

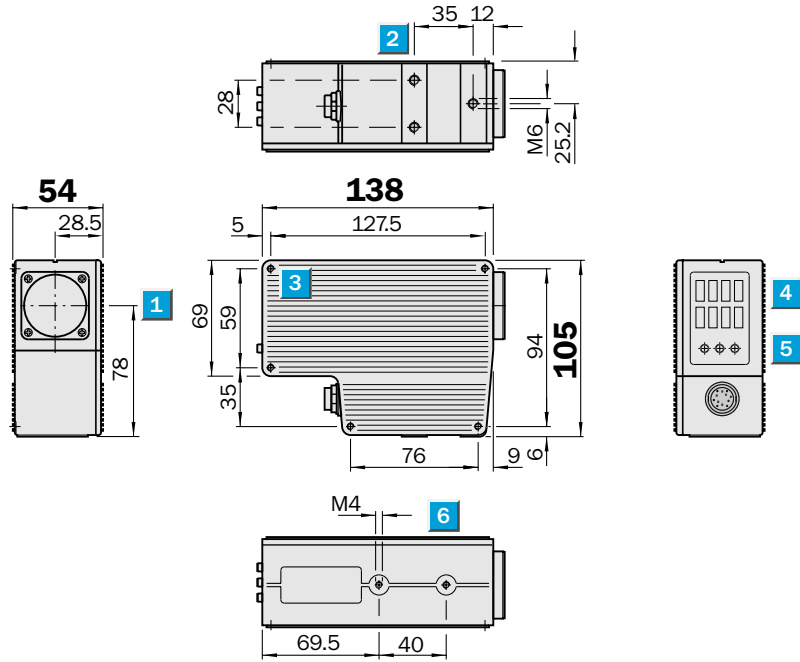


Measurement range up to 500 m

Distance measuring devices

- Excellent measurement accuracy and reproducibility thanks to time-of-flight measurement
- Simple adjustment using visible red light
- Easy handling due to programmable parameters
 - 2 switching outputs
 - pre-failure signalling output
 - plausibility control
- RS 422 serial interface and SSI interface
- Profibus
- Gateway to Interbus, DeviceNet

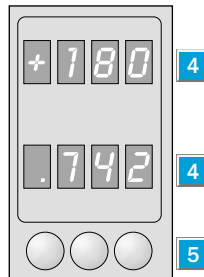
Dimensional drawing



Adjustments possible

| | |
|--------------|---------------|
| DME 3000-111 | DME 3000-111P |
| DME 3000-311 | |

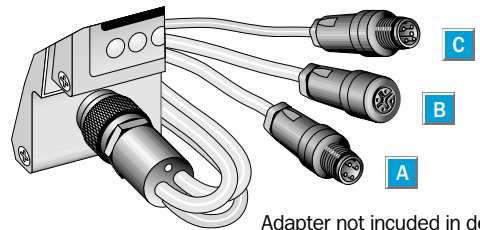
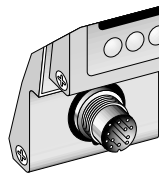
- 1 Centre of optical axis
- 2 M6 threaded mounting hole, 10 mm deep
- 3 M4 threaded mounting hole, 14 mm deep (this side only)
- 4 8-digit alphanumeric signal indicator
- 5 Programming switches
- 6 M4 threaded mounting hole, 6 mm deep



Connection types

| |
|--------------|
| DME 3000-111 |
| DME 3000-311 |

DME 3000-111P



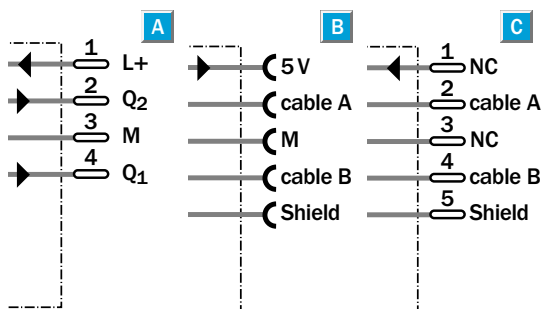
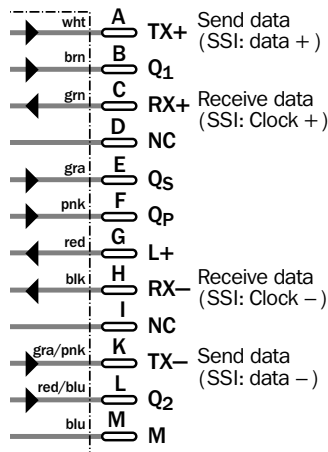
Adapter not included in delivery

