

# Pressure Sensor

## FFAP121

Part Number

UniBar



- 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           | -0,1...0 bar   |
| Maximum overload pressure | 1 bar          |
| Bursting pressure         | 1,5 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                               | 4...20 mA Press |
| Resolution                                  | 10 bit          |
| Current Output Load Resistance              | < 500 Ohm       |
| Short Circuit Protection                    | yes             |
| Reverse Polarity Protection                 | yes             |
| Protection Class                            | III             |

#### Mechanical Data

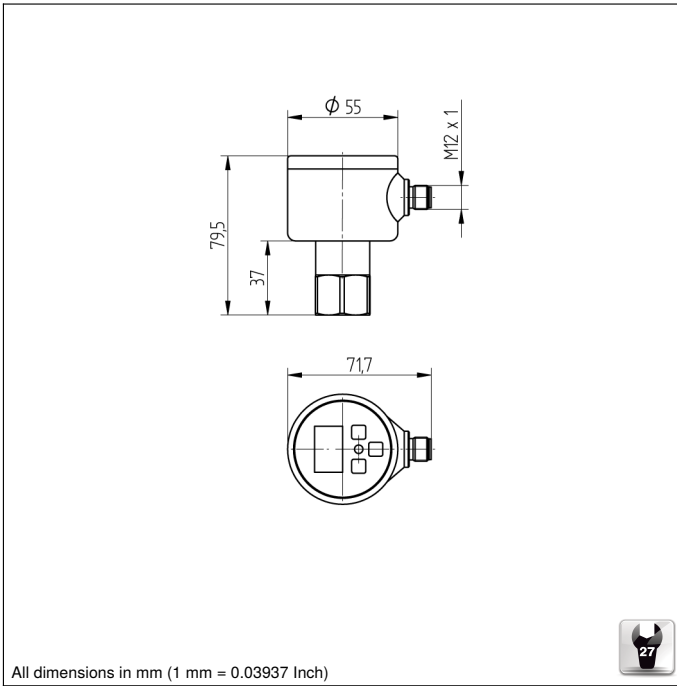
|                                |                |
|--------------------------------|----------------|
| Setting Method                 | Menu           |
| Housing Material               | PBT; PC; FKM   |
| Material Control Panel         | Polyester      |
| Material in contact with media | 1.4435; 1.4404 |
| Degree of Protection           | IP65 *         |
| Connection                     | M12 × 1; 5-pin |
| Process Connection             | G 1/8"         |

#### 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.             | 1002 |
| Control Panel No.                  | A05  |
| Suitable Connection Technology No. | 35   |

\* Tested by wenglor

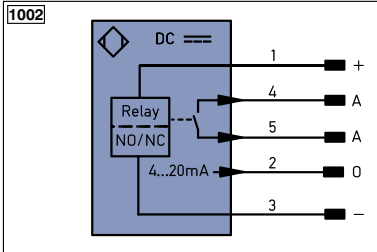


All dimensions in mm (1 mm = 0.03937 Inch)

### Ctrl. Panel



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



#### Legend

|            |  |          |                              |        |                     |
|------------|--|----------|------------------------------|--------|---------------------|
| +          | Supply Voltage +                           | PT       | Platinum measuring resistor  | ENa    | Encoder A           |
| -          | Supply Voltage 0 V                         | nc       | not connected                | ENb    | Encoder B           |
| ~          | Supply Voltage (AC Voltage)                | U        | Test Input                   | AMIN   | Digital output MIN  |
| A          | Switching Output (NO)                      | U        | Test Input inverted          | AMAX   | Digital output MAX  |
| Ā          | Switching Output (NC)                      | W        | Trigger Input                | AOK    | Digital output OK   |
| V          | Contamination/Error Output (NO)            | O        | Analog Output                | SY In  | Synchronization In  |
| Ṽ          | Contamination/Error Output (NC)            | O-       | Ground for the Analog Output | SY OUT | Synchronization OUT |
| E          | Input (analog or digital)                  | BZ       | Block Discharge              | LI     | Brightness output   |
| T          | Teach Input                                | AW       | Valve Output                 | M      | Maintenance         |
| 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           |        |                     |
| Bl..D+/-   | Ethernet Gigabit bidirect. data line (A-D) | EDM      | Contacting Monitoring        |        |                     |
| EN0..RS422 | Encoder 0-pulse 0-0 (TTL)                  | ENAR5422 | Encoder A/Ā (TTL)            |        |                     |
|            |  | ENBR5422 | Encoder B/B̄ (TTL)           |        |                     |

#### 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 |

