EXNT 8292

Ex Pressure Transmitter

Applications

- Ex Zones 0, 1, 2 (gas); 20, 21, 22 (dust) and mining
- Hydrogen
- Shipbuilding

Features

- Pressure ranges from 0.4 to 2500 bar
- ATEX, IECEx, UKEX certified
- II 1G Ex ia IIC T4/T6 Ga
  II 1D Ex ia IIIC T200160°C Da
  I M1 Ex ia I Ma
  II 1/2G Ex ia IIC T4/T6 Ga/Gb
- Optionally with hydrogen-compatible sensor
- EC79/2009 certified by the KBA Kraftfahrt-Bundesamt

Product description

The EX pressure transmitter EXNT is based on Trafag's own thin-film-on-steel sensor technology with excellent long-term stability and offers reliable and accurate pressure measurement over a wide temperature range. The intrinsic safety design is certified for applications in Ex-Zones 0, 1, 2 (gas), 20, 21, 22 (dust) and mining.

EMC: 2014/30/EU

S.I. 2016 No. 1091

DNV, KRS, ATEX, IECE, UKEX, PESO, RMRS

EX79/2009 certified

RoHS/Reach compliant

Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 0.4 to 0 ... 100 bar 0 ... 5 to 0 ... 1000 psi
Output signal	4 ... 20 mA
Media temperature	max. -40°C ... +120°C (See electrical connection)
Ambient temperature	max. -40°C ... +120°C (See electrical connection)

Additional information

Data sheet	www.trafag.com/H72329
Instructions	www.trafag.com/H73329
Accessories	www.trafag.com/H72258
Video	https://youtu.be/CCDbgXhvtrA

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Ordering information/Type code

		8292	XX	XX	XX	XX	XX	XX
Measuring range [1]	Measuring range bar, see table: Measuring ranges in bar (page 5)							
	Measuring range psi, see table: Measuring ranges in psi (page 6)							
Sensor	Relative pressure, accuracy: 0.3% (> 1 bar)			23				
	Relative pressure, accuracy: 0.5% (> 1 bar)			25				
	Relative pressure, accuracy: 0.5% (≤ 1 bar)			26				
	Relative pressure, accuracy: 0.5 %, wetted parts hydrogen compatible [2] [3]			35				
	Relative pressure, accuracy: 0.3 %, wetted parts hydrogen compatible [2] [3]			33				
Pressure connection	G1/4" male [4]				17			
	G1/4" male (Manometer) EN 837 [3] [4]				53			
	G1/4" female [3] [4]				10			
	G1/2" male [3] [4]				21			
	G1/2" male (Manometer) EN 837 [3] [4]				11			
	R1/4" male [3] [4]				19			
	1/4" NPT male [3] [4]				30			
	M18x1.5 male (conical seal: 58°) [3] [4]				29			
Electrical connection	Male electrical connector EN 175301-803-A, plastic					05		
	Male electrical connector M12x1, 5-pole, metal					35		
	Male electrical connector MIL-C 26482, 6-pole, metal [6]					02		
	Male electrical connector Binder 723, 5-pole, metal					14		
	Cable with shield, material FDR 25 (Raychem), 4 x 0.5mm² [7] [8]					78		
	Cable with shield, jacket material XVH (HEW), 3 x 0.75 mm² [7] [8]					79		
	Cable intrinsically safe with shield, material PVC, 2 x 0.75mm² [7] [8]					80		

Output signal	**Output signal**	**Load resistance**	**U (supply)**				
	4 ... 20 mA	(U_s –10 V) / 20 mA	10 ... 30 VDC			19	

