



Explosion Protected Hand- and Machine Lamps with LED-Technique

 **COOPER** Crouse-Hinds



Explosion Protected

These explosion-protected handlamps in LED technique were designed especially for inspection and maintenance work in potentially explosive atmospheres of gas-Ex zones 1 and 2 as well as dust-Ex zones 21 and 22, such as are found in the chemical industry, in offshore installations, in the automobile sector, in the aircraft industry and in shipyards.

The white LEDs impresses by their high energy efficiency, their impact and shock resistance and their extreme long life cycle, who obviates the need of changing the illuminant during the whole life cycle of the LED-handlamp.

Due to the small dimensions combined with a high light output, these robust lamps are particularly well suited for use in confined spaces, inside machines and in silos, etc., as well as anywhere where a reliable, portable light source is needed.

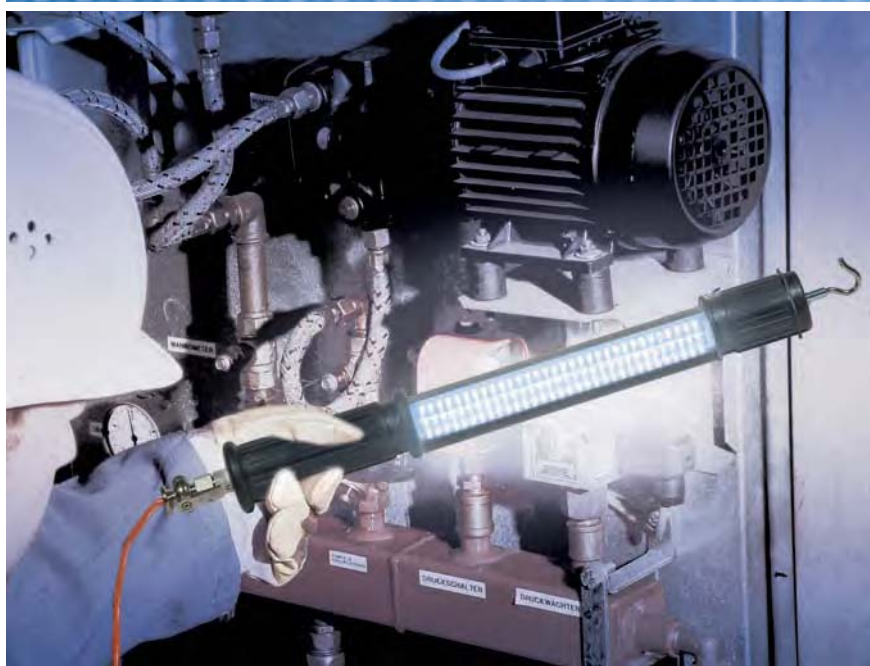
When working in confined spaces, containers and silos with metallic materials, special attention shall be paid to the protection of persons in accordance with the installation requirements, e.g. by use of low voltage LED handlamps or LED handlamps type "TR" with isolating transformer integrated in the connecting lead.

The LED-handlamps feature a grooved grip made of neoprene rubber with a metal, trumpet-shaped gland and a neoprene rubber end-cap with hook for hanging up the lamp at the workplace. The light-transmitting protective tube is made of impact-resistant polycarbonate.

The machine lamps with 6 W - 19 W LED-technique are excellent for illumination of flooding areas e.g. for wastewater treatment plants thanks to their highest ingress protection of IP68.

Machine lamps can be installed with optional accessories as level gauge light fitting or for illumination of probe withdrawal location. These mounting accessories allow an easy installation on handrail tubes.

