INDUSTRIAL PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The economic pressure transmitter ECT 8472 is based on the tried and true ECT line of transmitters. The wide media temperature range from -25 to 125°C in combination with a comprehensive set of of features and options makes the ECT 8472 pressure transmitter a versatile solution suitable for most industrial applications.

Applications

- Machine tools
- Hydraulics
- Water treatment

Features

- Economical
- Good media compatibility
- Relative or absolute pressure measurement
- Titanium version optional

04/2015
Data sheet H723249
Subject to change

Technical Data			
Measuring principle	Thick film on ceramic	Accuracy @ 25°C typ.	± 0.5 % FS typ.
Measuring range	0 ... 1 to 0 ... 400 bar 0 ... 15 to 0 ... 5000 psi	Media temperature	-25°C ... +125°C 400 bar/5000 psi: -10°C ... +125°C
Output signal	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiom.	Ambient temperature	-25°C ... +85°C

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Ordering information/type code

8472 . XX XX XX XX XX XX

Measuring range [1]

Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]		Pressure measurement range [psi]	Over pressure [psi]	Burst pressure [psi]	
0 ... 1.0	3.2	4.8	**71**	0 ... 15	45	70	**G1**
0 ... 1.6	3.2	4.8	**73**	0 ... 20	45	70	**G3**
0 ... 2.5	5	7.5	**75**	0 ... 30	60	90	**G5**
0 ... 4	8	12	**76**	0 ... 50	100	150	**G6**
0 ... 6	12	15	**77**	0 ... 100	200	250	**G7**
0 ... 10	20	25	**78**	0 ... 150	300	375	**G8**
0 ... 16	32	40	**79**	0 ... 250	500	625	**G9**
0 ... 25	50	75	**80**	0 ... 400	800	1200	**H0**
0 ... 40	80	100	**81**	0 ... 500	1000	1250	**H1**
0 ... 60	120	180	**82**	0 ... 1000	2000	3000	**H2**
0 ... 100	200	300	**83**	0 ... 1500	3000	4500	**H3**
0 ... 160	320	480	**85**	0 ... 2000	4000	6000	**H5**
0 ... 250	500	750	**74**	0 ... 3000	6000	9000	**G4**
0 ... 400 [2]	800	1000	**84**	0 ... 5000 [2]	10000	12500	**H4**

Sensor

Relative pressure, 1.4305	**57**
Relative pressure, 1.4404/1.4435 [4]	**59**
Relative pressure, 1.4462	**52**
Relative pressure, Titanium Grade 5	**53**
Absolute pressure, 1.4305 [3]	**87**
Absolute pressure, 1.4404/1.4435 [3] [4]	**89**
Absolute pressure, 1.4462 [3]	**82**
Absolute pressure, Titanium Grade 5 [3]	**83**

Pressure connection

G1/4" female	**10**
G1/4" male	**17**
G1/2" male [4]	**21**
1/4"NPT male [4]	**30**
G3/4" frontal membrane, max. nominal pressure 60 bar [4] [7]	**52**

Electrical connection

Male electrical plug EN 175301-803-A, Mat. PA	**05**
Male electrical plug M12x1, 5-pole, Mat. PA	**35**
Male electrical plug Packard Metri Pack	**51**
Male electrical plug industrial standard (contact distance 9.4mm) Mat. PBT	**01**
Cable IP67, Mat.: PVC (cable gland PA6-3) [5] [6]	**22**
Cable IP68, max. 3m, medium +10°C...+35°C, Pmax. 1 bar rel./abs.	**68**

Output

Output	Load resistance	I (supply)	U (supply)	
4 ... 20 mA	(Usupply-9V) / 20mA		9 ... 30 VDC	**19**
0 ... 5 VDC	> 2.5 kΩ	< 10 mA	10 ... 30 VDC	**14**
1 ... 6 VDC	> 5.0 kΩ	< 10 mA	10 ... 30 VDC	**16**
0 ... 10 VDC	> 5.0 kΩ	< 10 mA	15 ... 30 VDC	**17**
0.5 ... 4.5 VDC ratiometric	> 5.0 kΩ	< 10 mA	5 VDC ± 0.25 VDC	**23**

