NIVETEC Instrumentação e Controle

Catálogo

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NIPRESS

PRESSURE SWITCHES, PRESSURE TRANSMITTERS
AND DIFFERENTIAL PRESSURE TRANSMITTERS

NIVETEC

NIVELCO

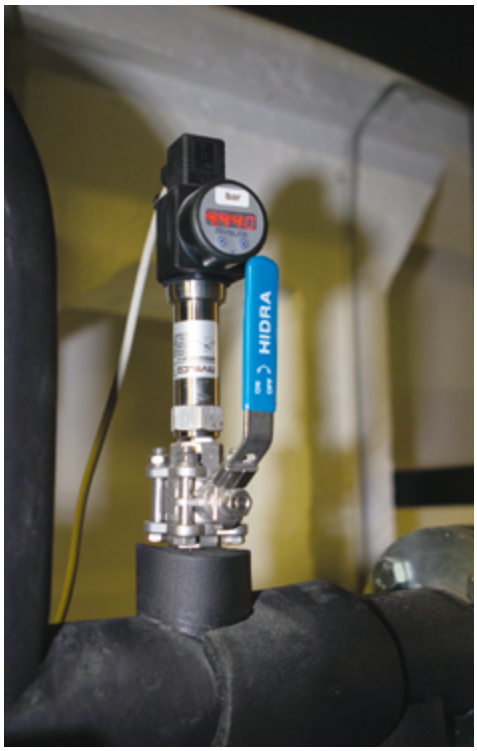
PRESSURE SENSORS

Features

- Advanced pressure measuring technologies
- Relative and absolute pressure measurement
- Devices for nearly all mediums
- Several accuracy classes
- Several mounting options
- Excellent overload resistance
- 2- or 3-wire systems
- Devices with lots of different electrical and process connections
- Solutions for rough conditions (aggressive medium, wide temperature range, dynamic pressure changes)
- Solutions for stringent hygienic requirements
- Excellent price/value ratio
- 5 years warranty

In the world of industrial metrology, monitoring and controlling the pressure of fluids and gases and the processing of the measured results are of the highest priority.

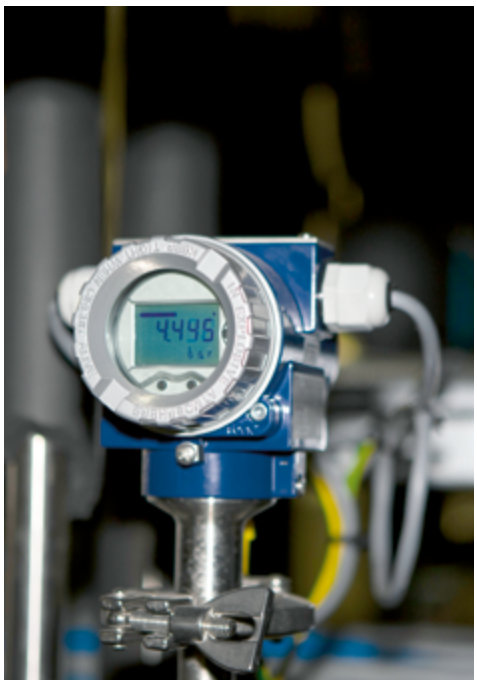
NIVELCO covers the needs of several industries and application areas with the wide selection of the NIPRESS family.



NIPRESS DK

Devices with or without display,
Measuring range: **–1…600 bar (–14.5…8700 psi)**

NIPRESS pressure switches are used in hydraulic and pneumatic applications for monitoring and controlling the pressure via switching outputs. Due to the simple handling as well as the variety of software features (switching points and hysteresis freely configurable, delay function, storing min-/max-value, scalable display and analog output signal, etc.) the pressure switches with display are especially suitable for general plant and machine construction and processing industry applications.



NIPRESS D

Measurement of vacuum, overpressure and absolute pressure,
Measuring range: **–1…2200 bar (–14.5…31910 psi)**

NIPRESS pressure transmitters with multiple sensor technologies combined with various housing materials can be used for almost all relative or absolute fluid or gas pressure measurement tasks requiring different accuracy. Their design, high overload capability and the possibility to install the units in any physical position makes them suitable for a wide range of industrial applications..

NIPRESS DD

For differential pressure measurement,
Measuring range: **0…70 bar (0…1075 psi)**

NIPRESS differential pressure transmitters are available with different sensor technologies combined with compact stainless steel or cast aluminum or plastic housings. The wide variety of the product range can measure the pressure of numerous fluids and gases, monitor ventilation ducts, filters and fans in HVAC areas as well as measure the level in closed, pressurized tanks.

