

EMERGENCY



HELIOS

HELIOS – all-plastic emergency light fittings



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IP42 IP65

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HELIOS



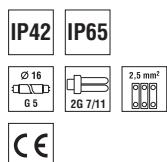
... emergency and orientation illumination.

USE

The light fitting is suitable for emergency illumination of hallways, offices, warehouses and production shop floors.

ADVANTAGES

- Light fitting protection **P42 or IP65**
- Diffuser: polycarbonate
- Emergency module 1 hr or 3 hrs
- LED indicator of correct operation
- High-temperature NiCd battery
- Electronic protection against complete battery discharge
- Insulation: Class 2



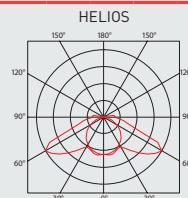
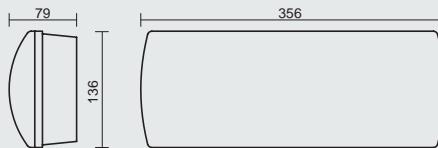
It is also available in a **LED** design.
More information is in the TREVOS catalogue
of LED light fittings marked as HELIOS LED.

HELIOS



TECHNICAL DESCRIPTION

- Diffuser: transparent polycarbonate, UV stable
- Body: white polycarbonate
- Reflector: white polycarbonate
- Diffuser and body connected by screws
- Electric equipment: electronic ballast T5; emergency module 1 hr or 3 hrs; fluorescent tube
- Recognizing distance: 25 m
- Light fitting protection: IP42 or IP65



Code	Type	Light sources [W]	Lampholder	Luminous flux [lm]*	Light fitting efficiency [%]	Net weight [kg]
Diffuser made of transparent polycarbonate - emergency back-up source with operation time of 1 hour (SE) for emergency (non-permanent) illumination - IP42						
43019	HELIOS 108 NM1h	1x8	T5/G5	90**	69	1,0
Diffuser made of transparent polycarbonate - electronic ballast T5 for central battery power supply AC/DC (CB = central battery) - IP42						
43078	HELIOS 108 CB	1x8	T5/G5	430*	69	0,4

* - total luminous flux of the light fitting with T5/840 sources at the temperature of 35 °C

** - total luminous flux of the light fitting with T5/840 sources in emergency mode

HELIOS IP42 NM

Diffuser made of transparent polycarbonate, emergency back-up source (SE) for emergency (non-permanent) illumination

Code	Type	M3h	NM1hAt	NM3hAt
43019	HELIOS 108 NM1h	43039	43049	43069
Diffuser made of transparent polycarbonate, emergency back-up source (SE) for emergency (non-permanent) illumination				
43119	HELIOS IP65 108 NM1h	43139	43149	43169

HELIOS IP42 M

Diffuser made of transparent polycarbonate, emergency back-up source (SA) for both permanent and emergency illumination

Code	Type	M3h	M1hAt	M3hAt
43018	HELIOS 108 M1h	43038	43048	43068
Diffuser made of transparent polycarbonate, emergency back-up source (SA) for both permanent and emergency illumination				
43118	HELIOS IP65 108 M1h	43138	43148	43168

Example of type marking: 43162 = HELIOS IP65 118 **M3hAt**

HELIOS IP42 CB

Code	Type
43078	HELIOS 108 CB

HELIOS IP65 CB

Code	Type
43178	HELIOS IP65 108 CB

Module signalling with autotest (AT)

LED colour	Information
green	red
flashing	-
-	battery charging
-	ashsing
-	defective tube
-	shining
-	defective battery
-	-
-	running test/emergency mode

LEGEND

- M1-3h** – emergency back-up source with operating time of 1 - 3 hours (SA) for both permanent and emergency illumination
M1-3hAt – emergency back-up source with operating time of 1 - 3 hours (SA) for both permanent and emergency illumination with autotest
NM1-3h – emergency back-up source with operating time of 1 - 3 hours (SE) for emergency (non-permanent) illumination
NM1-3hAt – emergency back-up source with operating time of 1 - 3 hours (SE) for emergency (non-permanent) illumination with autotest
CB – electronic ballast T5 for central battery power supply AC/DC (CB = central battery)

Batteries must be formatted before their putting into operation. Assembly instructions must be observed at installation.

LIGHT FITTING ATTACHMENT

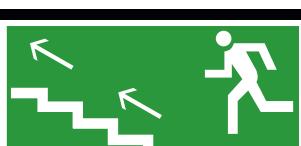
Directly to a ceiling or a wall with the use of screws

**LIGHT FITTING DETAILED VIEW**

HELIOS

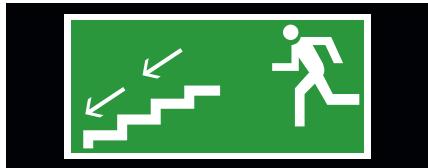


Stickers with pictograms for emergency light fittings

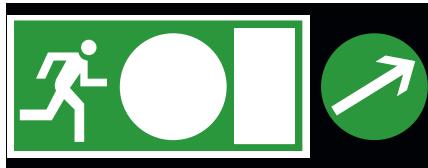
	Code	Type	Description	Dimensions [mm]
	43901	Pictogram 01 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43902	Pictogram 02 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43904	Pictogram 04 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43905	Pictogram 05 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43906	Pictogram 06 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43907	Pictogram 07 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43908	Pictogram 08 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43909	Pictogram 09 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43910	Pictogram 10 HE	for HELIOS type - 25 m distance	125x250
	Code	Type	Description	Dimensions [mm]
	43911	Pictogram 11 HE	for HELIOS type - 25 m distance	125x250