12-pin, M 16

4-pin, M 12

5-pin, M 12

5-pin, M 12



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

| Technical Data | | DME 3000- | 111 | 311 | 111P | | | | | | |
|---|--|-----------|-----|-----|------|--|--|--|--|--|--|
| Measurement range | 0.1...500 m ¹⁾ depending on reflector, see below | | | | | | | | | | |
| Accuracy ^{2) 3)} | ± 5 mm | | | | | | | | | | |
| Reproducibility ⁴⁾ | Depending on measurement range, see below | | | | | | | | | | |
| Light spot diameter | 1 m (measurement distance 500 m) | | | | | | | | | | |
| Resolution | 0.125 mm | | | | | | | | | | |
| Light source ⁵⁾ , light type | Laser diode, red light | | | | | | | | | | |
| Laser category | 2 (IEC 825-1/EN 60825-1) | | | | | | | | | | |
| Supply voltage V _S | 18...30 V DC ⁶⁾ | | | | | | | | | | |
| Ripple | < 5 V _{SS} ⁷⁾ | | | | | | | | | | |
| Power consumption | ≤ 6 W ⁸⁾ | | | | | | | | | | |
| Switching outputs | PNP/NPN | | | | | | | | | | |
| Q ₁ , Q ₂ , Q _P , Q _S | HIGH = V _S - < 2 V / LOW = < 2 V | | | | | | | | | | |
| Output current I _A max. | 100 mA | | | | | | | | | | |
| Q ₁ and Q ₂ switching outputs | Reversible Q/ \bar{Q} | | | | | | | | | | |
| Switching limit/switching hysteresis | Adjustable | | | | | | | | | | |
| Q _P plausibility output | HIGH: measurement correct/ LOW: measurement error | | | | | | | | | | |
| Q _S service output | HIGH: OK / LOW: pre-failure signalling output | | | | | | | | | | |
| Connection type | Plug | | | | | | | | | | |
| VDE protection class ⁹⁾ | <input type="checkbox"/> | | | | | | | | | | |
| Circuit protection ¹⁰⁾ | A, B, C | | | | | | | | | | |
| Enclosure rating | IP 65 | | | | | | | | | | |
| Ambient temperature T _A | Operation - 10 °C...+ 45 °C Storage - 25 °C...+ 75 °C | | | | | | | | | | |
| Weight | Approx. 980 g | | | | | | | | | | |
| Interfaces | SSI: GRIS/BINARY adjust., 24 or 25 bits | | | | | | | | | | |
| Serial interface | RS 422: 4.8/9.6/19.2/38.4 kBaud | | | | | | | | | | |
| Profibus | Max. 12 MBaud | | | | | | | | | | |
| Effect of compressed air | 0,3 ppm/hPa | | | | | | | | | | |
| Effect of air temperature | 1 ppm/K | | | | | | | | | | |
| Temperature drift | Typical 0.4 mm/K Typical 0.2 mm/K | | | | | | | | | | |
| Measured value output | | | | | | | | | | | |
| SSI/Profibus | 1.5 ms | | | | | | | | | | |
| RS 422, 38.4 kBaud | 18 ms | | | | | | | | | | |
| Initialisation period | 6 s | | | | | | | | | | |
| Max. running speed | 6 m/s | | | | | | | | | | |

- 1) Relative to front edge of object
2) 23 °C air temperature, 977 hPa, min switching period 30 min
3) Re-calibration recommended after 25,000 h

- 4) Environmental conditions constant, min. switching period 30 min.
5) Average service life 100,000 h at T_A = +25 °C
6) Limit values

- 7) May not exceed or fall short of V_S tolerances
8) Without load
9) Reference voltage 50 V DC

- 10) A = V_S connections reverse-polarity protected
B = Output Q short-circuit protected
C = Interference pulse suppression

| Measurement range | | | Order information | |
|---|----------------|----------------|-------------------|-----------|
| Reproducibility | 0.5 mm | 2 mm | Type | Part no. |
| Statistical error 1 σ (switching period min. 30 min, environmental conditions constant) | | | | |
| Measurement range with reflector | | | | |
| Reflective tape 3290 | 0.1 m... 20 m | 0.1 m... 40 m | DME 3000-111 | 1 013 110 |
| Reflective tape 7610 | 0.1 m... 40 m | 0.1 m... 90 m | DME 3000-311 | 1 016 283 |
| Reflective tape «Diamond Grade» | 2.0 m... 70 m | 0.5 m... 250 m | DME 3000-111P | 1 018 063 |
| Reflective tape APM | 2.0 m... 90 m | 1.0 m... 200 m | | |
| Multi-reflector PL240F | 0.1 m... 250 m | 0.1 m... 300 m | | |
| Multi-reflector PL560F | 0.1 m... 270 m | 0.1 m... 350 m | | |
| Multi-reflector PL880F | 10 m... 300 m | 8.0 m... 500 m | | |