

# DMD: Contactless measuring – precisely and conveniently



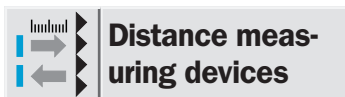
The DMD measures the distance to a reflector and passes on the measured value as an actual position value to the control system.

The DMD series is optionally available with SSI interface, Profibus DP or Interbus S.

Short mounting and operation startup times are achieved thanks to simple alignment of the equipment using an integrated laser pointer.

The equipment complies with specifications for laser protection class 1 and is eye safe.

The DMD series covers three distance measurement ranges: 50, 120 and 240 meters.



**P**recise positioning of stacker cranes, conveyor cars, cranes, elevators and automatic handling devices requires distance measurement devices, providing measurement values accurate to a millimeter over great distances with a high measurement rate.

The optoelectronic distance measurement devices DMD operate almost completely wear and tear free.



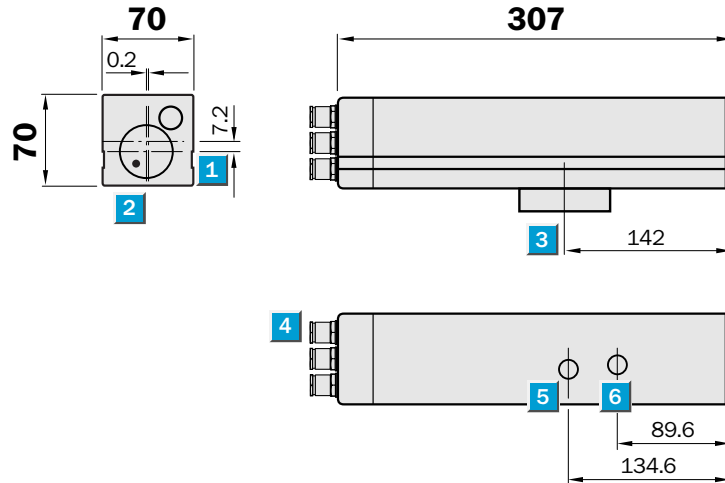
## DMD Distance measuring devices

**Scanning range**  
0.5 ... 240 m

Distance measuring devices

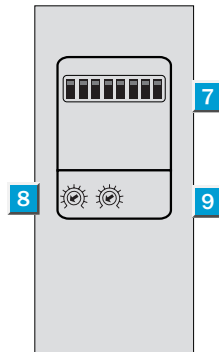
- High measurement accuracy thanks to time-of-flight measurement
- Simple alignment thanks to switchable pilot light
- Laser category 1
- SSI interface
- Profibus DP
- Interbus S

### Dimensional drawing



### Adjustments possible

All types



- 1 Centre of optical axis
- 2 Front status indicator
- 3 Equipment zero point
- 4 PG 9 (4x)
- 5 Bus diagnosis display
- 6 Status indicator
- 7 Eight DIP switches for setting the measurement modes
- 8 Rotary knob for setting the Profibus address (1st position)
- 9 Rotary knob for setting the Profibus address (10th position)

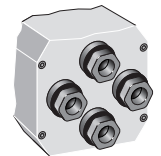
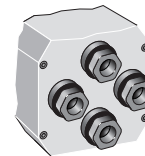
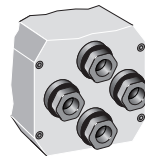
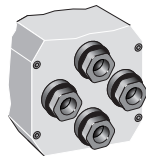
### Connection type

All types

DMD 50-1111
DMD 120-1111
DMD 240-1111

DMD 50-2111
DMD 120-2111
DMD 240-2111

DMD 50-3111
DMD 120-3111
DMD 240-3111

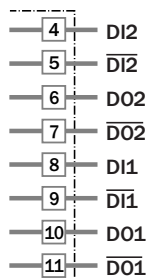
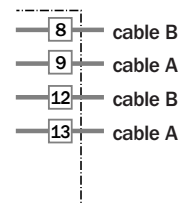
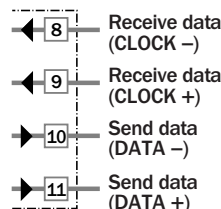
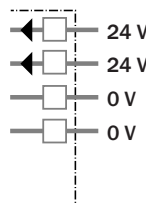


