EX PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. 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.

Applications

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

Features

- Ex
  II 1G Ex ia IIC T4/T6 Ga
  II 1 D Ex ia IIIC IP6x T130° Da
  I M1 Ex ia I Ma
  II 1/2G Ex ia IIC T4/T6 Ga/Gb (with plastic-type connector)
- Pressure ranges from 0.4 to 2000 bar
- Completely welded sensor system
- High stability by DMS-technology
- ATEX and IECEX

Technical Data			
Measuring principle	Thin film on steel	Media temperature	Max. –40 ... +120°C (see table page 5)
Measuring range	0 ... 0.4 to 0 ... 2000 bar	Ambient temperature	Max. –40 ... +120°C (see table page 5)
Output signal	4 ... 20 mA	Approval	GL, KRS ATEX / IECEx, according to the norm EN/IEC 60079-0/EN 60079-11/ EN 60079-26/ EN 50303
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.		

06/2015
Data sheet H72329i
Subject to change

Trafag Sensors & Controls
Switzerland
Industriestrasse 11
8608 Bubikon
Tel. +41 44 922 32 32
Fax +41 44 922 32 33
www.trafag.com
trafag@trafag.com

trafag sensors controls

Ordering information/type code

8292 . XX . XX . XX . XX . XX . XX

Measuring range [1]

Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]		Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]	
0 ... 0.4 [2]	1.2	25	**69**	0 ... 40	80	300	**81**
0 ... 0.6 [2]	1.5	25	**70**	0 ... 60	120	500	**82**
0 ... 1.0 [2]	2.0	25	**71**	0 ... 100	200	500	**83**
0 ... 1.6	3.5	80	**73**	0 ... 160	320	1000	**85**
0 ... 2.5	5	100	**75**	0 ... 250	500	1000	**74**
0 ... 4	8	100	**76**	0 ... 400	800	1500	**84**
0 ... 6	12	100	**77**	0 ... 600	1000	2000	**86**
0 ... 10	20	200	**78**	0 ... 1000	1600	3000	**88**
0 ... 16	32	200	**79**	0 ... 1600	3000	4000	**89**
0 ... 25	50	300	**80**	0 ... 2000	3000	4000	**90**

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**

Pressure connection

G1/4" male [3]	**17**
G1/4" female [3]	**10**
G1/2" male [3]	**21**
G1/2" male (Manometer) [3]	**11**
R1/4" male [3]	**19**
1/4"NPT male [3]	**30**
M18x1.5 male (Conical seal: 58°) [4]	**29**

Electrical connection

Male electrical plug EN 175301-803-A, plastic (only zones 1, 2 (gas) and 20, 21 (dust))	**05**
Male electrical plug M12x1, 5-pole, metal	**35**
Male electrical plug MIL-C 26482, 6-pole, metal [5]	**02**
Male electrical plug Binder 723, 5-pole, metal	**14**
Cable with shield, material FDR 25 (Raychem), 4 x 0.5mm² (cable length see "Accessories") - not ship approved	**78**
Cable intrinsically safe with shield, material PVC, 2 x 0.75mm² (-40...+80°C), (cable length see "Accessories") - not ship approved	**80**

Output

Output	Load resistance	I (supply)	U (supply)	
4 ... 20mA	(Usupply-10V) / 20mA		10 ... 30 VDC	**19**

Accessories

Female electrical connector EN 175301-803-A (DIN43650-A), plastic (only zones 1, 2 (gas) and 20, 21 (dust))	**58**
Female electrical plug M12x1, 5-pole, plastic (only zones 1, 2 (gas) and 20, 21 (dust))	**33**
Female electrical plug M12x1, 5-pole, metal	**35**
Female electrical connector MIL-C 26482, 6-pole, metal	**32**
Female electrical connector Binder 723, 5-pole, metal	**37**
Pressure peak damping element Ø 0.4 mm	**44**
Pressure peak damping element Ø 1.0 mm	**40**
Cable length 1.5 m [6]	**1M**
Cable length 3.0 m [6]	**3M**
Cable length 5.0 m [6]	**5M**
Special electrical connection: Pin 1 + , Pin 2 - (Only for output 4...20mA and male electrical plug EN175301-803-A / DIN43650-A)	**92**
Zener barrier 28V/93mA; R ≈300Ω: Ordering no F90138	
Damping elements and Snubber: See specification sheet H72258	