PRESSURE SWITCHES

Type	3-wire mini compact		3 / 4-wire mini compact	
Sensor	Silicon (inner diaphragm)		Ceramic (inner diaphragm)	
	Sensor seal: NBR	Process connection: Aluminum	Sensor seal: FKM (optional: EPDM)	Process connection: Stainless steel
Features	▪ Relative pressure measurement ▪ Configurable via PC or programming device ▪ 1 or 2 PNP output		▪ Relative or absolute pressure measurement ▪ Configurable via PC or programming device ▪ 1 or 2 PNP output	
Application	▪ Ideal for pneumatic and vacuum applications ▪ Mechanical and plant engineering ▪ HVAC		▪ Ideal for hydraulic and mechanical engineering applications for measuring, control and process technology ▪ Mechanical and plant engineering ▪ Energy industry	
	Technical data			
Measuring Range	–1…10 bar (–14.5…145 psi)		0…400 bar (0…5800 psi)	
Accuracy	1%			
Process temperature	–25…+85 °C (–13…+185 °F)			
Ambient temperature	–25…+85 °C (–13…+185 °F)			
Output	1, 2 PNP			
Supply voltage	12…30 V DC			
Housing	PA 6.6 black polycarbonate		Stainless steel	
Process connection	⅛" BSP (inner tread)		¼" BSP	
Electrical connection	M8×1		M12×1	
Weight	~35 g (~0.1 lb)		~90 g (~0.2 lb)	
Ingress protection	IP54		IP67	
Electrical protection	Class III (SELV)			
Options	▪ 1…5 V analogue output (with only 1 PNP output) ▪ Setting of customized switching points		▪ Oxygen application (up to 25 bar [362.5 psi], FKM seal) ▪ Oil- and grease free application ▪ EPDM seal ▪ Absolute pressure measuring method ▪ Setting of customized switching points	

DK–100	DK–200

PRESSURE SWITCHES

Type	3 / 8-wire mini compact			
Sensor	Stainless steel (inner or flush diaphragm)		Stainless steel (flush diaphragm [optional: Hastelloy® C])	
	Sensor seal: FKM, welded (others on request)	Process connection: Stainless steel	Sensor seal: FKM < +200 °C (+392 °F); FFKM > +200 °C (+392 °F)	Process connection: Stainless steel
Features	▪ Relative or absolute pressure measurement ▪ 1 or 2 switch outputs ▪ Rotatable and configurable 4-digit LED display module			
Application	▪ Mechanical and plant engineering ▪ HVAC ▪ Environmental engineering		▪ Ideal for viscous and pasty media ▪ Food and beverage industry ▪ Medical technology ▪ Pharmaceutical industry	
	Technical data			
Measuring range	–1…600 bar (–14.5…8700 psi)		–1…40 bar (–14.5…580 psi)	
Accuracy	p ≥ 0.4 bar (5.8 psi): 0.25%; 0.5%			
Process temperature	–40…+125 °C (–40…+257 °F)		–40…+125 °C (–40…+257 °F) (silicone oil) –10…+125 °C (+14…+257 °F) (food grade oil)	
Ambient temperature	–40…+85 °C (–40…+185 °F) (with integrated cable –5…+70 °C [+23…+158 °F])			
Output	1, 2 PNP			
Supply voltage	2-wire: standard version 13…36 V DC, Ex variant*: 15…28 V DC; 3-wire: 15…36 V DC			
Load resistance	2-wire: $R_{max} = [(U_{Supply} – U_{Supply\ min.})/0.02\ A]$, [Ω]; 3-wire: R_{min} = 10 kΩ			
Housing	Stainless steel			
Process connection	¼", ½" BSP; ¾" BSP (with flush membrane); ¼", ½" NPT; M20×1.5		½", ¾", 1", 1½", 2" BSP; ¾"; 1", 1½", 2" TriClamp; M20×1.5; Sanitary DN25, DN40, DN50, Flange DN40, DN50, DN80, VARIVENT® DN40/50	
Electrical connection	ISO4400, M12×1, integrated cable			
Weight	~160 g (~0.35 lb)		~160…250 g (~0.35…0.55 lb)	
Ingress protection	IP65			
Electrical protection	Class III (SELV)			
Options	▪ Ex ia, or SIL variant* ▪ Analog 4…20 mA, 2-wire output ▪ Analog 0…10 V, 3-wire output ▪ Integrated cable version ▪ Absolute pressure measuring method (p ≥ 0.4 bar [5.8 psi])		▪ Ex ia, or SIL variant* ▪ Analog 4…20 mA, 2-wire output ▪ Analog 0…10 V, 3-wire output ▪ Integrated cable version ▪ Absolute pressure measuring method (p ≥ 0.4 bar [5.8 psi]) ▪ Hastelloy C membrane ▪ FFKM sealing ▪ Filled with food compatible oil	
				