4-pin, X4

PG 9, terminals, SSI, X2, X3

PG 9, terminals, Profibus, X2, X3

PG 9, terminals, Interbus-S, X2, X3



### Accessories

- Mounting systems
- Reflectors
- Special accessories

Technical Data		DMD									
		50-1111	50-2111	50-3111	120-1111	120-2111	120-3111	240-1111	240-2111	240-3111	
<b>Interfaces</b>	SSI: GRAY/BINARY <sup>1)</sup>										
	Profibus-DP, 4 byte incl. Errorbit										
	Interbus-S, 4 byte incl. Errorbit										
<b>Measurement range</b> <sup>2)</sup>	0.5 m ... 50 m										
	0.5 m ... 120 m										
	0.5 m ... 240 m										
<b>Accuracy</b> <sup>3) 4)</sup>	0.5 m ... 3.2 m ± 6 mm										
	> 3.2 m ± 5 mm										
<b>Reproducibility</b> <sup>5)</sup>	0.2 mm at 50 ms meas. value period										
	2 mm at 13 ms meas. value period										
Light spot diameter	(Statistical error 1 σ)										
	10 cm at a distance of 30 m										
	30 cm at a distance of 100 m										
Resolution	70 cm at a distance of 240 m										
	0.1 mm/1 mm (switchable)										
	Laser diode, infrared										
<b>Light source</b> <sup>6)</sup> , light type	Laser diode, infrared										
<b>Laser protection class</b>	1 (EN 60825)										
<b>Supply voltage</b> V <sub>S</sub>	18 ... 30 V DC <sup>7)</sup>										
Power consumption <sup>8)</sup>	≤ 8 VA										
<b>Connection type</b>	Terminal clamp 4 x PG 9										
<b>VDE protection class</b> <sup>9)</sup>	III										
<b>Circuit protection</b> <sup>10)</sup>	A, C										
<b>Enclosure rating</b>	IP 65										
<b>Ambient temperature</b> T <sub>A</sub>	Operation - 0 °C ... + 40 °C										
	Storage - 25 °C ... + 75 °C										
<b>Weight</b>	3 kg										
<b>Profibus-DP</b>	max. 1.5 MBaud										
<b>Air pressure influence</b>	0.3 ppm/hPa										
<b>Temperature influence</b>	0.3 mm/K										
<b>Measurement value output</b>	SSI: 1 ms, clock 125 kHz ... 1 MHz										
	Profibus: 1 ms										
	Interbus: 1 ms										
<b>Initialization time</b>	Approx. 10 s										
<b>Max. process speed</b>	10 m/s										

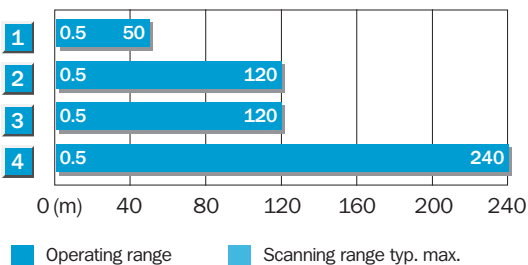
<sup>1)</sup> Settable 25 bit incl. Errorbit  
<sup>2)</sup> With respect to equipment zero point  
<sup>3)</sup> 23° air temperature, 977 hPa, minimal switching period 30 min.

<sup>4)</sup> Re-calibration recommended after 25,000 h  
<sup>5)</sup> Environmental conditions constant, minimal switching period 30 min.

<sup>6)</sup> Average service life 100,000 h at T<sub>A</sub> = + 25 °C  
<sup>7)</sup> Limit values  
<sup>8)</sup> Without load

<sup>9)</sup> Reference voltage 50 V  
<sup>10)</sup> A = V<sub>S</sub> connections reserve-polarity protected  
 C = Interference pulse suppression

**Measurement ranges**



Reflector type	Operating range
1 PL 240 DG (300 x 300 mm)	0.5 m ... 50 m
2 PL 560 DG (500 x 500 mm)	0.5 m ... 120 m
3 PL 880 DG (1000 x 1000 mm)	0.5 m ... 120 m
4 PL 140 L	0.5 m ... 240 m