[1] Extended overpressure as well as customized pressure ranges upon request
[2] Only with sensor 26 (0.5%)
[3] For pressure ranges ≤ 600 bar
[4] For pressure ranges > 600 bar
[5] For pressure ranges < 40 bar upon request
[6] Other cable lengths upon request

Standard products (extra short lead time)

Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Supply [VDC]	Accuracy @ 25°C typ. [%]
EXNT0.4A	8292 69 2617 05 0000 0000 19 58 92	0...0.4	1.2	10...30	±0.5
EXNT0.6A	8292 70 2617 05 0000 0000 19 58 92	0...0.6	1.5	10...30	±0.5
EXNT1.0A	8292 71 2617 05 0000 0000 19 58 92	0...1	2	10...30	±0.5
EXNT2.5A	8292 75 2517 05 0000 0000 19 58 92	0...2.5	5	10...30	±0.5
EXNT4.0A	8292 76 2517 05 0000 0000 19 58 92	0...4	8	10...30	±0.5
EXNT6.0A	8292 77 2517 05 0000 0000 19 58 92	0...6	12	10...30	±0.5
EXNT10.0A	8292 78 2517 05 0000 0000 19 58 92	0...10	20	10...30	±0.5
EXNT16.0A	8292 79 2517 05 0000 0000 19 58 92	0...16	32	10...30	±0.5
EXNT25.0A	8292 80 2517 05 0000 0000 19 58 92	0...25	50	10...30	±0.5
EXNT40.0A	8292 81 2517 05 0000 0000 19 58 92	0...40	80	10...30	±0.5
EXNT100.0A	8292 83 2517 05 0000 0000 19 58 92	0...100	200	10...30	±0.5
EXNT250.0A	8292 74 2517 05 0000 0000 19 58 92	0...250	500	10...30	±0.5

Specifications

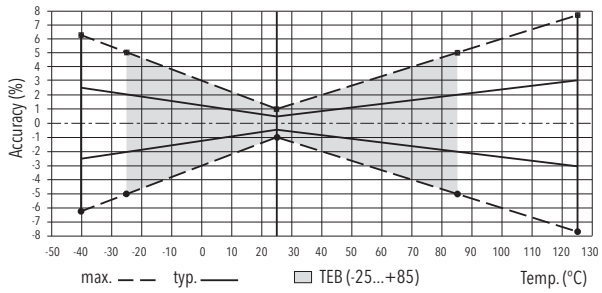
Electrical Data	Output / supply voltage	4 ... 20 mA: 24 (10 ... 30) VDC
	Rise time	typ. 1 ms/ 10...90% nominal pressure
	Switch-on-delay	Max. 1.5 s
Environmental conditions	Media temperature	Max. –40 ... +120°C (see table page 5)
	Ambient temperature	Max. –40 ... +120°C (see table page 5)
	Protection [1)]	Min. IP65 Electrical connection cable: IP67 Electrical connection 02: IP67
	Humidity	Max. 95 % relative
	Vibration	10g (50...2000 Hz)
	Shock	50g/ 3 ms
EMC Protection	Emission	IEC 61000–6–4
	Immunity	IEC 61000–6–2
Mechanical Data	Sensor	1.4542 (AISI630)
	Housing / Pressure connection	1.4542 (AISI630), 1.4301 (AISI304)
	Sealing	FKM 70 Sh
	Male electrical plug	See ordering information
	Weight	~ 165 g
	Mounting torque	25 Nm Pressure connection 29: 30 Nm

[1)] Provided female connector is mounted according to instructions

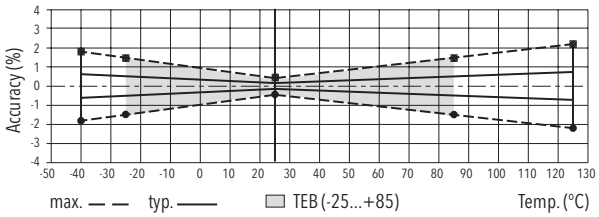
Accuracy

		Measuring accuracy 0.5% Ordering No. 25 (> 1 bar)	**Measuring accuracy 0.3%** Ordering No. 23 (>1 bar)	**Measuring accuracy 0.5%** Ordering No. 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	± 0.10
TC zero point and span	[% FS/K typ.]	± 0.03	± 0.005	± 0.01
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.2	± 0.2	± 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