	DK–300		DK–400	

PRESSURE SWITCHES

	DK–500	DK–600	DK–700
Type	3 / 5-wire mini compact		
Sensor	Stainless steel (inner diaphragm) Sensor seal: FKM, welded Process connection: Stainless steel	Ceramic (inner diaphragm) Sensor seal: FKM (optional: EPDM, up to 160 bar [2320 psi]) Process connection: Stainless steel	Stainless steel (flush diaphragm) Sensor seal: FKM < +200 °C (+392 °F); FFKM > +200 °C (+392 °F) Process connection: Stainless steel (up to 60 bar [870 psi])
Features	▪ Relative or absolute pressure measurement ▪ 1 or 2 PNP output ▪ Rotatable and configurable 4-digit LED display module ▪ Robust, stainless steel housing		▪ Relative or absolute pressure measurement ▪ 1 or 2 PNP output ▪ Rotatable and configurable 4-digit LED display module
Application	▪ Mechanical and plant engineering ▪ HVAC ▪ Environmental engineering	▪ For rough conditions and difficult conditions ▪ Mechanical and plant engineering ▪ Environmental engineering	▪ Ideal for high hygienic applications ▪ Food and beverage industry ▪ Pharmaceutical industry
Technical data			
Measuring range	–1…600 bar (–14.5…8700 psi)		–1…40 bar (–14.5…580 psi)
Accuracy	p ≥ 0.4 bar (5.8 psi): 0.25%; 0.5%	0.5%	p ≥ 0.4 bar (5.8 psi): 0.25%; 0.5%
Process temperature	–40…+125 °C (–40…+257 °F)		–40…+125 °C (–40…+257 °F) (silicone oil) –10…+125 °C (+14…+257 °F) (food grade oil)
Ambient temperature	–40…+85 °C (–40…+185 °F)		
Output	1, 2 PNP		
Supply voltage	2-wire: standard version 13…36 V DC, Ex variant*: 15…28 V DC, 3-wire: 24 V DC, Without analog output: 15…36 V DC		
Load resistance	2-wire: $R_{max} = [(U_{Supply} – U_{Supply\ min.})/0.02\ A]$, [Ω]; 3-wire: R_{min} = 10 kΩ		
Housing	Stainless steel		
Process connection	¼", ½" BSP; ¼", ½" NPT		½", ¾", 1" BSP; ¾", 1", 1½", 2" TriClamp; Sanitary DN25, DN40, DN50; VARIVENT® DN40/50
Electrical connection	M12×1 / M12×5		
Weight	~400 g (~0.88 lb)		~500 g (~1.1 lb)
Ingress protection	IP67		
Electrical protection	Class III (SELV)		
Options	▪ Ex ia, or SIL variant* ▪ Analog 4…20 mA, 2-wire output ▪ Analog 0…10 V, 3-wire output ▪ Integrated cable version ▪ Absolute pressure measuring method (p ≥ 0.4 bar [5.8 psi])	▪ Ex ia, or SIL variant* ▪ Analog 4…20 mA, 2-wire output ▪ Analog 0…10 V, 3-wire output ▪ PVDF process connection (only ½" BSP, up to 60 bar [870 psi]) ▪ Oxygen application (up to 25 bar [362.5 psi], FKM seal) ▪ Absolute pressure measuring method ▪ EPDM seal (up to 160 bar [2 320 psi])	▪ Ex ia variant* ▪ High-temperature version ▪ Analog 4…20 mA output ▪ FFKM seal ▪ Filled with food compatible oil (up to +150 °C [302 °F]) ▪ Absolute pressure measuring method (p ≥ 1 bar [14.5 psi])

