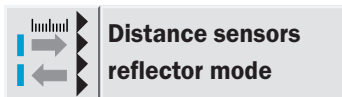


DME4000: distance measurement in millisecond cycles



tions; a device display with all important information available at a glance; and a particularly user-friendly mounting and alignment concept are the most important advantages of the new DME4000 laser distance measurement system. The compact device is available in three versions that have been specially optimised for automatic small part stock, for pallets in high-bay warehouses or cranes. The DME4000's ambient temperature range has been designed for $-10\text{ }^{\circ}\text{C}$ to $+55\text{ }^{\circ}\text{C}$. A variant with internal heating achieves $-40\text{ }^{\circ}\text{C}$ to $+55\text{ }^{\circ}\text{C}$. Thus the distance measurement device is also suitable for use in deepfreeze storage systems. Two warehouse types of differing sizes predominate: automatic small part stock for containers of varying dimensions, and structurally larger high-bay warehouses for Euro and, sometimes, system-specific pallets. The new DME4000 is suitable for approach speeds of up to 10 m/s and takes the differing requirements of the two types of warehouses into account with its three range-optimised versions for 50 m, 130 m and 220 m.

Distance measurement systems such as the DME4000 are used in automated storage technology for detecting the position of storage and retrieval devices. In order to do this, the sensor moves with the vehicle and constantly measures the time-of-flight of an emitted light impulse to the end of the shelf aisle and back. The DME determines the position of the storage and retrieval unit from this measurement and passes it on to the vehicle control system. Highly dynamic and accurate measurement; multi-functional switching outputs and inputs for stand-by, preset and other system func-



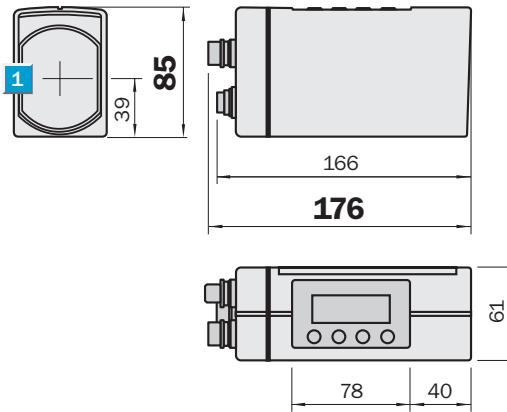
DME4000 Distance measuring device, SSI

	Measurement range
	0.15 ... 50/0.15 ... 130/
	0.15 ... 220 m
Distance measuring device	

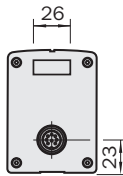
- Very fast measuring time
- High accuracy and reproducibility
- Illuminated LCD display with diagnosis information
- Easy assembly and alignment concept: bracket with adjusting spring and visible red light
- Speed monitoring

Dimensional drawing

All types

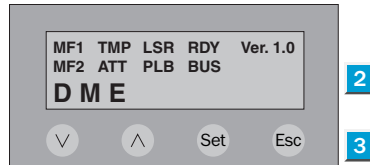


Back sight



Adjustments possible

All types



- 1** Center of optical axis
- 2** Liquid crystal display
- 3** Keypad

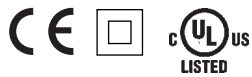
Connection type



Connections

8-pin, M16

pnk	1	(TX+)
wht	2	MF 1
brn	3	L+ (18 ... 30 V DC)
gra	4	(TX-)
blk	5	MF 2
vio	6	(RX+)
blu	7	M (0 V)
red	8	(RX-)



Accessories

- Connectors
- Mounting systems

Technical Data		DME4000-	111	121	211	221	311	321				
Measurement range ¹⁾	0.15 ... 50 m		■	■								
	0.15 ... 130 m				■	■						
	0.15 ... 220 m						■	■				
Accuracy	±3 mm		■	■								
	±5 mm				■	■						
	±6 mm						■	■				
Repeatability ²⁾	1 mm		■	■								
	2 mm				■	■						
	3 mm						■	■				
Light spot diameter	max. 130 mm at 70 m		■	■								
	max. 270 mm at 150 m				■	■						
	max. 360 mm at 220 m						■	■				
Resolution (adjustable)	0.05 ... 5 mm		■	■	■	■	■	■				
Light source ³⁾ , light type	Laser diode, red light		■	■	■	■	■	■				
Laser category	2 (EN 60825-1/C.D.R.H.)		■	■	■	■	■	■				
Supply voltage V_S ⁴⁾	18 ... 30 V DC		■	■	■	■	■	■				
Residual ripple ⁵⁾	5 V _{PP}		■	■	■	■	■	■				
Current consumption	< 250 mA at 24 V DC		■	■	■	■	■	■				
	with heating < 1000 mA			■		■		■				
Switching outputs MF1, MF2	B (push/pull)		■	■	■	■	■	■				
Output (MF1/MF2)	HIGH: U _V < 3 V; LOW < 2 V		■	■	■	■	■	■				
Input (MF1) ⁶⁾	HIGH: > 12 V; LOW < 3 V		■	■	■	■	■	■				
Output current I _A max. ⁷⁾	100 mA (short-circuit/overload protected)		■	■	■	■	■	■				
Connection type	Plug		■	■	■	■	■	■				
VDE protection class ⁸⁾	□		■	■	■	■	■	■				
Enclosure rating	IP 65		■	■	■	■	■	■				
Ambient temperature	Operation -10 °C ... +55 °C		■	■	■	■	■	■				
	with heating Operation -40 °C ... +55 °C			■		■		■				
	Storage -25 °C ... +75 °C		■	■	■	■	■	■				
Weight	approx. 1650 g		■	■	■	■	■	■				
Effect of air pressure	0.3 ppm/hPa		■	■	■	■	■	■				
Effect of air temperature	1 ppm/K		■	■	■	■	■	■				
Temperature drift	typ. 0.1 mm/K		■	■	■	■	■	■				
Measurement value output	1 ms		■	■								
Initialisation period ⁹⁾	500 ms		■	■	■	■	■	■				
Max. running speed	10 m/s		■	■	■	■	■	■				
EMC	EN 61000-6-2; EN 55011: class B		■	■	■	■	■	■				
Mechanical load	Shock: EN 60068-2-27/-2-29		■	■	■	■	■	■				
	Sine: EN 60068-2-6		■	■	■	■	■	■				
	Noise: EN 60068-2-64		■	■	■	■	■	■				

¹⁾ On reflective tape "Diamond Grade"
²⁾ Statistical error 1 σ, environmental conditions constant, minimal warm-up time: 10 min.

³⁾ Average service life 50,000 h at T_A = +25 °C
⁴⁾ Limit values

⁵⁾ May not exceed or fall short of V_S tolerances
⁶⁾ Not reverse-polarity protected

⁷⁾ Max. 100 nF/20 mH
⁸⁾ Reference voltage 32 V DC
⁹⁾ After reflector loss >200 ms

Order information	
Type	Order no.
DME4000-111	1029789
DME4000-121	1029792
DME4000-211	1029790
DME4000-221	1029794
DME4000-311	1041951
DME4000-321	1041957

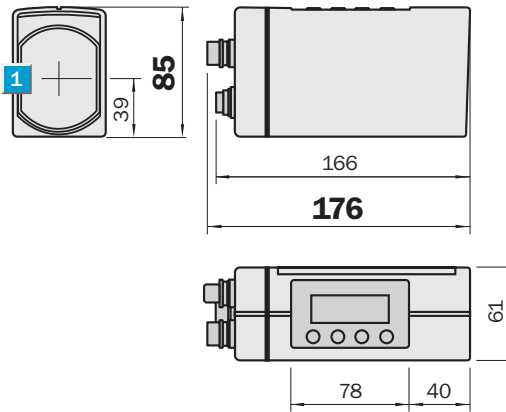
DME4000 Distance measuring device, PROFIBUS

	Measurement range
	0.15 ... 50/0.15 ... 130/
	0.15 ... 220 m
Distance measuring device	

