

# ENGINE PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The engine and shipbuilding pressure transmitter NAE 8256 features the extremely robust and stable thin-film-on-steel sensor element. The NAE 8256 is the smallest pressure transmitter of its kind with ship approvals. The wide temperature range from -40°C up to +125°C and triple overpressure safety makes it the first choice in rough environments such as marine applications.



## Applications

- Shipbuilding
- Engine manufacturing
- Hydraulics

## Features

- Measuring accuracy 0.3 %, 0.5 %
- Completely welded steel sensor system without additional seals
- Smallest design
- High resistance to over pressure
- Excellent long-term stability


Technical Data			
Measuring principle	Thin film on steel	Media temperature	-40°C ... +125°C
Measuring range	0 ... 6 to 0 ... 600 bar 0 ... 100 to 0 ... 7500 psi	Ambient temperature	-40°C ... +125°C
Output signal	4 ... 20 mA	Approval / conformity	ABS, BV, DNV-GL, KRS, LRS, NKK, RINA, RMRS
Accuracy @ 25°C typ.	0.5 %: ± 0.5 % FS typ. 0.3 %: ± 0.3 % FS typ.		

07/2018

Data sheet H72305h

Subject to change

## Ordering information/type code

				8256 . XX			XX	XX	XX	XX	XX
<b>Measuring range</b> <sup>1)</sup>	<b>Pressure measurement range [bar]</b>	<b>Over pressure [bar]</b>	<b>Burst pressure [bar]</b>	<b>Pressure measurement range [psi]</b>	<b>Over pressure [psi]</b>	<b>Burst pressure [psi]</b>					
	0 ... 6 <sup>5) 6)</sup>	18	100	0 ... 100 <sup>5) 6)</sup>	300	1450	<b>G7</b>				
	0 ... 10	30	200	0 ... 150	450	2500	<b>G8</b>				
	0 ... 16	48	200	0 ... 200	600	2500	<b>GA</b>				
	0 ... 25	75	300	0 ... 250	750	2500	<b>G9</b>				
	0 ... 40	120	300	0 ... 300	900	4000	<b>HA</b>				
	0 ... 60	180	400	0 ... 400	1200	4000	<b>H0</b>				
	0 ... 100	300	500	0 ... 500	1200	4000	<b>H1</b>				
	0 ... 160	480	750	0 ... 1000	3000	5000	<b>H2</b>				
	0 ... 250	750	1000	0 ... 1500	4500	7000	<b>H3</b>				
	0 ... 400	1000	2000	0 ... 2000	6000	10000	<b>H5</b>				
	0 ... 600	1500	2500	0 ... 3000	9000	14500	<b>G4</b>				
				0 ... 5000	12500	21750	<b>H4</b>				
				0 ... 7500	18750	29000	<b>H6</b>				
<b>Sensor</b>	Relative pressure, accuracy: 0.5 %						<b>25</b>				
	Relative pressure, accuracy: 0.3 %						<b>23</b>				
<b>Pressure connection</b>	G1/4" male, seal: DIN 3869 (accessories 61/63/83)							<b>17</b>			
	G1/4" male (Manometer) EN 871 <sup>6)</sup>							<b>53</b>			
	1/4" NPT male							<b>30</b>			
	M10x1 male							<b>32</b>			
<b>Electrical connection</b>	Male electrical plug, industrial standard, contact distance 9.4 mm, Mat. PA								<b>01</b>		
	Male electrical plug M12x1, 4-pole, Mat. PA, IEC 61076-2-101								<b>32</b>		
	Male electrical plug M12x1, 5-pole, Mat. PA, IEC 61076-2-101								<b>35</b>		
<b>Output signal</b>	<b>Signal output</b>	<b>Load resistance</b>	<b>I (supply)</b>	<b>U (supply)</b>							
	4 ... 20 mA 	See graphic		24 (9 ... 32) VDC					<b>19</b>		
<b>Accessories</b>	Female electrical plug M12x1, 5-pole <sup>2)</sup>										<b>33</b>
	Female electrical connector industrial standard <sup>3)</sup>										<b>34</b>
	Pressure peak damping element ø 0.4 mm										<b>44</b>
	Seal FPM, -18°C ... +125°C <sup>4)</sup>										<b>61</b>
	Seal EPDM, -40°C ... +125°C <sup>4)</sup>										<b>63</b>
	Seal NBR, -25°C ... +100°C <sup>4)</sup>										<b>83</b>
	Special electrical connection: Pin 2 +, Pin 3 ground, Pin 4 - (only for male electrical plug 01, industrial standard)										<b>90</b>
	Special electrical connection: Pin 1 +, Pin 2 -, Pin 4 ground (only for output signal 19 and male electrical plug 32, M12x1, 4-pole)										<b>E1</b>

