

Pressure Pressure



Electronic

- ▶ Pressure Transducers
- ▶ Pressure Switches
- ▶ Displays

Barksdale
CONTROL PRODUCTS
CRANE Barksdale, Inc./Barksdale GmbH
A Subsidiary of Crane Co.

Barksdale – Comprehensive process control

Our product range covers the complete field of mechanical and electronic pressure, temperature, level and flow monitoring and control for liquid and gaseous media. The high standard and functional reliability of our products provide the ideal prerequisites for challenging measuring tasks even under extreme operating conditions.

Our motto is „Control every move“ and in this sense we develop intelligent solutions for today's market in the fields of hydraulic systems, utility vehicles and industrial equipment focussing on:

- ▶ Mobile and stationary hydraulic systems
- ▶ Pneumatic shock absorbing systems for trailers, trucks and busses
- ▶ Shipbuilding technology
- ▶ Petroleum and natural gas production



Pressure

Electronic Pressure Transducers

Electronic pressure switches

Mechanical pressure switches



Level

Level switches

Continuous tank level indicating systems TLI

Level probes

Bypass level indicating systems



Flow

Flow switches

Flow sensors

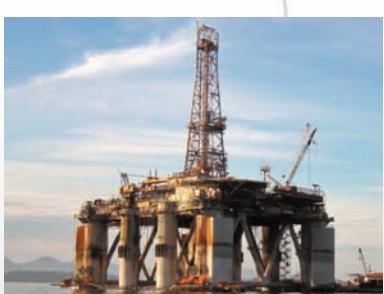


Temperature

Electronic temperature switches

Electronic temperature sensors

Mechanical temperature switches



Valves

Shutoff valves

Directional control valves

Air suspension valves

Pressure

Contents

Index: A

Overview Electronic Pressure Transducers	4
Overview Electronic Pressure Switches	6
Overview Electronic Displays	8
Electronic Pressure Transducers	10
Type UPA 2 - Standard	10
Type UPA 2 - Ex	12
Type UPA 3	14
Type UPA 5	16
Electr. Dual Pressure Switch	18
Type Switch 2000	18
Type UDS 7	20
Type UDS 7 - Ex	22
Electr. Pressure Switch with 4 Relay Outputs	24
Type UDS 3 - V3	24
Electronic Displays	26
Type UAS 7	26
Type UAS 3 - V3	28
Type UAD 3 - V3	30
Electr. Pressure Transducers / Switches	32
Accessories	32
Tests and Certificates	34

Specifications are subject to changes without notice.

Overview Electronic Pressure Transducers



Model	UPA 2 - Standard	UPA 2 - Ex
Measuring ranges	-1...0 to 0...800 bar gauge 0...1 bar 0...10 bar absolute pressure	0...1 bar to 0...600 bar gauge
Output signals	4...20 mA (2-wire) 0...10 VDC (3-wire)	4...20 mA (2-wire)
Process connection	G1/4 M or G1/2 M (flush) stainless steel	G1/4 M or G1/2 M (also flush diaphragm), stainless steel 1/2" NPT or 1/4" NPT M, stainless steel
Electrical connection	Plug, DIN EN 175 301-803-A (prev. DIN 43650)	Plug, DIN EN 175 301-803-A (prev. DIN 43650)
Media temperature range	-25 °C...+100 °C	-25 °C...+100 °C
System of protection	IP67 with PG/IP65 with plug	IP65
Sensor element	Piezoresistive silicone measuring cell with internal or flush stainless steel diaphragm	Polysilicone-thinfilim sensor with internal or flush stainless steel diaphragm
Features	Absolute pressure and gauge, variety of measuring ranges	Also with flush diaphragm, high long-term stability, intrinsically safe version acc. to ATEX EEx ibIIC T5/T6
Applications	OEM applications, Hydraulic and pneumatic systems, measuring and testing equipment, shipbuilding and offshore applications	Process and chemical technology, pharmaceutical and food industry, machine and apparatus construction
Linearity error	typ. <0.2% f. s. max. <0.5% f. s.	typ. <0.5% f. s. max. <1.0% f. s.
Display	---	---
Switching outputs	---	---
Options	on request	on request
Temperature influence	<0.2 % f. s./10 K from -10 °C...+70 °C	<0.3 % f. s./10 K from 10 °C...+50 °C
Operating temperature range	-25 °C...+80 °C (see Technical Data)	-20 °C...+50 °C (see Technical Data)
Power supply	8...30 V DC	12...26 V DC according to ATEX

