

 **COOPER** Crouse-Hinds



# EX - H A N D   A N D   M A C H I N E   L A M P S

## Description

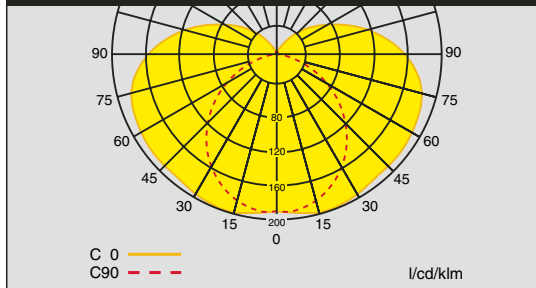
These explosion-protected fluorescent lamps were designed especially for inspection and maintenance work in potentially explosive atmospheres, such as are found in the chemical industry, in offshore installations, in the automobile sector, in the aircraft industry and in shipyards.

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. Together with the appropriate accessories (optional), these lamps can also, for example, be used at sampling openings or as level gauges, or they can be fitted to railings.

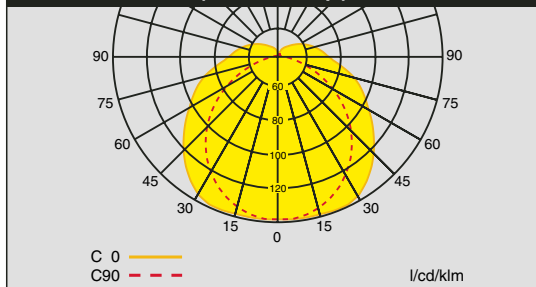
When working in confined spaces, containers and silos with metallic materials, special attention shall be paid to the protection of persons in accordance with the installation requirements. Lamps for low-voltage operation (24V) or with an isolating transformer (TR version) are available for such applications. Alternatively, earth-leakage circuit breakers with a rated tripping current of 10 mA can also be used. The explosion-protected versions of these protection devices can be positioned in the immediate vicinity of the lamps. Due to the low surface temperatures, they may also be mounted in the immediate vicinity of combustible materials.



**Luminous intensity distribution curve d 2GD E 1... (single lamp)**



**Luminous intensity distribution curve d 2GD E 2... (twin lamp)**



- Single and twin-lamp versions from 6 W to 13 W
- Rated voltage ranges 24/127/230 V
- Also available with transformer
- With electronic ballast
- Robust protective tube made of polycarbonate
- Suited for use in gas and dust Ex-atmospheres

**Application range**

The powerful, explosion-protected hand and machine lamps with bi-pin fluorescent lamps fulfil the requirements of ATEX directive 94/9/EC. They are generally suited for use in potentially explosive gas atmospheres in Zones 1 and 2, as well as in potentially explosive dust atmospheres in Zones 21 and 22, and are approved for temperature class T6/T5 or surface temperatures up to 80°C.

**Constructional features**

The explosion-protected hand and machine lamps feature an integrated electronic ballast (EVG) and are available with one or two built-in fluorescent lamps. Depending upon the type, they are approved for various supply voltages. The light-transmitting, protective tube is made of impact-resistant polycarbonate and features a built-in reflector. The lamp caps are made of robust neoprene rubber.

**Versions**

**Hand lamps** (marking E) 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.

**Machine lamps** (marking EM) are used for the local illumination of machines and parts thereof. They are also ideally suited for use

