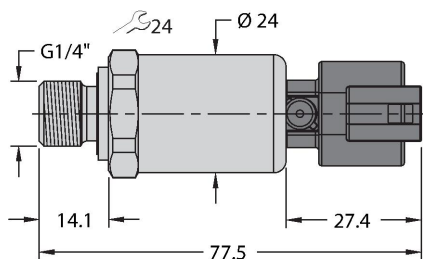


# PT500R-2104-U3-DT043P

## Pressure Transmitter – With Voltage Output (3-Wire)



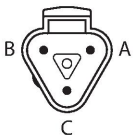
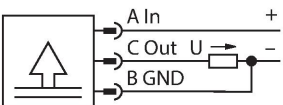
### Technical data

|                                           |                                                   |
|-------------------------------------------|---------------------------------------------------|
| Type                                      | PT500R-2104-U3-DT043P                             |
| ID                                        | 100029564                                         |
| Pressure type                             | Relative pressure                                 |
| Pressure range                            | 0...500 bar                                       |
|                                           | 0...7251.89 psi                                   |
|                                           | 0...50 MPa                                        |
| Admissible overpressure                   | ≤ 1500 bar                                        |
| Burst pressure                            | ≥ 2500 bar                                        |
| Response time                             | < 2 ms, typ. 1 ms                                 |
| Long-term stability                       | 0.3 % FS, acc. to IEC EN 61298-2                  |
| Power supply                              |                                                   |
| Operating voltage U <sub>B</sub>          | 7...33 VDC                                        |
| Current consumption                       | ≤ 7 mA                                            |
| Short-circuit/reverse polarity protection | yes / yes                                         |
| Protection class                          | IP69K                                             |
| Insulation class                          | III                                               |
| Insulation voltage                        | 500 VDC                                           |
| Outputs                                   |                                                   |
| Output 1                                  | Analog output                                     |
| Output function                           | Analog output voltage                             |
| Analog output                             |                                                   |
| Voltage output                            | 0...5 V                                           |
| Load                                      | ≤ 100 nF/>10 kΩ                                   |
| Accuracy LHR                              | ±0.5 % FS (under EMC interference max. ±1.5 % FS) |
| Temperature behaviour                     |                                                   |
| Medium temperature                        | -40...+125 °C                                     |

### Features

- For mobile hydraulic applications
- Fully welded metal measuring cell
- Sealless
- With pressure tip orifice
- Compact and robust design
- Excellent EMC properties
- Excellent accuracy and long-term stability
- Kfz-Norm ISO 16750
- Pressure range 0...500 bar rel.
- 7...33 VDC
- Analog output 0...5 V
- Process connection G1/4" male thread (back sealing) according to DIN EN ISO 1179-2 with FPM profile sealing ring
- Connector device, Deutsch DT04-3P

### Wiring diagram



### Functional principle

The pressure sensors in the PT...-2100 product series are designed specifically for demanding mobile hydraulic applications. They operate with a fully welded metal measuring cell in different pressure ranges of up to 0...600 bar in 2- or 3-wire technology. Depending on the sensor variant, the

## Technical data

processed signal is available as an analog output (4...20 mA, 0...10 V, 0...5 V, ratiometric).  
A wide range of process connections and electrical connections offer a high degree of flexibility in many different applications.

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature coefficient                         | ± 0.2 % of full scale/10 K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Environmental conditions</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Ambient temperature                             | -40...+100 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Storage temperature                             | -50...+100 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Vibration resistance                            | Test VI (12 g, sinusoidal 18 g random vibration)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Shock resistance                                | 50 g, 11 ms, half sine curve, 1000x/axis acc. to ISO 16750-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EMV                                             | Interference Immunity/Interference Emission<br>EN 61326-2-3 - Pressure transducer<br>ISO 13766 - Earthmoving machinery<br>DIN EN 13309 - Construction machinery<br>DIN ISO 14982 - Forestry and agriculture<br>CISPR11<br>Immunity Motor Vehicle Directive<br>ISO 11452-2, HF (Field), 100 V/m (200... 2000 MHz)<br>ISO 11452-4, HF (BCI), 100 mA (20... 400 MHz)<br>ISO 10605, ESD, ±15 kV contact, ±15 kV air<br>ISO 7637-2 3), pulses 1, 2a, 2b, 3a, 3b (test level 4)<br>ISO 16750-2, load dump, 155 V (1 Ω, 300 ms)<br>Motor vehicle directive ECE R10<br>Motor vehicle directive 2004/104/EC |
| <b>Mechanical data</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Housing material                                | Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Pressure connection material                    | Stainless steel 1.4404 (AISI 316L)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Material pressure transducer                    | Stainless steel 1.4404 (AISI 316L)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Process connection                              | G1/4" male thread (back sealing) according to DIN EN ISO 1179-2 with FPM profile sealing ring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Wrench size pressure connection / coupling nut  | 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Electrical connection                           | Connector, Deutsch DT04-3P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Max. tightening torque of housing nut           | 20 Nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Reference conditions acc. to IEC 61298-1</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Temperature                                     | 15...+25 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Atmospheric pressure                            | 860...1060 hPa abs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Humidity                                        | 45 % rel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Auxiliary power                                 | 24 VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Tests/approvals</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MTTF                                            | 1238 years acc. to SN 29500 (Ed. 99) 40 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Included in delivery                            | Profile seal FKM special (1 pc)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

Accessories

| Dimension drawing                                                                 | Type             | ID        |                                                                                                                                                                        |
|-----------------------------------------------------------------------------------|------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | DT06-3S-A-2/TXL  | 100000367 | Valve connector connection cable, Deutsch, DT06 female connector, straight, 3-pin, cable length: 2 m, jacket material: TPE-U (PUR), black, housing: Deutsch DT06/black |
|  | DT06-3S-A-20/TXL | 100038083 | Valve connector connection cable, Deutsch, DT06 female connector, straight, 3-pin, cable length: 2 m, jacket material: TPE-U (PUR), black, housing: Deutsch DT06/black |