2017

TRAFAG INSIGHT

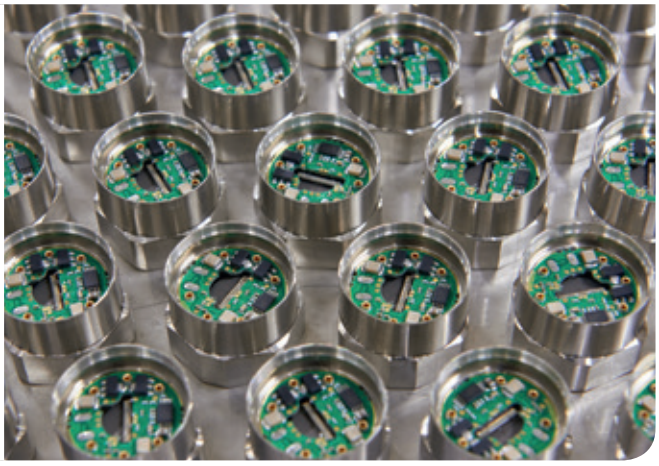
Pressure and temperature monitoring solutions

trafag
sensors controls


trafag

Trafag – Sensors and monitoring instruments for pressure and temperature

Trafag, a Swiss-based company founded in 1942, is supported by a broad sales and service network in over 40 countries across the world. This allows Trafag to offer customers personalised and competent advice and ensures the best possible service. High-performance development and production departments not only guarantee the fast and reliable delivery of our high-quality and high-precision products, but also ensure that customisations can be implemented in a short time.



Competent and customer-oriented

Technological competence, manufacturing expertise and customer-orientation form the three cornerstones of Trafag as a company. Trafag is a completely independent company with headquarters in Bubikon, Switzerland, and further manufacturing companies in Germany and the Czech Republic. A fifth of its employees in Switzerland are involved in the fields of research and development, production technology or applications engineering.

Application and solution-oriented

The direct availability of these resources enables Trafag to be extremely flexible in the areas of development and production as well as in its perception and implementation of customer requirements. Thanks to modular engineering, Trafag is able to efficiently adapt its standard products to the specific needs of customers and to develop special OEM solutions.

Market-oriented and always within reach

Trafag maintains an active presence in over 40 countries. A great number of customers in diverse industrial sectors such as mechanical engineering, hydraulics, engine manufacturing, shipbuilding, railway technology or high-voltage technology appreciate the cooperation offered by our technically competent customer advisory service.

Adaptable and efficient

The ability to develop and manufacture its strategically important components in-house means that Trafag can both mass-produce and manufacture on a small scale at short notice. Rigorous quality management in accordance with ISO 9001, state of the art production facilities under clean room conditions and stringently monitored production processes ensure that Trafag meets the highest quality demands.

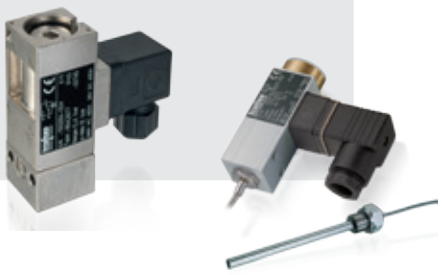
Our products are at home where you are

Shipbuilding

- Propulsion
- Pumps
- Ballast water treatment
- Steering
- Separators
- Tank level

Hydraulics

- Construction machinery
- Agricultural machinery
- Injection molding machines
- Community vehicles
- Elevators



Engines

- Common rail injection
- Cooling water
- Oil pressure
- Fuel pressure
- Turbo charger

Railways

- Brake systems
- Pantograph
- Air compressors

Water treatment

- Drinking water
- Waste water
- Desalination
- Pools
- Sluice steering
- Level control

Various

- Chemical industry
- Mining
- Process technology
- Oil and gas
- Machine building industry
- HVAC

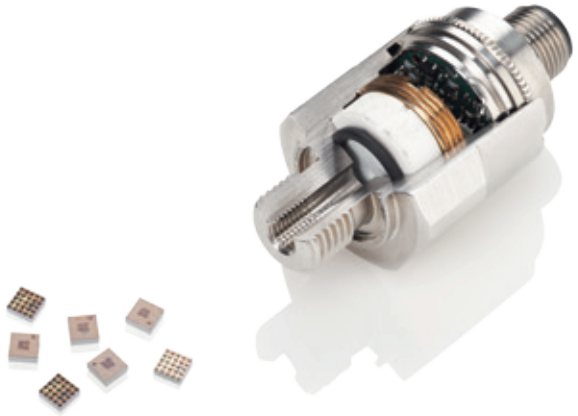
trafag sensors controls

Pressure transmitters

Trafag pressure transmitters are used for electronically measuring and evaluating pressure. Over the decades they have proven themselves in a multitude of demanding applications in harsh environments. They are available in many different designs to suit pressure and electrical connections, measuring procedures, electrical output signals and certifications (CE, EX, rail and ship). Superior technology and precise manufacturing ensure that the transmitters work perfectly. This is especially important in applications where high requirements are placed on long-term stability, vibration resistance, electromagnetic compatibility, shock resistance or temperature insensitivity.

Technology

Thin-film-on-steel (welded and O-ring free) or thick-film-on-ceramic pressure sensors are key components of Trafag pressure transmitters. Both sensor technologies as well as the ASIC (application-specific microchip) are developed and produced in-house. As a result, compact pressure sensors and electronics work in perfect partnership and achieve a unique level of long-term stability and reliability even under the most adverse environmental conditions. Trafag is a technological pioneer when it comes to miniaturising robust pressure transmitters.



Thin-film-on-steel technology

- Very good long term stability
- Resistant to high media temperatures
- Completely welded stainless steel sensor system without O-rings
- Resistant to very high over pressures and ideal for nominal pressures up to 3000 bar

Thick-film-on-ceramic technology

- Resistant to aggressive media
- Ideal for low pressure ranges and absolute measurement
- Economical

Pressure switches

Trafag's electromechanical pressure switches provide high vibration resistance and switch point precision in combination with an extremely robust and durable design. This results in switches that can be operated for decades without requiring maintenance, even under harsh conditions. Various designs with bellows, membrane and piston sensors cover a wide variety of pressure ranges, media and load profiles for many different applications.