		8292	XX	XX	XX	XX	XX	XX
Accessories	Female electrical plug EN 175301-803-A (DIN 43650-A)/NBR, -40°C ... +90°C For cable diameter 4 … 9 mm, flammability standard UL94-V0							**46**
	Female electrical plug EN 175301-803-A (DIN 43650-A)/silicone, -40°C ... +125°C For cable diameter 4 … 9 mm, flammability standard UL94-V0							**56**
	Female electrical plug EN 175301-803-A (DIN 43650-A)/NBR, -40°C ... +90°C For cable diameter 4 … 9.5 mm, flammability standard UL94-V2 [9)]							**58**
	Female electrical plug M12x1, 5-pole, plastic (not for zones 0 (gas)							**33**
	Female electrical plug M12x1, 5-pole, metal							**35**
	Female electrical plug MIL-C 26482, 6-pole, metal							**32**
	Female electrical plug Binder 723, 5-pole, metal							**37**
	Seal FKM, -18°C ... +125°C [10)]							**61**
	Seal EPDM, -40°C ... +125°C [10)]							**63**
	Pressure peak damping element ø 0.4 mm							**44**
	Pressure peak damping element ø 1.0 mm							**40**
	Cable length 1.5 m [11)]							**1M**
	Cable length 3.0 m [11)]							**3M**
	Cable length 5.0 m [11)]							**5M**
	Special electrical connection: Pin 1 +, Pin 2 - (Only for output signal 4 ... 20 mA and male electrical connector EN 175301-803-A / DIN 43650-A)							**92**
	Type label e1 (EC79) [12)]							**HC**
	Zener barrier ATEX/IECEX 28V/93mA; R ≈300Ω: Ordering code ZEN28VDC							
	Damping elements and snubber: see data sheet H72258							

[01)] Extended overpressure as well as customized pressure ranges upon request
[02)] Pressure ranges 0 ... 1 to 0 ... 1000 bar, max. ambient and media temperature +85°C
[03)] Upon request, whereas minimum order quantities may apply
[04)] For pressure ranges ≤ 600 bar
[05)] For pressure ranges > 600 bar
[06)] For pressure ranges < 40 bar upon request
[07)] Cable length max. 20 m
[08)] Without ship approvals
[09)] Without ship approval DNV
[10)] Only for pressure connections 17 and 21
[11)] Other cable lengths upon request
[12)] Only for process connections 17 (max. 350 bar) and 30

Compatibility matrix pressure connection and accessories

		Damping		Seal	
Code	**Pressure connection**	Ø 0.4 mm (Code 44)	Ø 1.0 mm (Code 40)	FKM	EPDM
17	G1/4″ male	✓	✓	✓	✓
53	G1/4″ male (Manometer) EN 837				
10	G1/4″ female				
21	G1/2″ male	✓	✓	✓	✓
11	G1/2″ male (Manometer) EN 837				
19	R1/4″ male	✓	✓		
30	1/4″ NPT male	✓	✓		
29	M18x1.5 male (conical seal: 58°)				

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Standard products (extra short lead time)

Product No.	Type Code	Pressure range [bar]	Overpressure max. [bar]	Supply [VDC]	Accuracy @ 25°C typ. [%]
EXNT0.4A	8292 69 2617 05 0000 0000 19 46 61 92	0 ... 0.4	1.2	10 ... 30	± 0.5
EXNT0.6A	8292 70 2617 05 0000 0000 19 46 61 92	0 ... 0.6	1.5	10 ... 30	± 0.5
EXNT1.0A	8292 71 2617 05 0000 0000 19 46 61 92	0 ... 1	2	10 ... 30	± 0.5
EXNT2.5A	8292 75 2517 05 0000 0000 19 46 61 92	0 ... 2.5	5	10 ... 30	± 0.5
EXNT4.0A	8292 76 2517 05 0000 0000 19 46 61 92	0 ... 4	8	10 ... 30	± 0.5
EXNT6.0A	8292 77 2517 05 0000 0000 19 46 61 92	0 ... 6	12	10 ... 30	± 0.5
EXNT10.0A	8292 78 2517 05 0000 0000 19 46 61 92	0 ... 10	20	10 ... 30	± 0.5
EXNT16.0A	8292 79 2517 05 0000 0000 19 46 61 92	0 ... 16	32	10 ... 30	± 0.5
EXNT25.0A	8292 80 2517 05 0000 0000 19 46 61 92	0 ... 25	50	10 ... 30	± 0.5
EXNT40.0A	8292 81 2517 05 0000 0000 19 46 61 92	0 ... 40	80	10 ... 30	± 0.5
EXNT100.0A	8292 83 2517 05 0000 0000 19 46 61 92	0 ... 100	200	10 ... 30	± 0.5
EXNT250.0A	8292 74 2517 05 0000 0000 19 46 61 92	0 ... 250	500	10 ... 30	± 0.5