		8472 . XX XX XX XX XX XX
Accessories	O-Ring FKM (-20°C ... +125°C)	61
	O-Ring CR ≤ 100 bar (-25°C ... +100°C) [8]	62
	O-Ring EPDM (-25°C ... +125°C)	63
	Pressure peak damping element ø 1.0 mm (for pressure connections 17 and 30)	40
	Pressure peak damping element ø 0.3 mm (for pressure connections 17 and 30)	43
	Pressure peak damping element ø 0.5 mm (for pressure connections 17 and 30)	45
	Female electrical connector EN 175301-803-A (DIN 43650-A)	58
	Female electrical plug M12x1, 5-pole	33
	Female electrical connector industrial standard	34
	Special electrical connection: Pin 1 + , Pin 2 - (Only for output 4...20mA and male electrical plug EN175301-803-A / DIN43650-A)	92
	Special electrical connection: Pin 1 out , Pin 2 -, Pin 3 + (Only for output 0...5VDC, 1...6VDC, 0...10VDC, 0.5...4.5VDC and male electrical plug EN175301-803-A / DIN43650-A)	98
	Special electrical connection: Pin 1 + , Pin 2 -, Pin 3 out (Only for output 0...5VDC, 1...6VDC, 0...10VDC, 0.5...4.5VDC and male electrical plug EN175301-803-A / DIN43650-A)	97
	Special electrical connection: Pin 1 + , Pin 2 - (Only for male electrical plug Packard Metri Pack 3-pol.)	99
	Cable length 1.5 m	1M
	Cable length 3.0 m	3M
	Cable length 5.0 m	5M

[1] Extended overpressure as well as customized pressure ranges upon request
[2] Media -10°C ... +125°C
[3] Absolute ranges max. 40 bar
[4] Please ask us
[5] Cable length see accessories
[6] More materials and cables with venting tubes for low pressure ranges upon request
[7] Not for sensors 57 and 87
[8] Not for pressure connection G3/4" frontal membrane

Identical construction for refrigeration: Data sheet No. H72323

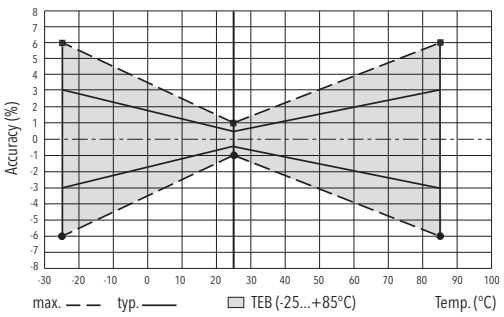
Standard products (extra short lead time)

Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Supply [VDC]	Accuracy @ 25°C typ. [%]
ECT1.0A	8472 71 5717 05 0000 0000 19 58 61	0...1.0	3.2	9...30	±0.5
ECT2.5A	8472 75 5717 05 0000 0000 19 58 61	0...2.5	5	9...30	±0.5
ECT6.0A	8472 77 5717 05 0000 0000 19 58 61	0...6	12	9...30	±0.5
ECT10.0A	8472 78 5717 05 0000 0000 19 58 61	0...10	20	9...30	±0.5
ECT16.0A	8472 79 5717 05 0000 0000 19 58 61	0...16	32	9...30	±0.5
ECT25.0A	8472 80 5717 05 0000 0000 19 58 61	0...25	50	9...30	±0.5
ECT40.0A	8472 81 5717 05 0000 0000 19 58 61	0...40	80	9...30	±0.5
ECT100.0A	8472 83 5717 05 0000 0000 19 58 61	0...100	200	9...30	±0.5
ECT250.0A	8472 74 5717 05 0000 0000 19 58 61	0...250	500	9...30	±0.5
ECT1.0V	8472 71 5717 05 0000 0000 17 58 61	0...1	3.2	15...30	±0.5
ECT2.5V	8472 75 5717 05 0000 0000 17 58 61	0...2.5	5	15...30	±0.5
ECT6.0V	8472 77 5717 05 0000 0000 17 58 61	0...6	12	15...30	±0.5
ECT10.0V	8472 78 5717 05 0000 0000 17 58 61	0...10	20	15...30	±0.5
ECT16.0V	8472 79 5717 05 0000 0000 17 58 61	0...16	32	15...30	±0.5
ECT25.0V	8472 80 5717 05 0000 0000 17 58 61	0...25	50	15...30	±0.5
ECT40.0V	8472 81 5717 05 0000 0000 17 58 61	0...40	80	15...30	±0.5
ECT100.0V	8472 83 5717 05 0000 0000 17 58 61	0...100	200	15...30	±0.5
ECT250.0V	8472 74 5717 05 0000 0000 17 58 61	0...250	500	15...30	±0.5

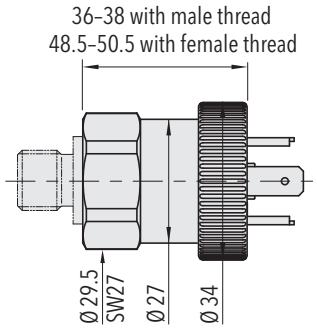
Specifications		
Accuracy	TEB typ. @ -25 ... +85°C	± 3.0 % FS typ.
	Accuracy @ 25°C typ.	± 0.5 % FS typ.
	NLH @ 25°C (BSL) typ.	± 0.2 % FS typ.
	TC zero point and span typ.	± 0.03 % FS/K typ.
	Long term stability 1 year typ.	± 0.3 % FS typ.
Electrical Data	Output / supply voltage	4 ... 20 mA: 24 (9...30) VDC 0 ... 5 VDC: 24 (10...30) VDC 1 ... 6 VDC: 24 (10...30) VDC 0 ... 10 VDC: 24 (15...30) VDC 0.5 ... 4.5 VDC ratiom.
	Rise time	Typ. 1 ms/ 10...90 % Nominal pressure
	Switch-on-delay	Max. 1.5 s
Environmental conditions	Media temperature	-25°C ... +125°C 400 bar/5000 psi: -10°C ... +125°C
	Ambient temperature	-25°C ... +85°C
	Protection [1)]	min. IP65
	Humidity	Max. 95 % relative
	Vibration	4g (10...2000 Hz)
	Shock	50g/ 8 ms
EMC Protection	Emission	EN/IEC 61000-6-3
	Immunity	EN/IEC 61000-6-2
Mechanical Data	Sensor	Ceramic, Al_2O_3 (96 %)
	Housing / Pressure connection	57/87: 1.4305 (AISI303 59/89: 1.4404/1.4435 (AISI316L) 52/82: 1.4462 (AISI318LN) 53/83: Titanium Grade 5
	Sealing	FKM 70 Sh, CR, EPDM
	Male electrical plug	See ordering information
	Weight	~ 110 g
	Mounting torque	15...20 Nm