Code	Type	Description	Dimensions [mm]
43912	Pictogram 12 HE	for HELIOS type - 25 m distance	125x250



Code	Type	Description	Dimensions [mm]
43913	Pictogram 13 HE	for HELIOS type - 25 m distance	125x250

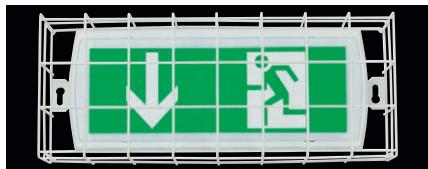


Code	Type	Description	Dimensions [mm]
43914	Pictogram 14 HE	for HELIOS type - 25 m distance	125x250



Code	Type	Description	Dimensions [mm]
43915	Pictogram 15 HE	for HELIOS type - 25 m distance	125x250

Protective grid



Code	Type	Description	Weight [kg]
43900	OM-HE, TG	protective grid for HELIOS	0,4



1



DALI PROFESSIONAL



CONTROL FOR BIG,
COMPREHENSIVE
APPLICATIONS



DALI PROFESSIONAL

This advanced system means a new trend in illumination control. It adds a new dimension of an easy control and creation of various illuminated scenes to the advantages of the LED technology.

The DALI PROFESSIONAL system is intended for comprehensive applications of illumination control for rooms and floors, the regulation depending on daylight, RGB and the dynamic control of illumination. This system allows us to reach big savings of electricity (ca. 75 %) when compared to existing applications without control.

The configuration and putting into operation is carried out very comfortably with the use of Windows PC software through USB connection. There is a predefined Plug&Play configuration for an immediate use without the necessity of the putting into operation procedure. The handling is carried out by standard switches, which are connected to the DALI PROFESSIONAL Coupler. The **DALI PRO SENSOR Coupler** serves for an easy connection of all lighting and presence sensors. Altogether up to 50 DALI PRO Couplers can be connected. Capacity glass touch panels and a touch screen with very elegant design are used as functional controlling elements.

Application:

- offices
- restaurants
- assembly and industrial shop floors
- warehouses
- shopping areas

DALI PROFESSIONAL advantages:

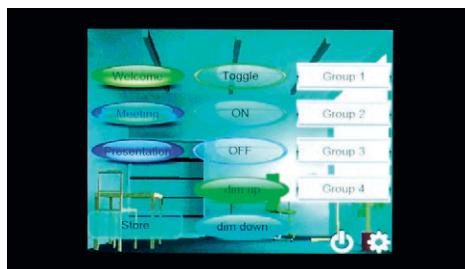
- each DALI circuit can control 64 electronic ballasts
- each DALI (A, B, C, D) circuit can contain 16 groups and save 16 scenes
- controller integrates 4 freely configurable, potential-free relays
- functions overreaching individual circuits
- control of all groups depending on daylight and space use intention with motion detection
- process control depending on space function, e.g. staircases, hallways
- graphic visualisation of device connection

DALI PROFESSIONAL system controlling units:



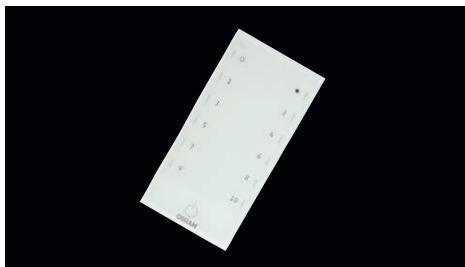
System accessories:

DALI PRO Touch control touch panel



- 5.7" LCD high-resolution touch screen
- e:bus DALI gateway power supply
- Switching and dimming of all connected light fittings
- Programmable times of switching-on and switching-off for groups
- Own objects such as backgrounds, logos, keys or layout plans can be used

Glass touch panel:



- Smooth surface made of real glass, extremely low profile
- 12 push-button functions
- e:bus DALI gateway power supply

Sensors:

HIGH BAY

**Application:**

- Industry

Product features:

- 3 - 10 m: people motion detection
- 3 - 13 m: vehicle motion detection (e.g. fork-lift truck)
- Delay time setting: 30 s - 20 min.
- Maximum stand-by electricity consumption: 0.25 W

LS/PD MULTI 3 CI

**Application:**

- Offices
- Hallways
- School classrooms

Product features:

- Ceiling-mounted sensor with movable sensor head
- Connection through four-pole terminal block or modular 4c4p connector
- Movable head with sensors

DALI REPEATER (DALI REP)