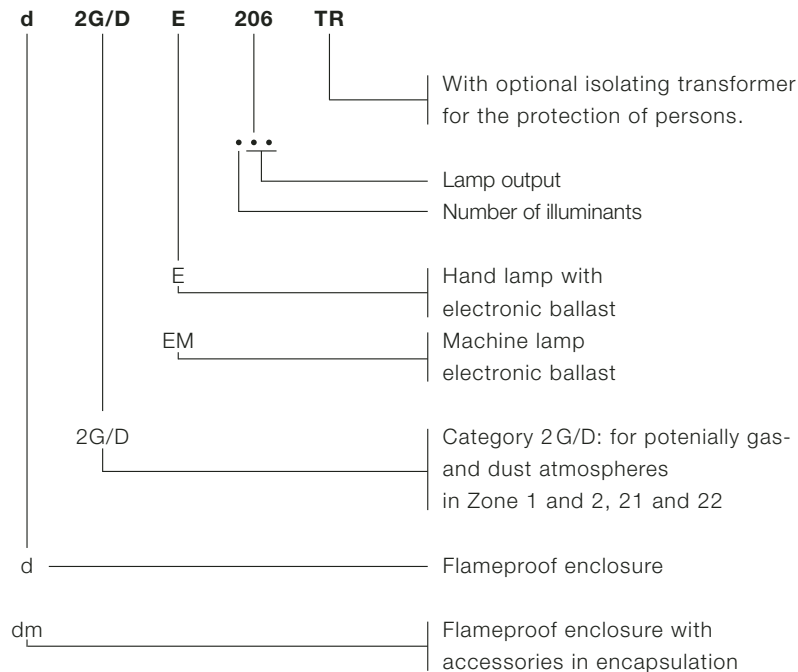


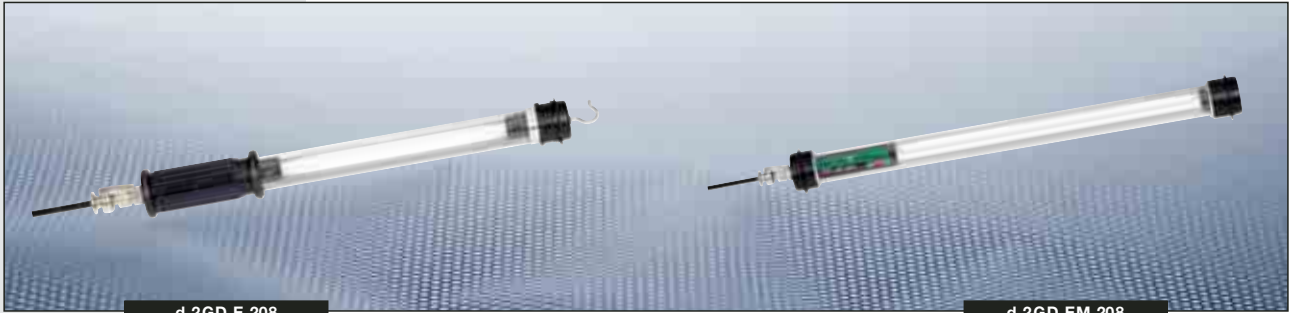
as level gauges. They feature a metal trumpet-shaped gland and two neoprene rubber caps. They can be mounted directly onto the machines with suitable clamps.

**Lamps with isolating transformer**

(marking TR) are particularly suited for the safe protection of persons. For this purpose there is a completely potted isolating transformer for the galvanic isolation of the lamp from the supply voltage in the power supply cable.

**Type code**





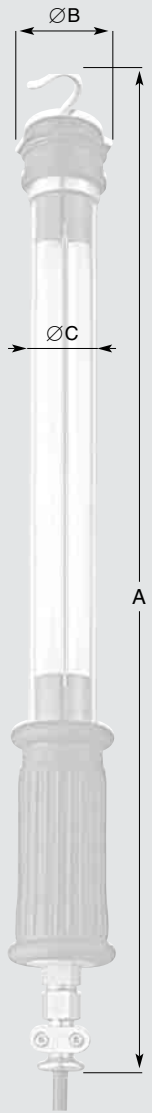
d 2GD E 208

d 2GD EM 208

**EX-LAMPS WITH ELECTRONIC BALLASTS (EVG)**

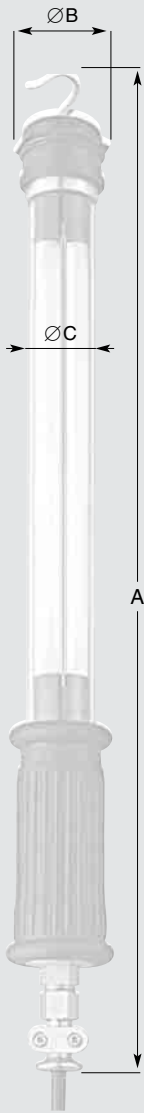
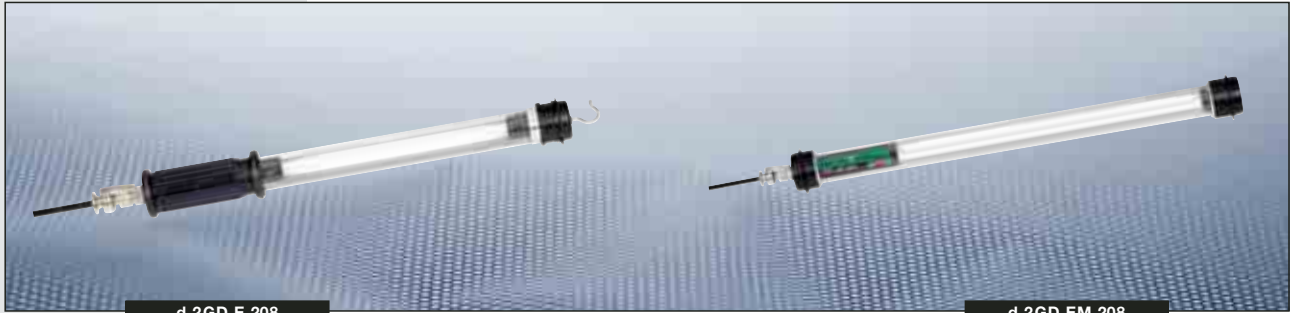
**| 24 V AC/DC |**