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

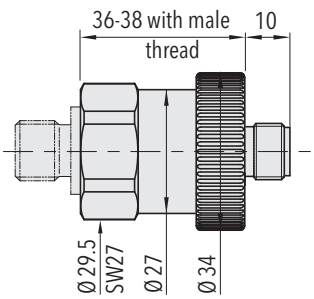
Measuring accuracy 0.5%



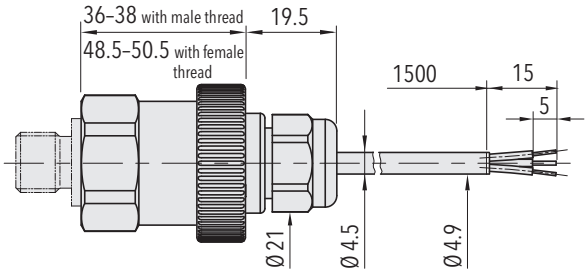
Dimensions



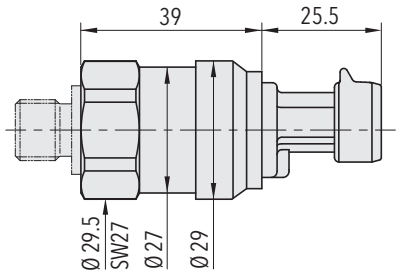
8472.XX.XXXX.**05**.XX.XX



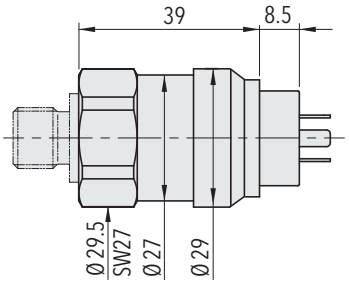
8472.XX.XXXX.**35**.XX.XX



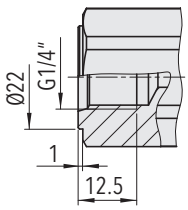
8472.XX.XXXX.**22**.XX.XX



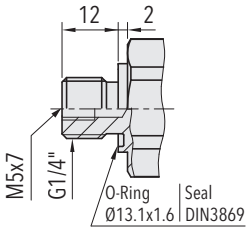
8472.XX.XXXX.**51**.XX.XX



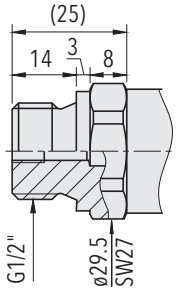
8472.XX.XXXX.**01**.XX.XX



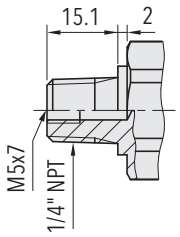
8472.XX.XX**10**.XX.XX.XX



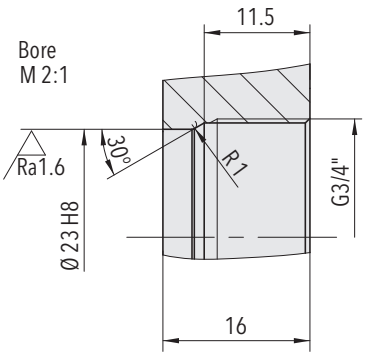
8472.XX.XX**17**.XX.XX.XX



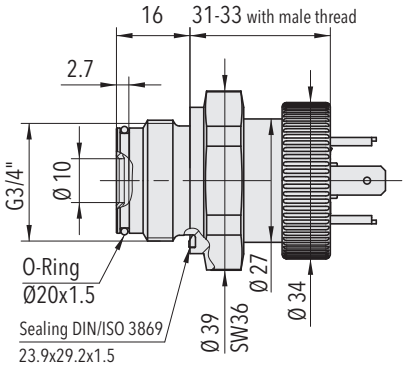
8472.XX.XX**21**.XX.XX.XX

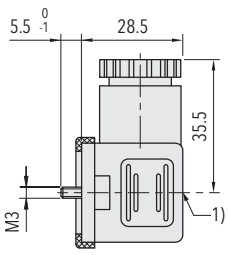


8472.XX.XX**30**.XX.XX.XX



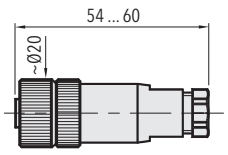
8472.XX.XX**52**.XX.XX.XX



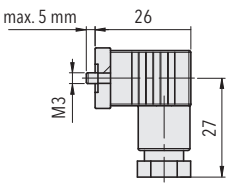


1) Tightening torque 50...60Ncm

8472.XX.XXXX.XX.XX.**58**

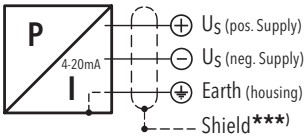
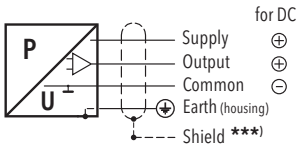


