

# Pressure Sensor

## FFMP224

Part Number

UniBar

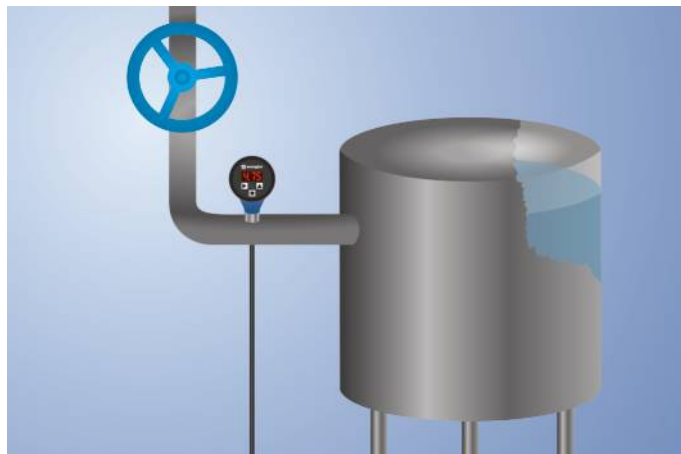


- **Highly visible output indicator**
- **Piggable with flush mounting**
- **Simple operation via the display**
- **Space-saving process connection thanks to small pressure membrane**

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.

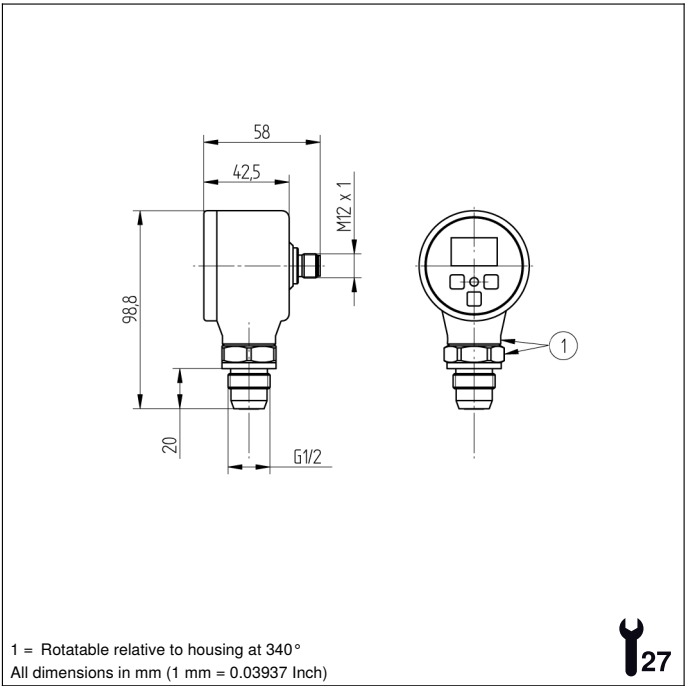
Thanks to the metallic sealing edge on the process connection, no further seals are required.



### Technical Data

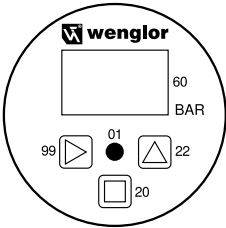
| Sensor-specific data                        |                     |
|---------------------------------------------|---------------------|
| Measuring Range                             | 0...160 bar         |
| Measurement Type                            | relative            |
| Maximum overload pressure                   | 320 bar             |
| Bursting pressure                           | 640 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...60 °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 (U <sub>b</sub> = 24 V) | < 60 mA             |
| Number of Switching Outputs                 | 2                   |
| Response Time                               | 30 ms               |
| Switching Output/Switching Current          | < 250 mA            |
| Switching Output Voltage Drop               | < 2 V               |
| Resolution                                  | 10 bit              |
| 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; 4-pin      |
| Process Connection                          | G 1/2" CIP-capable  |
| PNP NO                                      |                     |
| Connection Diagram No.                      | 536                 |
| Control Panel No.                           | A05                 |
| Suitable Connection Equipment No.           | 2                   |
| Suitable Mounting Technology No.            | 906                 |

\* Certified by wenglor



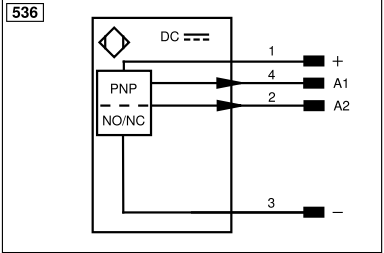
## Ctrl. Panel

**A05**



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

1 = Rotatable relative to housing at 340°  
All dimensions in mm (1 mm = 0.03937 Inch)



| Legend    |                                            |           |                                |                                        |                     |
|-----------|--------------------------------------------|-----------|--------------------------------|----------------------------------------|---------------------|
| +         | Supply Voltage +                           | nc        | Not connected                  | ENBRS422                               | Encoder B/B (TTL)   |
| -         | Supply Voltage 0 V                         | U         | Test Input                     | ENA                                    | Encoder A           |
| ~         | Supply Voltage (AC Voltage)                | Ü         | Test Input inverted            | ENb                                    | Encoder B           |
| A         | Switching Output (NO)                      | W         | Trigger Input                  | AMIN                                   | Digital output MIN  |
| Ä         | 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   |
| Ÿ         | 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   | IO-Link                                    | Rx+/-     | Ethernet Receive Path          | GN                                     | Green               |
| PoE       | Power 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                |
| ENo RS422 | Encoder 0-pulse 0/Ü (TTL)                  | EDM       | Contact Monitoring             | GNYE                                   | Green/Yellow        |
| PT        | Platinum measuring resistor                | ENARIS422 | Encoder A/A (TTL)              |                                        |                     |