Measuring ranges in bar

		Sensors 23, 25, 26		Sensors 33, 35	
Measuring range [bar]	Code	Over pressure [bar]	Burst pressure [bar]	Over pressure [bar]	Burst pressure [bar]
0 ... 0.4	69	1.2	25	–	–
0 ... 0.6	70	1.5	25	–	–
0 ... 1.0	71	2	25	2	25
0 ... 1.6	73	3.5	80	3.2	32
0 ... 2.5	75	5	100	5	50
0 ... 4	76	8	100	8	60
0 ... 6	77	12	100	12	100
0 ... 10	78	20	200	20	200
0 ... 16	79	32	200	32	200
0 ... 25	80	50	300	38	300
0 ... 40	81	80	300	60	300
0 ... 60	82	120	500	90	400
0 ... 100	83	200	500	150	500

Measuring ranges in psi

		Sensors 23, 25, 26		Sensors 33, 35	
Measuring range [psi]	Code	Over pressure [psi]	Burst pressure [psi]	Over pressure [psi]	Burst pressure [psi]
0 ... 5	F9	18	350	–	–
0 ... 10	G0	25	350	–	–
0 ... 15	G1	30	350	30	350
0 ... 25	G3	50	1200	–	–
0 ... 30	G5	60	1200	60	700
0 ... 50	G6	120	1450	100	850
0 ... 100	G7	200	1450	200	1400
0 ... 150	G8	300	2900	400	2500
0 ... 250	G9	500	2900	500	2500
0 ... 300	HA	–	–	600	4000
0 ... 400	H0	800	4350	600	4000
0 ... 500	H1	1100	4350	750	4000
0 ... 1000	H2	1800	5800	1500	5000

EC79/2009 Certificate

Nominal working pressure (NWP) @15°C	0.08 ... 70 MPa
Maximum allowable working pressure	0.1 ... 100 MPa
Classification	Class 0, Class 1 and Class 2 [1)]
Pressure codes	71 ... 88
Process connection	Code 17: Up to NWP 35 Mpa Code 30: Up to NWP 70 Mpa
Seal	Codes 61 and 63

The transmitters of class 0 were tested. Because the most highly loaded case was tested the results can be applied to the whole product family with pressure ranges from 0.8bar to 700bar.

Marking for Ex zones

Ex zones	Marking
0, 1, 2	Ex
20, 21, 22	II 1G Ex ia IIC T4/T6 Ga
M1, M2	II 1D Ex ia IIIC T_{200}160°C Da I M1 Ex ia I Ma
1, 2	Ex
20, 21, 22	II 2G Ex ia IIC T4/T6 Gb (Version with plastic type connector) II 1D Ex ia IIIC T_{200}160°C Da

Accuracy

		Accuracy class 0.5 %	Accuracy class 0.3 %	Accuracy class 0.5 %
		Ordering code 25/35 (> 1 bar)	Ordering code 23/33 (> 1 bar)	Ordering code 26 (≤ 1bar)
TEB @ -25 ... +85°C	[% FS typ.]	± 2.0	± 0.5	± 1.0
Accuracy @ +25°C	[% FS typ.]	± 0.5	± 0.3	± 0.5
NLH @ +25°C (BSL)	[% FS typ.]	± 0.2	± 0.1	± 0.1
TC zero point and span	[% FS/K typ.]	± 0.03	± 0.005	± 0.01
Long term stability 1 year @ +25°C	[% FS typ.]	25: ± 0.2 35: ± 0.75	23: ± 0.2 33: ± 0.75	± 0.2
Mounting dependency with 180° rotation (Vibration and shock: multiply this value with number of g)	[% FS typ.]			0 ... 1 bar: 0.05 0 ... 0.6 bar: 0.09 0 ... 0.4 bar: 0.13