8472.XX.XXXX.XX.XX.**33**



8472.XX.XXXX.XX.XX.**34**

Electrical Connection

		Protection / electrical connection						
		IP65*)		IP65/IP68 max. 3m	IP67*)	IP67*)		IP65
		Industrial standard EN175301-803A **)		Cable**)	M12x1 **) 5-pole	Packard Metri Pack **) 3-pole		Industrial standard Contact distance 9.4 mm **)
		05		**22/68**	**35**	**51**		**01**
Output signal	 **8472**.xx.xxxx.xx.**19**	Standard	**92**				**99**	
		2	1	white	4	1	1	2
		1	2	brown	1	2	3	1
		⏚	⏚	⏚	5			⏚
	 **8472**.xx.xxxx.xx.**14/16/17/23**	Standard	**98**	**97**			**99**	
		2	3	1	2	1	1	1
		3	1	3	4	3	2	2
		1	2	2	3	2	3	3
		⏚	⏚	⏚	⏚			⏚
				white	2			
				green	4			
				brown	3			
				⏚	5			

*) Provided female connector is mounted according to instructions

**) Ventilation via male electric plug/cable end

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

Additional information

Documents	Data sheet	www.trafag.com/H72324
	Instructions	www.trafag.com/H73324
	Flyer	www.trafag.com/H70662

Additional specifications		
Accuracy	TEB max. @ -25 ... +85°C	± 6.0 % FS max.
	Accuracy @ 25°C max.	± 1.0 % FS max.
	NLH @ 25°C (BSL) max.	± 0.35 % FS max.
	NLH @ 25°C (BSL through 0) typ.	± 0.3 % FS typ.
	NLH @ 25°C (BSL through 0) max.	± 0.5 % FS max.
	Repeatability	± 0.05 % FS typ.
	TC zero point and span max.	± 0.06 FS/K max.
	Long term stability 1000h @ 85°C	± 0.3 % FS typ. ± 0.6 % FS max.
	Temperature hysteresis	± 0.2 % FS typ. ± 0.6 % FS max.
Electrical Data	Resistance of insulation	Type 14/16/17/23: > 10 MΩ, 100 VDC Type 19: > 10 MΩ, 250 VDC
	Dielectric strength	Type 14/16/17/23: 100 VAC, 50 Hz Type 19: 250 VAC, 50 Hz
	Output signal	4 ... 20mA: approx. 25 mA max.
Environmental conditions	Storage temperature	-25°C ... +85°C
EMC Protection	ESD	EN/IEC 61000-4-2 4kV contact/ 8kV air: no malfunction
	RFI	EN/IEC 61000-4-3 10V/m: 0.01...2700 MHz (Output 4...20 mA, @ 600...900 MHz, increased error < 3 %)
	Burst	EN/IEC 61000-4-4 Burst ±2kV: no interference
	Surge	EN/IEC 61000-4-5 Surge 1.2/50µ ±1kV: no interference
	Conducted Immunity	EN/IEC 61000-4-6 Radio-frequency: no interference