Index: A

Specifications are subject to changes without notice.

Pressure

Overview Electronic Pressure Transducers

Index: A



Model	UPA 3	UPA 5
Measuring ranges	0...10 bar to 0...1,000 bar gauge 0...1 to 0...16 absolute pressure	-1...0 to 0...400 bar gauge 0...1 to 0...16 absolute pressure
Output signals	4...20 mA (2-wire) 0...10 VDC (3-wire)	4...20 mA (2-wire) 0...10 VDC (3-wire)
Process connection	G1/4 M, 1/4"NPT M stainless steel	G1/4 M, stainless steel
Electrical connection	Plug M12x1, 5-pin	Plug, DIN EN 175 301-803-A (prev. DIN 43650)
Media temperature range	-25 °C...+100 °C	-25 °C...+125 °C
System of protection	IP67 with PG/IP65 with plug	IP65
Sensor element	Piezoresistive silicone measuring cell with internal stainless steel diaphragm	Ceramic sensor in stainless steel housing
Features	Rugged, compact pressure sensor, space-saving construction, for increased demands	Very compact construction, space-saving, high shock and vibration resistance
Applications	Hydraulics and pneumatics, machine and apparatus engineering, press control, shipbuilding and offshore applications	OEM applications, general measuring tasks in hydraulic and pneumatic systems
Linearity error	max. <0.5% f. s.	>0.5 % v. f. s.
Display	---	---
Switching outputs	---	---
Options	GL approval	Model for oxygen applications
Temperature influence	<0.2 % f. s./10 K from -10 °C...+70 °C	<0.3 % f. s./10 K from 0 °C...+70 °C
Operating temperature range	-25 °C...+80 °C (see Technical Data)	-25 °C...+85 °C (see Technical Data)
Power supply	12...30 V DC	12...36 V DC

Specifications are subject to changes without notice.

Overview Electronic Pressure Switches



Model	Switch 2000	UDS 7
Measuring ranges	0...1 bar to 0...600 bar gauge	-1...0 bar to 0...600 bar gauge 0...1 bar 0...10 bar absolute pressure
Output signals	4...20 mA 0...10 V DC	4...20 mA 0...10 V DC
Process connection	G1/4 M, stainless steel	G1/4 M stainless steel, G1/2 M, flush
Electrical connection	Plug M12x1, 4-pin	Plug M12x1, 5-pin
Media temperature range	-25 °C...+100 °C	-25 °C...+100 °C
System of protection	IP65	IP67 with PG/IP65 with plug
Sensor element	Piezoresistive silicone measuring cell with internal or flush stainless steel diaphragm	Piezoresistive silicone measuring cell with internal stainless steel diaphragm
Features	Rugged, compact dual pressure switch	Rugged, compact dual pressure switch, stainless steel
Applications	OEM applications, hydraulic systems, plant and steel construction, automobile industry, machine tool construction	Hydraulic and pneumatic systems, test bed / apparatus construction, automation, Process/chemical technology
Linearity error	max. <0.5% f. s.	max. <0.5% f. s.
Display	3-digit 7-segment LED display	4-digit LED dot-matrix display, digit height 5 mm, green
Switching outputs	2x solid state output pnp NO/NC (programmable), adjustable switching time delay 0...10 s	2x solid state output pnp NO/NC (programmable), adjustable switching time delay 0...10 s
Hysteresis / Deadband	freely adjustable	freely adjustable
Options	on request	GL, UL approval
Temperature influence	<0.2 % f. s./10 K from -10 °C...+70 °C	<0.2 % f. s./10 K from -10 °C...+70 °C
Operating temperature range	-10 °C...+70 °C (see Technical Data)	-10 °C...+70 °C (see Technical Data)
Power supply	15...32 V DC	18...32 V DC

Index: A

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Pressure

Overview Electronic Pressure Switches

Index: A



Specifications are subject to changes without notice.