Specifications

Electrical data	Output / supply voltage	4 ... 20 mA: 24 (10 ... 30) VDC
	Power-on delay time	max. 1.5 s
	Rise time of supply voltage	typ. 1 ms, 10 ... 90 % nominal pressure
	Resistance of insulation	> 10 MΩ, 500 VDC
	Dielectric strength	500 VAC, 50 Hz
	Current limiting output signal	4 ... 20 mA: ca. 24 mA (Overload)
	Internal inductance (Li)	< 10µH
	Internal capacity (Ci)	≤ 23nF
Environmental conditions	Media temperature	max. -40°C ... +120°C (See electrical connection)
	Ambient temperature	max. -40°C ... +120°C (See electrical connection)
	Storage temperature	-20°C ... +40°C
	Protection [1)]	min. IP65 Electrical connection cable: IP67 Electrical connection 02: IP67
	Humidity	max. 95 % relative
	Vibration	10 g (50 ... 2000 Hz)
	Shock	50 g/3 ms
EMC protection	Emission	IEC 61000-6-4
	Immunity	IEC 61000-6-2
Mechanical data	Sensor (wetted parts)	1.4542 (AISI630), optional hydrogen-compatible steel
	Pressure connection (wetted parts)	Pressure ranges ≤ 16 bar: 1.4542 Pressure ranges > 16 bar: 1.4404 Optional hydrogen-compatible steel
	Housing	1.4301 (AISI304)
	Sealing	FKM, EPDM
	Male electrical connector	See ordering information
	Mounting torque	25 Nm Pressure connection 29: 30 Nm

[1)] See electrical connection

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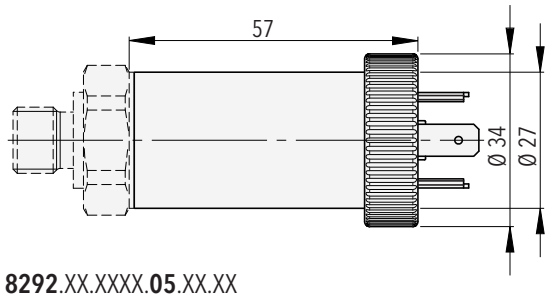
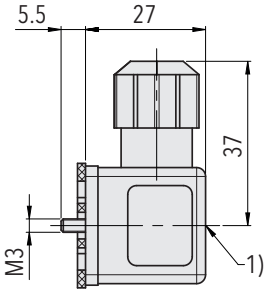
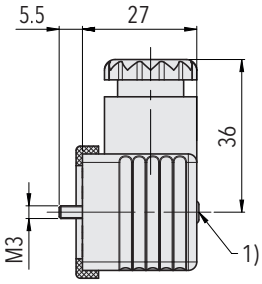
Dimensions



