DME 2000 Distance measuring devices

Measurement range 100...2047 mm

Measurement range 0,1...130 m

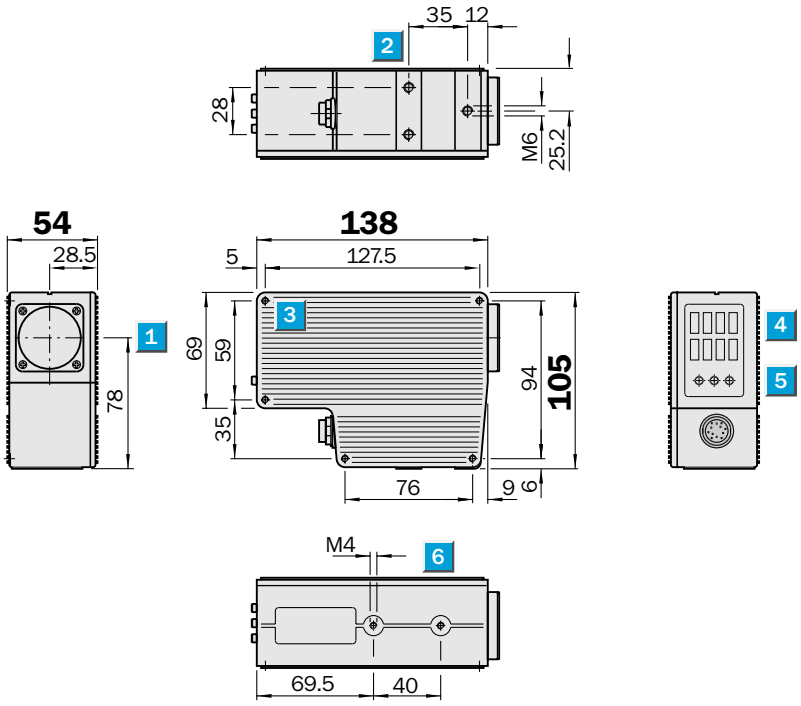
Distance measuring devices

- Excellent measurement accuracy and reproducibility thanks to time-of-flight measurement
- Simple adjustment using visible red light
- Freely programmable parameters
  - 2 switching outputs
  - pre-failure signalling output
  - plausibility control
- RS 232 serial interface
- Analogue output

Laser class 2

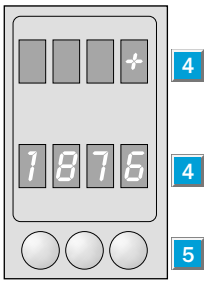
Accessories	page
Cable receptacles	496
Mounting brackets	510
Link mountings	510
Reflectors	520
Special accessories	556
Dust covers	
Cooling plates	
Remote positioning tubes	

Dimensional drawing



Adjustments possible

DME 2000-000



1 Centre of optical axis
2 M 6 threaded mounting hole, 10 mm deep
3 M 4 threaded mounting hole, 14 mm deep (this side only)
4 8-digit alphanumeric indicator
5 Programming switches
6 M 4 threaded mounting hole, 6 mm deep

Connection type

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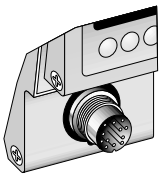
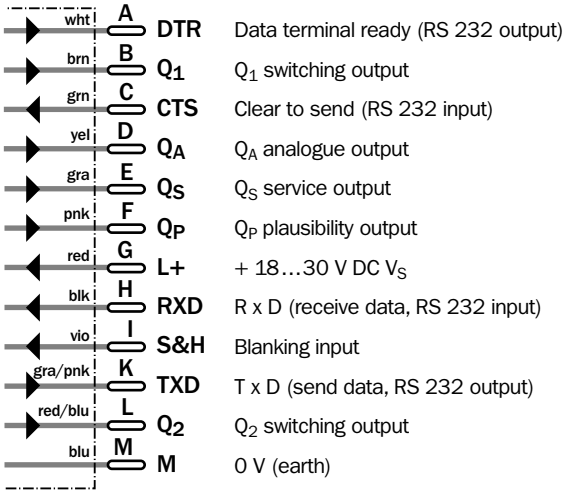


12-pin, M 16



Technical Data	DME 2000-	000									
Light source[1], **light type**	Laser diode, red light										
Laser category	2 (IEC 825-1/EN 60825-1)										
Supply voltage V_S	18…30 V DC [2]										
Ripple	< 5 V_{SS}[3]										
Power consumption	< 6 W[4]										
Switching outputs											
Q_1, Q_2, Q_P, Q_S	PNP										
Output voltage	HIGH = V_S – ≤ 2 V/LOW = 2 V										
Output current I_A	100 mA										
Q_1 and Q_2 switching outputs	Reversible										
Switching limit	Adjustable in 1 mm increments										
Switching hysteresis	Adjustable in 2mm increments,										
	0…254 mm										
Q_P plausibility output	HIGH: measurement correct/										
	LOW: measurement error										
Q_S service output	HIGH: device has no faults/										
	LOW: pre-failure signalling output										
Blanking input S/H	HIGH: ≥ 10 V; ≤ V_S/										
	LOW: ≤ 2 V or unswitched;										
	HIGH: Measured value stored/										
	LOW: free-running										
Analogue output	0…20 mA or 4…20 mA										
Connection type	Plug										
VDE protection class[5]	⧈										
Circuit protection[6]	A, B, C										
Enclosure rating	IP 65 (IEC 529)										
Ambient temperature T_A	Operation – 10 °C…+ 45 °C										
	Storage – 25 °C…+ 75 °C										
Weight	Approx. 980 g										
Shock load	To IEC 68										
Serial interface	RS 232 (4.8/9.6, 19.2 kBaud)										
Temperature drift	Type 0.4 mm/K										

1) Average service life 50,000 h at T_A = +25 °C
2) Limit values
3) May not exceed or fall short of V_S tolerances
4) Without load
5) Reference voltage 50 V DC
6) A = V_S connections reverse-polarity protected
B = Output Q reverse-polarity protected
C = Interference pulse suppression

	Mode 1.1: Proximity mode	**Mode 2.1: Reflector mode**
Measurement range[7]	100…2047 mm	0.1…130 m
Resolution	1 mm	1 mm
Light spot dimensions	Approx. 3 mm/2 m	Approx. 250 mm/130 m
Effect of compressed air		0.3 ppm/mbar
Effect of air temperature		1 ppm/K
Measured value output cycle	29 ms	100 ms
Target remission	> 6…< 36000 %	Reflective tape
Max. running speed		3 m/s
Reproducibility[8]	1 mm (= 90 % remission)	2 mm
Statistical error 1 σ	3 mm (> 18 % remission)	3…130 m APM reflective tape
	25 mm (> 6 % remission)	3…100 m Diamond Grade
Statistical error 3 σ[9]	Typical 1 mm; max. 2 mm	0.1…90 m reflective tape 7610
		0.1…40 m reflective tape 3290
Accuracy[10]	± 5 mm (= 90 % remission)	+ 5/– 20 mm
	± 11 mm (> 18 % remission)	In range as below
	± 65 mm (> 6 % remission)	reproducibility stated

7) Relative to front edge of object
8) Environmental conditions constant at 30 min. minimum switching period
9) Measurement distance 1 m, 90 % remission
10) 20 °C ambient temperature, 1013 mbar, 30 min. switching period, re-calibration recommended after 25,000 h

Order information	
Standard type	**Part no.**
DME 2000-000	1 010 578