DALI REP LI - REPEATER FOR INSTALLATION DIRECTLY INTO LIGHT FITTING



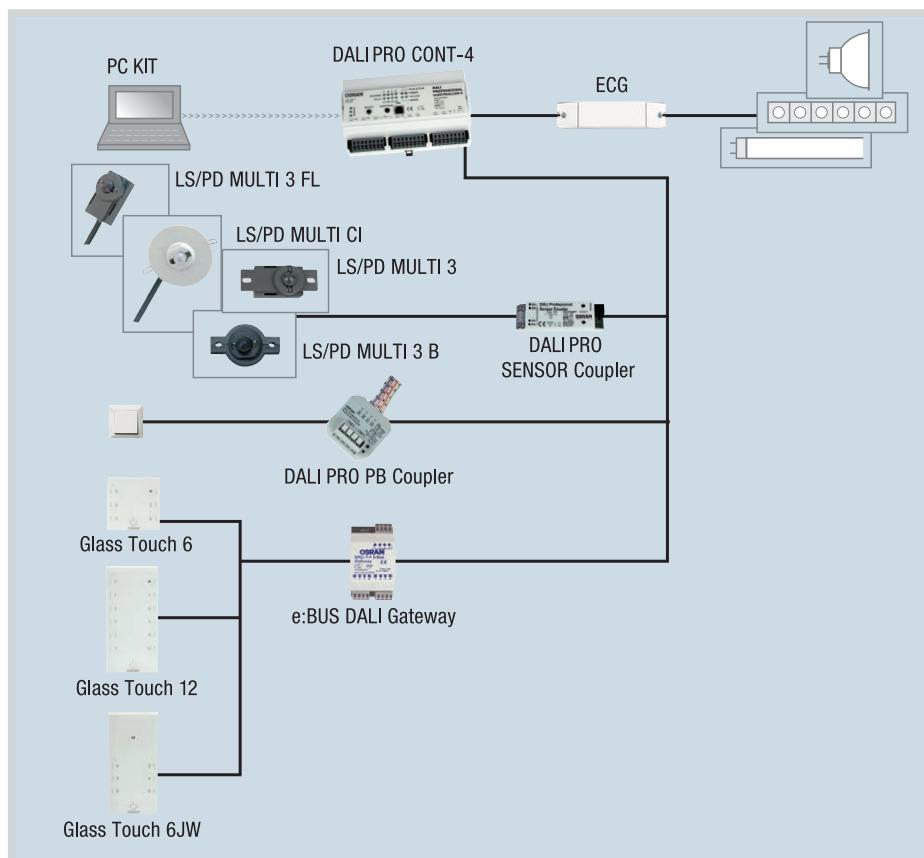
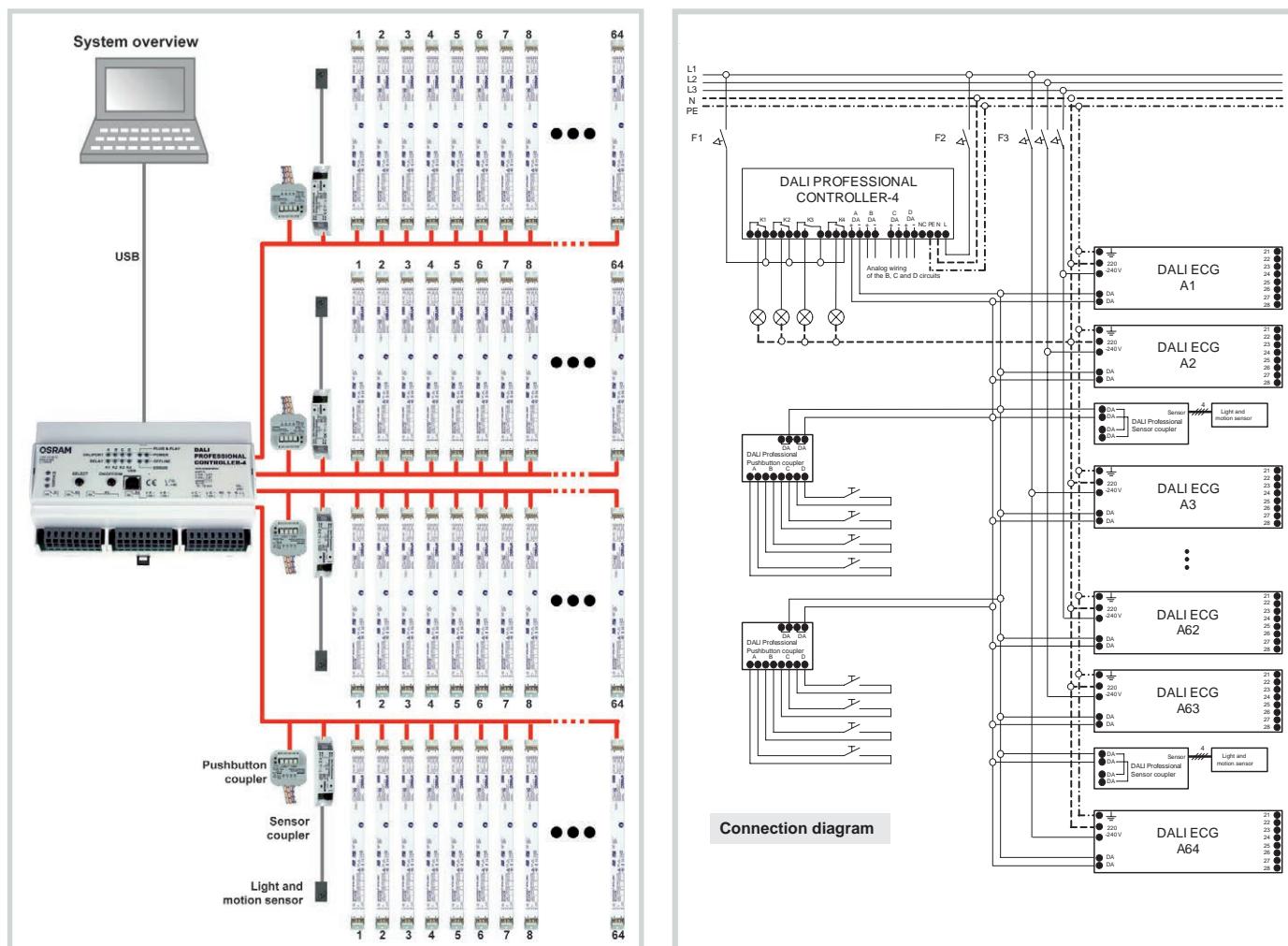
- It enables to add another 64 electronic ballasts to the DALI system
- It enables to extend the DALI line by another 300 m
- Electronic ballasts connected to a repeater work as a group
- Maximum input: 4W