8292.XX.XXXX.**05**.XX.XX

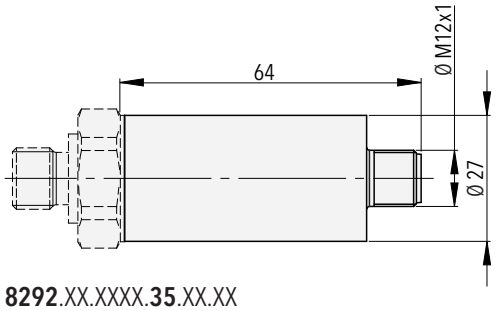




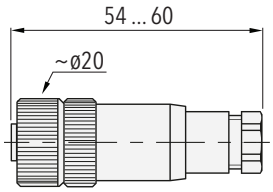
1) Tightening torque 50 ... 60 Ncm

8292.XX.XXXX.XX.XX.**46**/**56**

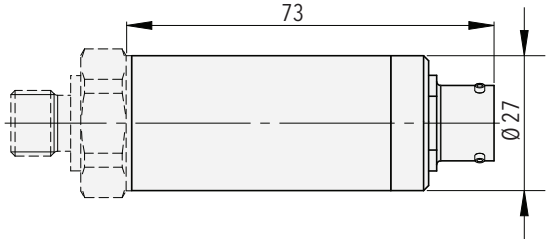
8292.XX.XXXX.XX.XX.**58**



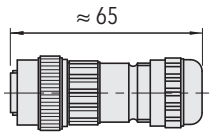
8292.XX.XXXX.**35**.XX.XX



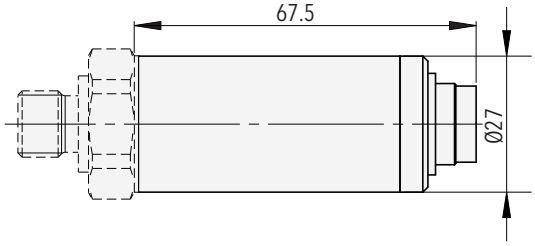
8292.XX.XXXX.XX.XX.**33**/**35**



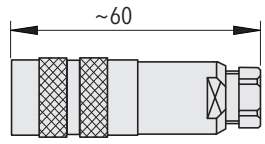
8292.XX.XXXX.**02**.XX.XX



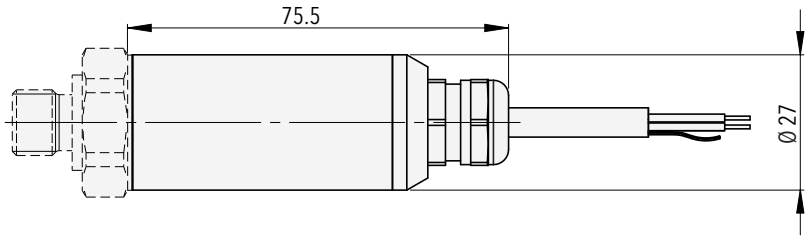
8292.XX.XXXX.XX.XX.**32**



8292.XX.XXXX.**14**.XX.XX



8292.XX.XXXX.XX.XX.**37**



8292.XX.XXXX.**78**/**79**/**80**.XX.XX

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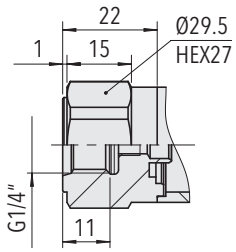
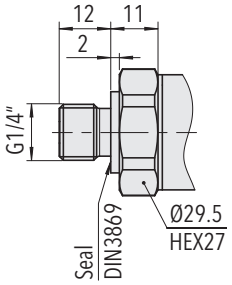
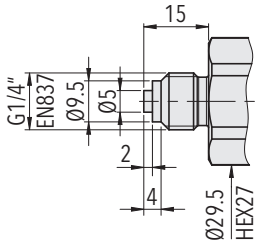
Dimensions



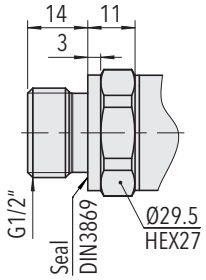
8292.XX.XX**10**.XX.XX.XX
(≤ 600 bar)



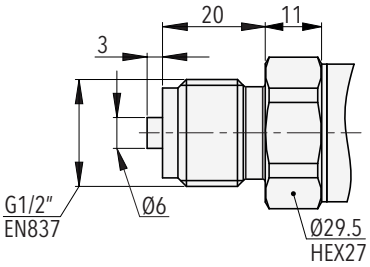
8292.XX.XX**17**.XX.XX.XX
(≤ 600 bar)



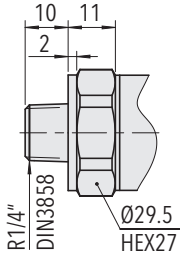
8292.XX.XX**53**.XX.XX.XX



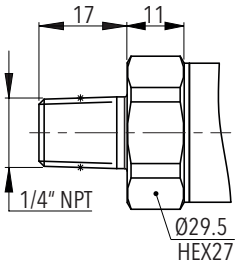
8292.XX.XX**21**.XX.XX.XX
(≤ 600 bar)