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Technical data	
<b>24 V AC/DC</b>	
Marking to 94/9/EC	⊕ II 2 G/D
Explosion protection	EEx d IIB
Temperature class	see ordering details
Surface temperature	see ordering details
EC-Type Examination Certificate	SEV 04 ATEX 0101
Enclosure material	Polycarbonate/Aluminium
Rated voltage	24 V AC/DC
Ballast	EVG, integrated
Degree of protection to EN 60529	IP 67
Insulation class	II
Permissible ambient temperature	-20 °C to +50 °C
Standard cable length	5 m Tdv cable 2 x 1.5 mm <sup>2</sup> (thermoplastic) without plug**

Ordering details 24 V AC/DC									
Type	With fluor- escent lamps	Temp. class	Surface temp.	Lum. flux ca. lm	Dimensions A B C in mm			Weight ca. kg	Order No.
d 2GD E 106	1x6 W	T6	80°C	215	525	60	40	1.4	<b>1 1700 000 000</b>
d 2GD E 108	1x8 W	T6	80°C	360	600	60	40	1.5	<b>1 1700 000 001</b>
d 2GD E 206	2x6 W	T6	80°C	430	525	60	40	1.5	<b>1 1700 000 005</b>
d 2GD E 208	2x8 W	T6	80°C	720	600	60	40	1.6	<b>1 1700 000 006</b>
d 2GD EM 106	1x6 W	T6	80°C	215	490	60	40	1.4	<b>1 1700 000 010</b>
d 2GD EM 108	1x8 W	T6	80°C	360	565	60	40	1.5	<b>1 1700 000 011</b>
d 2GD EM 206	2x6 W	T6	80°C	430	490	60	40	1.5	<b>1 1700 000 015</b>
d 2GD EM 208	2x8 W	T6	80°C	720	565	60	40	1.6	<b>1 1700 000 016</b>



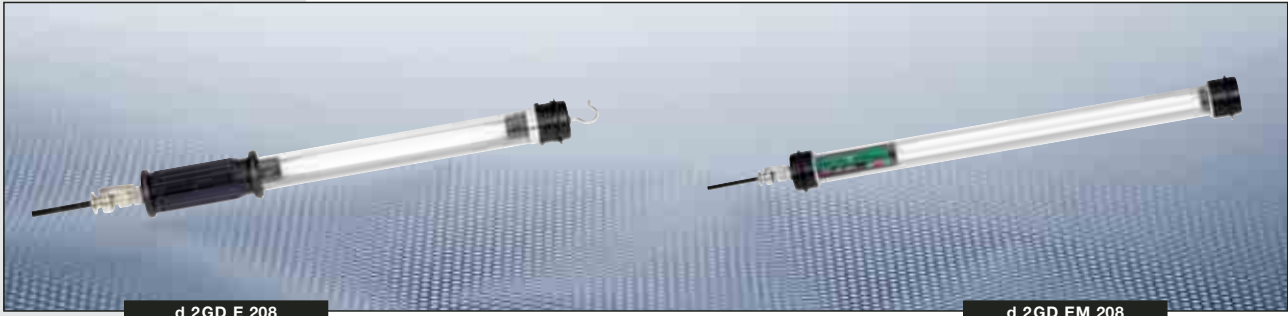
**EX-LAMPS WITH ELECTRONIC BALLASTS (EVG)**

**| 127 V AC/DC |**

Technical data	
<b>127 V AC/DC</b>	
Marking to 94/9/EC	⊕ II 2 G/D
Explosion protection	EEx d IIB
Temperature class	see ordering details
Surface temperature	see ordering details
EC-Type Examination Certificate	SEV 04 ATEX 0101
Enclosure material	Polycarbonate/Aluminium
Rated voltage	127 V AC/DC
Ballast	EVG, integrated
Degree of protection to EN 60529	IP 67
Insulation class	II
Permissible ambient temperature	-20 °C bis +50 °C
Standard cable length	5 m Tdv cable 2 x 1.5 mm <sup>2</sup> (thermoplastic) without plug**