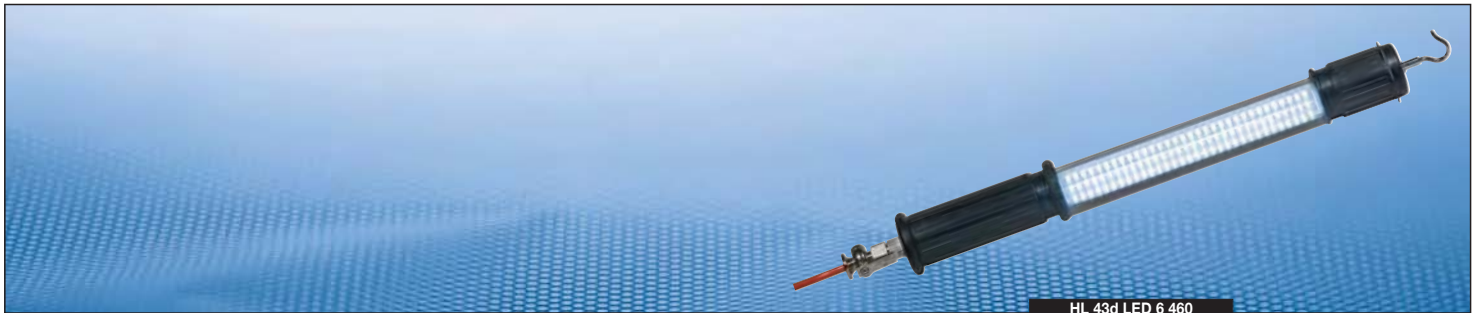
All hand- and machine lamps can be equipped optional eXLink connector system. This allows to connect and disconnect the mains cord quickly and easily.



- High efficient white LED-technique 6 W - 19 W
- Extreme long life cycle - maintenance-free operation throughout the whole service life
- Wide voltage range
- Robust protective tube made of polycarbonate
- Suited for use in gas and dust Ex atmospheres
- High degree of protection IP 68

LED Hand- and Machine Lamps

COOPER Crouse-Hinds



HL 43d LED 6 460

Technical data

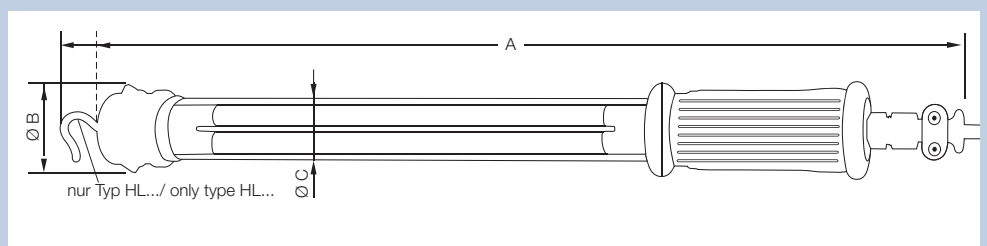
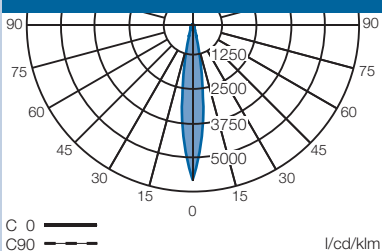
Marking to 94/9/EG	⊕ II 2 G Ex d IIC T5 Gb ⊕ II 2 D Ex t IIIC T95 °C Db IP68
EC-Type Examination Certificate	BVS 07 ATEX E 164 X
IEC-Type Examination Certificate	IECEX BVS 08.0014 X
Permissible ambient temperature	-20 °C up to +60 °C
Rated voltage 1	230 V AC (50/60 Hz)
Rated voltage 2	24 - 50 V AC/DC (50 - 400 Hz)
Rated voltage 3	85 - 264 V AC (50 - 400 Hz) / 120 - 370 V DC
Rated voltage 4	12 - 24 V DC
Rated voltage 5 (type "TR")	230/24 V AC (50/60 Hz) type isolating transformer "TR"
Rated power	approx. 6 W, 15 W or 19 W, depends on type
Standard cable length	5 m cable 3 x 1 mm ² , without plug
Insulation class	I resp. III
Lamp/illuminant	LED
Luminous flux	315 lm (6 W LED), 790 lm (15 W LED), 1000 lm (19 W LED)
Degree of protection accd. EN 60529	IP 68 (2,5 m - 24 h)
Enclosure colour	black
Protective cover/protective bowl	polycarbonate