**Order information**

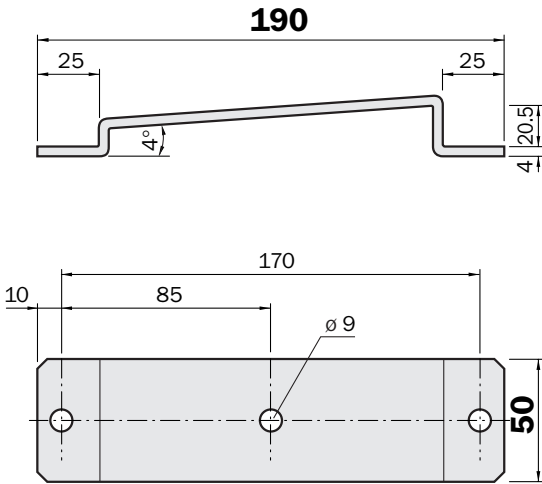
Type	Part no.
DMD 50-1111	6 022 174
DMD 50-2111	6 022 180
DMD 50-3111	6 022 177
DMD 120-1111	6 022 175
DMD 120-2111	6 022 181
DMD 120-3111	6 022 178
DMD 240-1111	6 022 176
DMD 240-2111	6 022 182
DMD 240-3111	6 022 179

## DMD Accessories

### Dimensional drawings and order information

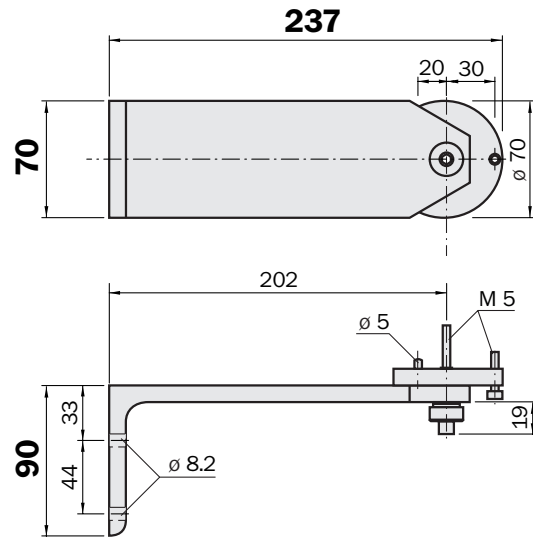
#### Mounting bracket for lens reflector