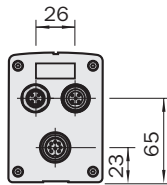
- Very fast measuring time
- High accuracy and reproducibility
- Illuminated LCD display with diagnosis information
- Easy assembly and alignment concept: bracket with adjusting spring and visible red light
- Speed monitoring

Dimensional drawing

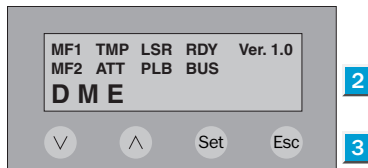
All types



Back sight

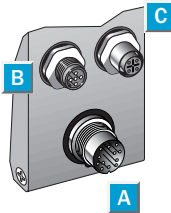


Adjustments possible



- 1 Center of optical axis
- 2 Liquid crystal display
- 3 Keypad

Connection type



Connections

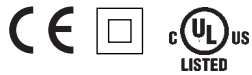
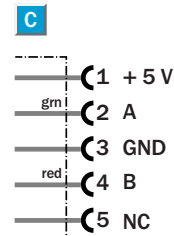
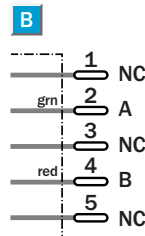
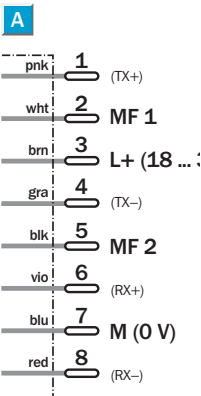
8-pin, M16

5-pin, M12

5-pin, M12

Bus in

Bus out



Accessories

- Connectors
- Mounting systems

Technical Data		DME4000-	112	122	212	222	312	322				
Measurement range ¹⁾	0.15 ... 50 m		■	■								
	0.15 ... 130 m				■	■						
	0.15 ... 220 m						■	■				
Accuracy	±3 mm		■	■								
	±5 mm				■	■						
	±6 mm						■	■				
Repeatability ²⁾	1 mm		■	■								
	2 mm				■	■						
	3 mm						■	■				
Light spot diameter	max. 130 mm at 70 m		■	■								
	max. 270 mm at 150 m				■	■						
	max. 360 mm at 220 m						■	■				
Resolution (adjustable)	0.05 ... 5 mm		■	■	■	■	■	■				
Light source ³⁾, light type	Laser diode, red light		■	■	■	■	■	■				
Laser category	2 (EN 60825-1/C.D.R.H.)		■	■	■	■	■	■				
Supply voltage V_S ⁴⁾	18 ... 30 V DC		■	■	■	■	■	■				
Residual ripple ⁵⁾	5 V _{PP}		■	■	■	■	■	■				
Current consumption	< 250 mA at 24 V DC		■	■	■	■	■	■				
	with heating < 1000 mA			■		■		■				
Switching outputs MF1, MF2	B (push/pull)		■	■	■	■	■	■				
Output (MF1/MF2)	HIGH: U _V < 3 V; LOW < 2 V		■	■	■	■	■	■				
Input (MF1) ⁶⁾	HIGH: > 12 V; LOW < 3 V		■	■	■	■	■	■				
Output current I _A max. ⁷⁾	100 mA (short-circuit/overload protected)		■	■	■	■	■	■				
Connection type	Plug		■	■	■	■	■	■				
VDE protection class⁸⁾	□		■	■	■	■	■	■				
Enclosure rating	IP 65		■	■	■	■	■	■				
Ambient temperature	Operation -10 °C ... +55 °C		■	■	■	■	■	■				
	with heating Operation -40 °C ... +55 °C			■		■		■				
	Storage -25 °C ... +75 °C		■	■	■	■	■	■				
Weight	approx. 1650 g		■	■	■	■	■	■				
Effect of air pressure	0.3 ppm/hPa		■	■	■	■	■	■				
Effect of air temperature	1 ppm/K		■	■	■	■	■	■				
Temperature drift	typ. 0.1 mm/K		■	■	■	■	■	■				
Measurement value output	2 ms		■	■	■	■	■	■				
Initialisation period ⁹⁾	500 ms		■	■	■	■	■	■				
Max. running speed	10 m/s		■	■	■	■	■	■				
EMC	EN 61000-6-2; EN 55011: class B		■	■	■	■	■	■				
Mechanical load	Shock: EN 60068-2-27/-2-29		■	■	■	■	■	■				
	Sine: EN 60068-2-6		■	■	■	■	■	■				
	Noise: EN 60068-2-64		■	■	■	■	■	■				

¹⁾ On reflective tape "Diamond Grade"
²⁾ Statistical error 1 σ, environmental conditions constant, minimal warm-up time: 10 min.

³⁾ Average service life 50,000 h at T_A = +25 °C
⁴⁾ Limit values

⁵⁾ May not exceed or fall short of V_S tolerances
⁶⁾ Not reverse-polarity protected

⁷⁾ Max. 100 nF/20 mH
⁸⁾ Reference voltage 32 V DC
⁹⁾ After reflector loss >200 ms

Order information	
Type	Order no.
DME4000-112	1029788
DME4000-122	1029793
DME4000-212	1029791
DME4000-222	1029795
DME4000-312	1041950
DME4000-322	1041958

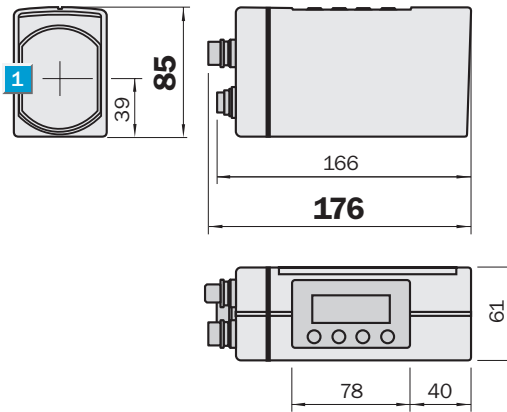
DME4000 Distance measuring device, RS 422

	Measurement range
	0.15 ... 50/0.15 ... 130/
	0.15 ... 220 m
Distance measuring device	

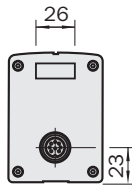
- Very fast measuring time
- High accuracy and reproducibility
- Illuminated LCD display with diagnosis information
- Easy assembly and alignment concept: bracket with adjusting spring and visible red light
- Speed monitoring

Dimensional drawing

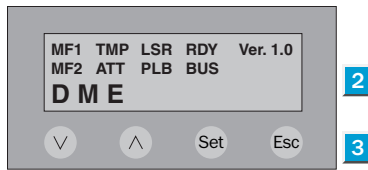
All types



Back sight



Adjustments possible



- 1** Center of optical axis
- 2** Liquid crystal display
- 3** Keypad

Connection type



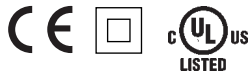
Connections

8-pin, M16

pnk	1	(TX+)
wht	2	MF 1
brn	3	L+ (18 ...)
gra	4	(TX-)
blk	5	MF 2
vio	6	(RX+)
blu	7	M (0 V)
red	8	(RX-)