<sup>1)</sup> Customized pressure ranges upon request

<sup>2)</sup> For electrical connections 32 and 35

<sup>3)</sup> For electrical connection 01

<sup>4)</sup> Only with pressure connection 17 (G1/4")

<sup>5)</sup> Only with sensor 23 (accuracy 0.3 %)

<sup>6)</sup> Only with ship approval DNV-GL

## Standard products (extra short lead time)

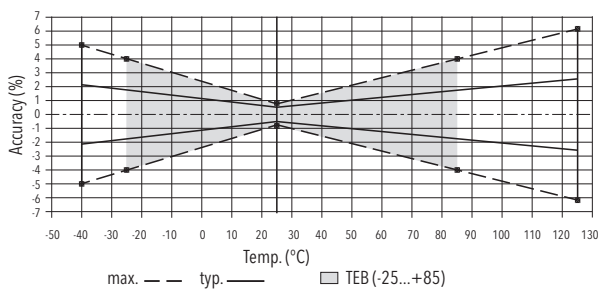
Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Supply [VDC]	Accuracy @ 25°C typ. [%]
NAE10.0A	8256 78 2317 32 0000 0000 19 33 44 61	0 ... 10	30	9 ... 32	± 0.3
NAE16.0A	8256 79 2317 32 0000 0000 19 33 44 61	0 ... 16	48	9 ... 32	± 0.3
NAE25.0A	8256 80 2317 32 0000 0000 19 33 44 61	0 ... 25	75	9 ... 32	± 0.3
NAE40.0A	8256 81 2317 32 0000 0000 19 33 44 61	0 ... 40	120	9 ... 32	± 0.3
NAE100.0A	8256 83 2317 32 0000 0000 19 33 44 61	0 ... 100	300	9 ... 32	± 0.3
NAE250.0A	8256 74 2317 32 0000 0000 19 33 44 61	0 ... 250	750	9 ... 32	± 0.3
NAE400.0A	8256 84 2317 32 0000 0000 19 33 44 61	0 ... 400	1000	9 ... 32	± 0.3
NAE600.0A	8256 86 2317 32 0000 0000 19 33 44 61	0 ... 600	1500	9 ... 32	± 0.3

## Specifications

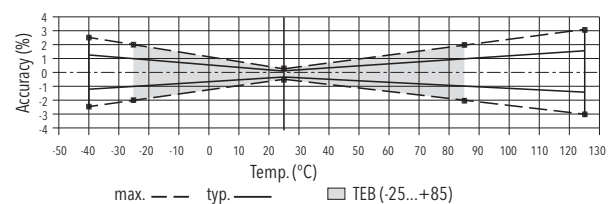
<b>Accuracy</b>	TEB typ. @ -25 ... +85°C	0.5 %: ± 1.75 % FS typ. 0.3 %: ± 1.0 % FS typ.
	Accuracy @ 25°C typ.	0.5 %: ± 0.5 % FS typ. 0.3 %: ± 0.3 % FS typ.
	NLH @ 25°C (BSL) typ.	0.5 %: ± 0.2 % FS typ. 0.3 %: ± 0.2 % FS typ.
	TC zero point and span typ.	0.5 %: ± 0.03 % FS/K typ. 0.3 %: ± 0.01 % FS/K typ.
	Long term stability 1 year typ.	± 0.1 % FS typ.
<b>Electrical Data</b>	Output / supply voltage	4 ... 20 mA: 24 (9...32)VDC
	Rise time	Typ. 1 ms / 10 ... 90 % nominal pressure
	Switch-on-delay	100 ms
	Inverse-polarity protection, short-circuit strength @ 25°C during 5 min.	4 ... 20 mA: to $U_{supply} = 32 V$
<b>Environmental conditions</b>	Media temperature	-40°C ... +125°C
	Ambient temperature	-40°C ... +125°C
	Protection <sup>1)</sup>	IP65, IP67
	Humidity	IEC 60068-2-30 (damp heat cyclic, 100 % RH @ +55°C)
	Vibration	15 g RMS (20...2000 Hz) 25 g sin (80...2000 Hz), 1 oct./min, (1x @ 25°C)
	Shock	50 g / 11 ms
<b>EMC Protection</b>	Emission	EN/IEC 61000-6-3
	Immunity	EN/IEC 61000-6-2
<b>Mechanical Data</b>	Sensor (wetted parts)	1.4542 (AISI630)
	Pressure connection (wetted parts)	1.4542 (AISI630)
	Housing	1.4301 (AISI304)
	Sealing	FPM/NBR/EPDM
	Male electrical plug	See ordering information
	Weight	~ 50 g
	Mounting torque	25 Nm

