

Relative pressure transmitter type 550 for mobile hydraulic

Pressure range
0 ... 100 – 600 bar



The pressure transmitter type 550 meets the highest requirements for mobile hydraulic applications. This sensor is available with protection standard IP 67 or IP 69K. The standard pressure orifice prevents damage due to pressure peaks.

The compact and rugged design meets the requirement of shock- and vibration stability according Kfz-norm ISO 16750. The pressure transmitter type 550 guarantees highest EMC stability according to various Kfz regulations with test level up to 100V.

The measuring cell is based upon the Huba Control developed thick film technology on stainless steel and is fully hermetically welded .

- Compact and rugged construction for high operating reliability
- Welded construction – no elastomer seals
- Excellent EMC capacity
- Negligible temperature influence on accuracy

Technical Overview

Pressure range			
Relative		0 ... 100 – 600 bar	
Operating conditions			
Medium		Liquids and gases	
Temperature	Medium	-40 ... +125 °C	
	Ambient	-40 ... +100 °C	
	Storage	-50 ... +100 °C	
Tolerable overload	≤ 400 bar	3 x fs	
	600 bar	2.5 x fs	
Rupture pressure	≤ 400 bar	6 x fs	
	600 bar	4 x fs	
Materials			
Case		Stainless steel 1.4404 / AISI 316 L	
Plug accommodation		Polyarylamide 50% GF UL 94 V-0	
Materials in contact with the medium	Pressure connection	Stainless steel 1.4404 / AISI 316 L	
	Sensor	Stainless steel	
Electrical overview			
2 wire	Output	Power supply	Load
	4 ... 20 mA	7.5 ... 33 VDC	$\frac{\text{supply voltage} - 7.5 \text{ V}}{0.02 \text{ A}}$ [Ohm]
3 wire	0 ... 5 V	7 ... 33 VDC	>10 kOhm / < 100 nF
	0 ... 10 V	12 ... 33 VDC	>10 kOhm / < 100 nF
	ration. 10 ... 90%	5 VDC ± 10%	>10 kOhm / < 100 nF
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.		
Insulation voltage	500 VDC		
Protection class			
Protection class III			
Dynamic response			
Response time	< 2 ms (10 ... 90%, typ. 1 ms)		
Load cycle	< 100 Hz		
Electrical connection			Protection standard
Kostal SLK 2.8 coding A			IP 69K
AMP-JPT			IP 67
AMP Superseal 1.5			IP 67
Deutsch DT04-3P			IP 69K
Metri Pack 150 P2S Series			IP 67
M12x1			IP 69K
Pressure connection			
Outside thread	7/16 - 20 UNF		
	1/4 - 18 NPT		
	G 1/4 sealed at back DIN 3852-E with profile seal FPM (-30 ... +135 °C)		
	G 1/2 sealed at back DIN 3852-E with profile seal FPM (-30 ... +135 °C)		
	M14x1.5 sealed at back DIN 3852-E with profile seal FPM (-30 ... +135 °C)		
R 1/4 acc. EN 10226			
Installation arrangement			
Unrestricted			
Tests / Admissions			
Electromagnetic compatibility	Noise immunity / Noise emission		Noise immunity automotive guideline
	ISO 13766 - earth-moving equipment		ISO 11452-2, HF (Field), 100 V/m (200 ... 2000 MHz)
	DIN EN 13309 - construction equipment		ISO 11452-4, HF (BCI), 100 mA (20 ... 400 MHz)
	DIN ISO 14982 - agriculture and forestry		ISO 10605, ESD, ±15 kV contact, ±15 kV air
	Automotive guideline ECE R10 ²⁾		ISO 7637-2 ³⁾ , puls 1, 2a, 2b, 3a, 3b (test level 4)
	Automotive guideline 2004/104/EG ²⁾		ISO 16750-2, Load Dump, 155 V (1 Ω, 300 ms)
	EN 61326-2-3 - pressure transducer ⁴⁾		
Shock acc. ISO 16750-3	50 g, 11 ms, half sine wave, 1000x / axis		
Vibration acc. ISO 16750-3	Test VI (12 g, sinusoidal 18 g random vibration)		
UL	ANSI/UL 61010-1 acc. E325110		
Weight			
~ 90 g			
Packaging (Please state on order)			
Single packaging in cardboard			accessories integrated
Multiple packaging in cardboard (25 pcs)			

Accuracy

Parameter		Unit	
Characteristic line acc. IEC 61298-2 ^{5),6)}		% fs	± 0.5
Resolution		% fs	0.1
Thermal characteristic ⁷⁾	max.	% fs/10K	± 0.2
Long term stability acc. IEC 61298-2	max.	% fs	± 0.5

Test conditions: 25 °C, 45% rF

¹⁾ Warranty of IP protection only with suitable classified plug (consider manufacturers' instructions)
³⁾ Pressure sensor for 12 V and 24 V power system (0 ... 5 V, 0 ... 10 V and 4 ... 20 mA)
⁵⁾ incl. zero point, full scale, linearity, hysteresis and repeatability

