

Relative and absolute pressure transmitter type 558 for mobile application

Pressure range
0 ... 6 – 60 bar



The pressure transmitter type 558 meets the highest requirements for the industry and vehicle manufacturing. This sensor is available with protection standard IP67 or IP69K. The optional pressure orifice prevents damage due to pressure peaks.

The compact and rugged design meets the requirement of shock- and vibration stability according road vehicle standards ISO 16750. The pressure transmitter type 558 guarantees highest EMC stability according to various road vehicle regulations with test level up to 100V.

This sensor utilises a ceramic technology, developed by Huba Control and for the last 20 years, in millions of applications.

- Compact and rugged construction for high operating reliability
- Wide choice of connections available
- Excellent EMC capacity
- Negligible temperature influence on accuracy

Technical Overview

Pressure range

Relative	0 ... 16 – 60 bar
Absolute	0 ... 6 bar

Operating conditions

Medium		Liquids and gases
Temperature	Medium	FPM EPDM NBR
	Ambient	-40 ... +125 °C -20 ... +100 °C -40 ... +100 °C
	Storage	-50 ... +100 °C
	Tolerable overload / Rupture pressure	3 x FS

Materials

Pressure connection	Stainless steel 1.4404 / AISI 316L	
Plug accommodation	Polyarylamide 50% GF UL 94 V-0	
Materials in contact with the medium	Pressure connection	
	Sensor	Stainless steel 1.4404 / AISI 316L
	Sealing material	Ceramic Al ₂ O ₃ (96%) EPDM, NBR, FPM

Electrical overview

	Output	Power supply	Load	Current consumption
2 wire	4 ... 20 mA	7.5 ... 33 VDC	$< \frac{\text{supply voltage} - 7.5 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 23 mA
3 wire	0 ... 5 V	7 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
	0 ... 10 V	12 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
	ratiom. 10 ... 90%	5 VDC ± 10%	>10 kOhm / < 100 nF	< 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			

Dynamic response

Response time	< 2 ms (10 ... 90%, typ. 1 ms)
Load cycle	< 100 Hz

Electrical connection ¹⁾

Electrical connection ¹⁾	Protection standard	Protection class
Kostal SLK 2.8 Codierung A	IP 69K	III
AMP-JPT	IP 67	III
AMP Superseal 1.5	IP 67	III
Deutsch DT04-3P	IP 69K	III
Deutsch DT04-4P	IP 69K	III
Metri Pack 150 P2S Series	IP 67	III
M12x1	IP 69K	III

Pressure connection

Outside thread	$\frac{1}{16}$ - 20 UNF	
	$\frac{1}{16}$ - 20 UNF	sealed at back, SAE-4 ORB with O-ring FPM (-20 ... +135 °C)
	$\frac{9}{16}$ - 18 UNF	sealed at back, SAE-6 ORB with O-ring FPM (-20 ... +135 °C)
	$\frac{1}{4}$ - 18 NPT	
	G $\frac{1}{4}$	sealed at back DIN 3852-E with profile seal FPM (-30 ... +135 °C)
	G $\frac{3}{8}$	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 $\frac{1}{4}$	acc. EN 10226

Installation arrangement

Unrestricted

Tests / Admissions

	Noise immunity / Noise emission	Noise immunity automotive guideline
Electromagnetic compatibility	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⁾	
	EN 12895:2015 - industrial trucks	
	CISPR11	
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	± 0.3