Measuring accuracy 0.5%



Measuring accuracy 0.3%



Electrical connection

		Protection / electrical connection					
		IP65*)	IP67	IP67	IP65*)	IP67*)	IP65*)
		Industrial standard EN175301-803A **05**	Cable **) (4 x 0.5 mm²) **78** Shield	Cable **) (2 x 0.75 mm²) **80** Shield	Binder 723 **14**	MIL-C 26482 **02**	M12x1 5-pole **35**
Output signal	P / I 4-20mA: Us (pos. Supply), Us (neg. Supply), Earth (housing), Shield***) — **8292** .xx.xxxx.xx.**19**	Standard: 2 / 1 / ⏚	**92**: 1 / 2 / ⏚	brown / black / yellow / green (blue = not connected)	1 (black) / 2 (black) / –	3 / 1 / 5	A / C / F	4 / 1 / 5
T-Range	Ambient and media temperature T4	–40 ... +120°C		–40 ... +120°C	–40 ... +80°C	–30 ... +95°C	–40 ... +120°C	–40 ... +120°C
	Ambient and media temperature T6	–40 ... +65°C		–40 ... +65°C	–40 ... +65°C	–30 ... +65°C	–40 ... +65°C	–40 ... +65°C

*) Provided female connector is mounted according to instructions

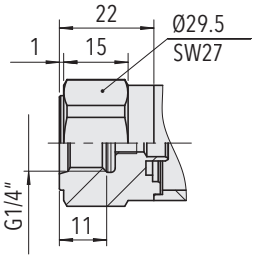
**) Ventilation via cable end

***) Only cable versions or female plug with shield connection

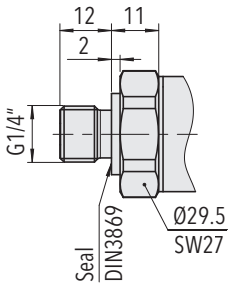
Additional information

Documents	Data sheet	www.trafag.com/H72329
	Instructions	www.trafag.com/H73329
	Flyer	www.trafag.com/H70657

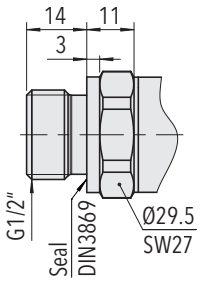
Dimensions



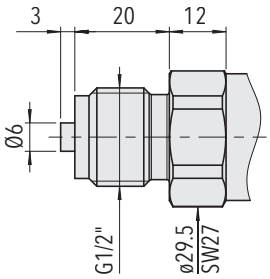
8292.XX.XX**10**.XX.XX.XX
(≤ 600 bar)



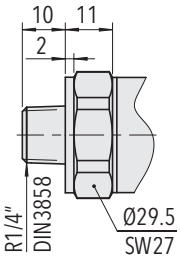
8292.XX.XX**17**.XX.XX.XX
(≤ 600 bar)



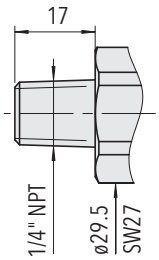
8292.XX.XX**21**.XX.XX.XX
(≤ 600 bar)



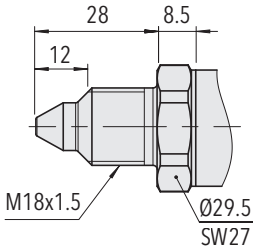
8292.XX.XX**11**.XX.XX.XX
(≤ 600 bar)



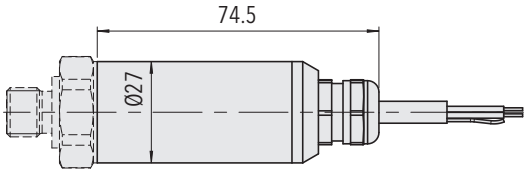
8292.XX.XX**19**.XX.XX.XX
(≤ 600 bar)



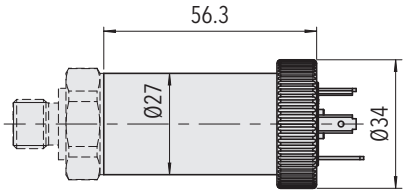
8292.XX.XX**30**.XX.XX.XX
(≤ 600 bar)



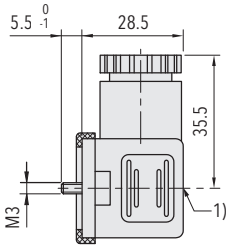
8292.XX.XX**29**.XX.XX.XX
(> 600 bar)