RS 422



Accessories

- Connectors
- Mounting systems

Technical Data		DME4000-	113	123	213	223	313	323				
Measurement range ¹⁾	0.15 ... 50 m		■	■								
	0.15 ... 130 m				■	■						
	0.15 ... 220 m						■	■				
Accuracy	±3 mm		■	■								
	±5 mm				■	■						
	±6 mm						■	■				
Repeatability ²⁾	1 mm		■	■								
	2 mm				■	■						
	3 mm						■	■				
Light spot diameter	max. 130 mm at 70 m		■	■								
	max. 270 mm at 150 m				■	■						
	max. 360 mm at 220 m						■	■				
Resolution (adjustable)	0.05 ... 5 mm		■	■	■	■	■	■				
Light source ³⁾, light type	Laser diode, red light		■	■	■	■	■	■				
Laser category	2 (EN 60825-1/C.D.R.H.)		■	■	■	■	■	■				
Supply voltage V_S ⁴⁾	18 ... 30 V DC		■	■	■	■	■	■				
Residual ripple ⁵⁾	5 V _{PP}		■	■	■	■	■	■				
Current consumption	< 250 mA at 24 V DC		■	■	■	■	■	■				
	with heating < 1000 mA			■	■	■	■	■				
Switching outputs MF1, MF2	B (push/pull)		■	■	■	■	■	■				
Output (MF1/MF2)	HIGH: U _V < 3 V; LOW < 2 V		■	■	■	■	■	■				
Input (MF1) ⁶⁾	HIGH: > 12 V; LOW < 3 V		■	■	■	■	■	■				
Output current I _A max. ⁷⁾	100 mA (short-circuit/overload protected)		■	■	■	■	■	■				
Connection type	Plug		■	■	■	■	■	■				
VDE protection class⁸⁾	□		■	■	■	■	■	■				
Enclosure rating	IP 65		■	■	■	■	■	■				
Ambient temperature	Operation -10 °C ... +55 °C		■	■	■	■	■	■				
	with heating Operation -40 °C ... +55 °C			■	■	■	■	■				
	Storage -25 °C ... +75 °C		■	■	■	■	■	■				
Weight	approx. 1650 g		■	■	■	■	■	■				
Effect of air pressure	0.3 ppm/hPa		■	■	■	■	■	■				
Effect of air temperature	1 ppm/K		■	■	■	■	■	■				
Temperature drift	typ. 0.1 mm/K		■	■	■	■	■	■				
Measurement value output	2 ms		■	■	■	■	■	■				
Initialisation period ⁹⁾	500 ms		■	■	■	■	■	■				
Max. running speed	10 m/s		■	■	■	■	■	■				
EMC	EN 61000-6-2; EN 55011: class B		■	■	■	■	■	■				
Mechanical load	Shock: EN 60068-2-27/-2-29		■	■	■	■	■	■				
	Sine: EN 60068-2-6		■	■	■	■	■	■				
	Noise: EN 60068-2-64		■	■	■	■	■	■				

¹⁾ On reflective tape "Diamond Grade"
²⁾ Statistical error 1 σ, environmental conditions constant, minimal warm-up time: 10 min.

³⁾ Average service life 50,000 h at T_A = +25 °C
⁴⁾ Limit values

⁵⁾ May not exceed or fall short of V_S tolerances
⁶⁾ Not reverse-polarity protected

⁷⁾ Max. 100 nF/20 mH
⁸⁾ Reference voltage 32 V DC
⁹⁾ After reflector loss >200 ms

Order information	
Type	Order no.
DME4000-113	1029796
DME4000-123	1029797
DME4000-213	1029798
DME4000-223	1029799
DME4000-313	1041952
DME4000-323	1040959

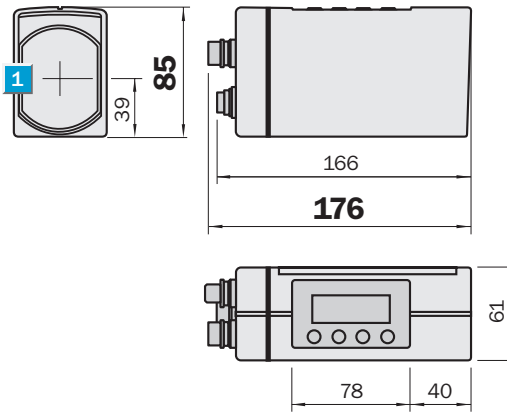
DME4000 Distance measuring device, DeviceNet

	Measurement range
	0.15 ... 50/0.15 ... 130/
	0.15 ... 220 m
Distance measuring device	

- Very fast measuring time
- High accuracy and reproducibility
- Illuminated LCD display with diagnosis information
- Easy assembly and alignment concept: bracket with adjusting spring and visible red light
- Speed monitoring

Dimensional drawing

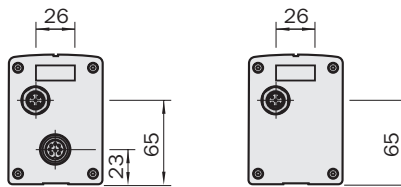
All types



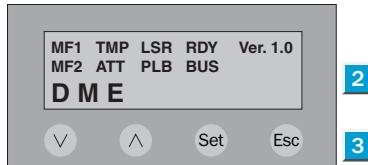
Back sight

DME4000-xx4

DME4000-xx5



Adjustments possible

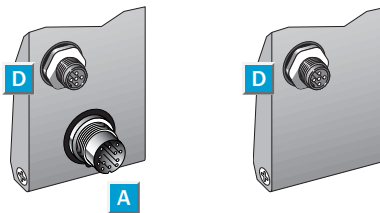


- 1 Center of optical axis
- 2 Liquid crystal display
- 3 Keypad

Connection type

DME4000-xx4

DME4000-xx5

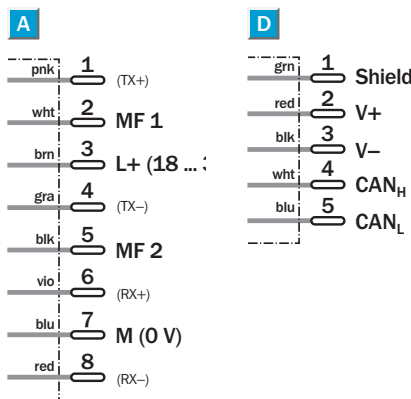


Connections

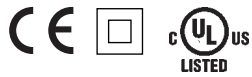
8-pin, M16

5-pin, M12

Bus in



DeviceNet



Accessories

- Connectors
- Mounting systems

Technical Data		DME4000-	114	115	124	214	215	224	314	315	324
Measurement range ¹⁾	0.15 ... 50 m		■	■	■						
	0.15 ... 130 m					■	■	■			
	0.15 ... 220 m								■	■	■
Accuracy	±3 mm		■	■	■						
	±5 mm					■	■	■			
	±6 mm								■	■	■
Repeatability ²⁾	1 mm		■	■	■						
	2 mm					■	■	■			
	3 mm								■	■	■
Light spot diameter	max. 130 mm at 70 m		■	■	■						
	max. 270 mm at 150 m					■	■	■			
	max. 360 mm at 220 m								■	■	■
Resolution (adjustable)	0.05 ... 5 mm		■	■	■						
Light source ³⁾, light type	Laser diode, red light					■	■	■	■	■	■
Laser category	2 (EN 60825-1/C.D.R.H.)		■	■	■						
Supply voltage V_S ⁴⁾	18 ... 30 V DC		■	■	■						
Residual ripple ⁵⁾	5 V _{PP}		■	■	■						
Current consumption	< 250 mA at 24 V DC		■	■	■						
	with heating < 1000 mA				■			■			■
Switching outputs MF1, MF2	B (push/pull)		■	■	■						
Output (MF1/MF2)	HIGH: U _V < 3 V; LOW < 2 V		■	■	■						
Input (MF1) ⁶⁾	HIGH: > 12 V; LOW < 3 V		■	■	■						
Output current I _A max. ⁷⁾	100 mA (short-circuit/overload protected)		■	■	■						
Connection type	Plug		■	■	■						
VDE protection class⁸⁾	□		■	■	■						
Enclosure rating	IP 65		■	■	■						
Ambient temperature	Operation -10 °C ... +55 °C		■	■	■						
	with heating Operation -40 °C ... +55 °C				■			■			■
	Storage -25 °C ... +75 °C		■	■	■						
Weight	approx. 1650 g		■	■	■						
Effect of air pressure	0.3 ppm/hPa		■	■	■						
Effect of air temperature	1 ppm/K		■	■	■						
Temperature drift	typ. 0.1 mm/K		■	■	■						
Measurement value output	2 ms		■	■	■						
Initialisation period ⁹⁾	500 ms		■	■	■						
Max. running speed	10 m/s		■	■	■						
EMC	EN 61000-6-2; EN 55011: class B		■	■	■						
Mechanical load	Shock: EN 60068-2-27/-2-29		■	■	■						
	Sine: EN 60068-2-6		■	■	■						
	Noise: EN 60068-2-64		■	■	■						

¹⁾ On reflective tape "Diamond Grade"
²⁾ Statistical error 1 σ, environmental conditions constant, minimal warm-up time: 10 min.