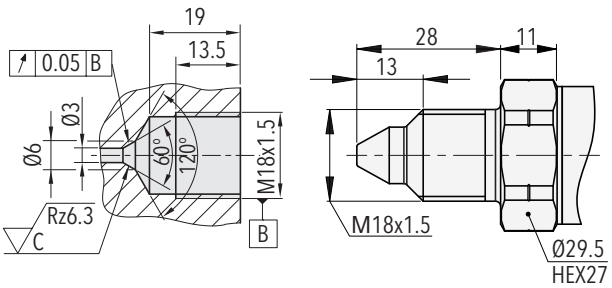
8292.XX.XX**11**.XX.XX.XX
(≤ 600 bar)



8292.XX.XX**19**.XX.XX.XX
(≤ 600 bar)

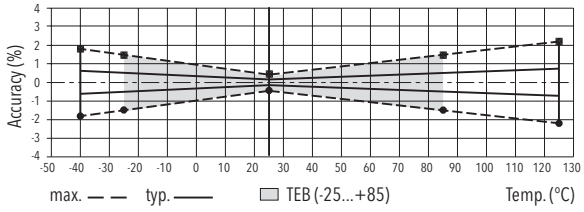


8292.XX.XX**30**.XX.XX.XX
(≤ 1000 bar)

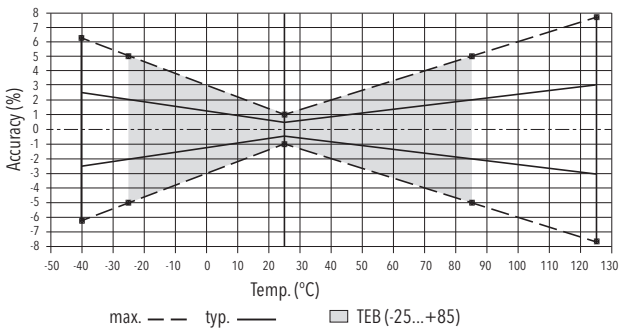


8292.XX.XX**29**.XX.XX.XX
(> 600 bar)

Accuracy class 0.3 %



Accuracy class 0.5 %



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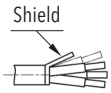
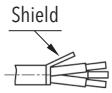
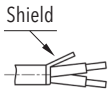
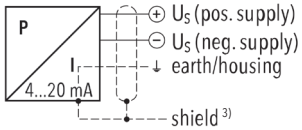
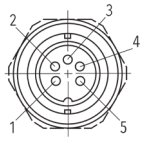
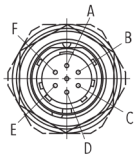
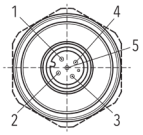
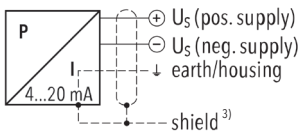
Electrical connection

	Industrial standard EN175301-803A		Cable [2] (4 x 0.5 mm²)	Cable [2] (3 x 0.75 mm²)	Cable [2] (2 x 0.75 mm²)
					
	05		78	79	80
	IP65, IP67 [1]		IP65/IP67	IP65/IP67	IP65/IP67
Ambient and media temperature T4	-40 ... +120°C [4]		-40 ... +120°C [4]	-40 ... +120°C [5]	-40°C ... +80°C
Ambient and media temperature T6	-40 ... +65°C		-40 ... +65°C	-40 ... +65°C	-40 ... +65°C
Pin assignment type code		**92**			
Output signal **8292 .xx.xxxx.xx.19** 	2 1 Earth	1 2 Earth	Brown Black Yellow/Green (blue = not connected)	Brown Black Blue	1 (Black) 2 (Black) –

	Binder 723	MIL-C 26482	M12x1, 5-pole
			
	14	02	35
	IP65, IP67 [1]	IP65, IP67 [1]	IP65, IP67 [1]
Ambient and media temperature T4	-30 ... +95°C [4]	-40 ... +120°C [4]	-40 ... +120°C [4]
Ambient and media temperature T6	-30 ... +65°C	-40 ... +65°C	-40 ... +65°C
Pin assignment type code			
Output signal **8292 .xx.xxxx.xx.19** 	3 1 5	A C F	4 1 5