Type	Part no.
BEF-PL 140L	5 308 917



#### Mounting bracket for DMD

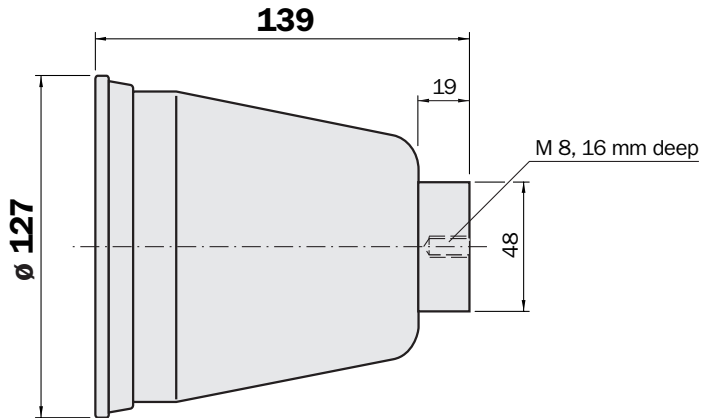
Type	Part no.
BEF-WN-DMD	5 308 915



Included with DMD

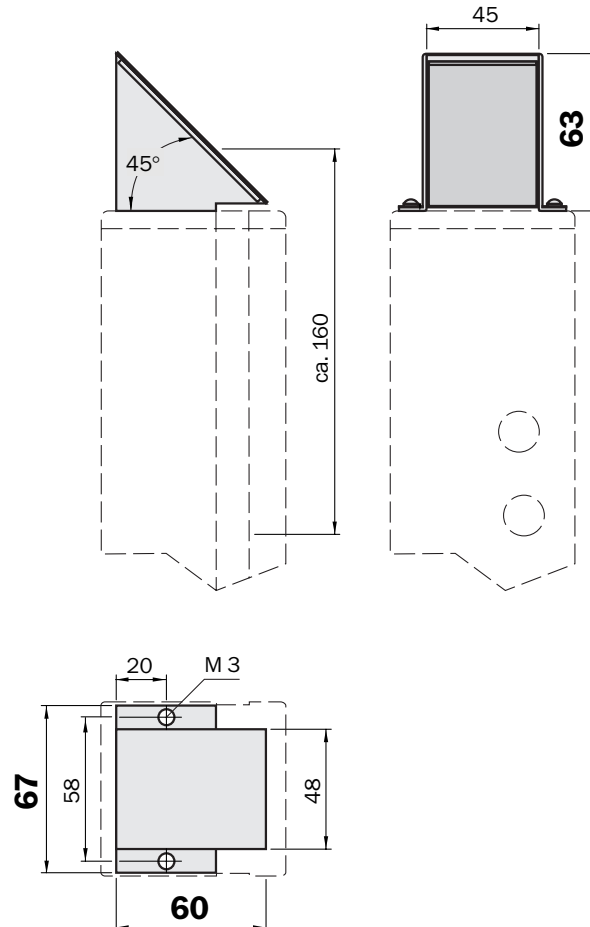
#### Lens reflector for DMD

Type	Part no.
PL 140L	5 308 918



#### Deflecting reflector for DMD

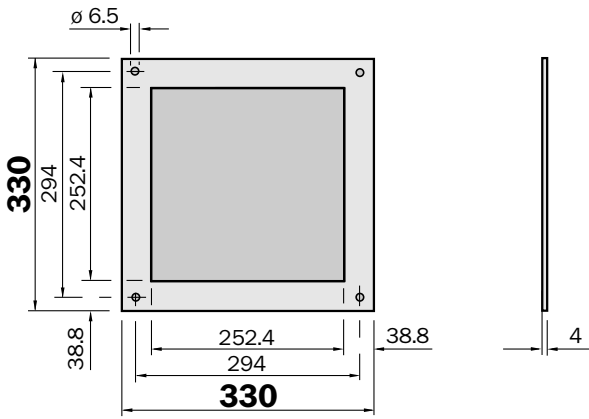
Type	Part no.
USP-DMD	5 308 919



Dimensional drawings and order information

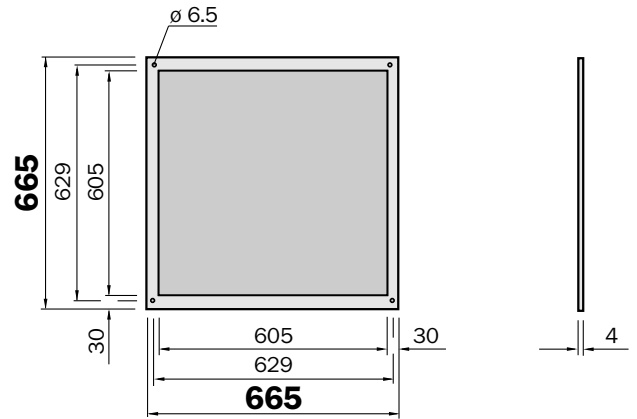
Reflector, 280 x 280 mm

Type	Part no.
PL 240 DG	1 017 910



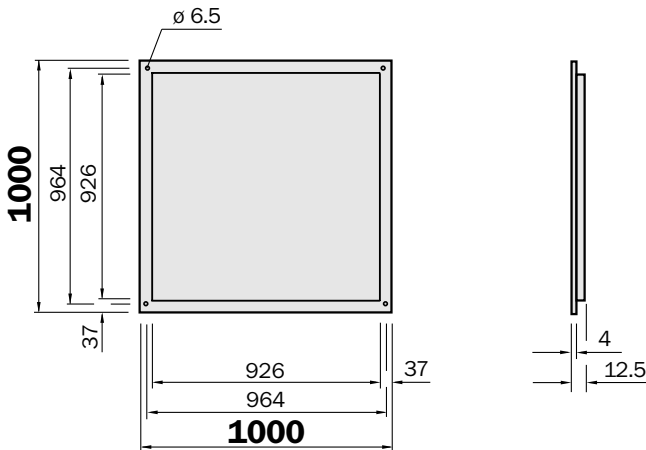
Reflector, 605 x 605 mm, diamond grade

Type	Part no.
PL 560 DG	1 016 806



Reflector, 914 x 914 mm, diamond grade

Type	Part no.
PL 880 DG	1 018 975



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