# Pressure Sensor

## FFAP166

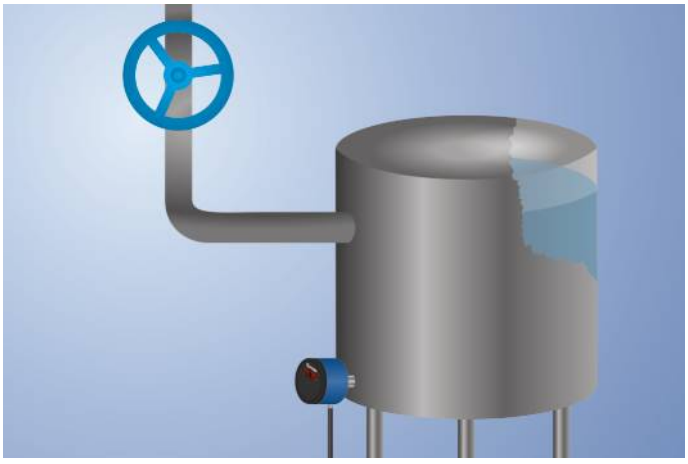
Part Number

**Uni**Bar



- **Highly visible output indicator**
- **Simple operation via the display**

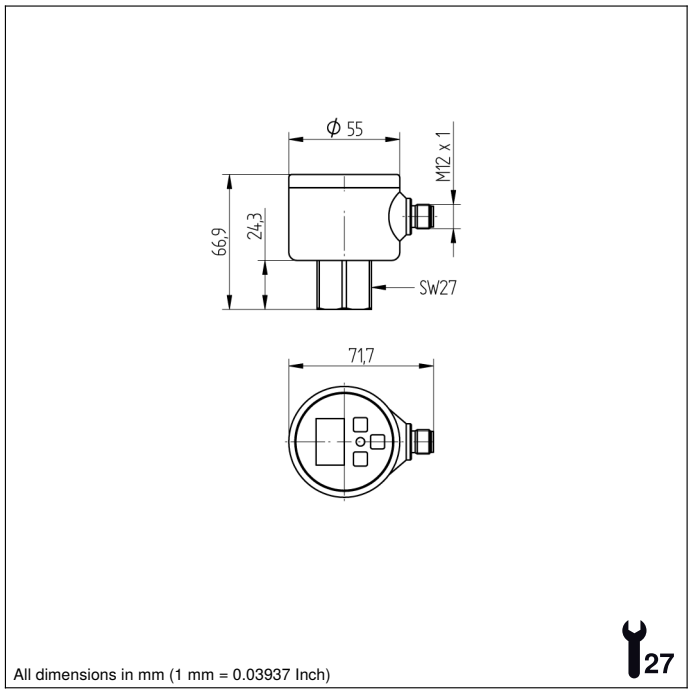
UniBar pressure sensors measure the relative pressure in closed systems of any medium in the range -1...600 bar.
UniBar pressure sensors are very easy to use thanks to the integrated display. The highly visible switching status display enables the rapid localization of affected sensors for maintenance processes.



### Technical Data

| | |
|---|---|
| **Sensor-specific data** | |
| Measuring Range | 0...250 bar |
| Measurement Type | relative |
| Maximum overload pressure | 500 bar |
| Bursting pressure | 1000 bar |
| Setting Range | 4...100 % |
| Medium | Liquids, gases |
| Switching Hysteresis | 2 % |
| Measuring error | < ± 0,5 % |
| Temperature Drift | 0,025 %/K |
| **Environmental conditions** | |
| Temperature of medium | -25...80 °C |
| Ambient temperature | -25...80 °C |
| EMC | DIN EN 61326-2-3 |
| Shock resistance per DIN IEC 68-2-27 | 30 g / 11 ms |
| Vibration resistance per DIN IEC 60068-2-6 | 20 g (10...2000 Hz) |
| **Electrical Data** | |
| Supply Voltage | 16...32 V DC |
| Current Consumption (Ub = 24 V) | < 60 mA |
| Number of Switching Outputs | 1 |
| Response Time | 30 ms |
| Relay Output/Switching Current (24 VDC) | < 1 A |
| Analog Output | 4...20 mA |
| Signal source | Pressure |
| Resolution | 10 bit |
| Current Output Load Resistance | < 500 Ohm |
| Short Circuit Protection | yes |
| Reverse Polarity Protection | yes |
| Protection Class | III |
| **Mechanical Data** | |
| Setting Method | Menu |
| Housing Material | PBT; PC; FKM |
| Material Control Panel | Polyester |
| Material in contact with media | 1.4435; 1.4404 |
| Degree of Protection | IP67 * |
| Connection | M12 × 1; 5-pin |
| Process Connection | G 3/8" |
| **Safety-relevant Data** | |
| MTTFd (EN ISO 13849-1) | 769,77 a |
| Analog Output | ● |
| Relay -NO | ● |
| Connection Diagram No. | 1002 |
| Control Panel No. | A05 |
| Suitable Connection Equipment No. | 35 |