DALI REP SO - REPEATER FOR INSTALLATION INTO SWITCHBOARD ON DIN BUSBAR



- It enables to add another 64 electronic ballasts to the DALI system
- It enables to extend the DALI line by another 300 m
- Electronic ballasts connected to a repeater work as a group
- Stand-by consumption: max. 1W

WIRING DIAGRAM:



LIGHT SOURCES AND SYSTEMS - technical parameters

LBS	W	L [mm]	Lampholder	Luminous flux [lm]	t [h]	OSRAM
Compact fluorescent tubes						
TC-T	13	90	GX24d-1	900	8000	DULUX T 13 W
TC-T	18	100	GX24d-2	1200	8000	DULUX T 18 W
TC-T	26	115	GX24d-3	1800	8000	DULUX T 26 W
TC-D	13	115	G24D-1	900	8000	DULUX D 13 W
TC-D	18	130	G24D-2	1200	8000	DULUX D 18 W
TC-D	26	149	G24D-3	1800	8000	DULUX D 26 W
TC-DEL	13	115	G24q-1	900	10000	DULUX D/E 13 W
TC-DEL	18	130	G24q-2	1200	10000	DULUX D/E 18 W
TC-DEL	26	149	G24q-3	1800	10000	DULUX D/E 26 W
TC-S	9	144	G23	600	8000	DULUX S 9 W
TC-S	11	214	G23	900	8000	DULUX S 11 W
TC-L	18	217	2G11	1200	8000	DULUX L 18 W
TC-L	24	317	2G11	1800	8000	DULUX L 24 W
TC-L	36	411	2G11	2900	8000	DULUX L 36 W
Linear fluorescent tubes						
T5	14	549	G5	1350	20000	LUMILUX HE 14 W
T5	21	849	G5	2100	20000	LUMILUX HE 21 W
T5	28	1149	G5	2900	20000	LUMILUX HE 28 W
T5	35	1449	G5	3650	20000	LUMILUX HE 35 W
T5	24	549	G5	2000	24000	LUMILUX HO 24 W
T5	39	849	G5	3500	24000	LUMILUX HO 39 W
T5	49	1449	G5	4900	24000	LUMILUX HO 54 W
T5	54	1149	G5	5000	24000	LUMILUX HO 54 W
T5	80	1449	G5	7000	24000	LUMILUX HO 80 W
T5	24	549	G5	1900	24000	CONSTANT HO 24 W
T5	39	849	G5	3400	24000	CONSTANT HO 39 W
T5	49	1449	G5	4300	24000	CONSTANT HO 54 W
T5	54	1149	G5	4850	24000	CONSTANT HO 54 W
T5	80	1449	G5	6800	24000	CONSTANT HO 80 W
ES - energy saver						
T5	25	1149	G5	2900	20000	LUMILUX HE 25 W ES
T5	32	1449	G5	3650	20000	LUMILUX HE 32 W ES
T5	45	1449	G5	4900	24000	LUMILUX HO 45 W ES
T5	50	1149	G5	5000	24000	LUMILUX HO 50 W ES
T5	73	1449	G5	7000	24000	LUMILUX HO 73 W ES
XT - with long lifetime						
T5	54	1149	G5	5000	45000	LUMILUX HO 54 W XT
T5	80	1449	G5	7000	45000	LUMILUX HO 80 W XT
T8	10	470	G13	650	18000	LUMILUX L 10 W
T8	15	438	G13	950	18000	LUMILUX L 15 W
T8	18	590	G13	1350	18000	LUMILUX L 18 W
T8	30	895	G13	2400	18000	LUMILUX L 30 W
T8	36	1200	G13	3350	18000	LUMILUX L 36 W
T8	58	1500	G13	5200	18000	LUMILUX L 58 W
Circular fluorescent tubes						
T-R 8 (T9 C)	22	216	G10q	1350	10000	LUMILUX L 22 W C
T-R 8 (T9 C)	32	305	G10q	2250	10000	LUMILUX L 32 W C
T-R 8 (T9 C)	40	406	G10q	3200	10000	LUMILUX L 40 W C
T5 FC	22	230	2GX13	1900	12000	LUMILUX FC 22 W
T5 FC	40	305	2GX13	3400	12000	LUMILUX FC 32 W
T5 FC	55	305	2GX13	4200	12000	LUMILUX FC 40 W

LBS - international system of light source marking

Luminous flux [lm] - luminous flux in lumens (in spectrum from 830 to 840)

t [h] - average lifetime of sources in hours (operation with ballast with warm start)

OSRAM - Osram light source offer

OSRAM electronic ballasts

The guarantee of up to 5 years is provided for EBs after registration and the use of OSRAM EBs in combination with OSRAM light sources.