Bellows sensors

- High switching point precision and repeatability
- Stainless steel, bronze and brass designs
- Optionally welded/soldered design for absolute impermeability
- Measure liquid, vaporous and gaseous media

Piston sensors

- Suitable for high pressure ranges
- Not sensitive to pressure surges
- Suitable for applications with many load cycles
- Ideal for hydraulic systems

Membrane sensors

- Resistant to high overpressures and not sensitive to pressure surges
- Suitable for applications with many load cycles
- Measure liquid, vaporous and gaseous media

trafag sensors controls

Thermostats

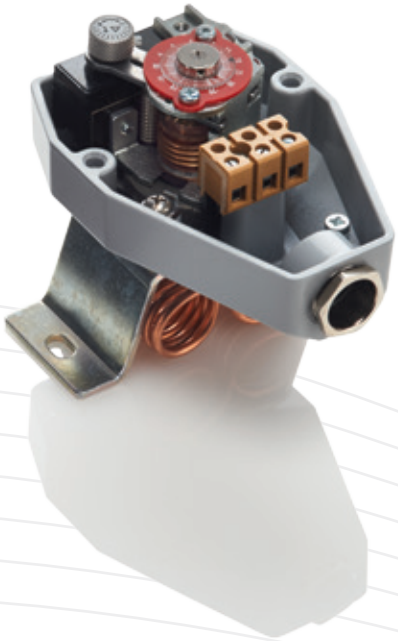
For 70 years, Trafag thermostats have proven their robustness in the most adverse environmental conditions. Industry useage ranges from air conditioning applications to engine manufacturing and ship building and even to offshore oil and gas platform production. The appeal of Trafag thermostats lies in their high switching point precision even after decades of operation under harsh conditions without maintenance. Various sensor and casing designs cover a wide range of temperatures and possible applications.

Measurement principle

A capillary tube filled with liquid reacts to a temperature change as a result of the principle of thermal expansion. This expansion is detected using a precision structure which switches one or multiple microswitches.

Design variations

- With internal or external temperature set-point adjustment
- Internal or external measuring scale
- With or without a manual reset switch
- With or without switching differential adjustment
- Switch designs for inside or outside applications
- Optional capillary tube safeguard
- Single or double-step circuit
- CE, EX or ship certifications



Sensor systems and accessories

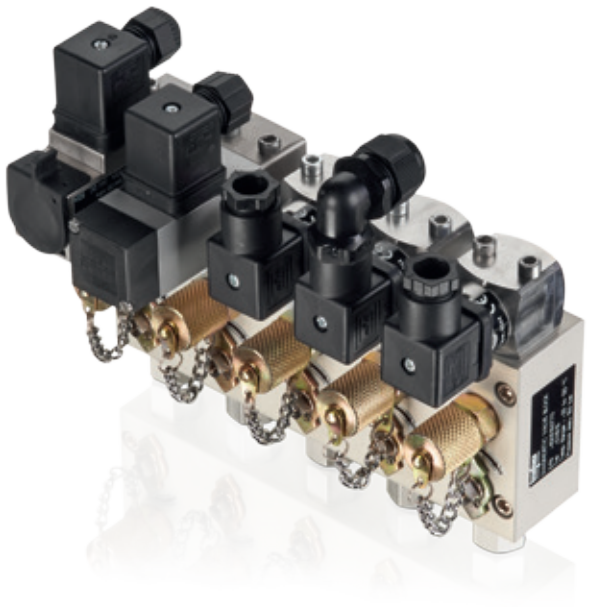
- Sensors that are fixed or can be mounted freely
- Copper (Cu), Cu nickel-plated or stainless steel sensor material
- Nickel-plated bronze or stainless steel protective sensor tube
- Additional capillary tube protection

Accessories

Trafag offers a wide range of original accessories which are ideally matched to our products. These include devices for monitoring or configuring transmitters such as hand pumps with precision pressure gauge or the Sensor Communicator, a handheld device which provides direct access to the calibration values of the transmitter in the Trafag ASIC. Trafag also offers a wide range of accessories meet specific application requirements and also make installation easier. They include diagnostic valve manifolds, snubbers and pressure peak damping elements for measuring pressure, or protective pipes for thermostats.

Accessories for pressure measurement instruments

- Sensor Communicator
- CAN2USB Tool
- Diagnostic valve block
- Hand pump with precision manometer
- Zenerbarrier
- Venting box
- Cable hanger
- Pressure peak damping elements
- Snubbers
- Adapters for different pressure connections
- Stop valves



Accessories for thermostats

- Protection tubes for direct mounting and remote sensors
- Duct mounting bracket
- Capillary tube holder
- Mounting brackets
- Screwed cable glands, ship approved, for retrofit