³⁾ Average service life 50,000 h at T_A = +25 °C
⁴⁾ Limit values

⁵⁾ May not exceed or fall short of V_S tolerances
⁶⁾ Not reverse-polarity protected

⁷⁾ Max. 100 nF/20 mH
⁸⁾ Reference voltage 32 V DC
⁹⁾ After reflector loss >200 ms

Order information	
Type	Order no.
DME4000-114	1029800
DME4000-115	1029801
DME4000-124	1029808
DME4000-214	1029802
DME4000-215	1029803
DME4000-224	1029805
DME4000-314	1041953
DME4000-315	1041954
DME4000-324	1041960

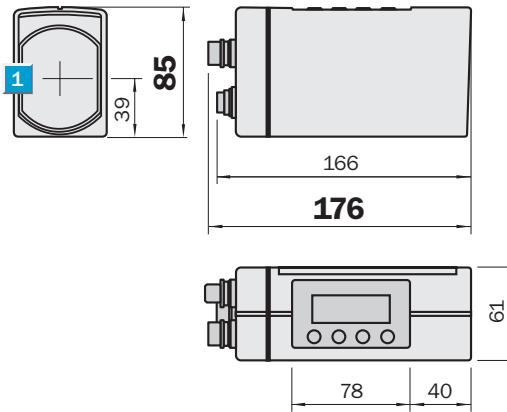
DME4000 Distance measuring device, HIPERFACE®

	Measurement range
	0.15 ... 50/0.15 ... 130/
	0.15 ... 220 m
Distance measuring device	

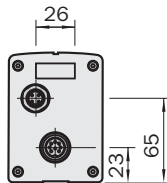
- Very fast measuring time
- High accuracy and reproducibility
- Illuminated LCD display with diagnosis information
- Easy assembly and alignment concept: bracket with adjusting spring and visible red light
- Speed monitoring

Dimensional drawing

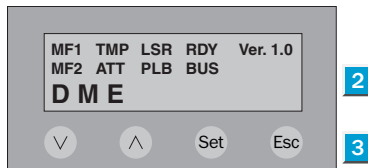
All types



Back sight

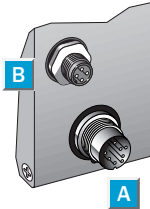


Adjustments possible



- 1 Center of optical axis
- 2 Liquid crystal display
- 3 Keypad

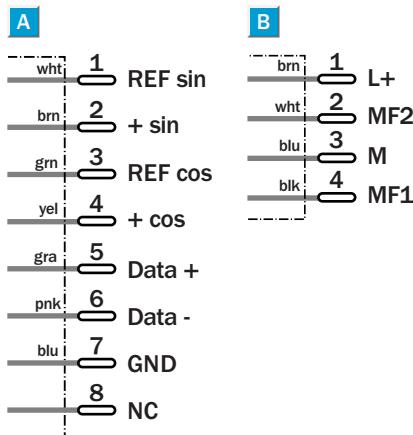
Connection type



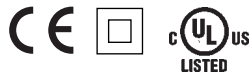
Connections

8-pin, M12

4-pin, M12



HIPERFACE®
by SICK|STEGMANN



Accessories

- Connectors
- Mounting systems

Technical Data		DME4000-	117	127	217	227	317	327				
Measurement range ¹⁾	0.15 ... 50 m		■	■								
	0.15 ... 130 m				■	■						
	0.15 ... 220 m						■	■				
Accuracy	±3 mm		■	■								
	±5 mm				■	■						
	±6 mm						■	■				
Repeatability ²⁾	1 mm		■	■								
	2 mm				■	■						
	3 mm						■	■				
Light spot diameter	max. 130 mm at 70 m		■	■								
	max. 270 mm at 150 m				■	■						
	max. 360 mm at 220 m						■	■				
Resolution (adjustable)	0.25 ... 4 mm		■	■	■	■	■	■				
Light source ³⁾, light type	Laser diode, red light		■	■	■	■	■	■				
Laser category	2 (EN 60825-1/C.D.R.H.)		■	■	■	■	■	■				
Supply voltage V_S ⁴⁾	18 ... 30 V DC		■	■	■	■	■	■				
Residual ripple ⁵⁾	5 V _{PP}		■	■	■	■	■	■				
Current consumption	< 250 mA at 24 V DC		■	■	■	■	■	■				
	with heating < 1000 mA			■		■		■				
Switching outputs MF1, MF2	B (push/pull)		■	■	■	■	■	■				
Output (MF1/MF2)	HIGH: U _V < 3 V; LOW < 2 V		■	■	■	■	■	■				
Input (MF1) ⁶⁾	HIGH: > 12 V; LOW < 3 V		■	■	■	■	■	■				
Output current I _A max. ⁷⁾	100 mA (short-circuit/overload protected)		■	■	■	■	■	■				
Connection type	Plug		■	■	■	■	■	■				
VDE protection class⁸⁾	□		■	■	■	■	■	■				
Enclosure rating	IP 65		■	■	■	■	■	■				
Ambient temperature	Operation -10 °C ... +55 °C		■	■	■	■	■	■				
	with heating Operation -40 °C ... +55 °C			■		■		■				
	Storage -25 °C ... +75 °C		■	■	■	■	■	■				
Weight	approx. 1650 g		■	■	■	■	■	■				
Effect of air pressure	0.3 ppm/hPa		■	■	■	■	■	■				
Effect of air temperature	1 ppm/K		■	■	■	■	■	■				
Temperature drift	typ. 0.1 mm/K		■	■	■	■	■	■				
Measurement value output	2 ms		■	■	■	■	■	■				
Initialisation period ⁹⁾	900 ms		■	■	■	■	■	■				
Max. running speed	10 m/s		■	■	■	■	■	■				
EMC	EN 61000-6-2; EN 55011: class B		■	■	■	■	■	■				
Mechanical load	Shock: EN 60068-2-27/-2-29		■	■	■	■	■	■				
	Sine: EN 60068-2-6		■	■	■	■	■	■				
	Noise: EN 60068-2-64		■	■	■	■	■	■				

¹⁾ On reflective tape "Diamond Grade"
²⁾ Statistical error 1 σ, environmental conditions constant, minimal warm-up time: 10 min.

³⁾ Average service life 50,000 h at T_A = +25 °C
⁴⁾ Limit values

⁵⁾ May not exceed or fall short of V_S tolerances
⁶⁾ Not reverse-polarity protected

⁷⁾ Max. 100 nF/20 mH
⁸⁾ Reference voltage 32 V DC
⁹⁾ After reflector loss >200 ms

Order information	
Type	Order no.
DME4000-117	1029807
DME4000-127	1029812
DME4000-217	1029806
DME4000-227	1029804
DME4000-317	1041955
DME4000-327	1041961

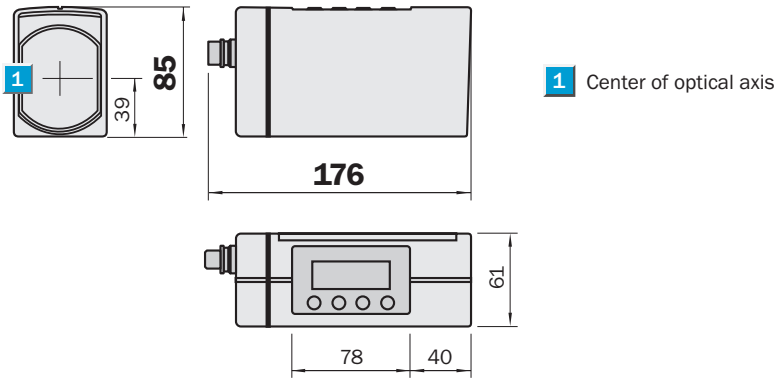
DME4000 Distance measuring device, CANOpen