Model	UDS 7 - Ex	UDS 3 - V3
Measuring ranges	-1...0 bar to 0...600 bar gauge 0...1 bar 0...10 bar absolute pressure	-1...0 to 0...600 bar gauge 0...1 bar 0...10 bar absolute pressure
Output signals	4...20 mA	4...20 mA 0...10 V DC
Process connection	G1/4 M stainless steel, G1/2 M, flush	G1/4 female thread, bottom entry optional: G1/4" NPT female thread
Electrical connection	2x plug M12x1; 4-pin	Screw terminals 14-pin; 1x PG13.5 side entry
Media temperature range	0 °C...+60 °C	-25 °C...+100 °C
System of protection	IP65	IP65
Sensor element	Piezoresistive silicone measuring cell with internal stainless steel diaphragm	Piezoresistive silicone measuring cell with internal stainless steel diaphragm
Features	Dual pressure switch, stainless steel construction, intrinsically safe version acc. to ATEX	Pressure switch with 4 relay outputs and one analog output
Applications	Gas compressors, injection moulding machines, test bed / apparatus construction, Process/chemical technology	OEM applications, hydraulic and pneumatic systems, heavy industry and plant construction, automobile industry
Linearity error	max. <0.5% f. s.	max. <0.5% f. s.
Display	4-digit LCD display, digit height 10 mm	8-digit 14-segment LCD display, digit height 12 mm, green, bargraph
Switching outputs	2x solid state output, potential free acc. to NAMUR DIN 19234, adjustable switching time delay 0...10 s	4x switching outputs with SPDT relays, adjustable switching time delay 0...10 s
Hysteresis / Deadband	freely adjustable	freely adjustable
Options	on request	on request
Temperature influence	<0.2 % f. s./10 K from 0 °C...+60 °C	<0.2 % f. s./10 K from -10 °C...+70 °C
Operating temp. range	-20 °C...+80 °C (see Technical Data)	-10 °C...+70 °C (see Technical Data)
Power supply	18...28 V DC, intrinsically safe acc. to ATEX	18...32 V DC

Overview Electronic Displays



Model	UAS 7	UAS 3 - V3
Measuring ranges	Display -9999...+9999, Current input 4...20 mA, Voltage input 0...10 VDC	Display -9999...+9999, Current input 4...20 mA, Voltage input 0...10 VDC
Output signals	4...20 mA 0...10 VDC	4...20 mA 0...10 VDC
Process connection	Plug M12 x 1; 4-pin for analog input	Plug 3-pin, DIN EN 175 301-803-A (prev. DIN 43650), incl. plug connector
Electrical connection	Plug M12 x 1, 4-pin or 5-pin	Screw terminals 14-pin; 1xPG13.5 side entry
Media temperature range	---	---
System of protection	IP65	IP65
Sensor element	---	---
Features	Universal digital display with analog input/output and 2 transistor switching outputs	Rugged, universal digital display with analog input/output and 4 relay contacts
Applications	OEM applications, hydraulic and pneumatic systems, test bed and apparatus engineering, heavy industry	OEM applications, hydraulic and pneumatic systems, test bed and apparatus engineering, heavy industry
Linearity error	max. <0.2% f. s.	max. <0.2% f. s.
Display	4-digit 7-segment LED display, red, digit height 10 mm	8-digit 14-segment LCD display, digit height 12 mm, green, bargraph
Switching outputs	2x solid state output, pnp NO/NC (programmable), adjustable switching time delay 0...10 s	4x switching outputs with SPDT relays, adjustable switching time delay 0...10 s
Hysteresis / Deadband	freely adjustable	---
Options	on request	on request
Temperature influence	<0.05 % f. s./10 K from -10 °C...+70 °C	<0.05 % f. s./10 K from -10 °C...+70 °C
Operating temperature range	-10 °C...+70 °C (see Technical Data)	-10 °C...+70 °C (see Technical Data)
Power supply	15...32 V DC	18...32 V DC

Specifications are subject to changes without notice.