trafag sensors controls

Overview Pressure transmitter

	NAT 8252	NAH 8253	NAH 8254	NAE 8256	NSL 8257	
						
Measuring principle	Thin film on steel	Thin film on steel	Thin film on steel	Thin film on steel	Thin film on steel	
Measuring range	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi	0 ... 10 to 0 ... 600 bar 0 ... 150 to 0 ... 7500 psi	0 ... 0.2 to 0 ... 2.5 bar 0 ... 3 to 0 ... 30 psi	
Output signal	4 ... 20 mA, 0.5 ... 4.5 VDC, 0 ... 5 VDC, 1 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.1 ... 10.1 VDC, 0.5 ... 4.5 VDC ratiometric, Switching output: 1 or 2 PNP transistors	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiometric	4 ... 20 mA, 0.5 ... 4.5 VDC, 0 ... 5 VDC, 1 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.1 ... 10.1 VDC, 0.5 ... 4.5 VDC ratiometric, Switching output: 1 or 2 PNP transistors	4 ... 20 mA	4 ... 20 mA, 0 ... 5 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiometric	
Accuracy @ 25°C typ.	± 0.5 % FS typ.	± 0.3 % FS typ. ± 0.15 % FS typ. ± 0.1 % FS typ.	± 0.3 % FS typ.	0.5 %: ± 0.5 % FS typ. 0.3 %: ± 0.3 % FS typ.	0.15 ... 0.8 % FS typ.	
Ambient temperature	–40°C ... +125°C	-40°C ... +125°C	–40°C ... +125°C	–40°C ... +125°C	-40°C ... +125°C	
Media temperature	–40°C ... +125°C	-40°C ... +125°C	–40°C ... +125°C	–40°C ... +125°C	-40°C ... +125°C	
Protection	IP65, IP67	Min. IP65	IP65, IP67	IP65, IP67	Min. IP65	
Sensor (wetted parts)	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630)	
Pressure connection (wetted parts)	1.4542 (AISI630)	1.4542 (AISI630) 1.4301 (AISI304)	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630)	
Housing	1.4301 (AISI304)	1.4301 (AISI304)	1.4301 (AISI304)	1.4301 (AISI304)	1.4301 (AISI304)	
Pressure connections	G1/4" m, G1/4" m (Manometer), 1/4"NPT m, 1/8"NPT m, 7/16"-20UNF SAE J512 f, 7/16"-20UNF SAE4 m, 7/16"-20UNF m, R1/4" m, R1/8" m, M10x1 m, M12x1.5 m (DIN EN ISO 9974-2)	G1/4" m, 1/4"NPT m, 7/16"-20UNF m, 7/16"-20UNF f (valve opener), 7/16"-20UNF SAE4 m	G1/4" m, G1/4" m (Manometer), 1/4"NPT m, 1/8"NPT m, 7/16"-20UNF SAE J512 f, 7/16"-20UNF SAE4 m, 7/16"-20UNF m, R1/4" m, R1/8" m, M10x1 m, M12x1.5 m (DIN EN ISO 9974-2)	G1/4" m, 1/4"NPT m, M10x1 m	G1/4" m, 1/4"NPT m	
Electrical connections	Industrial standard, contact distance 9.4 mm; M12x1; Cable	Industrial standard, contact distance 9.4 mm; M12x1	Industrial standard, contact distance 9.4 mm; M12x1; cable IP67	Industrial standard, contact distance 9.4 mm; M12x1	Industrial standard, contact distance 9.4 mm; M12x1	
Applications	Machine tools Hydraulics HVAC Refrigeration Process technology Water treatment	Machine tools HydraulicsSchienenfahrzeuge Process technology Water treatment Test benches	Machine tools Hydraulics HVAC Refrigeration Process technology Water treatment	Shipbuilding Engine manufacturing Hydraulics	Shipbuilding Engine manufacturing Machine tools Process technology Water treatment Test benches	
Approval / conformity				ABS, BV, DNV, GL, LRS, KRS, NKK, RINA, RMRS	GL, DNV, RINA	
Data sheet	www.trafag.com/H72303	www.trafag.com/H72300	www.trafag.com/H72304	www.trafag.com/H72305	www.trafag.com/H72302	
Instructions	www.trafag.com/H73303	www.trafag.com/H73250	www.trafag.com/H73303	www.trafag.com/H73303	www.trafag.com/H73250	

	ECT 8472	ECT 0.3 % (0.5 %, 1.0 %) 8473	ECTR 8471	ECTN 8477	EPI 8287	EPN/EPNCR 8298
						
	Thick film on ceramic	Thick film on ceramic	Thick film on ceramic	Thick film on ceramic	Thin film on steel	Thin film on steel
	0 ... 1 to 0 ... 400 bar 0 ... 15 to 0 ... 5000 psi	0 ... 0.1 to 0 ... 40 bar 0 ... 1.5 to 0 ... 500 psi	-1 ... 9 to 0 ... 40 bar 0 ... 15 to 0 ... 5000 psi	0 ... 1 to 0 ... 400 bar 0 ... 15 to 0 ... 5000 psi	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi	0 ... 2.5 to 0 ... 2500 bar
	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiom.	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiom.	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiom.	4 ... 20 mA	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC	4 ... 20 mA 0.5 ... 4.5 VDC ratiometric
	± 0.5 % FS typ.	± 0.3 % FS typ. (± 0.5 % FS typ., ± 1 % FS typ.)	± 0.5 % FS typ.	± 0.5 % FS typ.	± 0.5 % FS typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
	-25°C ... +85°C	-25°C ... +85°C	-25°C ... +85°C	-25°C ... +85°C	–40°C ... +125°C	-40°C ... +125°C
	-25°C ... +125°C	-25°C ... +125°C	-25°C ... +125°C	-25°C ... +85°C	–40°C ... +125°C	-40°C ... +125°C
	IP65, IP67, IP68	IP65, IP67, IP68	IP65, IP67, IP68	min. IP65	IP65, IP67	IP65, IP67, IP69K
	Ceramic, Al_2O_3 (96 %)	Ceramic, Al_2O_3 (96 %)	Ceramic, Al_2O_3 (96 %)	Ceramic, Al_2O_3 (96 %)	1.4542 (AISI630)	1.4542 (AISI630)
	1.4305 (AISI303 1.4404/1.4435 (AISI316L) 1.4462 (AISI318LN) Titanium Grade 5	1.4305 (AISI303) 1.4404/1.4435 (AISI316L) 1.4462 (AISI318LN) Titanium Grade 5	1.4305 (AISI303)	1.4404/1.4435 (AISI316L) 1.4462 (AISI318LN) Titanium Grade 5	1.4542 (AISI630) or 1.4404 (AISI316L)	1.4542 (AISI630)
	1.4305 (AISI303 1.4404/1.4435 (AISI316L) 1.4462 (AISI318LN) Titanium Grade 5	1.4305 (AISI303) 1.4404/1.4435 (AISI316L) 1.4462 (AISI318LN) Titanium Grade 5	1.4305 (AISI303)	1.4404/1.4435 (AISI316L) 1.4462 (AISI318LN) Titanium Grade 5	1.4542 (AISI630) or 1.4404 (AISI316L)	1.4301 (AISI304) 1.4542 (AISI630)
	G1/4" f, G1/4" m, G1/2" m DIN3852-A, G1/2" m DIN3852-E, 1/4"NPT m, 7/16"-20UNF m SAE4, R1/4" m DIN3858, G3/4" frontal membrane	G1/4" f, G1/4" m, G1/2" m DIN3852-A, G1/2" m DIN3852-E, 1/4"NPT m, 7/16"-20UNF m SAE4, R1/4" m DIN3858, G3/4" frontal membrane	7/16"-20UNF m, 7/16"-20UNF SAE J512 f, 1/4"NPT m	G1/4" f, G1/4" m, G1/2" m, 1/4"NPT m	G1/4" m, G1/4" f, G1/2" m (Manometer), 1/4"NPT m, 1/2"NPT m, R1/4" m DIN3858, M14x1.5 m DIN6149-2	G1/4" m, R1/4" m, G1/2" m (Manom.), 1/4"NPT m, 1/2"NPT m, M14x1.5 m, M18x1.5 m
	EN175301-803-A (DIN43650-A); M12x1; Industrial standard, contact distance 9.4 mm; Packard Metri Pack; Cable	EN175301-803-A (DIN43650-A); M12x1; Industrial standard, contact distance 9.4 mm; Packard Metri Pack; Cable	EN175301-803-A (DIN43650-A); M12x1; Industrial standard, contact distance 9.4 mm; Packard Metri Pack; Cable	EN175301-803-A (DIN43650-A); M12x1; Industrial standard, contact distance 9.4 mm; Cable IP67; Cable IP68	Industrial standard, contact distance 9.4 mm; M12x1; Packard Metri Pack	EN175301-803-A (DIN43650-A); DIN72585; Cable
	Machine tools Hydraulics Water treatment	Machine tools Hydraulics Water treatment	HVAC Refrigeration	Shipbuilding Engine manufacturing	Machine tools Hydraulics Industrial applications	Shipbuilding Engine manufacturing Machine tools Hydraulics
				DNV, GL, KRS, RINA		ABS, BV, CCS, DNV, GL, KRS, LRS, NKK, RINA, RMRS
	www.trafag.com/H72324	www.trafag.com/H72326	www.trafag.com/H72323	www.trafag.com/H72322	www.trafag.com/H72317	www.trafag.com/H72312
	www.trafag.com/H73324	www.trafag.com/H73324	www.trafag.com/H73324	www.trafag.com/H73324	www.trafag.com/H73317	www.trafag.com/H73311

