000K 1200 mm EM	T8V440	4058075024694	G13	1212	16.2	1700	104 4000	190	80	30000	A+	10	1	1
ST8V-EM 16.2 W/6500K 1200 mm EM	T8V465	4058075024717	G13	1212	16.2	1700	104 6500	190	80	30000	A+	10	1	1

Product name	Static Code	GTIN (EAN)	€	↓	W	lm	%	K	△	Ra	tn	📄	🏠	💡
SubstiTUBE Value														
ST8V-EM 19.1 W/3000K 1500 mm EM	T8V530	4058075024731	G13	1513	19.1	1800	943000	190	80	30000	A+	10	1	1
ST8V-EM 19.1 W/4000K 1500 mm EM	T8V540	4058075024755	G13	1513	19.1	2000	104 4000	190	80	30000	A+	10	1	1
ST8V-EM 19.1 W/6500K 1500 mm EM	T8V565	4058075024779	G13	1513	19.1	2000	104 6500	190	80	30000	A+	10	1	1
ST8SP-EM 24 W/4000K 1800 mm EM	T8V640	4058075069176	G13	1777	24	2600	105 4000	130	80	30000	A+	10	1	1
ST8SP-EM 24 W/6500K 1800 mm EM	T8V665	4058075069190	G14	1777	24	2600	105 6500	130	80	30000	A+	10	1	1

- No bending thanks to glass technology
- Quick, simple and safe replacement without rewiring
- Instant-on light, therefore ideally suitable in combination with sensor technology
- Energy savings of up to 65 % (compared to T8 fluorescent lamp on CCG)

SubstiTUBE Start - Starter for SubstiTUBE EM (CCG)

Product name	Static Code	GTIN (EAN)	📄	💡
SubstiTUBE Start				
SUBSTITUBE LED	T8START	4058075013674	22	

Extremely break resistant thanks to cover made of polycarbonate and RoHS compliant

L70/B50 bar<sup>2</sup> Energy efficiency class (EEC) on a scale of A++ (highest efficiency) to E (lowest efficiency)