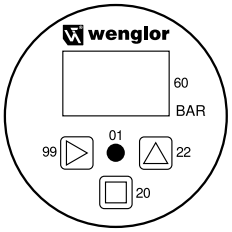
* Certified by wenglor




All dimensions in mm (1 mm = 0.03937 Inch)

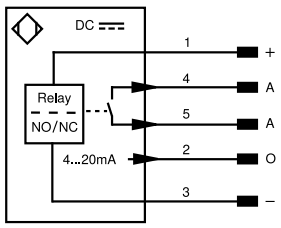
## Ctrl. Panel

A05




01 = Switching Status Indicator
20 = Enter key
22 = Up key
60 = display
99 = Right button

1002




| Legend | | | | | |
|---|---|---|---|---|---|
| + | Supply Voltage + | nc | Not connected | ENBRS422 | Encoder B/B̄ (TTL) |
| – | Supply Voltage 0 V | U | Test Input | ENA | Encoder A |
| ~ | Supply Voltage (AC Voltage) | Ū | Test Input inverted | ENB | Encoder B |
| A | Switching Output (NO) | W | Trigger Input | AMIN | Digital output MIN |
| Ā | Switching Output (NC) | W– | Ground for the Trigger Input | AMAX | Digital output MAX |
| V | Contamination/Error Output (NO) | O | Analog Output | AOK | Digital output OK |
| V̄ | Contamination/Error Output (NC) | O– | Ground for the Analog Output | SY In | Synchronization In |
| E | Input (analog or digital) | BZ | Block Discharge | SY OUT | Synchronization OUT |
| T | Teach Input | AMV | Valve Output | OLT | Brightness output |
| Z | Time Delay (activation) | a | Valve Control Output + | M | Maintenance |
| S | Shielding | b | Valve Control Output 0 V | rsv | Reserved |
| RxD | Interface Receive Path | SY | Synchronization | Wire Colors according to DIN IEC 60757 | |
| TxD | Interface Send Path | SY– | Ground for the Synchronization | BK | Black |
| RDY | Ready | E+ | Receiver-Line | BN | Brown |
| GND | Ground | S+ | Emitter-Line | RD | Red |
| CL | Clock | ⏚ | Grounding | OG | Orange |
| E/A | Output/Input programmable | SnR | Switching Distance Reduction | YE | Yellow |
| | IO-Link | Rx+/– | Ethernet Receive Path | GN | Green |
| PoE | ower over Ethernet | Tx+/– | Ethernet Send Path | BU | Blue |
| IN | Safety Input | Bus | Interfaces-Bus A(+)/B(–) | VT | Violet |
| OSSD | Safety Output | La | Emitted Light disengageable | GY | Grey |
| Signal | Signal Output | Mag | Magnet activation | WH | White |
| BI_D+/– | Ethernet Gigabit bidirect. data line (A-D) | RES | Input confirmation | PK | Pink |
| EN0 RS422 | Encoder 0-pulse 0/0̄ (TTL) | EDM | Contactor Monitoring | GNYE | Green/Yellow |
| PT | Platinum measuring resistor | ENARS422 | Encoder A/Ā (TTL) | | |

Specifications are subject to change without notice V0-31.03.2023