If T5 HE and T5 HO fluorescent tubes are in vertical operating position, their base with marking print must be placed down.

If T5 FC fluorescent tube is in vertical operating position, its 2GX13 base must be placed down. In case of light fittings with more fluorescent tubes, T5 HE and T5 HO fluorescent tubes must be always used with their marking print at the same side in order to avoid heating their "cold spot".



LIGHT SOURCES AND SYSTEMS - technical parameters

LBS	W	L [mm]	Lampholder	Luminous flux [lm]	t [h]	OSRAM
Halide lamps						
HIT	70	84	G12	5800	9000	HQI-T 70/NDL
HIT	70	84	G12	5300	9000	HQI-T 70/WDL
HIT	150	84	G12	13000	9000	HQI-T 150/NDL
HIT	150	84	G12	13000	9000	HQI-T 150/WDL
						
HIT	250	226	E40	20000	12000	HQI-T 250/D PRO
HIT	250	246	E40	19800	12000	HQI-T 250/N/SI SUPER
HIT	400	273	E40	42000	12000	HQI-T 400/N
HIT	400	275	E40	36500	12000	HQI-T 400/N/SI SUPER
HIT	1000	345	E40	85000	9000	HQI-T 1000/D
HIT	1000	345	E40	110000	9000	HQI-T 1000/N
HIT	2000	430	E40	180000	9000	HQI-T 2000/D
HIT	2000	430	E40	205000	9000	HQI-T 2000/N
HIT	2000	430	E40	240000	9000	HQI-T 2000/N/E SUPER
						
HIT-DE	70	117	RX7s	6500	9000	HQI-TS 70/NDL
HIT-DE	70	117	RX7s	6200	9000	HQI-TS 70/WDL
HIT-DE	70	117	RX7s	6200	9000	HQI-TS 70/D
HIT-DE	150	135	RX7s-24	12500	12000	HQI-TS 150/NDL
HIT-DE	150	135	RX7s-24	12000	12000	HQI-TS 150/WDL
HIT-DE	150	135	RX7s-24	13500	12000	HQI-TS 150/D
HIT-DE	250	162	Fc2	20000	12000	HQI-TS 250/NDL
HIT-DE	250	162	Fc2	22000	12000	HQI-TS 250/WDL
HIT-DE	250	162	Fc2	20000	12000	HQI-TS 250/D PRO
						
HIT-DE	1000	187	K12s-36	90000	6000	HQI-TS 1000/NDL/S
HIT-DE	1000	187	K12s-36	90000	6000	HQI-TS 1000/D/S
HIT-DE	2000	187	K12s-36	215000	4000	HQI-TS 2000/NDL/S
HIT-DE	2000	187	K12s-36	200000	4000	HQI-TS 2000/D/S
						
HIE	70	141	E27	5500	9000	HQI-E 70/NDL/clear
HIE	70	141	E27	5200	9000	HQI-E 70/WDL/clear
HIE	100	141	E27	8400	9000	HQI-E 100/NDL/clear
HIE	100	141	E27	8500	9000	HQI-E 100/WDL/clear
HIE	150	141	E27	12500	9000	HQI-E 150/NDL/clear
HIE	150	141	E27	12900	9000	HQI-E 150/WDL/clear
HIE	250	226	E40	19000	12000	HQI-E 250/D PRO
HIE	250	244	E40	19200	12000	HQI-E 250/N/SI SUPER
HIE	400	285	E40	42000	12000	HQI-E 400/N/clear
HIE	400	290	E40	34000	12000	HQI-E 400/D PRO
HIE	400	285	E40	35000	12000	HQI-E 400/N/SI SUPER
						
Sodium high-pressure lamps						
HST	150	210	E40	15000	24000	NAV-T 150
HST	150	210	E40	74500	24000	NAV-T 150 SUPER 4Y
HST	250	257	E40	28000	24000	NAV-T 250
HST	250	257	E40	33200	24000	NAV-T 250 SUPER 4Y
HST	400	285	E40	48000	24000	NAV-T 400
HST	400	285	E40	56500	24000	NAV-T 400 SUPER 4Y
HST	1000	360	E40	130000	-	NAV-T 1000
						
HST-DE	70	120	RX7s	6800	18000	NAV-TS 70 SUPER 4Y
HST-DE	150	138	RX7s-24	15000	24000	NAV-TS 150 SUPER 4Y
						
HSE	70	71	E27	5600	18000	NAV-E 70/E
HSE	70	71	E27	6300	18000	NAV-E 70 SUPER 4Y
HSE	100	76	E27	8500	18000	NAV-E 100
HSE	100	76	E27	10200	18000	NAV-E 100 SUPER 4Y
HSE	150	91	E40	14500	24000	NAV-E 150
HSE	150	91	E40	17000	24000	NAV-E 150 SUPER 4Y
HSE	250	91	E40	27000	24000	NAV-E 250
HSE	250	91	E40	31100	24000	NAV-E 250 SUPER 4Y
HSE	400	122	E40	48000	24000	NAV-E 400
HSE	400	122	E40	55500	24000	NAV-E 400 SUPER 4Y
						