²⁾ E1 approval for customer specific type on request
⁴⁾ types M12x1 only

⁶⁾ Considering EMC interference < ±1.5% fs ⁷⁾ -40 ... +100 °C

Order code selection table in bar		1	2	3	4	5	6	7	8	9	10	11
		550.	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾	0 ... 100 bar	9	4	1	S	0						
	0 ... 160 bar	9	4	2	S	0						
	0 ... 250 bar	9	4	3	S	0						
	0 ... 400 bar	9	5	4	S	0						
	0 ... 600 bar	9	5	5	S	0						
▲ Full scale signal at these pressure												
Output / power supply	0 ... 5 V 7 ... 33 VDC						1					
	0 ... 10 V 12 ... 33 VDC						2					
	4 ... 20 mA 7.5 ... 33 VDC						3					
	ration. 10 ... 90% 5 VDC ±10%						7					
	Kostal SLK 2.8 coding A						7	1				
Electrical connection ²⁾	AMP-JPT							2				
	AMP Superseal 1.5							3				
	Deutsch DT04-3P							4				
	Metri Pack 150 P2S Series							5				
	M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3							S				
	2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4							M				
Pressure connection ¹⁾	Outside thread								2	2	1	
		7/16 -20 UNF							3	2	1	
		1/4 -18 NPT							4	2	1	
		G 1/4 sealed at back DIN 3852-E with profile seal FPM							H	2	1	
		G 1/8 sealed at back DIN 3852-E with profile seal FPM ³⁾							6	2	1	
		M14x1.5 sealed at back DIN 3852-E with profile seal FPM							7	2	1	
Pressure range variation (optional)	R 1/4 acc. EN 10226											
	Indicate W and state range on order (e.g.: W0... + 50bar/Out1...8V)											W

Order code selection table in psi		1	2	3	4	5	6	7	8	9	10	11
		550.	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾	0 ... 1000 psi	9	D	1	S	0						
	0 ... 2000 psi	9	D	2	S	0						
	0 ... 3000 psi	9	D	3	S	0						
	0 ... 5000 psi	9	E	4	S	0						
	0 ... 7500 psi	9	E	5	S	0						
▲ Full scale signal at these pressure												
Output / power supply	0 ... 5 V 7 ... 33 VDC						1					
	0 ... 10 V 12 ... 33 VDC						2					
	4 ... 20 mA 7.5 ... 33 VDC						3					
	ration. 10 ... 90% 5 VDC ±10%						7					
	Kostal SLK 2.8 coding A						7	1				
Electrical connection ²⁾	AMP-JPT							2				
	AMP Superseal 1.5							3				
	Deutsch DT04-3P							4				
	Metri Pack 150 P2S Series							5				
	M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3							S				
	2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4							M				
Pressure connection ¹⁾	Outside thread								2	2	1	
		7/16 -20 UNF							3	2	1	
		1/4 -18 NPT							4	2	1	
		G 1/4 sealed at back DIN 3852-E with profile seal FPM							H	2	1	
		G 1/8 sealed at back DIN 3852-E with profile seal FPM ³⁾							6	2	1	
		M14x1.5 sealed at back DIN 3852-E with profile seal FPM							7	2	1	
Pressure range variation (optional)	R 1/4 acc. EN 10226											
	Indicate W and state range on order (e.g.: W0... + 650psi/Out1...8V)											W

Order code selection table in MPa		1	2	3	4	5	6	7	8	9	10	11
		550.	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾	0 ... 10 MPa	9	K	1	S	0						
	0 ... 16 MPa	9	K	2	S	0						
	0 ... 25 MPa	9	K	3	S	0						
	0 ... 40 MPa	9	L	4	S	0						
	0 ... 60 MPa	9	L	5	S	0						
▲ Full scale signal at these pressure												
Output / power supply	0 ... 5 V 7 ... 33 VDC						1					
	0 ... 10 V 12 ... 33 VDC						2					
	4 ... 20 mA 7.5 ... 33 VDC						3					
	ration. 10 ... 90% 5 VDC ±10%						7					
	Kostal SLK 2,8 coding A						7	1				
Electrical connection ²⁾	AMP-JPT							2				
	AMP Superseal 1.5							3				
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	Metri Pack 150 P2S Series							5				
	M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3							S				
	2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4							M				
Pressure connection ¹⁾	Outside thread								2	2	1	
		7/16 -20 UNF							3	2	1	
		1/4 -18 NPT							4	2	1	
		G 1/4 sealed at back DIN 3852-E with profile seal FPM							H	2	1	
		G 1/8 sealed at back DIN 3852-E with profile seal FPM ³⁾							6	2	1	
		M14x1.5 sealed at back DIN 3852-E with profile seal FPM							7	2	1	
Pressure range variation (optional)	R 1/4 acc. EN 10226											
	Indicate W and state range on order (e.g.: W0... + 5MPa/Out1...8V)											W

¹⁾ Other pressure ranges and pressure connections on request ²⁾ Delivery without female connector ³⁾ Rupture pressure 1000 bar, 14500 psi, 100 MPa

Set - Female connector AMP JPT	2 wire (3 wire with 1 blanking plug)	Order Number 110442
Set - Female connector AMP JPT	3 wire	108767
Set - Female connector AMP Superseal 1.5 (0.5 - 1.0 mm ²)	3 wire (Blanking Plug to enable 2 wire)	120254
Set - Female connector AMP Superseal 1.5 (1.0 - 1.5 mm ²)	3 wire (Blanking Plug to enable 2 wire)	120255
Calibration certificate		104551

Dimensions in mm / Electrical connections

		Kostal SLK 2.8	2 wire	
		AMP JPT		
		AMP Superseal 1.5		
		Deutsch DT04-3P		
		Metri Pack Series 150 P2S		
		M12x1		

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