

# 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

<b>Pressure range</b>				
Relative		0 ... 100 – 600 bar		
<b>Operating conditions</b>				
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		
<b>Materials</b>				
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		
<b>Elektrical overview</b>				
2 wire	Output	Power supply	Load	Current consumption
	4 ... 20 mA 0 ... 5 V	7.5 ... 33 VDC 7 ... 33 VDC	$< \frac{\text{supply voltage} - 7.5 \text{ V}}{0.02 \text{ A}}$ [Ohm] >10 kOhm / < 100 nF	< 23 mA < 7 mA
3 wire	0 ... 10 V ratiom. 10 ... 90%	12 ... 33 VDC 5 VDC ± 10%	>10 kOhm / < 100 nF >10 kOhm / < 100 nF	< 7 mA < 7 mA
	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	
<b>Protection class</b>				
Protection class III				
<b>Dynamic response</b>				
Response time			< 2 ms (10 ... 90%, typ. 1 ms)	
Load cycle			< 100 Hz	
<b>Elektrical connection</b>			<b>Protection standard</b>	
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	
<b>Pressure connection</b>				
Outside thread	7/16 - 20 UNF			
	1/4 - 18 NPT			
	G1/4 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				
<b>Installation arrangement</b>				
Unrestricted				
<b>Tests / Admissions</b>				
Electromagnetic compatibility	Noise immunity / Noise emission		Noise immunity automotive guideline	Noise emission automotive guideline
	ISO 13766 - earth-moving equipment		ISO 11452-2, HF (Field), 100 V/m (200 ... 2000 MHz)	CISPR25
	DIN EN 13309 - construction equipment		ISO 11452-4, HF (BCI), 100 mA (20 ... 400 MHz)	
	DIN ISO 14982 - agriculture and forestry		ISO 10605, ESD, ±8 kV contact, ±15 kV air	
	Automotive guideline ECE R10 <sup>2)</sup>		ISO 7637-2, puls <sup>3)</sup> , test level 4 <sup>4)</sup>	
	Automotive guideline 2004/104/EG <sup>2)</sup>		ISO 16750-2, Load Dump, 155 V (1 Ω, 300 ms)	
EN 61326-2-3 - pressure transducer				
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)		
cULus		applied acc. 61010-1		
<b>Weight</b>				
~ 90 g				
<b>Packaging (Please state on order)</b>				
Single packaging in cardboard			accessories integrated	
Multiple packaging in cardboard (25 pcs)				

## Accuracy

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

Test conditions: 25 °C, 45% rF

<sup>1)</sup> Warranty of IP protection only with suitable classified plug (consider manufacturers' instructions)

<sup>4)</sup> Pressure sensor for 12 V and 24 V power system (0 ... 5 V, 0 ... 10 V and 4 ... 20 mA)

<sup>6)</sup> Considering EMC interference < ±1.5% fs

<sup>2)</sup> E1 approval for customer specific type on request

<sup>3)</sup> Puls 1, 2a, 2b, 3a, 3b

<sup>5)</sup> incl. zero point, full scale, linearity, hysteresis and repeatability