Pressure

Overview Electronic Displays

Index: A



Model	UAD 3 - V3
Measuring ranges	Display -9999...+9999, Current input 4...20 mA, Voltage input 0...10 VDC
Output signals	4...20 mA 0...10 VDC
Process connection	2 x plug 3-pin, DIN EN 175 301-803-A (prev. DIN 43650)
Electrical connection	Screw terminals 16-pin; 1 x PG13.5 side entry
Media temperature range	---
System of protection	IP65
Sensor element	---
Features	Rugged, universal digital display with two analog inputs, two outputs and 4 relay outputs
Applications	OEM applications, hydraulic and pneumatic systems, test bed and apparatus engineering, heavy industry
Linearity error	max. <0.2% f. s.
Display	2 x 8-digit 14-segment LCD display, digit height 12 mm, red and green, bargraph
Switching outputs	4 x switching outputs with SPDT relays, adjustable switching time delay 0...10 s
Hysteresis / Deadband	---
Options	on request
Temperature influence	<0.05 % f. s./10 K from -10 °C...+70 °C
Operating temperature range	-10 °C...+70 °C (see Technical Data)
Power supply	18...32 V DC

Specifications are subject to changes without notice.

Electronic Pressure Transducers

Type UPA 2 - Standard

Electronic pressure transducers for general measuring tasks, with internal or flush stainless steel diaphragm, linearity error 0.5% and 0.25% f. s.

Features

Variety of measuring ranges
Absolute and gauge pressure ranges
Rugged stainless steel construction
GL approval (German Lloyd)

Measuring ranges

-1...0 bar to 0...800 bar gauge
0...1 bar ...10 bar absolute pressure

Applications

OEM applications
Hydraulic and pneumatic systems,
test beds,
shipbuilding and offshore applications



Technical Data

Sensor element:	Piezoresistive silicon measuring cell				
Materials:	Wetted parts: Stainless steel, mat. no. 1.4301 Electronics housing: Stainless steel, mat. no. 1.4301 Seals: FKM, EPDM				
System of protection:	IP67 with PG/IP65 with plug				
Protection class:	III				
Process connection:	G1/4 M, G1/2 M manometer connection or quasi flush diaphragm				
Dimensions:	Ø32 x approx. 120 mm (with plug connector)				
Weight:	250 g				
Measuring ranges [bar]:	-1...0	-1...+1	0.1	0.2	0.4
Overpressure [bar]:	2.5	2.5	2.5	2.5	2.5
Measuring ranges [bar]:	0.6	1	2	5	10
Overpressure [bar]:	2.5	3	4	7	15
Measuring ranges [bar]:	100	200	400	600	800
Overpressure [bar]:	150	300	500	700	1100
Linearity error:	$\leq \pm 0.5\% \text{ f. s.}$ (Option: $\leq \pm 0.2\% \text{ f. s.}$)				

Electrical connection:	Plug 4-pin, DIN EN 175 301-803-A (prev. DIN 43650)
Temperature influence:	$\leq \pm 0.2\% \text{ f. s.}/10\text{K}$
Compensation range:	-10 °C...+70 °C
Repeatability:	$\leq \pm 0.1\% \text{ v. f. s.}$
Temperature range:	Medium: -25 °C...+100 °C Electronics: -25 °C...+80 °C Storage: -40 °C...+100 °C
Output signals:	4...20 mA (2 wire) 0...10 V DC (3 wire)
Power supply:	8...30 V DC, 13...30 V DC at 0...10 V, reversed polarity protection (SELV, PELV)
Power consumption:	max. 25 mA at current output max. 5 mA at voltage output
Load:	$\leq (\text{Ub}-10 \text{ V})/20 \text{ mA}$
Delay:	$\leq 1 \text{ ms}$
Accessories:	Damping screw to limit pressure peaks
Approval:	GL optional

