

1 Ex-protected hand and tube lights HL/TL

(Zone 1, 2, 21, 22)

Mains powered and still flexible

These powerful explosion-protected hand lamps with LEDs were developed especially for use during inspection and maintenance work in hazardous areas. Typical applications are found, for example in the chemical industry, offshore, in the automotive sector, in the aircraft industry or in shipyards. Due to their small size and high light output, these rugged lights are especially suited for lighting in tight spaces, the interior of

machinery, silos, etc. wherever a reliable portable light source is required. With the appropriate accessories (optional) the tube lights can also be used, for example, for lighting sampling ports or as tube gauge lights or they can easily be mounted on railing pipes.

Light technology

All hand and tube lights feature a protective polycarbonate tube with a reflector. They are available in high efficient LED technology. The outstanding fea-

tures of the white LED technology are the insensitivity to shock and vibration, as well as the enormous longevity that makes a lamp change over the lifetime of the LED hand lamp superfluous.

Application

Because they are small in size and, at the same time, have a high light output and a high degree of protection IP 68, these rugged lights are particularly suitable for sewage treatment plants where flooding is possible, and wherever a reliable, robust and portable light source is required. The hand and tube lights are used in engineering, printing machines, in the petrochemical and process industries as well as in the food industry (dusts). They are also suitable for temporary installations where maintenance, alteration and maintenance work are carried out in facilities in the oil and gas industry, for plant construction, in shipyards, or during the

cleaning of tanks. Thanks to the special accessories, the lamps can be mounted by clamps on pipes (railing in the chemical and oil rigs) or with magnets directly to the machine housing or tank walls. At petrol stations, tube lights can be installed in the illuminated ram protection around fuel pumps. Explosion-protected hand and tube lights contribute to the operational safety during the construction of airplanes as well as during maintenance work in shipyards work. Here various people are at work in confined spaces in the cargo hold or in the cabin, cleaning parts with solvents, painting or preserving surfaces. During maintenance, the area surrounding the aircraft hull is normally declared as Zone 2, while empty and vented tanks are normally declared as Zone 1.



Features

- With LED-technique from 6 W to 80 W
- Lumen output from 1000 to 6469 lm, with directional (170°) or all round lighting (340°)
- Wide voltage range 100 V - 265 V AC/DC for general applications 12 V - 50 V AC/DC for confined spaces (e. g. metal tanks)
- Robust protective tube made of polycarbonate
- Suited for use in explosive gas and dust atmospheres, acc. ATEX & IECEx
- High degree of protection up to IP68



Safe handling

The hand lamp has a ribbed neoprene rubber handle with a trumpet-shaped cable gland made of metal and a neoprene rubber end cap with attachment hook for hanging up the light in the workplace. The end caps of the tube lights are also made of durable neoprene rubber. The tube lights are mounted directly on the machine using suitable clamps. Optionally, all hand and tube lights can also be fitted with an eXLink connector for the quick and easy disconnection of the power cord at the lamp.



Ordering details hand lamps

Type	Lumen output (lm)	Lamp power	Voltage	Dimensions				Weight (kg)	Order No.
				A	B	C	D		
77-HL43LED0383-1250-105	1100	10 Watt	12-50 V AC/DC	505	195	66	43	1,5	HL43dLED100383LV
77-HL43LED0383-100265-105	1100	10 Watt	100-265 V AC	505	195	66	43	1,5	HL43dLED100383
77-HL43LED0460-1250-105	1100	10 Watt	12-50 V AC/DC	581	266	66	43	1,5	HL43dLED100460LV
77-HL43LED0460-100265-105	1100	10 Watt	100-265 V AC	581	266	66	43	1,5	HL43dLED100460