<sup>7)</sup> -15 ... 85 °C

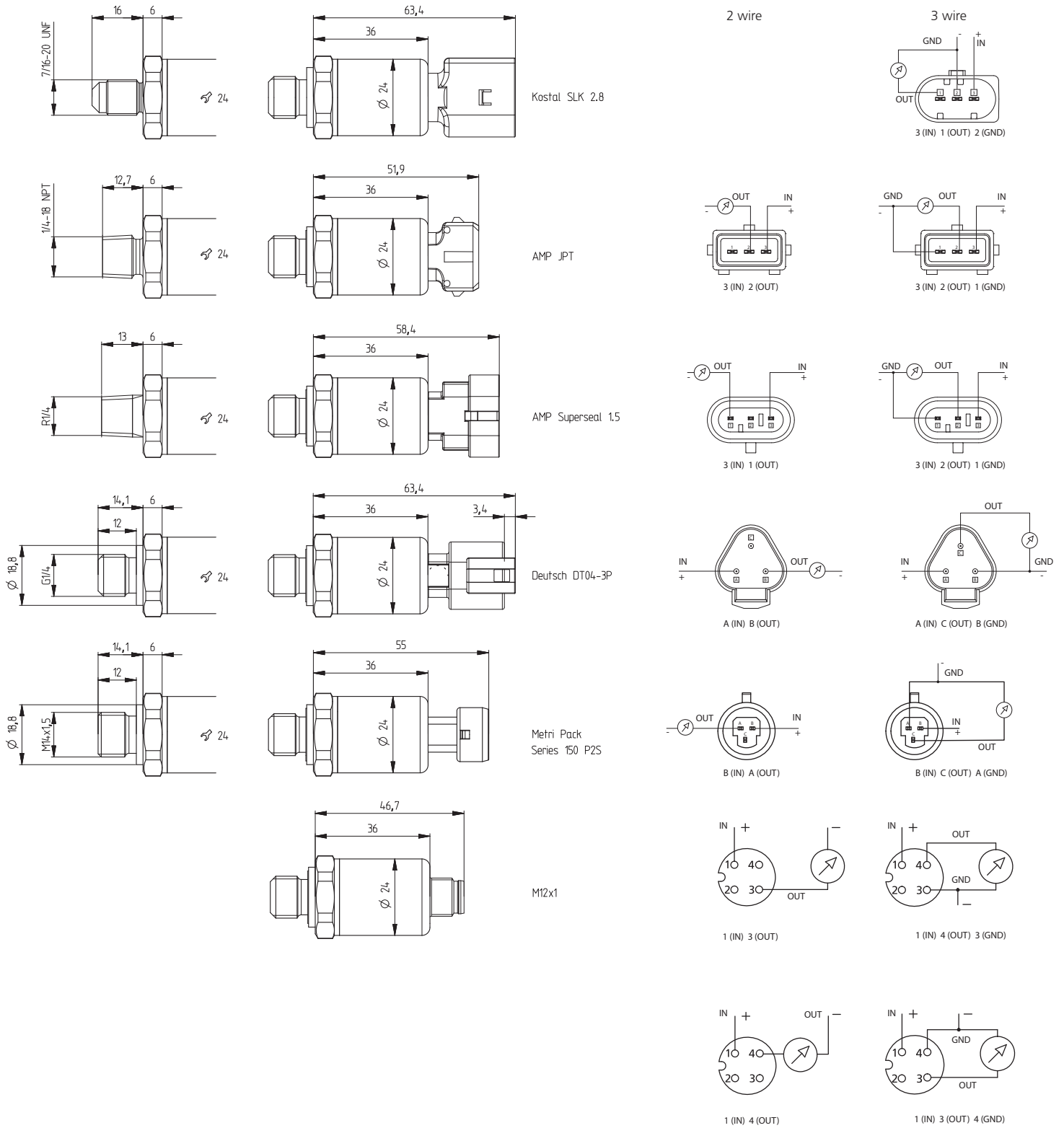
Order code selection table in bar		1	2	3	4	5	6	7	8	9	10	11
		550.	X	X	X	X	X	X	X	X	X	X
Pressure range <sup>1)</sup>	0 ... 100 bar	9	4	1	S	0						
	0 ... 160 bar	9	4	2	S	0						
	0 ... 250 bar	9	4	3	S	0						
	0 ... 400 bar	9	5	4	S	0						
	0 ... 600 bar	9	5	5	S	0						
▲ Full scale signal at these pressure												
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					
	10 ... 90% ratiom.    5VDC ±10%						7					
	Kostal SLK 2.8 coding A						7	1				
Electrical connection <sup>2)</sup>	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 <sup>1)</sup>	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								6	2	1
		M14x1.5 sealed at back DIN 3852-E with profile seal FPM								7	2	1
	R 1/4 acc. EN 10226											
Pressure range variation (optional)	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 <sup>1)</sup>	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					
	10 ... 90% ratiom.    5VDC ±10%						7					
	Kostal SLK 2.8 coding A						7	1				
Electrical connection <sup>2)</sup>	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 <sup>1)</sup>	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								6	2	1
		M14x1.5 sealed at back DIN 3852-E with profile seal FPM								7	2	1
	R 1/4 acc. EN 10226											
Pressure range variation (optional)	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 <sup>1)</sup>	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					
	10 ... 90% ratiom.    5VDC ±10%						7					
	Kostal SLK 2,8 coding A						7	1				
Electrical connection <sup>2)</sup>	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 <sup>1)</sup>	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								6	2	1
		M14x1.5 sealed at back DIN 3852-E with profile seal FPM								7	2	1
	R 1/4 acc. EN 10226											
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 5MPa/Out1...8V)											W

Accessories	Accessories supplied loose
Set - Female connector AMP JPT 2 wire (3 wire with 1 dummy plug)	Order Number 110442
Set - Female connector AMP JPT 3 wire	108767
Calibration certificate	104551

<sup>1)</sup> Other pressure ranges and pressure connections on request    <sup>2)</sup> Delivery without female connector



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