	Measurement range
	0.15 ... 50/0.15 ... 130/
	0.15 ... 220 m
Distance measuring instrument	

- Very fast measuring time
- High accuracy and reproducibility
- Illuminated LCD display with diagnosis information
- Easy assembly and alignment concept: bracket with adjusting spring and visible red light
- Speed monitoring

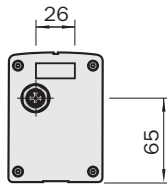
Dimensional drawing

All types



Back sight

DME4000-xx9



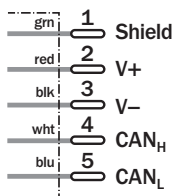
Connection type

DME4000-xx9



Connections

5-pin, M12



Accessories

- Connectors
- Mounting systems

Technical Data		DME4000-	119	219	319						
Measurement range ¹⁾	0.15 ... 50 m		■								
	0.15 ... 130 m			■							
	0.15 ... 220 m				■						
Accuracy	±3 mm		■								
	±5 mm			■							
	±6 mm				■						
Repeatability ²⁾	1 mm		■								
	2 mm			■							
	3 mm				■						
Light spot diameter	max. 130 mm at 70 m		■								
	max. 270 mm at 150 m			■							
	max. 360 mm at 220 m				■						
Resolution (adjustable)	0.05 ... 5 mm		■								
Light source ³⁾, light type	Laser diode, red light			■	■						
Laser category	2 (EN 60825-1/C.D.R.H.)		■	■	■						
Supply voltage V_S ⁴⁾	18 ... 30 V DC		■	■	■						
Residual ripple ⁵⁾	5 V _{PP}		■	■	■						
Current consumption	< 250 mA at 24 V DC		■	■	■						
Switching outputs MF1, MF2	B (push/pull)		■	■	■						
Output (MF1/MF2)	HIGH: U _V < 3 V; LOW < 2 V		■	■	■						
Input (MF1) ⁶⁾	HIGH: > 12 V; LOW < 3 V		■	■	■						
Output current I _A max. ⁷⁾	100 mA (short-circuit/overload protected)		■	■	■						
Connection type	Plug		■	■	■						
VDE protection class⁸⁾	□		■	■	■						
Enclosure rating	IP 65		■	■	■						
Ambient temperature	Operation -10 °C ... +55 °C		■	■	■						
	Storage -25 °C ... +75 °C		■	■	■						
Weight	approx. 1650 g		■	■	■						
Effect of air pressure	0.3 ppm/hPa		■	■	■						
Effect of air temperature	1 ppm/K		■	■	■						
Temperature drift	typ. 0.1 mm/K		■	■	■						
Measurement value output	4 ms		■	■	■						
Initialisation period ⁹⁾	500 ms		■	■	■						
Max. running speed	10 m/s		■	■	■						
EMC	EN 61000-6-2, EN 55011: class B		■	■	■						
Mechanical load	Shock: EN 60068-2-27/-2-29		■	■	■						
	Sine: EN 60068-2-6		■	■	■						
	Noise: EN 60068-2-64		■	■	■						

¹⁾ On reflective tape "Diamond Grade"
²⁾ Statistical error 1 σ, environmental conditions constant, minimal warm-up time: 10 min.

³⁾ Average service life 50,000 h at T_A = +25 °C
⁴⁾ Limit values

⁵⁾ May not exceed or fall short of V_S tolerances
⁶⁾ Not reverse-polarity protected

⁷⁾ Max. 100 nF/20 mH
⁸⁾ Reference voltage 32 V DC
⁹⁾ After reflector loss >200 ms

Order information	
Type	Order no.
DME4000-119	1042838
DME4000-219	1042839
DME4000-319	1042841

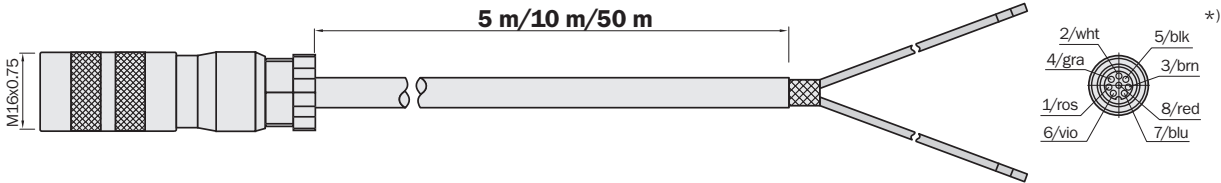
Connectors

Dimensional drawings and order information

Connectors for PROFIBUS, SSI, RS 422 and DeviceNet (only DME4000-XX4)

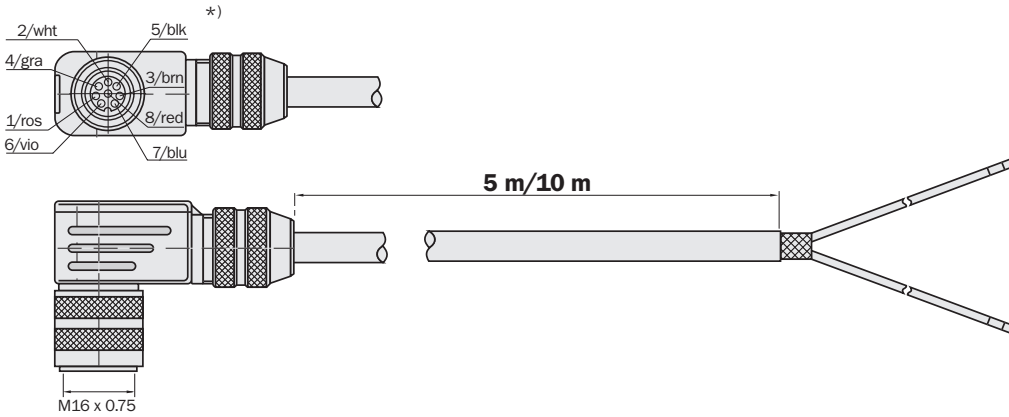
Female connector M16, 8-pin, straight

Type	Order no.	Cable length
DOL-1608-G05MA	2026742	5 m
DOL-1608-G10MA	2027193	10 m
DOL-1608-G50MA	6032903	50 m



Female connector M16, 8-pin, right angle

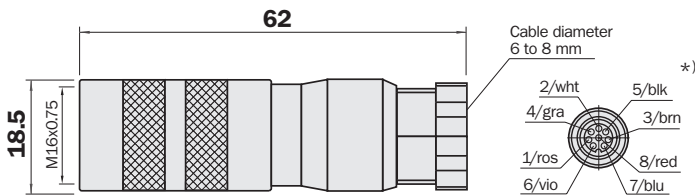
Type	Order no.	Cable length
DOL-1608-W05MA	2026743	5 m
DOL-1608-W10MA	2027194	10 m