Mercury lamps						
HME	50	56	E27	2000	24000	HQL 50 DE LUXE
HME	80	71	E27	4000	24000	HQL 80 DE LUXE
HME	125	76	E27	6800	24000	HQL 125 DE LUXE
HME	250	91	E40	14000	24000	HQL 250 DE LUXE
HME	400	122	E40	24000	24000	HQL 400 DE LUXE
						

LIGHT SOURCES AND SYSTEMS - technical parameters

Light source type	Input [W]	Max. dimension [mm]	Luminous flux [lm]		System input (active) [W]		System input current to light source [A]		
			at 25°C	at 35°C	El. b.	El.-mag. b.	El. b. compensated	El.-mag. b. compensated	El.-mag. b. uncompensated
Linear fl. tubes - T8 (827, 830, 840)									
	15	438	950	875	15	19	0.07	0.08	0.17
	18	590	1350	1200	18	23	0.08	0.1	0.19
	36	1200	3350	3050	36	43	0.16	0.19	0.42
	58	1500	5200	4600	58	65	0.26	0.29	0.61
Linear fl. tubes - T5 (827, 830, 840)									
	14	549	1200	1350	15		0.07		
	21	849	1900	2100	22		0.1		
	24	549	1750	2000	26		0.12		
	28	1149	2600	2900	31		0.15		
	35	1449	3300	3650	38		0.18		
	39	849	3100	3500	42		0.19		
	49	1449	4300	4900	53		0.24		
	54	1149	4450	5050	58		0.26		
	80	1449	6150	7050	85		0.38		
Circular fl. tubes - T8 (827, 830, 840)									
	22	216	1350	1200	22	26	0.09	0.11	0.21
	32	307	2050	1850	35	37	0.15	0.18	0.31
	40	409	2900	2650	40	45	0.18	0.22	0.35
Circular fl. tubes - T5 (827, 830, 840)									
	22	225	1800	2050	24		0.11		
	40	300	3200	3600	43		0.19		
	55	300	4200	4850	59		0.27		
Square fl. tubes (827, 835)									
	16	141	1050		18	22	0.08	0.11	0.19
	28	207	2050		31	35	0.14	0.17	0.3
Compact fl. tubes (827, 830, 840)									
	9	167	600		11	16	0.05	0.07	0.1
	11	237	900		13	17	0.06	0.08	0.12
	13	115	900		15	19	0.07	0.1	0.13
	18	130	1200		21	25	0.09	0.12	0.18
	26	149	1800		30	34	0.13	0.16	0.26

Fluorescent source colour rendering correct choice		Warm white					White				Daylight			
		Shot light 79	29	827	927	830	930	25	33	840	940	950	865	965
Light colour	CIE division	3	1B	1A	1B	1A	2A	2B	1B	1A	1A	1B	1B	1A
Shop - foodstuff									●					
Shop - meat	●									●				
Shop - textiles, leather				●						●				
Hairdressers', beauty salons				●						●				
Workshops, mechanics								●		●		●		
Printing									●	●	●			●
Warehouses									●					
Paintshops									●		●			
Colour testing										●		●		
Growing of plants														●
Households, restaurants		●	●											
Offices, school rooms				●					●					
Museums					●					●				
Hospital rooms				●				●						
Consulting rooms						●				●				
Sporting facilities						●			●					
Outdoor illumination		●						●						●

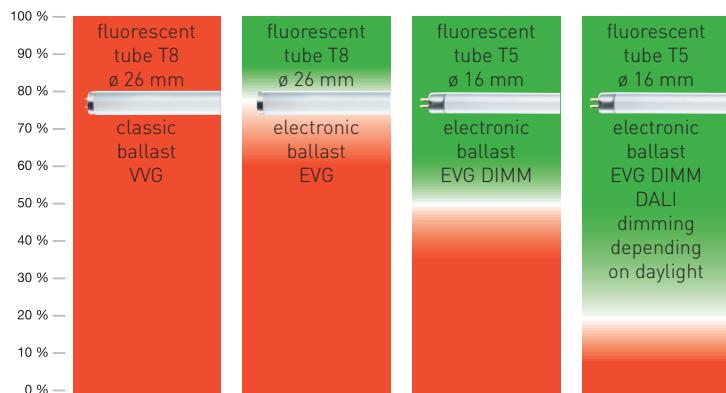


Recommended



Permissible

FLORESCENT TUBE SOURCE ELECTRICITY SAVINGS DEPENDING ON USED BALLAST TYPE

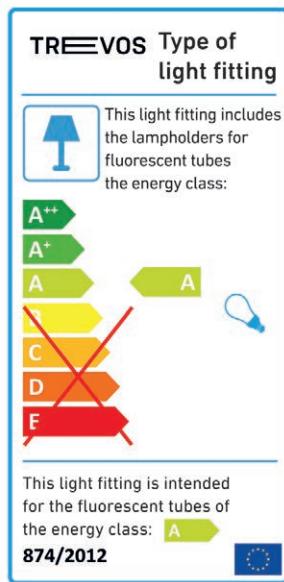


With controlled illumination depending on daylight and presence of persons it is possible to save up to 80% of electricity.