Overview electronic pressure switches

	EPN-S 8320	DPC 8380	DPS 8381	DCS 8864		
						
Measuring principle	Thin film on steel	Thick film on ceramic	Thin film on steel	Thin film on steel		
Measuring range	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi	0 ... 1 to 0 ... 100 bar 0 ... 15 to 0 ... 1500 psi adjustable 50 ... 100 % FS	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi adjustable 50 ... 100 % FS	0 ... 1 to 0 ... 600 bar		
Output signal	Transistor (open source)	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, switchable mA or V	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, switchable mA or V	4 ... 20 mA, 0 ... 10 VDC 2 Relays, electrically isolated 30W (max.1A), 36 VAC/ DC		
Accuracy @ 25°C typ.	± 0.5 % FS typ. (Switchpoint)	± 0.5 % FS typ.	± 0.5 % FS typ.	± 0.5 % FS typ.		
Ambient temperature	-25°C ... +85°C -40°C ... +125°C	-25°C ... +85°C	-25°C ... +85°C	-25°C ... +80°C (LCD display active -10°C ... +70°C)		
Media temperature	-40°C ... +125°C	-25°C ... +85°C	-25°C ... +85°C	-25°C ... +125°C		
Protection	IP65 (IP67), IP69K	IP65	IP65	IP65		
Sensor (wetted parts)	1.4542 (AISI630)	Ceramic, Al_2O_3 (96 %)	1.4542 (AISI630)	1.4542 (AISI630)		
Pressure connection (wetted parts)	1.4542 (AISI630) 1.4301 (AISI304)	1.4305 (AISI303 1.4404/1.4435 (AISI316L) 1.4462 (AISI318LN) Titanium Grade 5	1.4542 (AISI630)	1.4542 (AISI630) 1.4404 (AISI316L)		
Housing	1.4301 (AISI304)	Steel, die cast metal galvanised display housing plastic	Steel, die cast metal galvanised display housing plastic	1.4301 (AISI304)		
Pressure connections	G1/4" m, 1/4"NPT m, G1/2" m, M14x1.5 m, 1/2"NPT m	G1/4" f, G1/4" m, G1/2" m DIN3852-E, 1/4"NPT m, R1/4" m (DIN 3858), 7/16"-20UNF m DIN 3866, 7/16"-20UNF f SAE J512 valve opener, 7/16"-20UNF f (SAE 4)	G1/4" m, R1/4" m DIN 3858, G1/2" m (Manometer), 1/4" NPT m, 1/2" NPT m, M14x1.5 m DIN6149-2	G1/4" m, G1/4" f, G1/2" m, Flange		
Electrical connections	EN175301-803-A (DIN43650-A); Cable	Male electrical plug M12x1, 5-pole; Male electrical plug M12x1, 4-pole	Male electrical plug M12x1, 5-pole; Male electrical plug M12x1, 4-pole	M12x1, 8-pole		
Applications	Shipbuilding Engine manufacturing Railways	Machine tools HVAC Refrigeration	Machine tools Hydraulics Process technology	Shipbuilding Machine tools Hydraulics		
Approval / conformity	GL			GL		
Data sheet	www.trafag.com/H72333	www.trafag.com/H72320	www.trafag.com/H72321	www.trafag.com/H72605		
Instructions	www.trafag.com/H73333	www.trafag.com/H73320	www.trafag.com/H73320	www.trafag.com/H73605		

Overview Pressure transmitter

	EPR 8293	NPN 8264	FPT 8235	CMP 8270	N 8202	ND 8204
						
	Thin film on steel	Thin film on steel	Thin film on steel	Thin film on steel	Thin film on steel	Thin film on steel
	0 ... 2.5 to 0 ... 600 bar	0 ... 2.5 to 0 ... 250 bar	0 ... 1 to 0 ... 100 bar 0 ... 15 to 0 ... 1500 psi	0 ... 1 to 0 ... 600 bar	0 ... 1.0 to 0 ... 600 bar	0 ... 1 to 0 ... 16 bar
	4 ... 20 mA	4 ... 20 mA	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiom.	Bus protocol CANopen DS404	4 ... 20 mA	4 ... 20 mA (P1–P2)
	± 0.5 % FS typ. ± 0.3 % FS typ.	± 0.5 % FS typ. ± 0.3 % FS typ.	± 0.4 % FS	± 0.5 % FS typ. ± 0.15 % FS typ. ± 0.1 % FS typ.		
	-40°C ... +125°C	-40°C ... +100°C	-40°C ... +85°C	-40°C ... +125°C	-25°C ... +85°C	-25°C ... +85°C
	-40°C ... +125°C	-40°C ... +100°C	-40°C ... +125°C	-50°C ... +135°C	-25°C ... +125°C	-25°C ... +125°C
	IP65, IP67	IP65, IP69K	IP65, IP67, IP68	Min. IP67	Min. IP65	Min. IP65
	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630)
	1.4542 (AISI630) 1.4301 (AISI304)	1.4542 (AISI630)	1.4542 (AISI630)	1.4542 (AISI630) 1.4301 (AISI304)	1.4542 (AISI630)	1.4542 (AISI630)
	1.4301 (AISI304) 1.4542 (AISI630)	1.4301 (AISI304)	1.4301 (AISI304)	1.4301 (AISI304)	AlSi10Mg/ Epoxy coated	AlSi10Mg/ Epoxy coated
	G1/4" m, R1/4" m, 1/4"NPT m, 1/2"NPT m	G1/4" f, M10x1 f, G1/8" f	G1/2" m, flush membrane	G1/4" m, 1/4"NPT m, 7/16"-20UNF m, 7/16"-20UNF f (valve opener)	G1/4" f, G1/2" m	G1/4" f
	EN175301-803-A (DIN43650-A)	EN175301-803-A (DIN43650-A); Cable	EN175301-803-A (DIN43650-A); M12x1; Industrial standard, contact distance 9.4 mm; Packard Metri Pack; Cable	M12x1	Terminal screw 0.75 ... 2.5 mm²	Terminal screw 0.75 ... 2.5 mm²
	Railways	Shipbuilding Engine manufacturing	Engine manufacturing Machine tools	Engine manufacturing Railways	Shipbuilding Engine manufacturing	Shipbuilding Engine manufacturing
	EN50155 (Railways)	ABS, BV, CCS, DNV, GL, KRS, LRS, NKK, RINA, RMRS			ABS, BV, CCS, DNV, GL, KRS, LRS, RINA	BV, DNV, RINA
	www.trafag.com/H72311	www.trafag.com/H72313	www.trafag.com/H72316	www.trafag.com/H72614	www.trafag.com/H72206	www.trafag.com/H72218
	www.trafag.com/H73311	www.trafag.com/H73313	www.trafag.com/H73316	www.trafag.com/H73614	www.trafag.com/H70722	www.trafag.com/H73218