*) Connector side

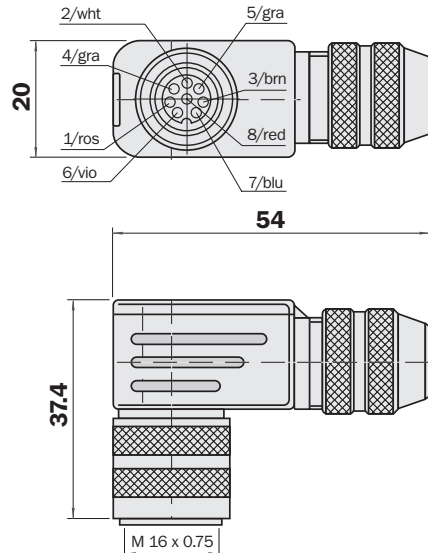
Female connector M16, 8-pin, straight

Type	Order no.
DOS-1608-GA	6025726



Female connector M16, 8-pin, right angle

Type	Order no.
DOS-1608-WA	6025727

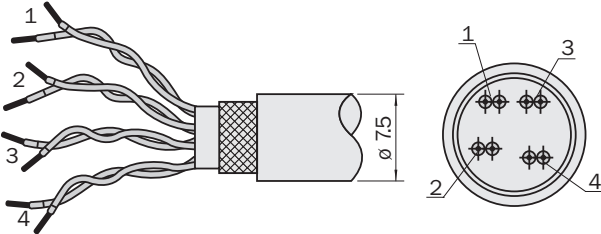


Dimensional drawings and order information

Cable 2 x 0.5 mm², 6 x 0.25 mm², twisted 2 x in pairs, shielded

Type	Order no.
LTG-2308-MW	6026292

Technical data	
Temperature range	variabel -5 ... +70 °C
	not variabel -40 ... +80 °C
Sheath	PUR grey
Shield	tined copper net



Connectors for PROFIBUS interface

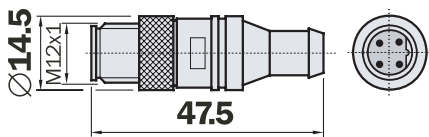
PROFIBUS terminating resistor

Type	Order no.
PR-STE-END	6021156

PROFIBUS cable, 2 x 0.34 mm², by the metre

Type	Order no.
LTG-2102-MW	6021355

Technical data	
Temperature range	variabel -5 ... +80 °C
	not variabel -40 ... +80 °C
Sheath	PUR violett Ø 8 mm
Shield	AL-PT tape

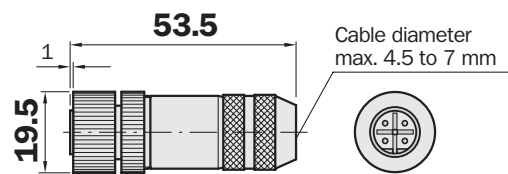
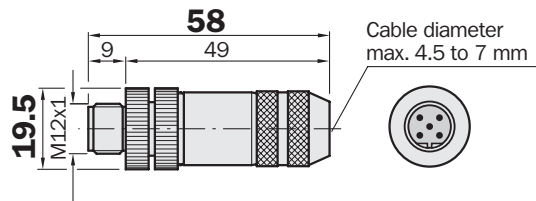


PROFIBUS male connector M12, 5-pin, Bus out, B-coding

Type	Order no.
PR-STE-1205-G	6021354

PROFIBUS female connector M12, 5-pin, Bus in, B-coded

Type	Order no.
PR-DOS-1205-G	6021353

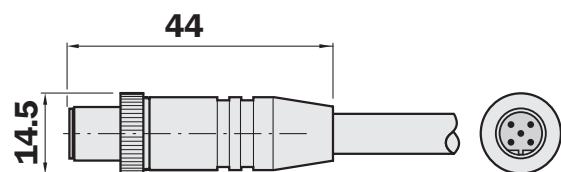
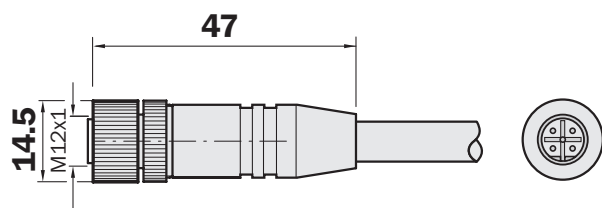


Female connector with PROFIBUS cable, Bus in, B-coding

Type	Order no.	Cable length
DOL-12PR-G05	6026006	5 m
DOL-12PR-G10	6026008	10 m

Male connector with PROFIBUS cable, Bus out, B-coding

Type	Order no.	Cable length
STL-12PR-G05	6026005	5 m
STL-12PR-G10	6026007	10 m



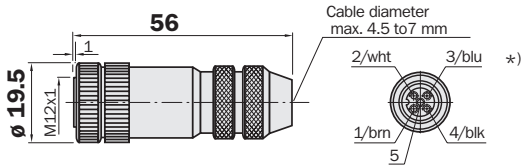
Accessories

Dimensional drawings and order information

Connectors for DeviceNet and CANOpen interface

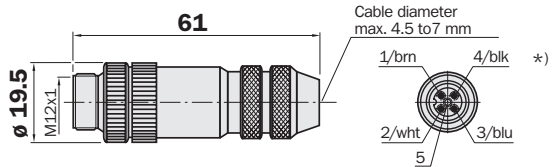
**Female connector M12, 5-pin, straight, shielded,
360° screen can be assembled onto a knurled nut, A-coding**

Type	Order no.
DOS-1205-GA	6027534



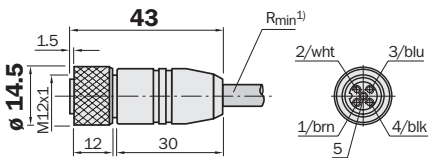
**Male connector M12, 5-pin, straight, shielded
360° screen can be assembled onto a knurled nut, A-coding**

Type	Order no.
STE-1205-GA	6027533



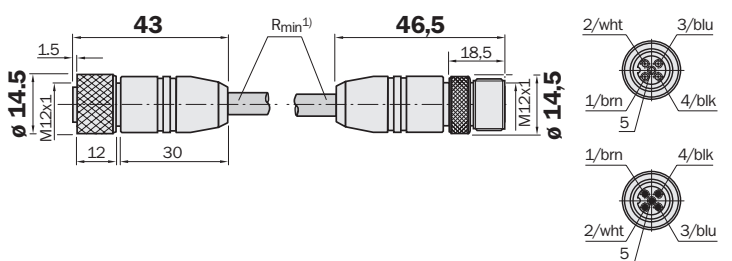
**Female connector M12, 5-pin, straight
Cable 6 m, Dropcable, A-coding**

Type	Order no.
DOL-1205-G06MK	6028326



**Connection cable 6 m, M12 receptacle, 5-pin, straight
Plug M12, 5-pin, straight, Dropcable, A-coding**

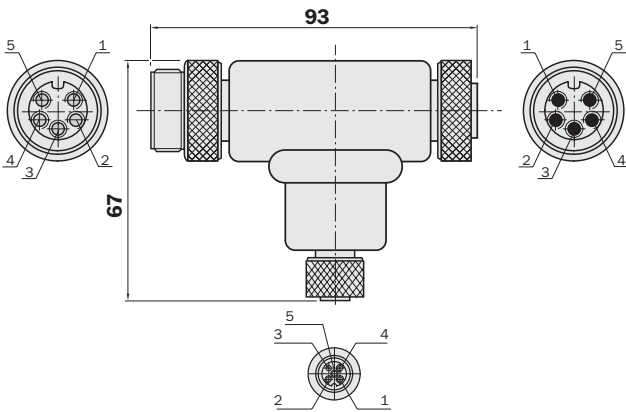
Type	Order no.
DSL-1205-G06MK	6028327



1) Minimum bend radius in dynamic use
R_{min} = 20 x cable diameter

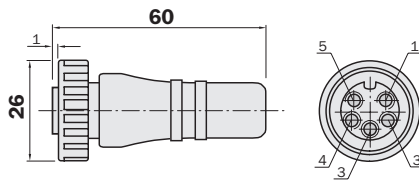
T junction box M12, 5-pin, on plug, 7/8" receptacle, 5-pin

Type	Order no.
SD0-02D78-SF	6028330



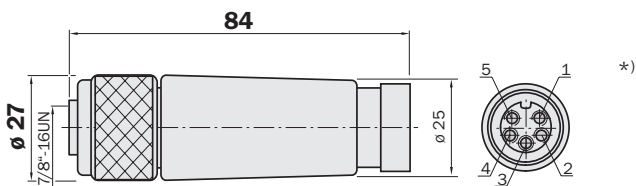
Terminating resistor, 7/8" receptacle, 5-pin, straight

