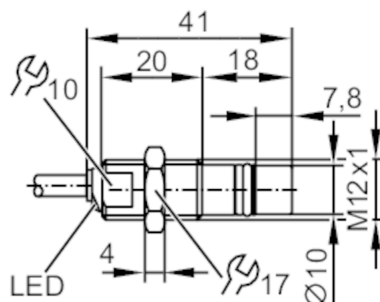


# MFH205



## Cylinder sensor

MFH3002BBPKG/B/AM/500/ZH



### Product characteristics

|                    |                  |
|--------------------|------------------|
| Electrical design  | PNP              |
| Output function    | normally open    |
| Sensing range [mm] | 1.8              |
| Housing            | Threaded type    |
| Dimensions [mm]    | M12 x 1 / 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] | 1.8 |
|--------------------|-----|

### Accuracy / deviations

|                      |      |
|----------------------|------|
| Hysteresis [% of Sr] | < 15 |
|----------------------|------|

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|                    |           |    |
|--------------------|-----------|----|
| 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 / -40...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]                   | 2114                                                                                           |
| UL approval                 | UL approval number        | C006                                                                                           |

| Mechanical data    |      |                                                              |
|--------------------|------|--------------------------------------------------------------|
| Weight             | [g]  | 82.3                                                         |
| Housing            |      | Threaded type                                                |
| Mounting           |      | flush mountable                                              |
| Dimensions         | [mm] | M12 x 1 / L = 41                                             |
| Thread designation |      | M12 x 1                                                      |
| Material           |      | housing: stainless steel; O-ring: FKM; supporting ring: PTFE |
| Tightening torque  | [Nm] | < 25                                                         |
| Full-metal housing |      | yes                                                          |

| Displays / operating elements |                  |                 |
|-------------------------------|------------------|-----------------|
| Display                       | Switching status | 1 x LED, yellow |

| Accessories    |  |              |
|----------------|--|--------------|
| Items supplied |  | lock nuts: 1 |

| Remarks       |  |        |
|---------------|--|--------|
| Pack quantity |  | 1 pcs. |

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### Electrical connection

Cable: 2 m, PUR, Ø 4.9 mm; 3 x 0.34 mm<sup>2</sup>

### Connection



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

### Diagrams and graphs