Overview Ex pressure transmitters

	EXNT 8292	EXNA 8854	EXL 8432	EXNAL 8858	
					
Measuring principle	Thin film on steel	Piezoresistive	Thick film on ceramic	Piezoresistive	
Measuring range	0 ... 0.4 to 0 ... 2000 bar	0 ... 0.1 to 0 ... 1000 bar	0 ... 0.2 to 0 ... 10 bar	0 ... 0.1 to 0 ... 25 bar	
Output signal	4 ... 20 mA	4 ... 20 mA	4 ... 20 mA	4 ... 20 mA	
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.		± 0.3 % FS typ. ± 0.5 % FS typ.		
Ambient temperature	Max. –40°C ... +120°C	-40°C ... +125°C	-20°C ... +70°C	-5°C ... +50°C	
Media temperature	Max. –40°C ... +120°C	-40°C ... +150°C	-20°C ... +70°C	-5°C ... +50°C	
Protection	Min. IP65, IP67	Min. IP65	IP68 (25 bar; 250m)	Min. IP68	
Sensor (wetted parts)	1.4542 (AISI630), optional hydrogen-compatible steel	1.4435 (AISI316L) or titanium	Ceramic, Al_2O_3 (96 %)	1.4435 (AISI316L)	
Pressure connection (wetted parts)	1.4542 (AISI630) 1.4301 (AISI304) optional hydrogen-compatible steel	1.4435 (AISI316L) or titanium	1.4404/1.4435 (AISI316L)	1.4435 (AISI316L) or titanium	
Housing	1.4301 (AISI304)	1.4435 (AISI316L) or titanium	1.4404/1.4435 (AISI316L)	1.4435 (AISI316L) or titanium	
Pressure connections	G1/4" m, G1/4" f, G1/2" m, G1/2" m (Manom.), R1/4" m, 1/4"NPT m, M18x1.5 m	1/4" NPT m, 1/2"NPT m, G1/4" f, G1/4" m, G1/2" m, G1/2" m frontal membrane, G1/2" m flush membrane	Type 1 f, M 10x1, Type 2 m, M 22x1	Open; Closed; G1/4" m	
Electrical connections	EN175301-803-A; M12x1; MIL-C 26482; Binder 723; Cable	EN175301-803-A; M12x1; MIL-C 26482; Binder 723; Cable	Cable PUR/FEP/PE	Cable PUR/Teflon/PE	
Applications	Shipbuilding Ex Zones 0, 1, 2 (gas); 20, 21, 22 (dust) and mining Hydrogen	Ex Zone 0, 1, 2 / Gas Ex Zone 20, 21, 22 / Dust Ex Underground Mining	Ex Zone 0, 1, 2 / Gas Ex Underground Mining	Shipbuilding Ex SEV 11 ATEX 0145 X	
Approval / conformity	GL, KRS ATEX / IECEx, according to the norm EN/IEC 60079-0/EN 60079-11/ EN 60079-26/ EN 50303	Ex according to standards, IEC/EN 60079-0 /-11/-26, EN 50303	GL, KRS Ex ATEX/IECEx, EN 60079-0/ EN 60079-11/EN 60079-26/ EN 50303	GL, KRS	
Type of protection		⟨Ex⟩ II 1G Ex ia IIC T3 ... T6 Ga II 1D Ex ia IIIC IP6x T145 ... T70°C I M1 Ex ia I		⟨Ex⟩ Ex ia IIC T3 ... T6	
Data sheet	www.trafag.com/H72329	www.trafag.com/H72334	www.trafag.com/H72330	www.trafag.com/H72231	
Instructions	www.trafag.com/H73329		www.trafag.com/H73329		

Overview Submersible pressure transmitters

	ECL 8438	ECL 8439	NAL 8838
			
	Thick film on ceramic	Thick film on ceramic	Piezoresistive
	0 ... 0.1 to 0 ... 10 bar	0 ... 0.1 to 0 ... 2.0 bar 0 ... 1.5 to 0 ... 30 psi	0 ... 0.1 to 0 ... 25 bar
	4 ... 20 mA	4 ... 20 mA	4 ... 20 mA 0 ... 10 VDC
	± 0.3 % FS typ. ± 0.5 % FS typ.	± 0.3 % FS typ. ± 0.5 % FS typ.	
	-25°C ... +80°C (+70°C)	-10°C ... +70°C (Cable PE: -10°C … +65°C)	-5°C ... +50°C
	-25°C ... +80°C (+70°C)	-10°C ... +70°C	-5°C ... +50°C
	IP68 (25 bar; 250m)	IP68 (2.0 bar; 20m)	Min. IP68
	Ceramic, Al_2O_3 (96 %)	Ceramic, Al_2O_3 (96%)	1.4435 (AISI316L)
	1.4404/1.4435 (AISI316L)	1.4404 (AISI316L) or 1.4462 (AISI318LN)	1.4435 (AISI316L) or titanium
	1.4404/1.4435 (AISI316L)	1.4404 (AISI316L) or 1.4462 (AISI318LN)	1.4435 (AISI316L) or titanium
	Type 1 f, M 10x1, Type 2 m, M 22x1		Open, Closed, G1/4" m
	Cable PUR/FEP/PE	Cable PUR/Radox/PE	Cable PUR/Teflon/PE
	Shipbuilding Process technology Water treatment	Process technology Water treatment (wastewater, grey-water, drinking water)	Shipbuilding Process technology
	GL, KRS		GL, KRS
	www.trafag.com/H72328	www.trafag.com/H72336	www.trafag.com/H72228
	www.trafag.com/H73328	www.trafag.com/H73336	