Ordering details tube lights

Type	Lumen output (lm)	Lamp power	Voltage	Dimensions				Weight (kg)	Order No.
				A	B	C	D		
77-TL43LED0383-1250-105	1100	10 Watt	12-50 V AC/DC	505	300	66	43	1,5	TL43dLED100383LV
77-TL43LED0383-100265-105	1100	10 Watt	100-265 V AC	505	300	66	43	1,5	TL43dLED100383
77-TL60LED0870-1250-105	1650	15 Watt	12-50 V AC/DC	991	821	82	60	2,2	TL60dLED150870LV
77-TL60LED0870-100265-105	1650	15 Watt	100-265 V AC	991	821	82	60	2,2	TL60dLED150870
77-TL60LED1175-1250-105	2420	22 Watt	12-50 V AC/DC	1296	1126	82	60	2,8	TL60dLED221175LV
77-TL60LED1175-100265-105	2420	22 Watt	100-265 V AC	1269	1126	82	60	2,8	TL60dLED221175
83-TL100LEDDE0605-1250-105-3	3300	3x10 Watt	12-50 V AC/DC	655	522	100	100	4,0	TL100at300605LV
83-TL100LEDDE0605-100265-105-3	3300	3x10 Watt	100-265 V AC	655	522	100	100	4,0	TL100at300605
83-TL100LEDDE1245-1250-105-3	7260	3x22 Watt	12-50 V AC/DC	1290	1157	100	100	4,7	TL100at661245LV
83-TL100LEDDE1245-100265-105-3	7260	3x22 Watt	100-265 V AC	1290	1157	100	100	4,7	TL100at661245
84-TL34LEDDB0385-1250-105-1	1100	10 Watt 170°	12-50 V AC/DC	435	385	34	34	0,7	LEDGb3410385LV
84-TL34LEDDB0385-100265-105-1	1100	10 Watt 170°	100-265 V AC	435	385	34	34	0,7	LEDGb3410385LV

Accessories

Fixing clips	For diameter	Dimension A	Weight (kg)	Order No.
71-19026-000	50	78	0,02	7119026000
77-60951-901	60	80	0,48	7760951901
77-100951-901	100	80	0,62	77100951901
84-TL34-00000-SET	34	34	0,16	84TL3400000SET

Magnetic fixing clips	For diameter	Dimension A	Weight (kg)	Order No.
71-19018-000	50	130	0,21	7119018000
71-19022-000	60	215	0,68	7119022000

Other accessories/sizes on request

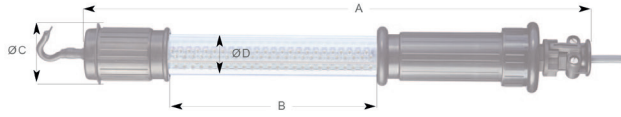
All dimensions in mm.

1.5

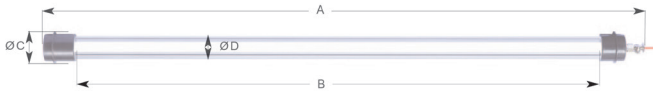
Dimension Drawing

77-HL / 77-TL / 83-TL / 84-TL / Accessories

77-HL



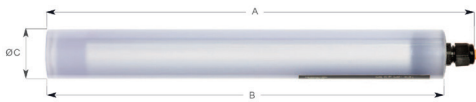
77-TL



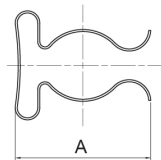
83-TL



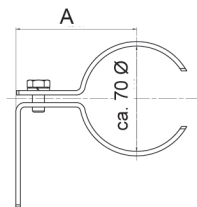
84-TL



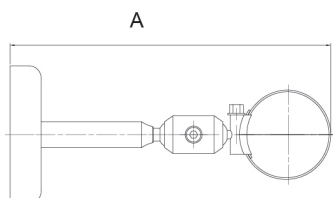
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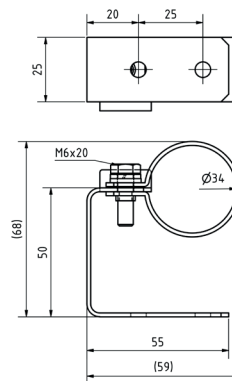
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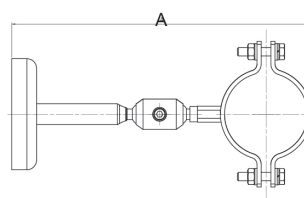
71-19018-000