Modifications

Index	Date	Description
1	06/2008	New data sheet
2	09/2008	Page 1: Short term completed with ECT, Page 2 and 3: Pressure connection 1.4305 with ordering code 57 added Page 2: Overpressure & burst pressure adjusted
3	02/2009	Page 2 (1,3,4) Pressure Range: (0...60, 0...100,0...160,0...250 bar: in preparation) Pressure connections: No. 17, 30; Execution: no. 35, 22; Outputs: 14, 17, 23; Accessories: no. 98; absolut options added Page 5 additional specifications: Accuracy long term stability 1000h@85°C: 0.3% FS typ. added in addition to 0.6 % FS max.
4	09/2009	Output 16 (1...6 VDC) added Media temperature adapted: ECE - 25...+85°C and ECT -25...+125°C
5	12/2009	Page 2: Cable lenght added 1M, 3M, 5M
6	04/2010	Page 1, 2 & 3: Measuring range changed from 250 to 400 bar Page 2 & 4: Pressure connection G1/2" male, accessory 21 added Page 2 & 3: Sensor 59 (relative) and 89 (absolute) added (1.4435 ECT) Page 2: Range 0...1 bar, over pressure and burst pressure amended Page 2: Notes regarding customized ranges on request added with example for extended overpressure
a	12/2010	Index changed to „a" Page 2: Pressure connection 30 & 21 with notation [1] „please ask us" Page 2: O-Ring CR with notation ≤100 bar Page 2, 4: Accessories: Outputs 14,16,17,23: additional special electrical connection No. 97 added
b	01/2011	Spec-Sheet: Deviation of zero signal and final value @ 25°C changed to ± 0.5 % d.S. typ. ± 1.0 % d.S. max „Electrical data" Resistance of insulation modified for types 14,16,17, 23 & 19 Dielectrical strenght added for types 14,16,17,23 and 19
c	05/2012	Page 2: Measuring range in psi added Page 5: Dimension of execution 05, 35, 22 modified
d	06/2012	All pages: Phase out of all brass variants, type ECE, Sensor types 58 and 88
e	07/2012	Page 2: (IP68 max. 3m) Medium +10°C...+35°C max. 1bar rel/abs added Page 5: Electrical Connection added IP68 max. 3m
f	11/2012	Page 2,5: Integration of male electrical plug „Packard Metri Pack"
g	05/2013	Page 2, 4: New sensors added; for relative pressure measurement: Nr. 52 steel 1.4462 & Nr. 53 Titan Grade 5; for absolute pressure measurement: Nr. 82 steel 1.4462 & Nr. 83 Titan Grade 5 Page 2, 5: Pressure connection 52 added, G 3/4" Frontal membrane Page 5: Dimensions of all executions modified (05, 35, 51, 22) Page 5: Electrical connections: both diagrams modified Page 6: Spec-sheet: „Deviation of zero signal and final value" removed
h	09/2013	Page 2: Male electrical plug industrial standard added with code 01 Page 3: Accessories: Female electrical connector industrial standard code 34 added Page 3: Pressure peak damping elements 0.4 mm added and 0.3 mm deleted Page 5: Dimensions and electrical connection adapted
i	10/2013	Page 3: Pressure peak damping element 0.4 mm removed; 0.3mm & 0.5mm added with ordering code 43 & 45 (previous state)
k	02/2014	Page 2: Footnote 5): More materials and cables with venting tubes for low pressure ranges upon request
l	03/2014	Page 5: Dimensions corrected executions 05 and 22
m	05/2014	New layout NLH @ 25°C (BSL) as main specification and NLH @ 25°C (BSL through 0) as additional specification Temperature indication added to O-ring type code elements Electrical connection: remark added "ventilation via male electrical plug/cable"

Modifications

Index	Date	Description
n	06/2014	Correction of IP protection for cable 22 Correction of graphics "electrical connection" (shield)
o	11/2014	Page 6: Electrical connection 01 Industrial standard: correction of indication 'contact distance 9.4' mm instead of EN175302-803A Page 2/5: Removal of pressure connection G3/4" frontal membrane
p	03/2015	Re-launch of pressure connection G3/4" frontal membrane
q	04/2015	Additional specifications: Correction of temperature hysteresis from ±0.4% to ±0.6% FS max.