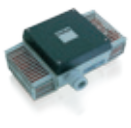
trafag sensors controls

Overview Pressure switches

	PST4B 9B4	PST4K 9K4	PST4M 9M4	PSTD 9D0	P/PS 900/904/912	PV/PVF 903/907/915/940/941/942	
							
Measuring principle	Bellow	Piston	Membrane	Bellow	Bellow	Bellow	
Measuring range	-0.6 ... 3.4 to 4 ... 40 bar -8 ... 45 to 60 ... 500 psi	1 ... 10 to 40 ... 400 bar 14 ... 150 to 580 ... 5800 psi	1 ... 10 to 10 ... 100 bar 14 ... 150 to 150 ... 1500 psi	-1 ... 6 and -1 ... 8 bar	-0.9 ... 1.5 to 10 ... 100 bar 5 ... 50 to 125 ... 1500 psi	-0.9 ... 1.5 to 4 ... 40 bar 5 ... 50 to 50 ... 500 psi	
Output signal	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)	
Pressure connections	G1/8" f, G1/4" f, M10x1.0 f	G1/8" f, G1/4" f, M10x1.0 f	G1/8" f, G1/4" f, M10x1.0 f	G1/4" f	G1/4" f, G1/2" m, 1/4"NPT f	G1/4" f, G1/2" m, 1/4" NPT f	
Electrical connections	EN175301-803-A (DIN43650-A)	EN175301-803-A (DIN43650-A)	EN175301-803-A (DIN43650-A)	EN175301-803-A (DIN43650-A)	Screw terminal	Screw terminal	
Switching differential	Not adjustable	Not adjustable	Not adjustable	Not adjustable	Not adjustable	Adjustable	
Media temperature	–25°C ... +125°C –40°C ... +125°C	–25°C ... +125°C	0°C ... +80°C	-25°C ... +120°C	-40°C ... +150°C	-40°C ... +150°C	
Ambient temperature	–25°C ... +125°C –40°C ... +125°C	-25°C ... +85°C	0°C ... +80°C	-25°C ... +85°C	-25°C ... +70°C	-25°C ... +70°C	
Protection	IP65	IP65	IP65	IP65	IP65	IP65	
Housing	Aluminium EN AW-6026 AlMgSiPb0.4 anodized	Aluminium EN AW-6026 AlMgSiPb0.4 anodized	Aluminium EN AW-6082 AlMgSi1 anodized	Brass CuZn39Pb3	AlSi10Mg/ Epoxy coated	AlSi10Mg/ Epoxy coated	
Sealing	HNBR 75 Sh	PTFE	FKM	-	NBR	NBR	
Applications	Shipbuilding Engine manufacturing Railways Machine tools	Shipbuilding Engine manufacturing Railways Machine tools Hydraulics	Shipbuilding Engine manufacturing Railways Machine tools Hydraulics	Shipbuilding Engine manufacturing Machine tools Hydraulics	Shipbuilding Engine manufacturing Railways Machine tools Hydraulics	Shipbuilding Engine manufacturing Railways Machine tools Hydraulics	
Approval / conformity	ABS, BV, CCS, DNV, GL, KRS, LRS,NKK, RINA, RMRS, EN60730-1/ EN60730-2-6: Typ 2.B.H	ABS, BV, CCS, DNV, GL, KRS, LRS, RINA, EN60730-1/ EN60730-2-6: Typ 2.B.H	ABS, BV, CCS, DNV, GL, KRS, LRS, RINA, EN60730-1/ EN60730-2-6: Typ 2.B.H	GL EN60730-1/ EN60730-2-6: Typ 2.B.H	ABS, BV, CCS, DNV, GL, KRS, LRS, RINA EN60730-1/ EN60730-2-6: Typ 2.B.H	ABS, BV, DNV, GL, KRS, LRS, RINA EN60730-1/ EN60730-2-6: Typ 2.B.H	
Type of protection							
Data sheet	www.trafag.com/H72367	www.trafag.com/H72369	www.trafag.com/H72368	www.trafag.com/H72273	www.trafag.com/H72252	www.trafag.com/H72257	
Instructions	www.trafag.com/H73367	www.trafag.com/H73367	www.trafag.com/H73367	www.trafag.com/H73273	www.trafag.com/H71261	www.trafag.com/H71261	

