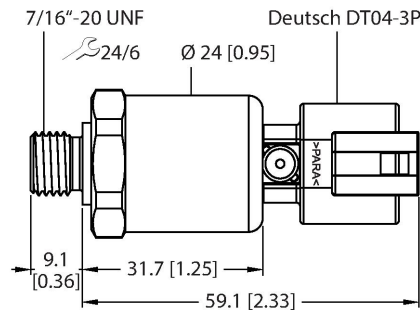


PT1VR-1105-U6-DT043P

Pressure Transmitter – Ratiometric Output (3-Wire)



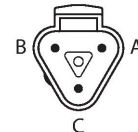
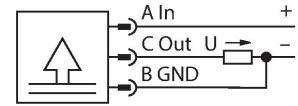
Features

- For mobile hydraulic applications
- Ceramic measuring cell
- Compact and robust design
- Excellent EMC properties
- Excellent accuracy and long-term stability
- Complies with ISO 16750-2
- Pressure range -1...0 bar rel.
- 5 VDC $\pm$ 10 %
- Ratiometric output 10...90 %
- Process connection 7/16" UNF (SAE) male thread
- Plug-in device, Deutsch DT04-3P

Technical data

Type	PT1VR-1105-U6-DT043P
ID	100033971
Medium temperature	-40...+125 °C
Pressure type	Relative pressure
Pressure range	-1...0 bar
	-14.5...0 psi
	-0.1...0 MPa
Admissible overpressure	$\leq$ 3 bar
Burst pressure	$\geq$ 3 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	$\pm$ 0.3 % FS, acc. to IEC EN 61298-2
Power supply	
Operating voltage U_s	4.5...5.5 VDC
Current consumption	$\leq$ 7 mA
Short-circuit/reverse polarity protection	yes / yes
Insulation class	III
Outputs	
Output 1	Analog output
Output function	ratiom. 10...90%
Analog output	
Voltage output	0.5...4.5 V
Load	$\leq$ 100 nF/> 10 k Ω
Accuracy LHR	$\pm$ 0.5 % FS (under EMC interference max. $\pm$ 1.5 % FS)

Wiring diagram



Functional principle

The pressure sensors in the PT...-1100 product series are designed specifically for demanding mobile hydraulic applications. They operate with a ceramic measuring cell in different pressure ranges of up to 0...60 bar in 2- or 3-wire technology. Depending on the sensor variant, the processed signal is available as an analog output signal (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 a wide range of applications.

Technical data

Mechanical data	
Housing material	Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0
Process connection	7/16"-20 UNF male thread
Pressure connection material	Stainless steel 1.4404 (AISI 316L)
Material pressure transducer	Ceramic Al ₂ O ₃
Sealing material	FPM spez.
Wrench size pressure connection / coupling nut	24
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, Deutsch DT04-3P
Protection class	IP69K
Environmental conditions	
Ambient temperature	-40...+100 °C
Storage temperature	-50...+100 °C
Shock resistance	50 g, 11 ms, half sine curve, 1000x/axis acc. to ISO 16750-3
Vibration resistance	Test VI (12 g, sinusoidal 18 g random vibration)
EMV	Interference Immunity/Interference Emission EN 61326-2-3 - Pressure transducer ISO 13766 - Earthmoving machinery DIN EN 13309 - Construction machinery DIN ISO 14982 - Forestry and agriculture Motor vehicle directive ECE R10 Motor vehicle directive 2004/104/EC Immunity Motor Vehicle Directive ISO 11452-2, HF (Field), 100 V/m (200...2000 MHz) ISO 11452-4, HF (BCI), 100 mA (20...400 MHz) ISO 10605, ESD, ±8 kV contact, ±15 kV air ISO 7637-2, pulses 1, 2a, 2b, 3a, 3b (test level 4) ISO 16750-2, load dump, 155 V (1 Ω, 300 ms) Interference Emission Motor Vehicle Directive CISPR25
Tests/approvals	
Reference conditions acc. to IEC 61298-1	
Temperature	15...+25 °C
Atmospheric pressure	860...1060 hPa abs.
Humidity	45 % rel.

Technical data

Auxiliary power	24 VDC
Temperature behaviour	
MTTF	1564 years acc. to SN 29500 (Ed. 99) 40 °C
Included in delivery	FKM O-ring special (1 pc)

Technical data

Type	PT1VR-1105-U6-DT043P
ID	100033971
Pressure type	Relative pressure
Pressure range	-1...0 bar
	-14.5...0 psi
	-0.1...0 MPa
Admissible overpressure	≤ 3 bar
Burst pressure	≥ 3 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 _B	4.5...5.5 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	ratiom. 10...90%
Analog output	
Voltage output	0.5...4.5 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
Temperature coefficient	± 0.2 % of full scale/10 K
Environmental conditions	
Ambient temperature	-40...+100 °C
Storage temperature	-50...+100 °C

Technical data

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 EN 61326-2-3 - Pressure transducer ISO 13766 - Earthmoving machinery DIN EN 13309 - Construction machinery DIN ISO 14982 - Forestry and agriculture Motor vehicle directive ECE R10 Motor vehicle directive 2004/104/EC Immunity Motor Vehicle Directive ISO 11452-2, HF (Field), 100 V/m (200... 2000 MHz) ISO 11452-4, HF (BCI), 100 mA (20... 400 MHz) ISO 10605, ESD, ± 8 kV contact, ± 15 kV air ISO 7637-2, pulses 1, 2a, 2b, 3a, 3b (test level 4) ISO 16750-2, load dump, 155 V (1 Ω , 300 ms) Interference Emission Motor Vehicle Directive CISPR25

Mechanical data

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Sealing material	FPM spez.
Process connection	7/16"-20 UNF male thread
Wrench size pressure connection / coupling nut	24
Electrical connection	Connector, Deutsch DT04-3P
Max. tightening torque of housing nut	10 Nm

Reference conditions acc. to IEC 61298-1

Temperature	15...+25 °C
Atmospheric pressure	860...1060 hPa abs.
Humidity	45 % rel.
Auxiliary power	24 VDC

Tests/approvals

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Included in delivery	FKM O-ring special (1 pc)