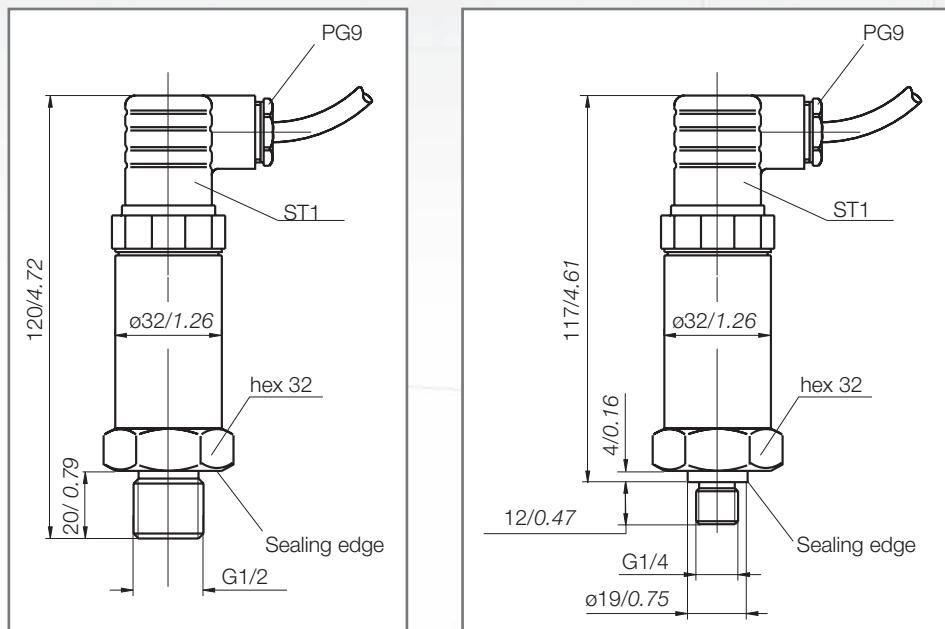
Pressure

Electronic Pressure Transducers

Type UPA 2 - Standard

Dimensions (in mm / inch)

Index: A



Electrical Connection

Connection	Current output 4...20 mA (2-wire)			Voltage output 0...10 V (3-wire)		
	Plug	Cable	GL cable	Plug	Cable	GL cable
+ Supply	1	brown	blue 1	1	brown	blue 1
- Supply	2	white	blue 2	2	blue	blue 2
+ Signal	---			3	white	white 1
- Signal	---			---		

Order Numbers

Standard pressure reducer DIN 43650, 4...20 mA			
Measuring ranges [bar] relative pressure	Overpressure [bar]	Order No.	
		G1/2", flush	G1/4" M
10	15	0431-032	0431-017
50	75	0431-043	0431-441
100	150	0431-036	0431-315
200	300	0431-042	0431-010
400	600	0431-038	0431-314
600	780	0431-464	0431-238

Further measuring ranges on request

Specifications are subject to changes without notice.

Accessories

Order Number	Description
926-0420	Plug connector, 3-pin + PE, DIN EN 175 301-803-A (prev. DIN 43650)
907-0185	Plug connector, 5 pin M12 x 1, elbow
907-0177	Plug connector, 5 pin M12 x 1, straight
908-0361	Plug connector, 5 pin M12 x 1 incl. 2 m cable
998-9991	Manufacturer test certificate O DIN 55350 part 18 4.2.1
998-9992	Manufacturer test certificate M DIN 55350 part 18 4.2.2

Electronic pressure transducer for applications in explosion-proof areas, with internal or flush stainless steel diaphragm, linearity error 0.5% and 1% f. s.