	PK 944/947	PD 920/924/932	901/902/905/906	987/988	EXP 900/904/912	EXPK 944/947/953	EXPD 920/924/932
							
	Piston	Bellow	Membrane	Bellow	Bellow	Piston	Bellow
	1 ... 10 to 60 ... 600 bar	-1 ... 6 to -1 ... 18 bar	30 ... 600 and 50 ... 1000 mbar	-0.3 ... 1.3 to 1 ... 10 bar	-0.9 ... 1.5 to 4 ... 40 bar	1 ... 10 to 60 ... 600 bar	-1 ... 6 to -1 ... 18 bar
	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)	1 or 2 floating change-over contacts (SPDT)	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)	1 Floating change-over contact (SPDT)
	G1/4" f, G1/2" m	G1/4" f, G1/8" f, G1/2" m	G1/4" f, G1/2" m	G1/4" m	G1/4" f, G1/2" m	G1/4" f, G1/2" m	G1/4" f, G1/8" f, G1/2" m
	Screw terminal	Screw terminal	Screw terminal	Blade connector	Screw terminal	Screw terminal	Screw terminal
	Not adjustable	Not adjustable	Not adjustable	Not adjustable	Not adjustable	Not adjustable	Not adjustable
	-30°C ... +100°C -15°C ... +150°C	-40°C ... +150°C	-40°C ... +150°C	-25°C ... +80°C	-40°C ... +150°C	NBR: -30°C ... +100°C FKM: -15°C ... +150°C	-50°C ... +150°C
	-20°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C	-50°C ... +65°C	-50°C ... +65°C	-50°C ... +65°C
	IP65	IP65	IP65	IP40 (Microswitch IP67)	IP66 Accessory 06: IP66	IP66 Accessory 06: IP66	IP66
	AlSi10Mg/ Epoxy coated	AlSi10Mg/ Epoxy coated	AlSi10Mg/ Epoxy coated	PBTP, Crastin	AlSi10Mg/ Epoxy coated Accessory 06: 1.4301 (AISI 304)	AlSi10Mg/ Epoxy coated Accessory 06: 1.4301 (AISI 304)	AlSi10Mg/ Epoxy coated
	NBR/FKM	NBR	NBR	-	NBR	NBR / FKM	NBR
	Shipbuilding Engine manufacturing Railways Machine tools Hydraulics	Shipbuilding Engine manufacturing Railways Machine tools Hydraulics	Machine tools HVAC	Machine tools Medium voltage switchgear	⟨Ex⟩ II 2 G / D	⟨Ex⟩ II 2 G / D	⟨Ex⟩ II 2 G / D
	ABS, BV, CCS, DNV, GL, KRS, LRS, RINA EN60730-1/ EN60730-2-6: Typ 2.B.H	ABS, BV, CCS, DNV, GL, KRS, LRS, RINA EN60730-1/ EN60730-2-6: Typ 2.B.H	EN60730-1/ EN60730-2-6: Typ 2.B.H	EN60730-1/ EN60730-2-6: Typ 2.B.H	SEV 15 ATEX 0157 X	SEV 15 ATEX 0157 X	SEV 15 ATEX 0157 X
					Areas with gaz explosion hazards: II 2 G Ex d e IIC T6 Gb Areas with dust explosion hazards: II 2 D Ex tb IIIC T80°C Db	Areas with gas explosion hazards: II 2 G Ex d e IIC T6 Gb; Areas with dust explosion hazards: II 2 D Ex tb IIIC T80°C Db	Areas with gas explosion hazards: II 2 G Ex d e IIC T6 Gb; Areas with dust explosion hazards: II 2 D Ex tb IIIC T80°C Db
	www.trafag.com/H72259	www.trafag.com/H72253	www.trafag.com/H72269	www.trafag.com/H72272	www.trafag.com/H72263	www.trafag.com/H72270	www.trafag.com/H72256
	www.trafag.com/H71261	www.trafag.com/H73256		www.trafag.com/H73272	www.trafag.com/H73171	www.trafag.com/H73171	www.trafag.com/H73171

Overview Thermostats

	A/AS/ASE 645/650	ADS 319	A2/A2S 198/199	IA/IAS 409/419	MSK 624/634	MP/MSP 663/664	
							
Designation of application	Room thermostat	Double room thermostat	Multistage room thermostat	Industrial room thermostat	Duct thermostat	Pipe mounting thermostat	
Measuring range	-45°C ... +15°C to 0°C ... +60°C	-30°C ... +30°C to 0°C ... +60°C	-45°C ... +15°C to 0°C ... +60°C	-30°C ... +30°C to 0°C ... +60°C	-30°C ... +40°C to +20°C ... +110°C	-10°C ... +35°C to +20°C ... +110°C	
Output signal	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	
Switching differential	Adjustable / not adjustable	Adjustable / not adjustable	Not adjustable	Adjustable / not adjustable	Adjustable / not adjustable	Adjustable / not adjustable	
Ambient temperature	-30°C ... +70°C	-30°C ... +70°C	-30°C ... +70°C	-30°C ... +70°C	-30°C ... +70°C	-30°C ... +70°C	
Protection	IP54	IP54	IP54	IP65	IP54	IP54	
Applications	HVAC Refrigeration	HVAC Refrigeration	HVAC Refrigeration	HVAC	HVAC	Process technology Water treatment	
Approval / conformity	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	
Type of protection							
Data sheet	www.trafag.com/H72170	www.trafag.com/H72146	www.trafag.com/H72137	www.trafag.com/H72116	www.trafag.com/H72177	www.trafag.com/H72175	
Instructions	www.trafag.com/H73624	www.trafag.com/H73170	www.trafag.com/H70311	www.trafag.com/H73111	www.trafag.com/H73624	www.trafag.com/H73663	

	MST 624/634	M/MS 624/634	MS...R 630/632	F/F...R 990/991/992/993	GS 657/658	D...R 302	M2S 104/114
							
	Direct mounting thermostat	Remote sensing thermostat	Remote sensing thermostat with limiter	Frost protection thermostat	Remote sensing thermostat	Double thermostat with remote sensor and limiter	Multistage thermostat with remote sensor
	-30°C ... +40°C to +70°C ... +350°C	-30°C ... +40°C to +70°C ... +350°C	-30°C ... +40°C to +70°C ... +350°C	-5°C ... +15°C	+5°C ... +95°C and +20°C ... +150°C	-30°C ... +40°C to +70°C ... +350°C	-30°C ... +40°C to +70°C ... +350°C
	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact
	Adjustable / not adjustable	Adjustable / not adjustable	Not adjustable	Not adjustable	Not adjustable	Adjustable / not adjustable	Not adjustable
	-30°C ...+70°C	-30°C ...+70°C	-30°C ...+70°C	Max. operating temperature: +70°C Min. operating temperature: switch point + 2°C	-30°C ... +70°C	-30°C ...+70°C	-30°C ...+70°C
	IP54	IP54	IP54	IP 54	IP54	IP54	IP54
	Machine tools HVAC Process technology Water treatment	Railways Machine tools HVAC Refrigeration Process technology	Railways Machine tools HVAC Refrigeration Process technology	HVAC Refrigeration	Process technology	HVAC Refrigeration	Machine tools HVAC Refrigeration Process technology
	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H
	www.trafag.com/H72174	www.trafag.com/H72172	www.trafag.com/H72173	www.trafag.com/H72123	www.trafag.com/H72179	www.trafag.com/H72142	www.trafag.com/H72139
	www.trafag.com/H73624	www.trafag.com/H73624	www.trafag.com/H73624	www.trafag.com/H70821	www.trafag.com/H73624	www.trafag.com/H73170	www.trafag.com/H70311