<sup>1)</sup> See electrical connection

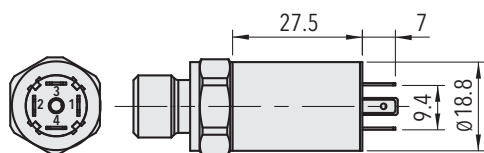
## Measuring accuracy 0.5 %



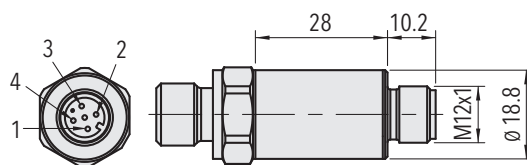
## Measuring accuracy 0.3 %



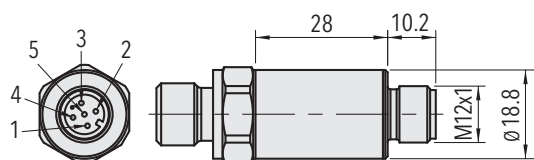
## Dimensions



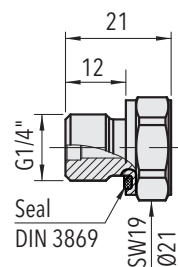
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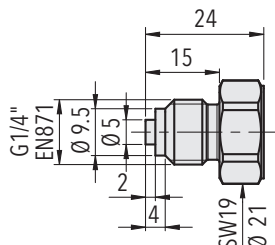
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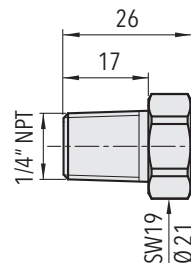
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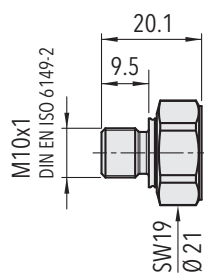
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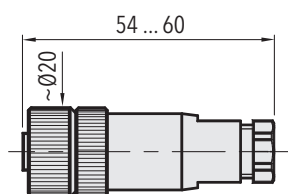
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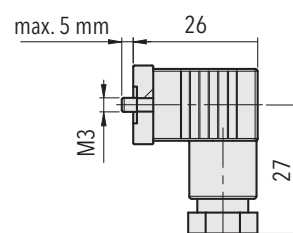
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8256.XX.XX32.XX.XX.XX


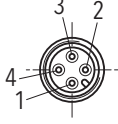
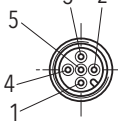
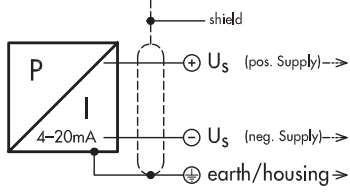


8256.XX.XXXX.XX.XX.33



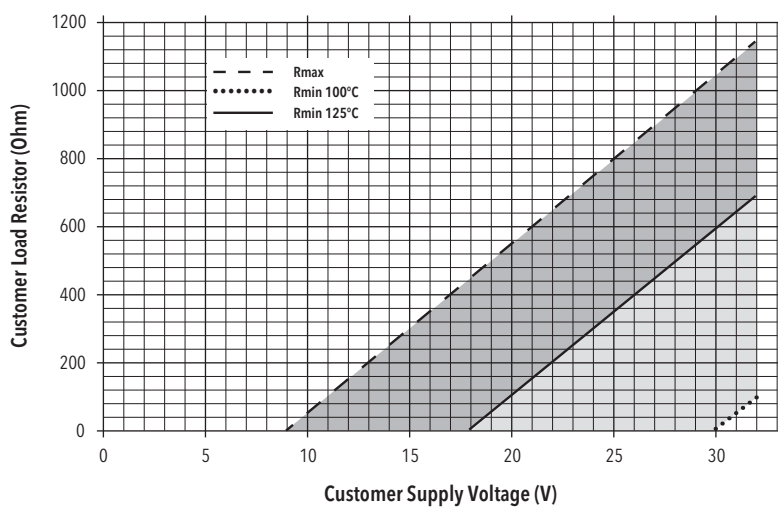
8256.XX.XXXX.XX.XX.34

## Electrical connection

		Protection / electrical connection				
		IP65*)		IP67*)		
		Industrial standard Contact distance 9.4 mm	M12x1			
		<b>01</b>	4-pôle <b>32</b>	5-pôle <b>35</b>		
						
Output signal		<b>90</b>	<b>E1</b>			
		2	2	1	1	4
		1	4	3	2	1
		4	3	4	4	5
<b>8256.XX.XXXX.XX.19</b>						

\*) Provided female connector is mounted according to instructions

4...20mA: min./max resistor vs. supply voltage @ Pmax = 100%



### Additional information

#### Documents

Data sheet	<a href="http://www.trafag.com/H72305">www.trafag.com/H72305</a>
Instructions	<a href="http://www.trafag.com/H73303">www.trafag.com/H73303</a>
Flyer	<a href="http://www.trafag.com/H70684">www.trafag.com/H70684</a>