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

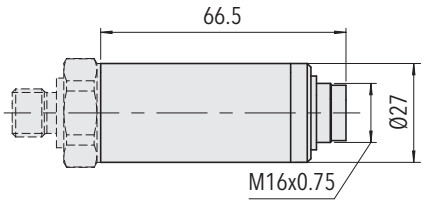


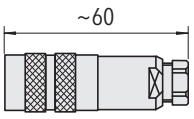
8292.XX.XXXX.**05**.XX.XX



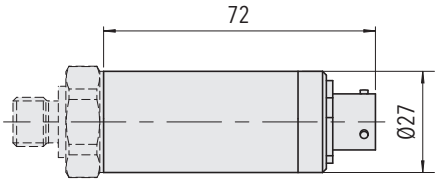
1) Tightening torque 50...60Ncm

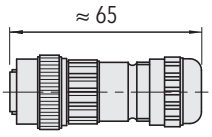
8292.XX.XXXX.XX.XX.**58**



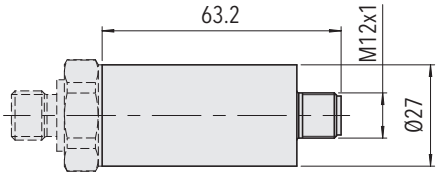


8292.XX.XXXX.**14**.XX.**37**

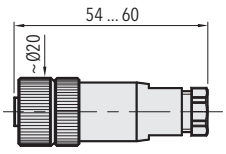




8292.XX.XXXX.**02**.XX.**32**



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



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

Additional specifications

Electrical Data	Internal capacity (Ci)	≤ 23nF
	Internal inductance (Li)	< 10µH
	Resistance of insulation	>10 MΩ, 500 VDC
	Dielectric strength	500 VAC, 50 Hz
	Output signal	4 ... 20 mA: ca. 24 mA (Overload)
Environmental Conditions	Storage temperature	–40 ... +120°C Electrical connection 80: –40 ... +80°C Electrical connection 14: –30 ... +95°C

Accuracy

		Measuring accuracy 0.5% Ordering No. 25 (> 1 bar)	**Measuring accuracy 0.3%** Ordering No. 23 (>1 bar)	**Measuring accuracy 0.5%** Ordering No. 26 (≤ 1bar)
TEB @ -25...+85°C	[% FS max.]	± 5.0	± 1.5	± 2.0
Accuracy @ +25°C	[% FS max.]	± 1.0	± 0.5	± 1.0
NLH @ +25°C (BSL)	[% FS max.]	± 0.35	± 0.2	± 0.25
NLH @ +25°C (BSL through 0)	[% FS typ.]	± 0.3	± 0.1	± 0.15
NLH @ +25°C (BSL through 0)	[% FS max.]	± 0.5	± 0.2	± 0.25
Repeatability	[% FS typ.]	± 0.05	± 0.05	± 0.05
TC zero point and span	[% FS/K max.]	± 0.05	± 0.015	± 0.020
Long term stability 1000h @ 85°C	[% FS typ.]	± 0.1	± 0.1	± 0.1
Temperature hysteresis	[% FS typ.] [% FS max.]	± 0.2 ± 0.35	± 0.2 ± 0.35	± 0.2 ± 0.5
Deviation of zero signal and final value @ 25°C	[% FS typ.] [% FS max.]	± 0.2 ± 0.5	± 0.1 ± 0.3	± 0.2 ± 0.5

Modifications

Index	Date	Description
1	11/2010	new data sheet
a	02/2013	Index a
b	05/2013	Page 2,5: Special electrical connection accessory 92 added (execution 05 and output No. 19) Page 4: Dimension Pressure connection 10, G1/4" female changed Page 5: Electrical connection: diagram modified
c	07/2013	Page 2: Correction of ordering code pressure range 0...1600 bar: from 88 to 89 Page 2: new pressure range 0...1000 bar added with ordering code 88 Page 4: Execution 02: dimension changed (different flange connector)
d	08/2013	Page 2: Ranges ≤ 1bar only with Sensor 23 (Accuracy 0.3%) (Codes 69, 70, 71)
e	05/2014	New layout Ship approval GL added NLH @ 25°C (BSL) as main specification and NLH @ 25°C (BSL through 0) as additional specification
f	06/2014	Page 3: Correction of standard products typecode: 23 -> 26 Page 2: Corrrection of footnote 2: 23 -> 26
g	07/2014	New ship approval KRS
h	08/2014	Page 4: Accuracy table: Mounting dependency with 180° rotation added
i	06/2015	Page 1,4,5: Simplifying of temperature indications (media and ambient temperature)