[1] Provided female electrical plug is mounted according to instructions
[2] Ventilation via cable end
[3] Only cable versions or female electrical plug with shield connection
[4] With sensors 33 and 35: max. +85°C
[5] DNV marine approval max. 105°C

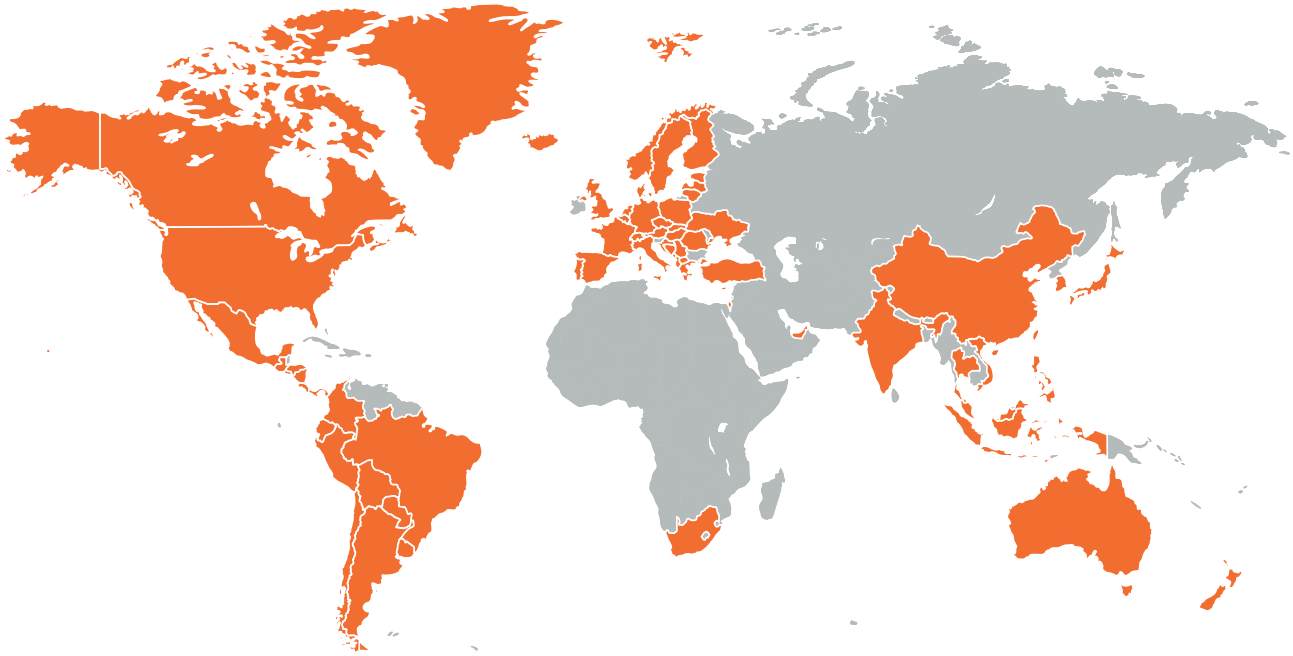
Cable 78, 79, 80: Additional measure against static charges are required for Zone 0 to 20 for these cables (laid with earthed metal braid, metal hose or metal pipe).

Empty 'Pin Assignment Type Code' field: Default pinout

Reliable quality

Worldwide represented, globally trusted, Swiss based

Trafag develops, produces and distributes robust, reliable and precise instruments for monitoring pressure, temperature and gas density.
The broad portfolio of pressure and temperature measuring instruments is tailored for use in test benches through to applications in harsh environments. The research and development departments in Switzerland and Germany develop all important components from the sensor to the application-specific microchip, which are then manufactured in the production facilities in Switzerland, Germany, the Czech Republic, and India. Strict quality management according to ISO 9001 and ISO 14001 ensures that Trafag products meet the required quality and sustainability standards.
Trafag is headquartered in Switzerland, was founded in 1942 and has an extensive sales and service network in more than 40 countries worldwide.



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Pressure transmitters | Electronic pressure switches | Mechanical pressure switches | Pressure gauge | Thermostats | Temperature transmitters | Gas density