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
		558.	X	X	X	X	X	X	X	X	X	X
Pressure mode	Relative	9										
	Absolute	8										
Pressure range ¹⁾	0 ... 6 bar	8	1	7								
	0 ... 16 bar	9	3	1								
	0 ... 25 bar	9	3	2								
	0 ... 40 bar	9	3	3								
	0 ... 60 bar	9	4	0								
Sealing material	EPDM Ethylene propylene					1	0					
	NBR Butadiene Acrylonitrile					2	0					
	FPM Fluoro elastomer					5	0					
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				
	ratiom. 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 2w: IN=1 / OUT=3 3w: IN=A / OUT=C / GND=B								4			
	Deutsch DT04-3P 3w: IN=A / OUT=B / GND=C								G			
	Deutsch DT04-4P 3w: IN=2 / OUT=1 / Case 3 4w: IN=2 / OUT=4 / GND=1 / Case=3								Y			
	Metri Pack 150 P2S 2w: IN=B / OUT=A 3w: IN=B / OUT=C / GND=A								5			
	Metri Pack 150 P2S 3w: IN=C / OUT=A / GND=B							1,2	J			
	M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3								S			
Pressure connection ¹⁾	Outside thread											
	7/16-20 UNF										2	
	7/16-20 UNF sealed at back, SAE-4 ORB with O-ring FPM										G	
	9/16-18 UNF sealed at back, SAE-6 ORB with O-ring FPM										V	
	1/4-18 NPT										3	
	G 1/4 sealed at back DIN 3852-E with profile seal FPM										4	
	G 1/8 sealed at back DIN 3852-E with profile seal FPM										H	
	M14x1.5 sealed at back DIN 3852-E with profile seal FPM										6	
R 1/4 acc. EN 10226										7		
Pressure orifice	without										0	1
	with										2	1
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
		558.	X	X	X	X	X	X	X	X	X	X
Pressure mode	Relative	9										
	Absolute	8										
Pressure range ¹⁾	0 ... 100 psi	8	B	7								
	0 ... 200 psi	9	C	1								
	0 ... 300 psi	9	C	2								
	0 ... 500 psi	9	C	3								
	0 ... 750 psi	9	D	0								
Sealing material	EPDM Ethylene propylene					1	0					
	NBR Butadiene Acrylonitrile					2	0					
	FPM Fluoro elastomer					5	0					
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				
	ratiom. 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 2w: IN=1 / OUT=3 3w: IN=A / OUT=C / GND=B								4			
	Deutsch DT04-3P 3w: IN=A / OUT=B / GND=C								G			
	Deutsch DT04-4P 3w: IN=2 / OUT=1 / Case 3 4w: IN=2 / OUT=4 / GND=1 / Case=3								Y			
	Metri Pack 150 P2S 2w: IN=B / OUT=A 3w: IN=B / OUT=C / GND=A								5			
	Metri Pack 150 P2S 3w: IN=C / OUT=A / GND=B							1,2	J			
	M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3								S			
Pressure connection ¹⁾	Outside thread											
	7/16-20 UNF											2
	7/16-20 UNF sealed at back, SAE-4 ORB with O-ring FPM											G
	9/16-18 UNF sealed at back, SAE-6 ORB with O-ring FPM											V
	1/4-18 NPT											3
	G 1/4 sealed at back DIN 3852-E with profile seal FPM											4
	G 1/8 sealed at back DIN 3852-E with profile seal FPM											H
	M14x1.5 sealed at back DIN 3852-E with profile seal FPM											6
R 1/4 acc. EN 10226											7	
Pressure orifice	without											0
	with											2
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 650psi/Out1...8V)											W

