

# Pressure Sensor

## FFMP153

Part Number

UniBar

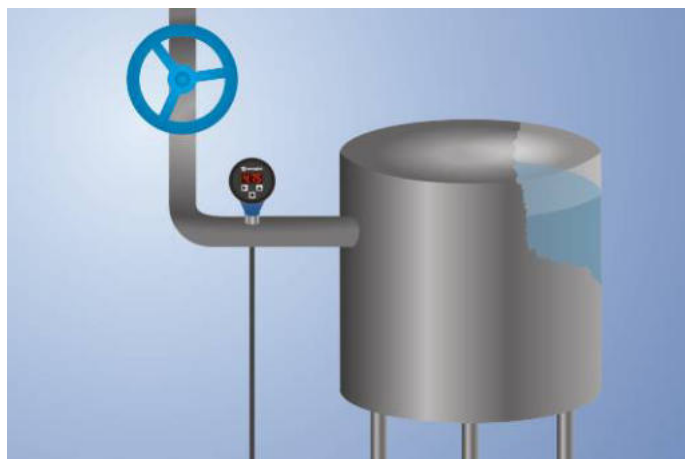


- Highly visible output indicator
- Piggable with flush mounting
- Simple operation via the display
- Space-saving process connection thanks to small pressure membrane

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    |
| Maximum overload pressure | 320 bar        |
| Bursting pressure         | 640 bar        |
| Adjustable 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 (U <sub>b</sub> = 24 V) | < 60 mA        |
| Switching Outputs                           | 1              |
| Response Time                               | 30 ms          |
| Relay Output/Switching Current (24 VDC)     | < 1 A          |
| Analog Output                               | 0...10 V Press |
| Resolution                                  | 10 bit         |
| Current Load Voltage Output                 | < 20 mA        |
| Short Circuit Protection                    | yes            |
| Reverse Polarity Protection                 | yes            |
| Protection Class                            | III            |

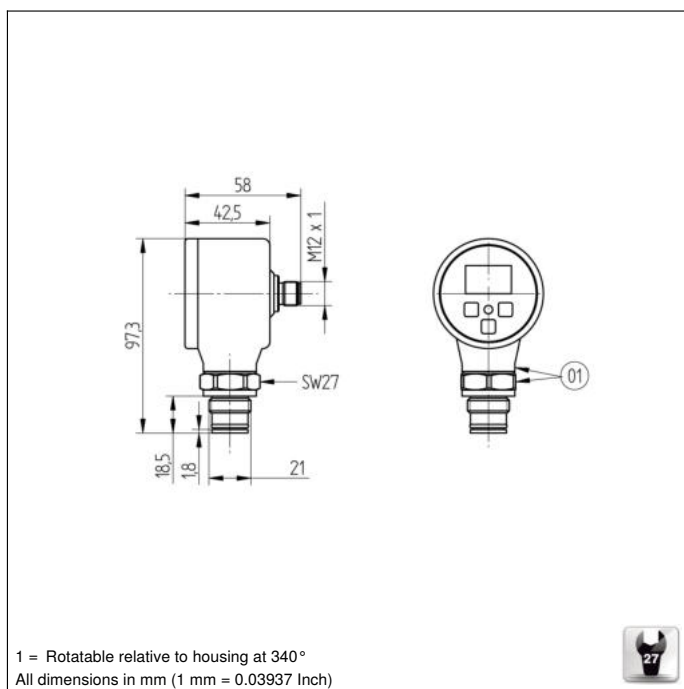
#### Mechanical Data

|                                |                |
|--------------------------------|----------------|
| 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 1/2"         |