Features

Intrinsically safe EEx ibIIC T5/T6

High long-term stability

High shock and vibration stability

Flush diagram version available

Measuring ranges

0...1 bar to 0...600 bar gauge

Applications

Process and chemical technology

Pharmaceutical and food industry

Machine and apparatus engineering



Technical Data

Sensor element:	Polysilicone measuring cell				
Materials:	Wetted parts: Stainless steel, mat. no. 1.4571 Electronics housing: Stainless steel, mat. no. 1.4301 Seals: FKM, EPDM, sealing cone				
System of protection:	IP65				
Protection class:	---				
Process connection:	G1/4 M, G1/2 M manometer connection or flush diaphragm with sealing cone 1/4" NPT M, 1/2" NPT M				
Dimensions:	ø27 x approx. 115 mm (without plug connector)				
Weight:	approx. 250 g				
Measuring ranges [bar]:	1	2	5	10	50
Proof pressure [bar]:	6	6	14	20	120
Measuring ranges [bar]:	100	200	400	600	
Proof pressure [bar]:	200	500	640	900	
Linearity error:	$\leq \pm 0.5\% \text{ v. f. s.}$				

Electrical connection:	PG7 incl. 1.5 m cable; plug 3-pin, DIN EN 175 301-803-A (prev. DIN 43650)
Temperature influence:	$\leq \pm 0.3\% \text{ f. s.} / 10K$
Compensation range:	0 °C...+50 °C
Repeatability:	$\leq \pm 0.1\% \text{ v. f. s.}$
Temperature range:	Medium: -20 °C...+50 °C at 0.9 W (T6 EExib) Electronics: -20 °C...+60 °C at 0.6 W (T6 EExib) Storage: -40 °C...+100 °C
Output signal:	4...20 mA (2-wire)
Power supply:	12...26 V DC unregulated max. 10 % residual ripple reversed polarity protected acc. to ATEX
Power consumption:	approx. 25 mA at current output
Load:	$\leq (U_b - 11.2 \text{ V}) / 20 \text{ mA}$
Delay:	$\leq 5 \text{ ms}$