Ordering details

Type	Description	Dimensions (mm)			Weight	OU	Order-No.
		A	B	C			
HL 43d LED 6 460	6 W LED, Rated voltage 2	640	66	43	1.5 kg	1	1 1700 000 004
HL 43d LED 6 460	6 W LED, Rated voltage 3	640	66	43	1.5 kg	1	1 1700 000 107
HL 43d LED 6 460	6 W LED, Rated voltage 4	640	66	43	1.5 kg	1	1 1700 000 003
HL 43d LED 6 460 TR	6 W LED, Rated voltage 5	640	66	43	2.7 kg	1	1 1700 000 223
ML 43d LED 6 460	6 W LED, Rated voltage 2	581	66	43	1.5 kg	1	1 1700 000 013
ML 43d LED 6 460	6 W LED, Rated voltage 3	581	66	43	1.5 kg	1	1 1700 000 113
ML 43d LED 6 460	6 W LED, Rated voltage 4	581	66	43	1.5 kg	1	1 1700 000 012
ML 60d LED 15 1480	15 W LED, Rated voltage 1	1601	82	60	3.4 kg	1	1 1700 000 520
ML 60d LED 19 1780	19 W LED, Rated voltage 1	1901	82	60	3.5 kg	1	1 1700 000 521

Polar curve / Dimension drawing

Polar curve HL/ML ... LED



Cooper Crouse-Hinds GmbH

Neuer Weg – Nord 49
D-69412 Eberbach
Tel. +49 (0) 6271/806-500
Fax +49 (0) 6271/806-476
Internet www.ceag.de
E-mail sales.CCH.de@cooperindustries.com

Cooper Crouse-Hinds (UK) Ltd.

Unit G, Quinn Close
Seven Stars Industrial Estate
Whitley
GB - Coventry CV 3 4LH
Tel. +44 247-630-89 30
Fax +44 247-630-10 27
E-mail sales.CCH.gb@cooperindustries.com

Cooper Crouse-Hinds S.A.

Avda. Santa Eulalia, 290
E - 08223 Terrassa
Barcelona
Tel. +34 (0) 9-37362710
Fax +34 (0) 9-37835055
E-mail sales.CCH.es@cooperindustries.com

Cooper Crouse-Hinds B. V.

Sydneystraat 74
NL - 3047 BP Rotterdam
Tel. +31 (0) 10-2452145
Fax +31 (0) 10-2452121
E-mail sales.CCH.nl@cooperindustries.com

Cooper Crouse-Hinds LLC

Cooper Crouse-Hinds
Suite 302, Building 49
Dubai Healthcare City
Dubai
United Arab Emirates
Tel.: 971-4-427-2522 / 2500
Fax: 971-4-429-8521
E-mail sales.CCH.me@cooperindustries.com

Cooper Crouse-Hinds Norge A/S

Husebysletta 9
N - 3412-Lierstranda
Tel. +47 32-244600
Fax +47 32-244646
E-mail sales.CCH.no@cooperindustries.com

COOPER Industries Crouse-Hinds Division

Wolf 7th North Streets
P. O. Box 4999
USA - Syracuse, NY 13221
Tel. +1 (0) 3-154777000
Fax +1 (0) 3-154775717
E-mail crouse.customerctr@cooperindustries.com
Internet www.crouse-hinds.com

Cooper Electric (Shanghai) Co. Ltd.

3rd Floor
No.6101 LongDong Avenue
Pudong Shanghai, China 201201
Tel. +86-21-68915655
E-mail CCHSales@cooperindustries.com

Cooper Crouse-Hinds Pte. Ltd.

2 Serangoon North Avenue 5
Fu Yu Building #06-01
SGP - 554911Singapore
Tel. +65 (0) 6297-4849
Fax +65 (0) 6297-4819
E-mail chsi-sales@cooperindustries.com
Internet www.cchspore.com.sg/

©2010 Cooper Crouse-Hinds GmbH

The information provided serves only as a product description and is not to be regarded as confirmation of product characteristics or as a guarantee in the legal sense. We reserve the right to make changes to the design in the interest of technological development

Cooper Industries, Ltd.
600 Travis, Ste. 5800
Houston, TX 77002-1001
P: 713-209-8400
Internet www.cooperindustries.com