CHEMICAL RESISTANCE OF LIGHT FITTING BODIES

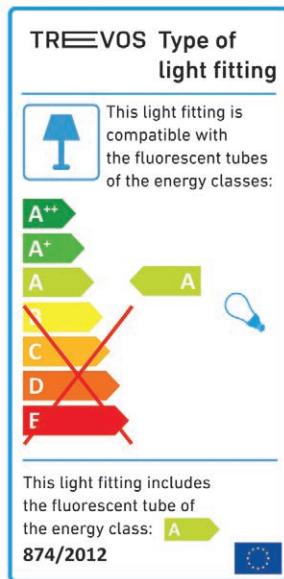
Environment	Maximum concentration	Polycarbonate/PC			Acrylate/AC (SAN, PMMA)			ABS			Aluminium/Al (DIN 230)			Polyamide (PA6/66)		
		Resistance			Resistance			Resistance			Resistance			Resistance		
		yes	partially	no	yes	partially	no	yes	partially	no	yes	partially	no	yes	partially	no
Aceton (ketones)		●		●	●		●	●		●	●		●	●	●	●
Aniline			●												●	●
Ammonia	5%	●		●	●		●	●		●	●		●	●	●	●
Benzaldehyde		●		●			●	●		●	●		●	●	●	●
Benzene		●		●			●	●		●	●		●	●	●	●
Diethylether (ethers)															●	●
Potassium nitrate	40%	●													●	●
Ethanol (alcohols)	50%	●													●	●
Ethylacetate (esters)		●		●			●	●		●	●		●	●	●	●
Ethyl alcohol		●		●			●	●		●	●		●	●	●	●
Phenol			●				●	●		●	●		●	●	●	●
Glycerine			●				●	●		●	●		●	●	●	●
Heptane			●				●	●		●	●		●	●	●	●
Ammonium hydroxide	25%														●	●
Sodium hydroxide - base	60%	●					●	●		●	●		●	●	●	●
Sodium chloride - salt solution	15%	●					●	●		●	●		●	●	●	●
Sulphur chloride and Calcium chloride		●					●	●		●	●		●	●	●	●
Carbon tetrachloride and Chloric ether		●		●			●	●		●	●		●	●	●	●
Iron dichloride		●		●			●	●		●	●		●	●	●	●
Arsenic acid and Oleic acid		●		●			●	●		●	●		●	●	●	●
Citric acid	20%	●		●			●	●		●	●		●	●	●	●
Nitric acid	20%		●				●	●		●	●		●	●	●	●
Nitric acid	50%		●				●	●		●	●		●	●	●	●
Hydrochlorid acid	5%	●		●			●	●		●	●		●	●	●	●
Hydrochlorid acid	35%		●				●	●		●	●		●	●	●	●
Chromic acid	40%	●		●			●	●		●	●		●	●	●	●
Formic acid	30%		●				●	●		●	●		●	●	●	●
Acetic acid	10%	●		●			●	●		●	●		●	●	●	●
Sulphuric acid	30%	●		●			●	●		●	●		●	●	●	●
Methanol		●		●			●	●		●	●		●	●	●	●
Fuel oil			●				●	●		●	●		●	●	●	●
Mineral oil			●				●	●		●	●		●	●	●	●
Vegetable oil			●				●	●		●	●		●	●	●	●
Rape oil			●				●	●		●	●		●	●	●	●
Lamp oil			●				●	●		●	●		●	●	●	●
Hydrogen peroxide	30%	●		●			●	●		●	●		●	●	●	●
Ammonium sulphate	15%	●		●			●	●		●	●		●	●	●	●
Toluene			●				●	●		●	●		●	●	●	●
Turpentine oil			●				●	●		●	●		●	●	●	●
Trichlorethylene			●				●	●		●	●		●	●	●	●
Sodium carbonate	20%	●		●			●	●		●	●		●	●	●	●
Aliphatic hydrocarbons		●		●			●	●		●	●		●	●	●	●
Aromatic hydrocarbons			●				●	●		●	●		●	●	●	●
Alkali			●				●	●		●	●		●	●	●	●

LIGHT FITTINGS FOR FLUORESCENT TUBES OF ENERGY CLASS A



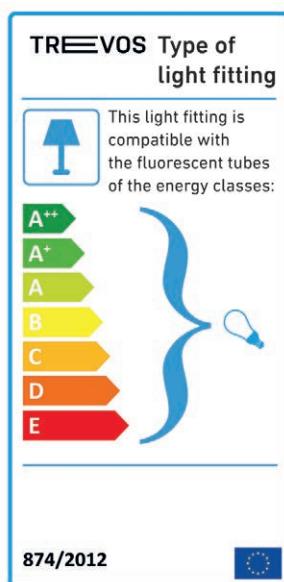
PRIMA T8 Ex	ST T5
PRIMA T5	ST OR T5
PRIMA T8	ST T8
PRIMA T5 VP	ST R T8
PRIMA T8 VP	
PRIMA T5 ABS	RPK T5
PRIMA T8 ABS	RPK T8
PRIMA T8 ta60	
PRIMA T5 TRS	MO T5
PRIMA T8 TRS	MO T8
PRIMA II T5	MO AS T5
PRIMA II T8	MO AS T8
PERUN T5	LUXOR T5
PERUN T8	LUXOR T5 DI-IN
ALUMAX T5	
ALUMAX T8	
ALUMAX T8 ta60	
BELTR T8	
BELTR T5	