Overview Thermostats

	L/LF 736/754	L...R 755	I/IS 404/414	IS...R 410/412	ISN/ISNT 471/472	ISP/ISPT 474	
							
Designation of application	Remote sensing thermostat, skeleton type	Remote sensing thermostat with limiter, skeleton type	Industrial thermostat with remote sensor	Industrial thermostat with remote sensor and limiter	Thermostat for shipbuilding	Compact thermostat for shipbuilding	
Measuring range	-30°C ... +40°C to +70°C ... +350°C	-30°C ... +40°C to +70°C ... +350°C	-30°C ... +40°C to +70°C ... +350°C	-30°C ... +40°C to +70°C ... +350°C	+20°C ... +110°C to +40°C ... +300°C	+5°C ... +95°C to +20°C ... +150°C	
Output signal	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact	
Switching differential	Adjustable / not adjustable	Not adjustable	Adjustable / not adjustable	Not adjustable	Not adjustable	Not adjustable	
Ambient temperature	-30°C ...+70°C	-30°C ...+70°C	-30°C ...+70°C	-30°C ...+70°C	-30°C ...+70°C	-30°C ... +70°C	
Protection	IP00	IP00	IP65	IP65	IP65	IP65	
Applications	Machine tools	Machine tools	Railways Machine tools	Machine tools Process technology	Shipbuilding Engine manufacturing Railways	Shipbuilding Engine manufacturing Railways Hydraulics HVAC	
Approval / conformity	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	EN60730-1/ EN60730-2-9: Typ 2.B.H	ABS, BV, CCS, DNV, GL, KRS, LRS, RINA, RMRS EN60730-1/ EN60730-2-9: Typ 2.B.H	ABS, BV, CCS, DNV, GL, KRS, LRS, NKK, RINA, RMRS EN60730-1/ EN60730-2-9: Typ 2.B.H	
Type of protection							
Data sheet	www.trafag.com/H72122	www.trafag.com/H72124	www.trafag.com/H72110	www.trafag.com/H72138	www.trafag.com/H72111	www.trafag.com/H72113	
Instructions	www.trafag.com/H70211	www.trafag.com/H70211	www.trafag.com/H73111	www.trafag.com/H73111	www.trafag.com/H73111	www.trafag.com/H73113	

	EXS 404/414	EXAS 409/419	«Simple Apparatus» conformity to ATEX 414	«Simple Apparatus» conformity to ATEX 419
				
	Ex Industrial thermostat with remote sensor	Ex Industrial room thermostat	Industrial room thermostat with remote sensor	Industrial room thermostat
	-30°C ... +40°C to +70°C ... +350°C°C	-30°C ... +30°C to 0°C ... +60°C	-30°C ... +40°C to +70°C ... +350°C	-30°C ... +30°C to 0°C ... +60°C
	Floating change-over contact	Floating change-over contact	Floating change-over contact	Floating change-over contact
	Not adjustable	Not adjustable	Not adjustable	Not adjustable
	-30°C ...+70°C	-30°C ... +60°C	-30°C ...+70°C	-30°C ... max. +65°C
	IP65	IP65	IP65	IP65
	Ⓔx II 2 G / D	Ⓔx II 2 G / D	Hazardous area	Hazardous area
	SEV 15 ATEX 0156 X	SEV 15 ATEX 0156 X	EN60730-1/ EN60730-2-9: Typ 2.B.H EN60079-0, EN60079-11 Zone 1 and 2, 21 and 22	EN60730-1/ EN60730-2-9: Typ 2.B.H EN60079-0, EN60079-11 Zone 1 and 2, 21 and 22
	Areas with gas explosion hazards: II 2 G Ex d e IIC T6 Gb; Areas with dust explosion hazards: II 2 D Ex tb IIIC T80°C Db	Areas with gas explosion hazards: II 2 G Ex d e IIC T6 Gb; Areas with dust explosion hazards: II 2 D Ex tb IIIC T80°C Db		
	www.trafag.com/H72108	www.trafag.com/H72128	www.trafag.com/H72183	www.trafag.com/H72182
	www.trafag.com/H73172	www.trafag.com/H73172	www.trafag.com/H73173	www.trafag.com/H73173

Accessories for pressure measurement instruments

SC

Sensor Communicator

Features

- Read out of sensor data
- Adjustment of set point or zero point and span
- Real time pressure measuring
- Software update and battery charge with USB-interface

Instruction www.trafag.com/H73699 en
www.trafag.com/H73699 de

DAMP...

Pressure peak damping element

Features

- Retrofit kit with integrated M5 male thread
- Hole diameter 0.4 mm, 1.0 mm
- Set of 5 pcs.

Data sheet www.trafag.com/H72258

DVB

Diagnostic Valve Block

Features

- Function tests during operation (no interruption necessary) with stop valve and test connection

Data sheet www.trafag.com/H72361

A../D..

Adapters with manometer pressure ports

Features

- Pressure adapters with different thread combinations and materials for individual applications

Data sheet www.trafag.com/H72258

V6/V7

Stop valve

Features

- Allows replacement of instruments without interruption of process (max. 40 bar)

Data sheet www.trafag.com/H72258

ZEN...

Switch amplifier

Features

- Ⓔx II 1 G Ex ia IIC Ga
- Ⓔx II 1 D Ex ia IIIC Da
- Ⓔx I M1 Ex ia I Ma
- IP 20
- Output: Signal, relays

Accessories for thermostats

83../84..

Protection tubes for remote sensors

Features

- For liquid media
- Pressure proof up to 25 bar (types 83xx)
- Pressure proof up to 40 bar (types 84xx)

Data sheet www.trafag.com/H72163

121.../141...

Protection tubes for direct mounting

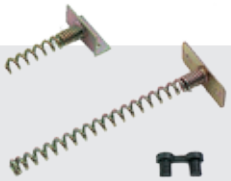
Features

- For thermostats type MST and ISPT/ISNT
- Lateral clamp mounting (type MST)
- Pressure proof up to 40 bar (types 141x)
- With captive nut (types 141x)

Data sheet www.trafag.com/H72163

W.../K...

Thermostat sensor duct holder



Features

- For HVAC
- For retrofitting of thermostats

Data sheet www.trafag.com/H72106

MB31

Mounting Plate

Features

- For pressure transmitters and pressure switches

CG

Screwed cable gland

Features

- DIN 8280 for shipbuilding
- Retrofit for pressure transmitters, pressure switches and thermostats

K80140

Capillary tube holder

Features

- For Froststats F/F...R

trafag sensors controls

Reliable quality

Worldwide represented, globally trusted, Swiss based

Headquarters
Switzerland

Subsidiaries
Austria
Czech Republic
France
Germany
Great Britain
India
Italy
Japan
Poland
Spain
USA

Representatives
Australia
Belgium
Brazil
Canada
China
Colombia
Croatia
Cyprus
Denmark
Finland
Greece
Hungary
Iceland
Indonesia
Iran
Israel
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Singapore
South Africa
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Taiwan
Thailand
Turkey
Ukraine
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Vietnam

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