84-TL34-00000-SET



71-19022-000



Technical Data / Polar Curve

HL43d LED / TL60d LED / LEDM100de

1.5



Technical data

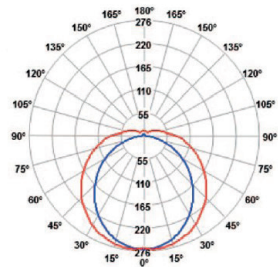
	77-HL	77-TL	83-TL	84-TL
EC-Type Examination Certificate	BVS 20 ATEX E 068 X	BVS 20 ATEX E 068 X	BVS 22 ATEX E 009 X	BVS 20 ATEX E 082
IECEX Certificate of Conformity	IECEX BVS 20.0056 X	IECEX BVS 20.0056 X	IECEX BVS 22.0014 X	IECEX BVS 20.0066
EAC Certificate of Conformity	EAC RU C-CH.AA87B.00688	EAC RU C-CH.AA87B.00688	EAC RU C-CH.AA87B.00688	-
NEPSI Certificate of Conformity	NEPSI GYJ17.1258X (China)	NEPSI GYJ17.1258X (China)	-	NEPSI GYJ18.1391 (China)
KC Certificate of Conformity	KC 16-KA4BO-0184X (Korea)	KC 16-KA4BO-0184X (Korea)	-	KC 18-KA4BO-0722 (Korea)
QPS Certificate of Conformity	-	-	QPS LR1702-6 (cQPSus)	-
Marking accd. to 2014/34/EU	⊕ II 2 G ⊕ II 2 D	⊕ II 2 G ⊕ II 2 D	⊕ II 2 G ⊕ II 2 D	⊕ II 2 G
Marking accd. to IECEx	Ex db IIC T6/T5 Gb Ex tb IIIC T80°C/T95°C Db	Ex db IIC T6/T5 Gb Ex tb IIIC T80°C/T95°C Db	Ex db eb IIC /IB T5 Gb Ex tb IIIC T95°C Db	Ex db IIC T5 Gb
Permissible ambient temperature	-20 °C up to +40 °C (Standard) -20 °C up to +50 °C (T6) -20 °C up to +60 °C (T5)	-20 °C up to +40 °C (Standard) -20 °C up to +50 °C (T6) -20 °C up to +60 °C (T5)	-20 °C up to +60 °C	-20 °C up to +60 °C
Voltage	12-50 V AC/DC (50/60 Hz) 100-265 V AC/DC (50/60 Hz)	12-50 V AC/DC (50/60 Hz) 100-265 V AC/DC (50/60 Hz)	12-50 V AC/DC (50/60 Hz) 100-265 V AC/DC (50/60 Hz)	12-50 V AC/DC (50/60 Hz) 100-265 V AC/DC (50/60 Hz)
Degree of protection accd. to EN 50102	IK10	IK10	IK10	IK10
Standard cable length	5 m cable 3x1 mm ² without plug ¹⁾	5 m cable 3x1 mm ² without plug ¹⁾	5 m cable without plug ¹⁾	5 m cable 3x1 mm ² without plug ¹⁾
Degree of protection accd. to EN 60529	IP68 ²⁾	IP68 ²⁾	IP66	IP66
Protection tube	Polycarbonate Aluminium EPDM	Polycarbonate Aluminium EPDM	Ø 55 Duran Polycarbonate Aluminium Ø 60 Polycarbonate Aluminium EPDM Ø 60 Polycarbonate EPDM	Polycarbonate

¹⁾ Ex-protected plugs see catalogue 2 part 1 electrical connectivity

²⁾ 2.5 m for 30 min.

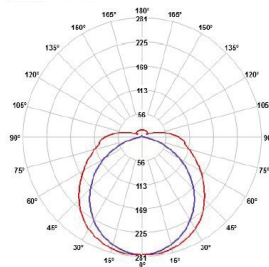
Polar curve 77-HL

Luminous intensity [cd/klm]
C0-C180
C90-C270



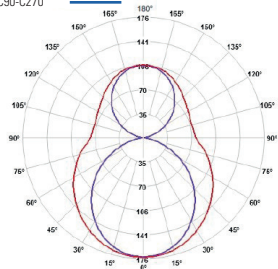
Polar curve 77-TL

Luminous intensity [cd/klm]
C0-C180
C90-C270



Polar curve 83-TL

Luminous intensity [cd/klm]
C0-C180
C90-C270



Polar curve 84-TL

Luminous intensity [cd/klm]
C0-C180
C90-C270