PRESSURE TRANSMITTERS

Type	5 / 8-wire mini compact		2 / 3-wire mini compact			
Sensor	Ceramic (inner diaphragm)		Ceramic (inner diaphragm)		Stainless steel (inner diaphragm)	
	Sensor seal: FKM (optional: EPDM)	Process connection: Stainless steel (optional: PVDF only ½" BSP, up to 60 bar [870 psi])	Sensor seal: FKM (Viton®) (optional: EPDM)	Process connection: Stainless steel	Sensor seal: FKM (Viton®) (optional: NBR, EPDM)	Process connection: Stainless steel
Features	▪ Relative or absolute pressure measurement ▪ 1 or 2 PNP output ▪ Rotatable and configurable 4-digit LED display module		▪ Relative or absolute pressure measurement ▪ For overpressure measurement		▪ Relative or absolute pressure measurement	
Application	▪ General industrial applications ▪ Suitable for the usage in viscous, pasty or highly contaminated media ▪ Mechanical and plant engineering ▪ Environmental engineering, for measuring fuels, lubricants, water and aggressive media		▪ Ideal for measuring aggressive mediums – gases, steam, fluids ▪ Not suggested to use directly with mediums tending to sedimentation, crystallization or solidification ▪ Mechanical and plant engineering ▪ Hydraulics ▪ HVAC		▪ For static or dynamic measurement ▪ Not suggested to use directly with mediums tending to sedimentation, crystallization or solidification ▪ Mechanical and plant engineering ▪ Refrigeration engineering ▪ Hydraulics, Energy industry ▪ Environmental engineering, HVAC	
	Technical data					
Measuring range	–1…600 bar (–14.5…8700 psi)		–1…400 bar (–14.5…5800 psi)		–1…600 bar (–14.5…8700 psi)	
Accuracy	0.5%		0.5%; –1…0 bar (–14.5…0 psi): 1%		Without SIL: 0.1%; p ≥ 0.4 bar (5.8 psi): 0.25%; 0.5%; 0.2%	
Process temperature	–40…+125 °C (–40…+257 °F)		–25…+125 °C (–13…+257 °F)		–40…+125 °C (–40…+257 °F)	
Ambient temperature	–40…+85 °C (–40…+185 °F) (with integrated cable: –5…+70 °C [–23…+158 °F])		–25…+85°C (–13…+185 °F)		–40…+85 °C (–40…+185 °F) (with integrated cable: –5…+70 °C [–23…+158 °F])	
Output	1, 2 db PNP		2-wire: 4…20 mA, 3-wire: 0…10 V			
Supply voltage	2-wire: standard version 13…36 V DC, Ex variant*: 15…28 V DC, 3-wire (0…10 V): 15…36 V DC Without analog output: 15…36 V DC		2-wire: 8…32 V DC, 3-wire: 14…30 V DC		2-wire: standard version 8…32 V DC, Ex variant*: 10…28 V DC, SIL variant*: 14…28 V DC 3-wire: 14…30 V DC	
Load resistance	2-wire: $R_{max} = [(U_{Supply} – U_{Supply\ min.})/0.02\ A]$, [Ω]; 3-wire: R_{min} = 10 kΩ					
Housing	Stainless steel					
Process connection	¼", ½", ¾" BSP; ¼", ½" NPT		¼", ½" BSP, ¼" NPT		¼", ½" BSP; ¼", ½" NPT; M20×1.5	
Electrical connection	M12×1 / M12×5, M12×1 / M12×8, Integrated cable version		ISO 4400 connector, M12×1 / M12×4		ISO 4400 connector, M12×1 / M12×4, Integrated cable version	
Weight	~200 g (~0.44 lb)		~120 g (~0.26 lb)		~140 g (~0.31 lb)	
Ingress protection	IP65		IP65, IP67		IP65, IP67, IP68	
Electrical protection	Class III (SELV)					
Options	▪ Ex ia variant* ▪ Integrated cable version ▪ PVDF process connection (only ½" BSP, up to 60 bar [870 psi]) ▪ EPDM (p ≤ 160 bar [2 320 psi]), NBR seal ▪ Oxygen application (up to 25 bar [362.6 psi], FKM seal) ▪ Absolute pressure measuring method		▪ EPDM seal ▪ M12×1 (4 pin) IP67 electrical connection, plastic ▪ Oil- and grease free version ▪ Oxygen application (up to 25 bar [362.6 psi], FKM seal)		▪ Ex ia, SIL variant* ▪ Integrated cable version ▪ Absolute pressure measurement (over 0.4 bar [5.8 psi] range) ▪ EPDM (p ≤ 160 bar [2 320 psi]), FKM, NBR seal	
						