LIGHT FITTINGS SOLD WITH FLUORESCENT TUBE OF ENERGY CLASS A



SB T8
HELIOS

LIGHT FITTINGS FOR LIGHT SOURCES OF MORE TYPES OF ENERGY CLASSES



LINEA ROUND

APPROXIMATE VALUES OF LIGHT FITTING MAINTENANCE FACTOR (LMF)

IP65, IP66 light fittings – PRIMA, PERUN, ALUMAX, LINEA					
	Cleaning intervals in years				
Environment	1,0	1,5	2,0	2,5	3,0
Very clean	0,96	0,93	0,93	0,92	0,92
Clean	0,94	0,91	0,91	0,90	0,90
Common (optional)	0,90	0,88	0,86	0,85	0,84
Dirty (optional)	0,86	0,83	0,81	0,80	0,79

IP20, IP40 light fittings – BELTR, SB, ST, LUXOR					
	Cleaning intervals in years				
Environment	1,0	1,5	2,0	2,5	3,0
Very clean	0,94	0,93	0,91	0,9	0,89
Clean	0,88	0,85	0,83	0,81	0,79
Common (optional)	0,82	0,79	0,77	0,75	0,73
Dirty (optional)	0,77	0,73	0,71	0,68	0,65

The table includes only approximate values that may not match the maintenance values achievable for a specific device.

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See also our

LED LUMINAIRES

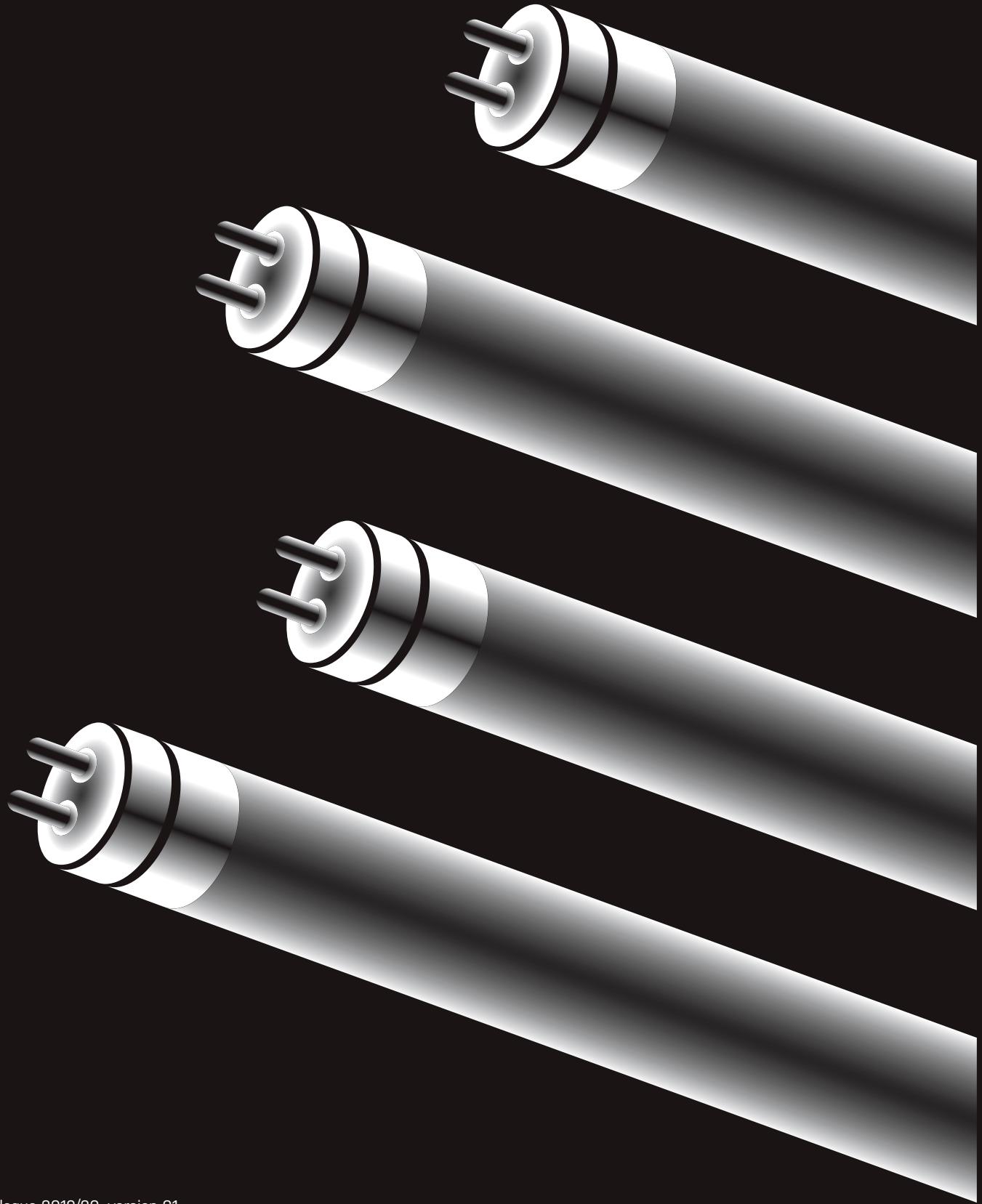
catalogue



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Catalogue 2019/20, version 01

A standard linear barcode is centered within a white rectangular border. The barcode represents the number 8 590515 000227. To the left of the barcode, the digit '8' is printed. To the right of the barcode, the numbers '590515' and '000227' are printed separated by a thin space.