Ordering details 127 V AC/DC									
Type	With fluor- escent lamps	Temp. class	Surface temp.	Lum. flux ca. lm	Dimensions A B C in mm			Weight compl. ca. kg	Order No.
d 2GD E 106	1x6 W	T6	80°C	215	525	60	40	1.4	<b>1 1700 000 100</b>
d 2GD E 108	1x8 W	T6	80°C	360	600	60	40	1.5	<b>1 1700 000 101</b>
d 2GD E 113	1x13 W	T5	95°C	600	830	60	40	1.6	<b>1 1700 000 102</b>
d 2GD E 206	2x6 W	T6	80°C	430	525	60	40	1.5	<b>1 1700 000 105</b>
d 2GD E 208	2x8 W	T6	80°C	720	600	60	40	1.6	<b>1 1700 000 106</b>
d 2GD EM 106	1x6 W	T6	80°C	215	490	60	40	1.4	<b>1 1700 000 110</b>
d 2GD EM 108	1x8 W	T6	80°C	360	565	60	40	1.5	<b>1 1700 000 111</b>
d 2GD EM 113	1x13 W	T5	95°C	600	790	60	40	1.6	<b>1 1700 000 112</b>
d 2GD EM 206	2x6 W	T6	80°C	430	490	60	40	1.5	<b>1 1700 000 115</b>
d 2GD EM 208	2x8 W	T6	80°C	720	565	60	40	1.6	<b>1 1700 000 116</b>
d 2GD EM 213	2x13 W	T5	95°C	1200	790	76	50	1.7	<b>1 1700 000 117</b>

\*...TR: Version with isolating transformer, potted, integrated in power supply cable  
 \*\*Optional: Other cable length, other cable quality, Ex-plug incl. mounting



**EX-LAMPS WITH ELECTRONIC BALLASTS (EVG)**

**| 230 V AC/DC |**

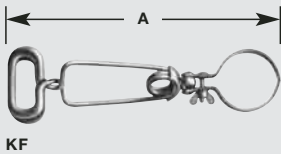
Technical data	
<b>230 V AC/DC</b>	
Marking to 94/9/EC	⊕ II 2 G/D
Explosion protection	EEx d IIB   EEx dm IIB (TR)
Temperature class	see ordering details
Surface temperature	see ordering details
EC-Type Examination Certificate	SEV 04 ATEX 0101
Enclosure material	Polycarbonate/Aluminium
Rated voltage	230 V AC/DC
Ballast	EVG, integrated
Degree of protection to EN 60529	IP 67
Insulation class	II
Permissible ambient temperature	-20 °C bis +50 °C
Standard cable length	5 m Tdv cable 2 x 1.5 mm <sup>2</sup> (thermoplastic) without plug**

Ordering details 230 V AC/DC										
Type	With fluor- escent lamps	Temp. class	Surface Lum. temp.	flux ca. lm	Dimensions A B C in mm	Weight compl. ca. kg	Order No.			
d 2GD E 106	1x6 W	T6	80°C	215	525 60 40	1,4	<b>1 1700 000 200</b>			
d 2GD E 108	1x8 W	T6	80°C	360	600 60 40	1,5	<b>1 1700 000 201</b>			
d 2GD E 113	1x13 W	T5	95°C	600	830 60 40	1,6	<b>1 1700 000 202</b>			
d 2GD E 206	2x6 W	T6	80°C	430	525 60 40	1,5	<b>1 1700 000 205</b>			
d 2GD E 208	2x8 W	T6	80°C	720	600 60 40	1,6	<b>1 1700 000 206</b>			
dm 2GD E 106 TR*	1x6 W	T6	80°C	215	525 60 40	4,6	<b>1 1700 000 210</b>			
dm 2GD E 108 TR*	1x8 W	T6	80°C	360	600 60 40	4,7	<b>1 1700 000 211</b>			
dm 2GD E 113 TR*	1x13 W	T5	95°C	600	830 60 40	4,8	<b>1 1700 000 212</b>			
dm 2GD E 206 TR*	2x6 W	T6	80°C	430	525 60 40	4,7	<b>1 1700 000 215</b>			
dm 2GD E 208 TR*	2x8 W	T6	80°C	720	600 60 40	4,8	<b>1 1700 000 216</b>			
d 2GD EM 106	1x6 W	T6	80°C	215	490 60 40	1,4	<b>1 1700 000 217</b>			
d 2GD EM 108	1x8 W	T6	80°C	360	565 60 40	1,5	<b>1 1700 000 220</b>			
d 2GD EM 113	1x13 W	T5	95°C	600	790 60 40	1,6	<b>1 1700 000 221</b>			
d 2GD EM 206	2x6 W	T6	80°C	430	490 60 40	1,5	<b>1 1700 000 222</b>			
d 2GD EM 208	2x8 W	T6	80°C	720	565 60 40	1,6	<b>1 1700 000 225</b>			
d 2GD EM 213	2x13 W	T5	95°C	1200	790 76 50	1,7	<b>1 1700 000 226</b>			
dm 2GD EM 106 TR*	1x6 W	T6	80°C	215	490 60 40	4,6	<b>1 1700 000 230</b>			
dm 2GD EM 108 TR*	1x8 W	T6	80°C	360	565 60 40	4,7	<b>1 1700 000 231</b>			
dm 2GD EM 113 TR*	1x13 W	T5	95°C	600	790 60 40	4,8	<b>1 1700 000 232</b>			
dm 2GD EM 206 TR*	2x6 W	T6	80°C	430	490 60 40	4,7	<b>1 1700 000 235</b>			
dm 2GD EM 208 TR*	2x8 W	T6	80°C	720	565 60 40	4,8	<b>1 1700 000 236</b>			
dm 2GD EM 213 TR*	2x13 W	T5	95°C	1200	790 76 50	4,9	<b>1 1700 000 237</b>			