	DK–800		D–200		D–300	

PRESSURE TRANSMITTERS

	D–400	D–500	D–600
Type	2 / 3-wire mini compact		
Sensor	Stainless steel (flush diaphragm) Sensor seal: FKM (Viton®, up to +200 °C [392 °F]) (optional: FFKM) Process connection: Stainless steel	Ceramic (flush diaphragm) Sensor seal: FKM (Viton®) (optional: EPDM) Process connection: Stainless steel (optional: PVDF)	Ceramic (flush diaphragm) Sensor seal: FKM (Viton®) (optional: EPDM, NBR) Process connection: Stainless steel (optional: PVDF)
Features	▪ Relative or absolute pressure measurement ▪ Vacuum resistant ▪ Sensor with low surface roughness	▪ Relative or absolute pressure measurement	▪ Relative pressure measurement
Application	▪ Ideal for pressure measurement of contaminated mediums and at the bottom (level) ▪ Food and beverage industry ▪ Pharmaceutical industry ▪ Mechanical and plant engineering	▪ Suitable for the measurement of aggressive, contaminated, pasty media ▪ For low pressure oxygen applications	▪ Preferred media: water, fuels and oils, sewage, aggressive media ▪ Ideal for more viscous or polluted media ▪ Mechanical and plant engineering ▪ Energy industry ▪ Medical technology ▪ Environmental engineering
Technical data			
Measuring range	–1…400 bar (–14.5…5800 psi)	–1…600 bar (–14.5…8700 psi)	0…60 bar (0…870 psi)
Accuracy	(0.4 bar [5.8 psi] ≤ p ≤ 40 bar [580 psi]): ±0.25%; 0.5%	0.5%; 1%	0.5%
Process temperature	–40…+125 °C (–40…+257 °F) (silicone oil, high-temp. version up to +300 °C [572 °F], 160 bar [2 320 psi]), –10…+125 °C (+14…+257 °F) (food grade oil, high-temp. version up to +250 °C [482 °F], 160 bar [2 320 psi])	–40…+125 °C (–40…+257 °F)	
Ambient temperature	–40…+85 °C (–40…+185 °F) (with integrated cable: –5…+70 °C [+23…+158 °F])		–25…+85 °C (–13…+185 °F) (with integrated cable: –5…+70 °C [+23…+158 °F])
Output	2-wire: 4…20 mA, 3-wire: 0…10 V		
Supply voltage	2-wire: standard version 8…32 V DC, Ex variant*: 10…28 V DC, SIL variant*: 14…28 V DC, 3-wire: 14…30 V DC		
Load resistance	2-wire: $R_{max} = [(U_{Supply} – U_{Supply\ min.})/0.02\ A]$, [Ω]; 3-wire: $R_{min} = 10$ kΩ		
Housing	Stainless steel		Stainless steel (optional: PVDF)
Process connection	½", ¾", 1", 1½" BSP; 1" NPT; ¾", 1", 1½", 2"; TriClamp; M20×1.5 Sanitary DN25, DN40, DN50; Flange DN25, DN50, DN80, DN100; VARIVENT® DN40/50	¼", ½" BSP; ¼", ½" NPT; M20×1.5	¾" BSP
Electrical connection	ISO 4400 connector, M12×1 / 4, Integrated cable version		
Weight	~200 g (~0.44 lb)	~140 g (~0.31 lb)	~150 g (~0.33 lb)
Ingress protection	IP65, IP67, IP68		
Electrical protection	Class III (SELV)		
Options	▪ Ex ia, or SIL variant* ▪ High-temperature version ▪ Integrated cable version ▪ Hygienic version ▪ EPDM, FFKM seal	▪ Ex ia, or SIL variant* ▪ PVDF process connection ▪ EPDM seal (p ≤ 160 bar [2 320 psi]) or FFKM seal ▪ PTFE-coated version (only 1% accuracy) ▪ Oxygen application (up to 25 bar [362.6 psi], FKM seal) ▪ Integrated cable version, PVC cable, IP68 ▪ M12x1 (4-pin) IP67 electrical connection	▪ Ex ia, or SIL variant* ▪ PVDF process connection (for aggressive media) ▪ Integrated cable version ▪ EPDM, NBR seal