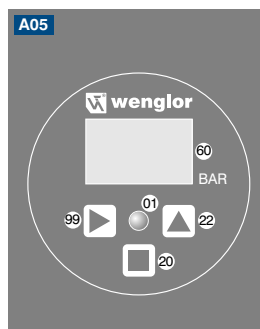
#### Safety-relevant Data

|                                          |          |
|------------------------------------------|----------|
| MTTFd (EN ISO 13849-1)                   | 769,77 a |
| Analog Output                            | ●        |
| Final value, analog output: scalable 2:1 | ●        |
| Relay NO/NC switchable                   | ●        |
| Connection Diagram No.                   | 1003     |
| Control Panel No.                        | A05      |
| Suitable Connection Technology No.       | 35       |
| Suitable Mounting Technology No.         | 904      |

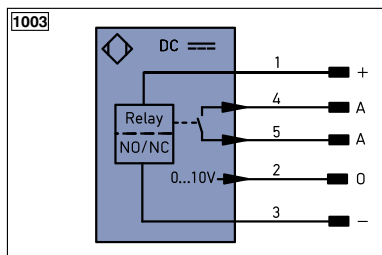
\* Tested by wenglor



## Ctrl. Panel



01 = Switching Status Indicator  
20 = Enter Button  
22 = UP Button  
60 = Display  
99 = Right button



## Legend

|           |                                            |          |                              |
|-----------|--------------------------------------------|----------|------------------------------|
| +         | Supply Voltage +                           | PT       | Platinum measuring resistor  |
| -         | Supply Voltage 0 V                         | nc       | not connected                |
| ~         | Supply Voltage (AC Voltage)                | U        | Test Input                   |
| A         | Switching Output (NO)                      | U        | Test Input inverted          |
| Ā         | Switching Output (NC)                      | W        | Trigger Input                |
| V         | Contamination/Error Output (NO)            | O        | Analog Output                |
| Ṽ         | Contamination/Error Output (NC)            | O-       | Ground for the Analog Output |
| E         | Input (analog or digital)                  | BZ       | Block Discharge              |
| T         | Teach Input                                | AWV      | Valve Output                 |
| Z         | Time Delay (activation)                    | a        | Valve Control Output +       |
| S         | Shielding                                  | b        | Valve Control Output 0 V     |
| RxD       | Interface Receive Path                     | SY       | Synchronization              |
| TxD       | Interface Send Path                        | E+       | Receiver-Line                |
| RDY       | Ready                                      | S+       | Emitter-Line                 |
| GND       | Ground                                     | ±        | Grounding                    |
| CL        | Clock                                      | SnR      | Switching Distance Reduction |
| E/A       | Output/Input programmable                  | Rx+/-    | Ethernet Receive Path        |
| IO-Link   |                                            | Tx+/-    | Ethernet Send Path           |
| PoE       | Power over Ethernet                        | Bus      | Interfaces-Bus A(+)/B(-)     |
| IN        | Safety Input                               | La       | Emitted Light disengageable  |
| OSSD      | Safety Output                              | Mag      | Magnet activation            |
| Signal    | Signal Output                              | RES      | Input confirmation           |
| BI-D+/-   | Ethernet Gigabit bidirect. data line (A-D) | EDM      | Contactor Monitoring         |
| EN0 RS422 | Encoder 0-pulse 0-0 (TTL)                  | ENAR5422 | Encoder A/Ā (TTL)            |
|           |                                            | ENBR5422 | Encoder B/B̄ (TTL)           |

|        |                     |
|--------|---------------------|
| ENa    | Encoder A           |
| ENb    | Encoder B           |
| AMIN   | Digital output MIN  |
| AMAX   | Digital output MAX  |
| AOK    | Digital output OK   |
| SY In  | Synchronization In  |
| SY OUT | Synchronization OUT |
| LI     | Brightness output   |
| M      | Maintenance         |

## Wire Colors according to DIN IEC 757

|      |              |
|------|--------------|
| BK   | Black        |
| BN   | Brown        |
| RD   | Red          |
| OG   | Orange       |
| YE   | Yellow       |
| GN   | Green        |
| BU   | Blue         |
| VT   | Violet       |
| GY   | Grey         |
| WH   | White        |
| PK   | Pink         |
| GNYE | Green/Yellow |