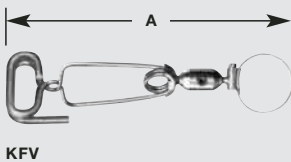
Dimensions in mm



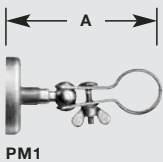
**F I X I N G - A C C E S S O R I E S**



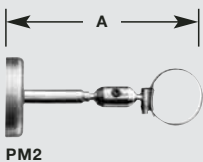
<b>Ordering details clamp with ball joint KF</b>				
Type	for diameter	Dimensions A in mm	Weight compl. kg	Order No.
KF 3	ca. 40 mm	ca. 245	ca. 0.200	1 1700 000 900
KF 4	ca. 50 mm	ca. 250	ca. 0.220	1 1700 000 901



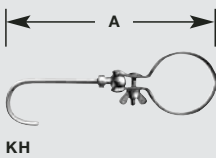
<b>Ordering details double-clamp jaw isolated KFV</b>				
Type	for diameter	Dimensions A in mm	Weight compl. kg	Order No.
KFV 3	ca. 40 mm	ca. 265	ca. 0.260	1 1700 000 905
KFV 4	ca. 50 mm	ca. 280	ca. 0.260	1 1700 000 906



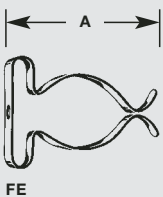
<b>Ordering details permanent magnet PM 1 (adhesion 10 kg)</b>				
Typ	for diameter	Dimensions A in mm	Weight compl. kg	Order No.
PM 1	ca. 50 mm	ca. 130	ca. 0.210	1 1700 000 911



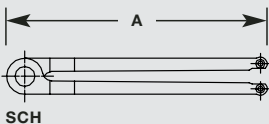
<b>Ordering details permanent magnet PM 2 (adhesion 50 kg)</b>				
Type	for diameter	Dimensions A in mm	Weight compl. kg	Order No.
PM 2	ca. 40 mm	ca. 190	ca. 0.680	1 1700 000 915
PM 2	ca. 50 mm	ca. 205	ca. 0.680	1 1700 000 916



<b>Ordering details suspension hook with ball joint KH</b>				
Type	for diameter	Dimensions A in mm	Weight compl. kg	Order No.
KH 3	ca. 40 mm	ca. 172	ca. 0.090	1 1700 000 920
KH 4	ca. 50 mm	ca. 183	ca. 0.115	1 1700 000 921



<b>Ordering details spring clip FE</b>				
Type	for diameter	Dimensions A in mm	Weight compl. kg	Order No.
FE 3	ca. 40 mm	ca. 62	ca. 0.020	1 1700 000 930
FE 4	ca. 50 mm	ca. 78	ca. 0.023	1 1700 000 931



<b>Ordering details special key for opening lamps</b>				
Type	for diameter	Dimensions A in mm	Weight compl. kg	Order No.
SCH 2	30 - 50 mm	ca. 115	ca. 0.040	1 1700 000 940

Dimensions in mm

30080002034/3/07.04/SL  
We reserve the right to make technical changes.  
Valid from July 2004

## Cooper Crouse-Hinds GmbH

Neuer Weg – Nord 49  
D-69412 Eberbach  
Phone +49(0)62 71/806-500  
Fax +49(0)62 71/806-476  
Internet [www.ceag.de](http://www.ceag.de)  
e-Mail [info-ex@ceag.de](mailto:info-ex@ceag.de)