PRESSURE TRANSMITTERS

Type	2 / 3-wire mini compact					
Sensor	Ceramic (flush diaphragm)		Stainless steel (flush diaphragm)		Ceramic (inner diaphragm)	
	Sensor seal: FKM (Viton®) (optional: EPDM, FFKM)	Process connection: Stainless steel (optional: PVDF)	Sensor seal: FKM (Viton®) (optional: EPDM)	Process connection: Stainless steel	Sensor seal: FKM (Viton®) (optional: EPDM)	Process connection: Stainless steel
Features	▪ Relative pressure measurement ▪ Ideal for measuring small system pressure		▪ Relative pressure measurement ▪ Robust construction ▪ Modular construction		▪ Relative or absolute pressure measurement ▪ Ideal for measuring small system pressure ▪ High overpressure resistance and a high-temperature and media resistance	
Application	▪ Preferred media: water, fuels and oils, aggressive media, pasty or viscous media ▪ Mechanical and plant engineering ▪ Laboratory ▪ Environmental engineering		▪ Preferred media: water, fuels and oils ▪ Mechanical and plant engineering ▪ Energy industry ▪ Environmental engineering		▪ Preferred media: water, gases, fuels and oils ▪ Mechanical and plant engineering ▪ Energy industry ▪ HVAC ▪ Laboratory ▪ Environmental engineering	
	Technical data					
Measuring range	0…20 bar (0…290 psi)		0…40 bar (0…580 psi)		0…20 bar (0…290 psi)	
Accuracy	±0.5%; p ≥ 0.6 bar (8.7 psi): ±0.25%; ±1% (PTFE-coated version)		p ≤ 0.4 bar (5.8 psi): 0.5%; p ≥ 0.4 bar (5.8 psi): 0.25%; Optional: p ≥ 0.4 bar (5.8 psi): 0.1% (only without SIL)		p ≥ 0.6 bar (8.7 psi): 0.25%; 0.5%	
Process temperature	−40…+125 °C (−40…+257 °F)					
Ambient temperature	−40…+85 °C (−40…+185 °F) (with integrated cable: −5…+70 °C [−23…+158 °F])					
Output	2-wire: 4…20 mA, 3-wire: 0…10 V					
Supply voltage	2-wire: 9…32 V DC, Ex variant*: 14…28 V DC, 3-wire: 12.5…32 V DC		2-wire: standard version: 8…32 V DC, Ex variant*: 10…28 V DC, SIL variant*: 14…28 V DC, 3-wire: 14…30 V DC		2-wire: standard version: 9…32 V DC, Ex variant*: 14…28 V DC, 3-wire: 12.5…32 V DC	
Load resistance	2-wire: R_{max} = [(U_{Supply} – $U_{Supply\ min.}$)/0.02 A], [Ω]; 3-wire: R_{min} = 10 kΩ					
Housing	Stainless steel (optional: PVDF)		Stainless steel			
Process connection	1½" BSP		¾" BSP		¼", ½" BSP; ½" NPT; M20×1.5	
Electrical connection	ISO 4400 connector, M12×1 / M12×4, Integrated cable version					
Weight	~200 g (~0.44 lb)					
Ingress protection	IP65, IP67, IP68					
Electrical protection	Class III (SELV)					
Options	▪ Ex ia variant* ▪ PVDF or stainless steel process connection ▪ 99.9% aluminum oxide ceramic sensor ▪ PTFE-coating ▪ Integrated cable version ▪ Oxygen application ▪ EPDM, FFKM seal		▪ Ex ia, or SIL variant* ▪ Integrated cable version ▪ EPDM seal ▪ M12×1 (4-pin) IP67 electrical connection		▪ Ex ia variant* ▪ 99.9% aluminum oxide ceramic sensor ▪ Integrated cable version ▪ PVDF process connection ▪ EPDM seal ▪ M12×1 (4-pin) IP67 electrical connection	
						