Type	Order no.
DOS-7805-GKEND	6028329



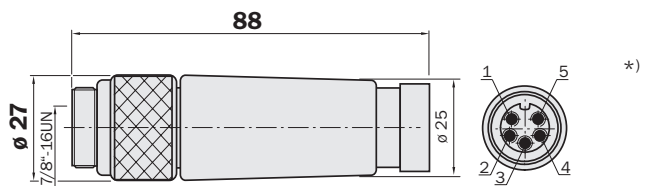
Female connector 7/8", 5-pin, straight, PG16, sizeable

Type	Order no.
DOS-7805-GK	6028331



Male connector 7/8", 5-pin, straight, PG16, sizeable

Type	Order no.
STE-7805-GK	6028332



*) Connector side

Dimensional drawings and order information

Connectors for DeviceNet and CANOpen interface

Cable, 4 x 0,34 mm², Cores, twisted pair and screened with AL-PT foil (for DME4000, DeviceNet)

Type	Order no.	Technical data	
LTG-2804-MW	6028328	Temperature range	variabel -10 ... +70 °C; not variabel -40 ... +70 °C
		Sheath	PUR black Ø 6.8 mm
		Shield	Cu tin-plated

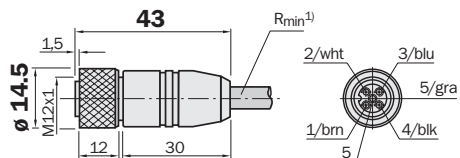
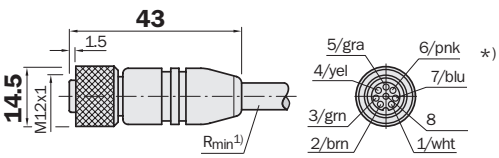
Connectors for HIPERFACE® Interface

Female connector M12, 8-pin, cable, shielded via knurled nut, A-coding

Type	Order no.	Cable length
DOL-1208-G02MAH1	6032448	2 m
DOL-1208-G05MAH1	6032449	5 m
DOL-1208-G10MAH1	6032450	10 m
DOL-1208-G20MAH1	6032451	20 m

Female connector M12, 5-pin, PUR, straight, shield on knurled nut, A-coding

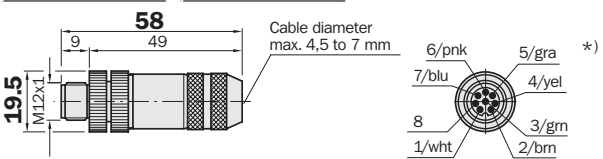
Type	Order no.	Cable length
DOL-1205-G05MAC	6036384	5 m
DOL-1205-G10MAC	6036385	10 m
DOL-1205-G20MAC	6036386	20 m



1) Minimum bend radius in dynamic use
 $R_{min} = 20 \times \text{cable diameter}$

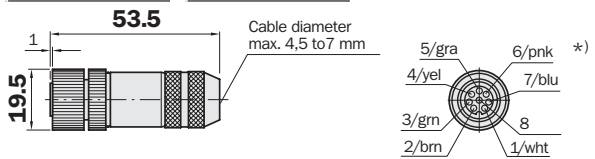
Male connector, M12, 8-pin, can be assembled,

Type	Order no.
STE-1208-G	6028370



Female connector, M12, 8-pin, can be assembled, A-coding

Type	Order no.
DOS-1208-G	6028369



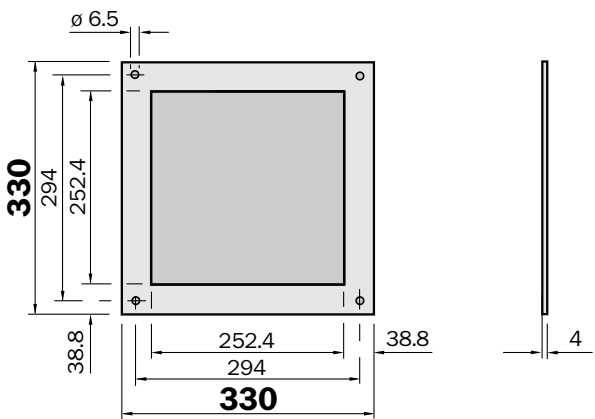
Cable, 8 x 0,25 mm², Cores, twisted pair and C-braided shield

Type	Order no.	Technical data	
LTG-3108-MW	6038456	Temperature range	variabel -10 ... +70 °C; not variabel -40 ... +70 °C
		Sheath	PUR black Ø 6.8 mm
		Shield	Cu tin-plated

Reflectors

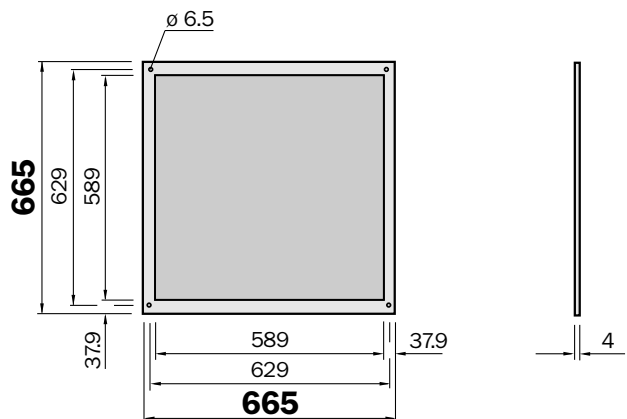
Reflector, 0.3 x 0.3 m, "Diamond Grade", mounted

Type	Order .
PL240DG	1017910



Reflector, 0.6 x 0.6 m, "Diamond Grade", mounted

Type	Order
PL560DG	1016806



*) Connector side

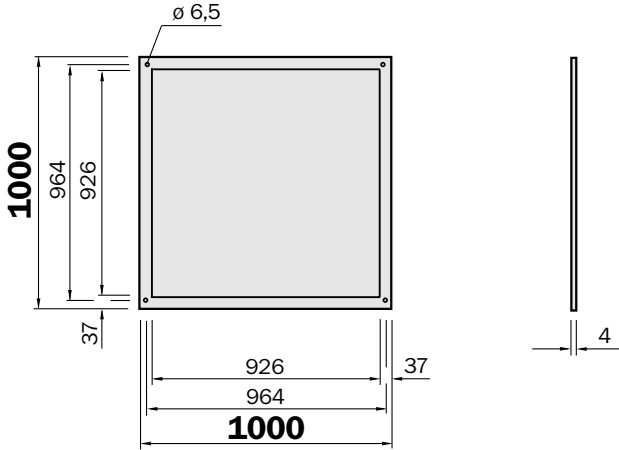
Accessories

Dimensional drawings and order information

Reflectors

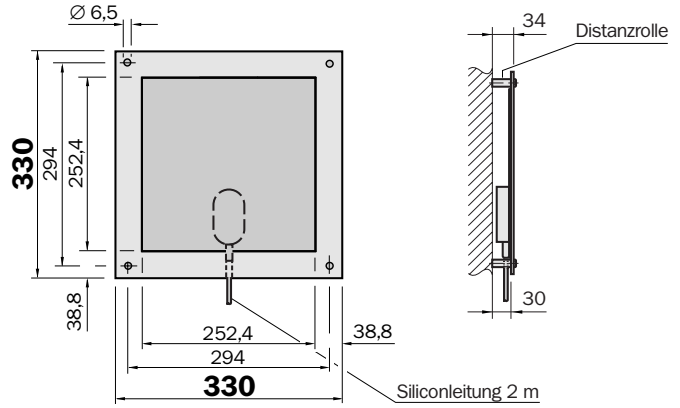
Reflector, 1 x 1 m, "Diamond Grade", mounted

