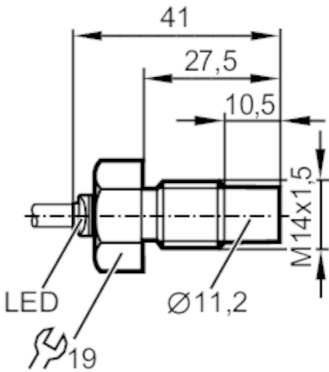


# M9H202



## Cylinder sensor

M9B3002BBPKG/B/AM/500/1M/AMP



| Product characteristics                              |                        |         |
|------------------------------------------------------|------------------------|---------|
| Electrical design                                    | PNP                    |         |
| Output function                                      | normally open          |         |
| Sensing range [mm]                                   | 2                      |         |
| Housing                                              | Threaded type          |         |
| Dimensions [mm]                                      | M14 x 1.5 / L = 41     |         |
| Application                                          |                        |         |
| System                                               | Full-metal housing     |         |
| Application                                          | Hydraulic cylinder     |         |
| Media                                                | Detects ferrous metals |         |
| Min. bursting pressure                               | 2000 bar               | 200 MPa |
| Pressure rating                                      | 500 bar                | 50 MPa  |
| Electrical data                                      |                        |         |
| Operating voltage [V]                                | 10...36 DC             |         |
| Current consumption [mA]                             | < 23                   |         |
| Protection class                                     | III                    |         |
| Reverse polarity protection                          | yes                    |         |
| Outputs                                              |                        |         |
| Electrical design                                    | PNP                    |         |
| Output function                                      | normally open          |         |
| Max. voltage drop switching output DC [V]            | 1.6                    |         |
| Max. leakage current [mA]                            | 0.1                    |         |
| Permanent current rating of switching output DC [mA] | 200                    |         |
| Switching frequency DC [Hz]                          | 1000                   |         |
| Short-circuit protection                             | yes                    |         |
| Overload protection                                  | yes                    |         |
| Monitoring range                                     |                        |         |
| Sensing range [mm]                                   | 2                      |         |

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| Accuracy / deviations         |                                                                       |                                                                                                |
|-------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Hysteresis                    | [% of Sr]                                                             | < 15                                                                                           |
| Switch-point drift            | [% of Sr]                                                             | 10                                                                                             |
| Repeatability                 | [% of Sr]                                                             | 10                                                                                             |
| Operating conditions          |                                                                       |                                                                                                |
| Pressure peak                 | 1000 bar                                                              | 100 MPa                                                                                        |
| Ambient temperature           | [°C]                                                                  | -25...85                                                                                       |
| Protection                    | IP 65; IP 68; IP 69K                                                  |                                                                                                |
| Tests / approvals             |                                                                       |                                                                                                |
| EMC                           | EN 61000-4-2 ESD                                                      | 4 kV CD / 8 kV AD                                                                              |
|                               | EN 61000-4-3 HF radiated                                              | 10 V/m                                                                                         |
|                               | EN 61000-4-4 Burst                                                    | 2 kV                                                                                           |
|                               | EN 61000-4-6 HF conducted                                             | 10 V                                                                                           |
|                               | EN 55011                                                              | class B                                                                                        |
|                               | DIN ISO 11452-5                                                       | 100 V/m                                                                                        |
| Vibration resistance          | EN 60068-2-6 Fc                                                       | 20 g 50 sweep cycles per frequency; 1 octave per minute in 3 axes / 10...3000 Hz -20...50 °C   |
| Shock resistance              | EN 60068-2-27 Ea                                                      | 100 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes / -25...85 °C |
| Continuous shock resistance   | EN 60068-2-27 Ea                                                      | 40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes / -20...50 °C          |
| MTTF                          | [years]                                                               | 925                                                                                            |
| Mechanical data               |                                                                       |                                                                                                |
| Weight                        | [g]                                                                   | 81.6                                                                                           |
| Housing                       | Threaded type                                                         |                                                                                                |
| Mounting                      | flush mountable                                                       |                                                                                                |
| Dimensions                    | [mm]                                                                  | M14 x 1.5 / L = 41                                                                             |
| Thread designation            | M14 x 1.5                                                             |                                                                                                |
| Material                      | housing: stainless steel stainless steel (1.4404 / 316L); O-ring: FKM |                                                                                                |
| Tightening torque             | [Nm]                                                                  | < 25                                                                                           |
| Full-metal housing            | yes                                                                   |                                                                                                |
| Displays / operating elements |                                                                       |                                                                                                |
| Display                       | Switching status                                                      | 1 x LED, yellow                                                                                |
| Remarks                       |                                                                       |                                                                                                |
| Pack quantity                 | 1 pcs.                                                                |                                                                                                |

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## Cylinder sensor

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### Electrical connection

Cable: 1 m, PUR; 3 x 0.34 mm<sup>2</sup>

### Connection



Core colors :  
BK = black  
BN = brown  
BU = blue

Connector: 1 x AMP ((282105-1))

### Diagrams and graphs