	D–700		D–800		D–900	

PRESSURE TRANSMITTERS

Type	2-wire compact				2 / 3-wire mini compact	
Sensor	Stainless steel (internal / flush diaphragm)		Ceramic (flush diaphragm)		Stainless steel (inner diaphragm)	
	Sensor seal: FKM (optional: FFKM)	Process connection: Stainless steel	Sensor seal: FKM (optional: EPDM)	Process connection: Stainless steel (optional: PVDF)	Sensor seal: –	Process connection: Stainless steel
Features	▪ Relative or absolute pressure measurement ▪ Dual-chamber cast aluminum or stainless steel housing ▪ Turn-down 1:10 ▪ HART® communication		▪ 99.9% aluminum oxide ceramic sensor, high overpressure capability ▪ Relative pressure measurement ▪ Dual-chamber cast aluminum or stainless steel housing ▪ Turn-down 1:5		▪ Relative pressure measurement ▪ Extreme pressure resistance ▪ Welded thin film sensor ▪ High reliability, easy handling	
Application	▪ Absolute measurement of gases and steam ▪ Ideal for process, food and pharmaceutical industry ▪ Mechanical and plant engineering ▪ Chemical industry ▪ Paper industry ▪ Oil and gas industry		▪ HART® communication ▪ Relative measurement of gases, steam and fluids ▪ Mechanical and plant engineering ▪ Chemical industry, medical technology ▪ Food and beverage industry ▪ Paper industry ▪ Environmental engineering		▪ Ideal for high pressure hydraulic applications ▪ Mechanical and plant engineering ▪ Laboratory ▪ Hydraulics	
	Technical data					
Measuring range	0…600 bar (0…8700 psi)		0…20 bar (0…290 psi)		0…2200 bar (0…29000 psi)	
Accuracy	0.1%		0.1% (p ≥ 1 bar); 0.2% (p < 1 bar); 1% (PTFE-coated)		0.5%	
Process temperature	–40…+125 °C (–40…+257 °F) (silicone oil) –10…+125 °C (+14…+257 °F) (food grade oil)		–25…+125 °C (–13…+257 °F)		–40…+140 °C (–40…+284 °F)	
Ambient temperature	–40…+70 °C (–40…+176 °F) (without display) –20…+70 °C (–4…+176 °F) (with display)				–25…+85 °C (–13…+185 °F)	
Output	4…20 mA, HART®				2-wire: 4…20 mA, 3-wire: 0…10 V	
Supply voltage	2-wire standard or Ex ia variant*: 12…28 V DC, Ex d variant*: 13…28 V DC				2-wire: standard version 12…36 V DC, Ex variant*: 14…28 V DC, 3-wire: 14…30 V DC	
Load resistance	2-wire: R_{max}=[(U_{Supply} – $U_{Supply\ min.}$)/0.02 A], [Ω]; load during HART® communication: R_{min}: 250 Ω				2-wire: R_{max} = [(U_{Supply} – $U_{Supply\ min.}$)/0.02 A], [Ω]; 3-wire: R_{min} = 10 kΩ	
Housing	Cast aluminum or stainless steel				Stainless steel	
Process connection	¼", ½", 1", 1½" BSP; ½", 1" NPT; ¾", 1", 1½", 2" TriClamp; M20×1.5; Sanitary DN25, DN40, DN50, Flange DN25, DN50, DN80, DN100, Flange 2", 3" RF, VARIVENT® DN40/50		½", 1½" BSP; ½" NPT; Sanitary DN40, DN50; Flange DN25, DN50, DN80, 2", 3" RF		½" BSP; M20×1.5 (internal thread)	
Electrical connection	M20×1.5 (for cable Ø5…14 mm [Ø0.2…0.55"])				ISO 4400 connector, M12×1 / M12×4, Integrated cable version	
Weight	~400 g (~0.88 lb)				~240 g (~0.53 lb)	
Ingress protection	IP67				IP65, IP67, IP68	
Electrical protection	Class III (SELV)					
Options	▪ Display and operating module ▪ Ex ia, or Ex d variant* ▪ High-temperature variant (+300 °C [572 °F]) ▪ EPDM, FFKM (p ≤ 100 bar [1 450 psi]) seal ▪ Hastelloy, or Tantalum sensor ▪ Filled with food compatible oil (up to +150 °C [+302 °F])		▪ Display and operating module ▪ Ex ia, or Ex d variant* ▪ PVDF process connection (only 1½" BSP) ▪ PTFE-coated version (only 1% accuracy, p ≥ 0.4 bar [5.8 psi]) ▪ EPDM seal		▪ Ex ia variant* ▪ Adjustability of span and offset ▪ Integrated cable version ▪ M12x1 (4-pin) IP67 electrical connection	
						