Type	Order no.
PL880DG	1018975



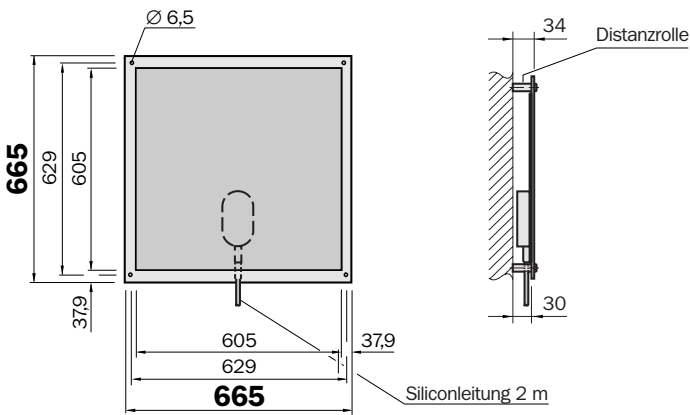
Reflector, 0.3 x 0.3 m, "Diamond Grade" regulated heating 230 V AC/200 W

Type	Order no.
PL240DG-H	1022926



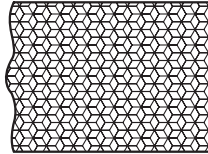
Reflector, 0.6 x 0.6 m, "Diamond Grade" regulated heating 230 V AC/900 W

Type	Order no.
PL560DG-H	1023888



Reflective tape "Diamond Grade"

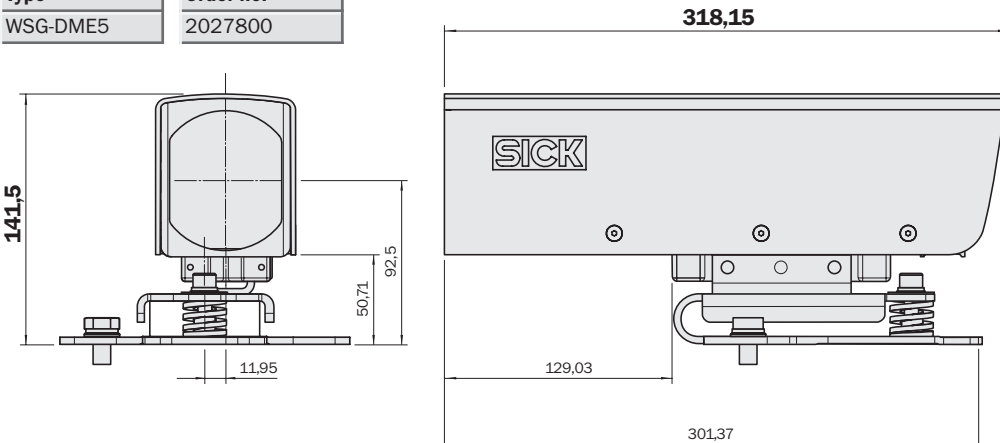
Type	Order no.	
REF-DG-K	4019634	Cut to size
REF-DG	5304334	Sheet 749 x 914 mm ²



Special accessories

Weather-protecting hood

Type	Order no.
WSG-DME5	2027800

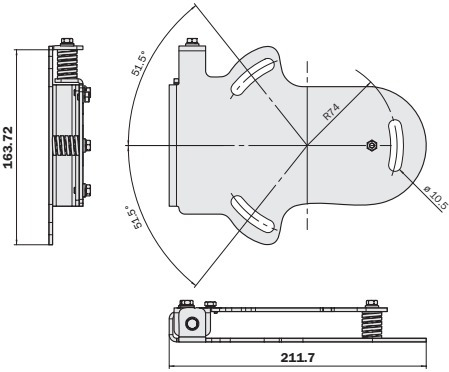


Dimensional drawings and order information

Special accessories

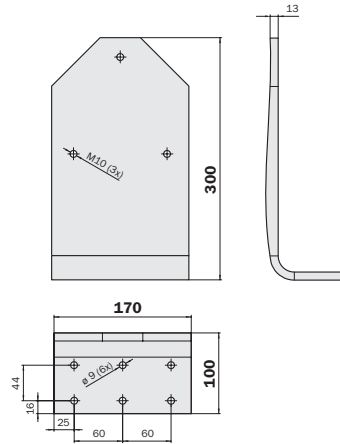
Alignment bracket DME4000 (ISD400)

Type	Order no.
BEF-DME/ISD	2046052



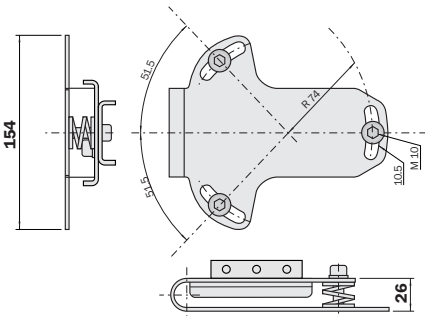
Mounting bracket

Type	Order no.
BEF-WINK-DME/ISD	2046444



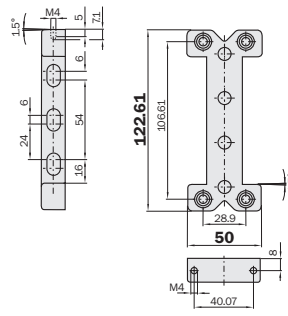
Alignment bracket DME5000

Type	Order no.	(Additional base plate mounting kit required)
BEF-AH-DME5	2027721	



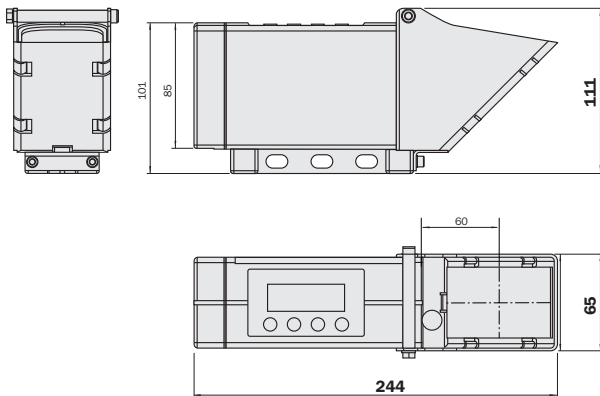
Mounting kit for baseplate

Type	Order no.	(Required for mounting on alignment bracket DME5000)
BEF-DME4000	2040738	



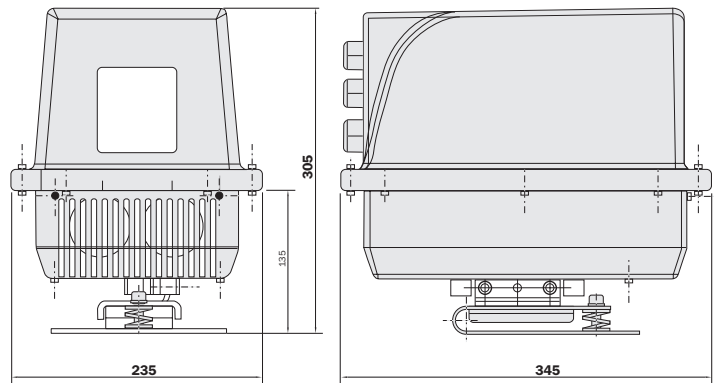
Corner mirror, deflection of light emission upward

Type	Order no.	(Additional base plate mounting kit required)
USP-DME5	2027710	



Thermo protection cooling case DME4000

Type	Order no.
	6036180



Australia

Phone +61 3 9497 4100
1800 33 48 02 - tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Ceská Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +852-2763 6966
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-250
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-999-0590
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

Republic of Korea

Phone +82-2 786 6321/4
E-Mail kang@sickkorea.net

Republika Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7 495 775 05 34
E-Mail info@sick-automation.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2365-6292
E-Mail sickgrc@ms6.hinet.net

Türkiye

Phone +90 216 587 74 00
E-Mail info@sick.com.tr

USA/Canada/México

Phone +1(952) 941-6780
1 800-325-7425 - tollfree
E-Mail info@sickusa.com

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in all major industrial nations at
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