¹⁾ Other pressure ranges and pressure connections on request

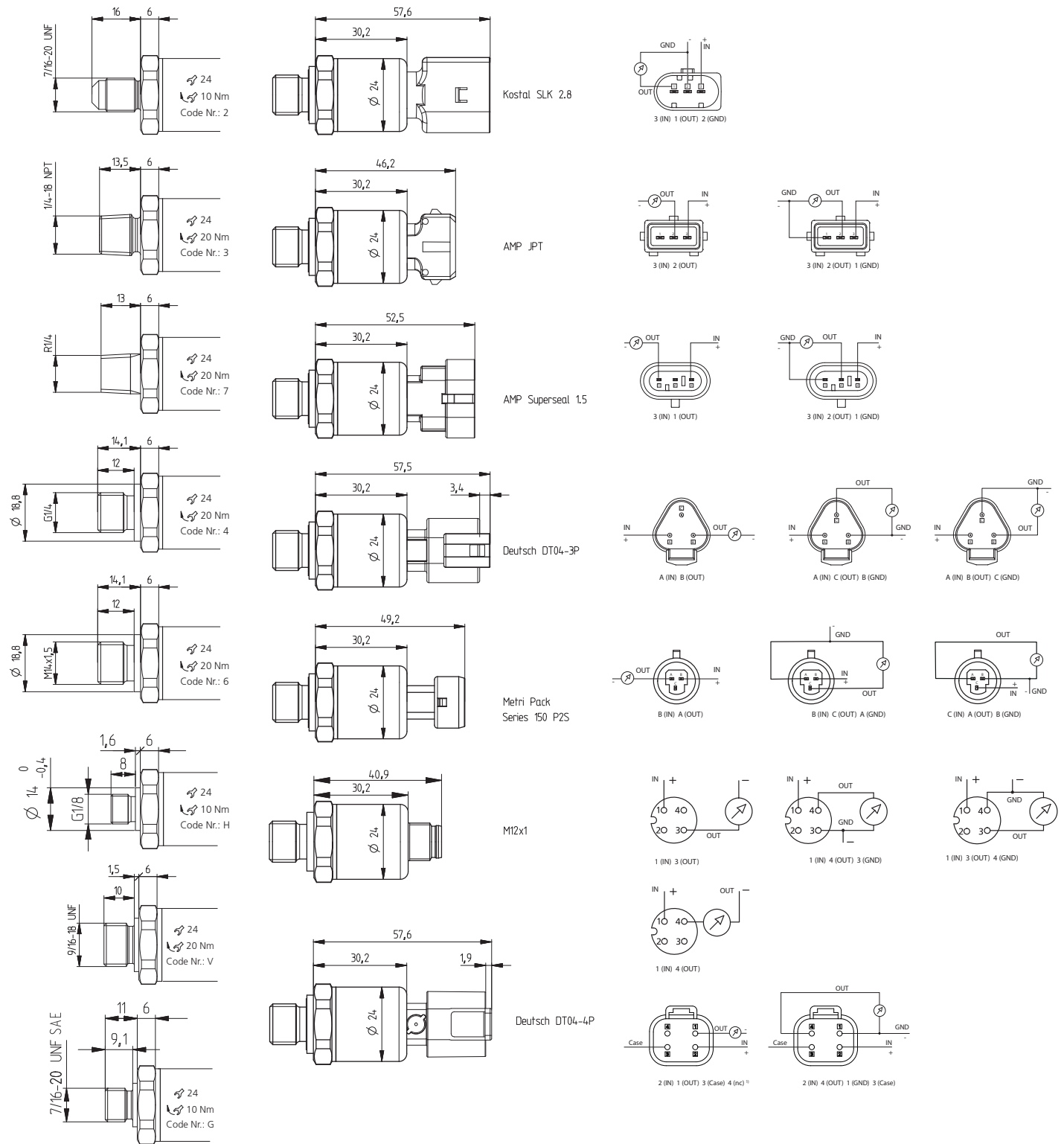
²⁾ Delivery without female connector

		1	2	3	4	5	6	7	8	9	10	11
Order code selection table in MPa		558. X X X X X X X X X X X X										
Pressure mode	Relative	9										
	Absolute	8										
Pressure range ¹⁾	0 ... 0.6 MPa	8	G	7								
	0 ... 1.6 MPa	9	H	1								
	0 ... 2.5 MPa	9	H	2								
	0 ... 4 MPa	9	H	3								
	0 ... 6 MPa	9	K	0								
Sealing material	EPDM Ethylene propylene					1	0					
	NBR Butadiene Acrylonitrile					2	0					
	FPM Fluoro elastomer					5	0					
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				
	ratiom. 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 2w: IN=1 / OUT=3 3w: IN=A / OUT=C / GND=B								4			
	Deutsch DT04-3P 3w: IN=A / OUT=B / GND=C								G			
	Deutsch DT04-4P 3w: IN=2 / OUT=1 / Case 3 4w: IN=2 / OUT=4 / GND=1 / Case=3								Y			
	Metri Pack 150 P2S 2w: IN=B / OUT=A 3w: IN=B / OUT=C / GND=A								5			
	Metri Pack 150 P2S 3w: IN=C / OUT=A / GND=B							1,2	J			
	M12x1 2w: IN=1 / OUT=3 3w: IN=1 / OUT=4 / GND=3								S			
	M12x1 2w: IN=1 / OUT=4 3w: IN=1 / OUT=3 / GND=4								M			
Pressure connection ¹⁾	Outside thread										2	
	7/16-20 UNF										G	
	7/16-20 UNF sealed at back, SAE-4 ORB with O-ring FPM										V	
	9/16-18 UNF sealed at back, SAE-6 ORB with O-ring FPM										3	
	1/4-18 NPT										4	
	G 1/4 sealed at back DIN 3852-E with profile seal FPM										H	
	G 1/8 sealed at back DIN 3852-E with profile seal FPM										6	
	M14x1.5 sealed at back DIN 3852-E with profile seal FPM										7	
R 1/4 acc. EN 10226											0	1
Pressure orifice	without										2	1
with											0	1
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 5MPa/Out1...8V)											W

Accessories (supplied loose)	Order Number
Set - Female connector Kostal SLK 2.8 coding A 2 wire (3 wire with 1 blanking plug)	120369
Set - Female connector Kostal SLK 2.8 coding A 3 wire	120368
Set - Female connector AMP JPT 2 wire (3 wire with 1 blanking plug)	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
Set - Female connector Metri Pack 150 P2S Series 3 wire	120345
Calibration certificate	104551

¹⁾ Other pressure ranges and pressure connections on request

²⁾ Delivery without female connector



¹⁾ not connected

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