	D–A00		D–B00		D–C00	

DIFFERENTIAL TRANSMITTERS

	DD–200	DD–300
Type	2-wire compact	2 / 3-wire mini compact
Sensor	Stainless steel (optional: Hastelloy® C) Sensor seal: FKM (optional: EPDM, PTFE) Process connection: Stainless steel	Stainless steel Sensor seal: FKM Process connection: Stainless steel
Features	▪ Relative pressure measurement ▪ Cast aluminum housing ▪ Turn-down 1:100 ▪ HART® communication	▪ Relative pressure measurement ▪ Can be pressurized on both sides with fluids or gases ▪ Mechanical robust and reliable at dynamic pressure as well as shock and vibration
Application	▪ Differential pressure measurement of closed, pressurized tanks ▪ Mechanical and plant engineering ▪ Oil and gas industry ▪ Chemical industry ▪ Energy industry, HVAC ▪ Food and beverage industry ▪ Paper industry	▪ Differential pressure wet/wet ▪ Due to its compact size, it can be installed also in tight spaces ▪ Mechanical and plant engineering ▪ Energy industry
Technical data		
Measuring range	0…20 bar (0…290 psi)	0…16 bar (0…232 psi)
Accuracy	0.1%; 0.075%	0.5%; 1%
Process temperature	–40…+100 °C (–40…+212 °F) (with silicone oil filling)	–25…+125 °C (–13…+257 °F)
Ambient temperature	Without display: –40…+85 °C (–40…+185 °F) With display: –20…+65 °C (–4…+149 °F)	–25…+85 °C (–13…+185 °F)
Output	4…20 mA, HART®	2-wire: 4…20 mA, 3-wire: 0…10 V
Supply voltage	Ex ia variant*: 12…28 V DC, Ex d variant*: 13…28 V DC	2-wire: standard 12…36 V DC, Ex ia variant*: 14…28 V DC, 3-vezetékes: 14…36 V DC
Load resistance	Load during HART® communication: R_{min}: 250 Ω	2-wire: $R_{max} = [(U_{Supply} – U_{Supply\ min.})/0.02\ A]$, [Ω]; 3-wire: R_{min} = 10 kΩ
Housing	Cast aluminum	Aluminum, black anodized
Process connection	¼" NPT (inner tread)	½" BSP; ¼" BSP (inner tread); 7/16" UNF DIN 3866
Electrical connection	M20×1.5 (for cable Ø5…14 mm [Ø0.2…0.55"])	ISO 4400 connector
Weight	~3.5 kg (~7.7 lb)	~250 g (~0.55 lb)
Ingress protection	IP67	IP65
Electrical protection	Class III (SELV)	
Options	▪ Ex ia variant* ▪ Display and operating module ▪ Hastelloy® C-276 sensor ▪ EPDM, PTFE seal ▪ Special version up to 400 bar [5801 psi] static pressure (p ≥ 0.4 bar [5.8 psi])	▪ Ex ia variant* ▪ Optional plug-in display

DIFFERENTIAL TRANSMITTERS

	DD–400	DD–600
Type	3-wire mini compact	2- / 3-wire wall mountable
Sensor	Stainless steel	Silicon inner diaphragm
	Sensor seal: FKM; Process connection: Stainless steel	Sensor seal: –; Process connection: Brass nickel plated
Features	▪ Two stainless steel internal diaphragm ▪ Relative pressure measurement ▪ Display and process connection ▪ Up to 2 switch outputs	▪ Relative pressure measurement ▪ Can be used in 2- or 3-wire system ▪ Wall-mounted
Application	▪ For differential pressure measurement of gases and fluids ▪ Mechanical and plant engineering ▪ Chemical industry ▪ Energy industry ▪ HVAC ▪ Food and beverage industry	▪ For differential pressure measurement of gases and compressed air ▪ Mechanical and plant engineering ▪ HVAC ▪ Can be used in laboratories or under industrial conditions ▪ Ventilation and air conditioning systems ▪ Clean room and medical technology
Technical data		
Measuring range	0…70 bar (0…1015 psi)	0…1000 mbar (0…14 psi)
Accuracy	2%	1% (p ≥ 6 mbar); 2% (p < 6 mbar)
Process temperature	–40…+125 °C (–40…+257 °F)	0…+50 °C (+32…+122 °F)
Ambient temperature	–25…+85 °C (–13…+185 °F)	0…+50 °C (+32…+122 °F)
Output	3-wire: 4…20 mA	2-wire: 4…20 mA, 3-wire: 0…10 V / 0…20 mA
Supply voltage	24 V DC ±10%	2-wire: 11…32 V DC; 3-wire: 19…32 V DC, with automatic zero adjustment: 24…32 V DC
Load resistance	500 Ω	2-wire: $R_{max} = [(U_{Supply} – U_{Supply\ min.})/0.02\ A], [\Omega]$; 3-wire: $R_{min} = 10\ k\Omega$
Housing	PA 6.6 black polycarbonate	ABS
Process connection	¼", ½" BSP; ¼", ½" NPT	Ø6.6 x 11 (for flexible tubes Ø6); Ø4.45 x 10 (for flexible tubes Ø4)
Electrical connection	M20×1.5	M12×1.5
Weight	~350 g (~0.77 lb)	~165 g (~0.36 lb)
Ingress protection	IP65	IP54
Electrical protection	Class III (SELV)	
Options	▪ Second PNP switching output	▪ 2-line 5-digit LCD display ▪ Automatic zero adjustment ▪ 2× switching outputs ▪ Square root extraction function for flow measurement (only for LCD display version)

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HUNGARIAN PARALYMPIC COMMITTEE

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