Pressure

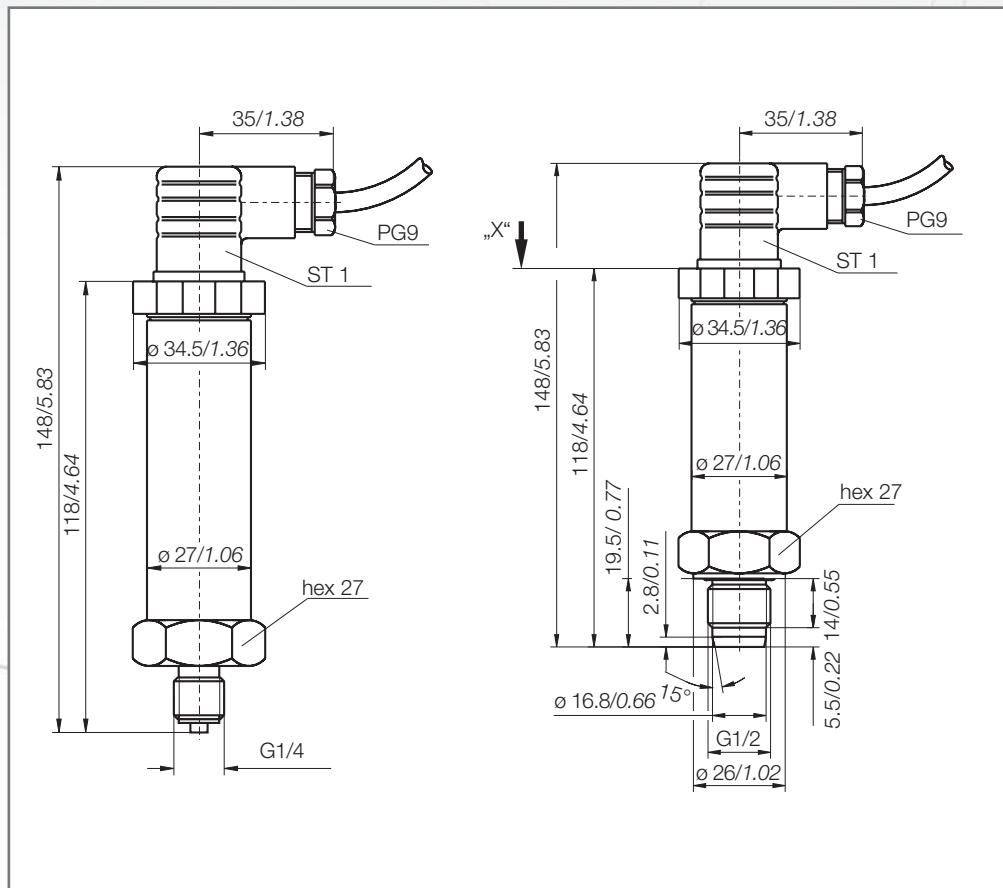
Electronic Pressure Transducers



Type UPA 2 - Ex

Dimensions (in mm / inch)

Index: A



Electrical Connection

Connection	Current output 4...20 mA (2-wire)	
	Plug	Cable
+ Supply	1	brown
- Supply	2	white
+ Signal	---	---
- Signal	---	---

Specifications are subject to changes without notice.

Order Numbers

Further measuring ranges on request

Standard pressure transducer DIN 43650, 4...20 mA, G1/4 AG		
Measuring ranges [bar] rel. pressure	Overpressure [bar]	Order No.
10	20	0431-124
50	120	0431-173
100	200	0431-460
200	500	0431-313
400	640	0431-122
600	900	0431-198

Electronic Pressure Transducers

Type UPA 3

Electronic pressure transducer for hydraulic applications, with internal stainless steel diaphragm, linearity error 0.5 % f. s.

Features

Rugged stainless steel construction, for increased demands
compact design

Measuring ranges

0...10 bar to 0...1,000 bar gauge

Applications

Hydraulic and pneumatic systems,
machine and apparatus engineering,
press control,
shipbuilding and offshore applications



Technical Data

Sensor element:	Piezo resistive silicon measuring cell			
Materials:	<p>Wetted parts: Stainless steel, material no. 1.4301 Electronics housing: Stainless steel, material no. 1.4571 FKM, EPDM Seals:</p>			
System of protection:	IP67 with PG/IP65 with plug			
Protection class:	III			
Process connection:	G1/4 M, 1/4" NPT M			
Dimensions:	Ø24 x 86 mm (without plug connector)			
Weight:	130 g			
Measuring ranges [bar]:	10	50	100	200
Proof pressure [bar]:	15	75	150	300
Measuring ranges [bar]:	400	600	800	1000
Proof pressure [bar]:	600	800	1500	1500
Linearity error:	≤±0.5 % v. f. s.			
Electrical connection:	Plug M12x1, 5-pin			

Temperature influence:	≤±0.2 % f. s./10K
Compensation range:	-10 °C...+70 °C
Repeatability:	≤±0.1 % v. f. s.
Temperature range:	<p>Medium: Electronics: Storage:</p> <p>-25 °C...+100 °C -25 °C...+ 80 °C -40 °C...+100 °C</p>
Output signals:	4...20 mA (2-wire) 0...10 V DC (3-wire)
Power supply:	8...30 V DC, 13...30 V DC at 0...10 V, reversed polarity protected (SELV, PELV)
Power consumption:	max. 30 mA at current output max. 10 mA at voltage output
Load:	≤(Ub-8 V)/20 mA
Delay:	≤1 ms
Accessories:	Damping screw to limit pressure peaks
Approval:	GL optional

Specifications are subject to changes without notice.

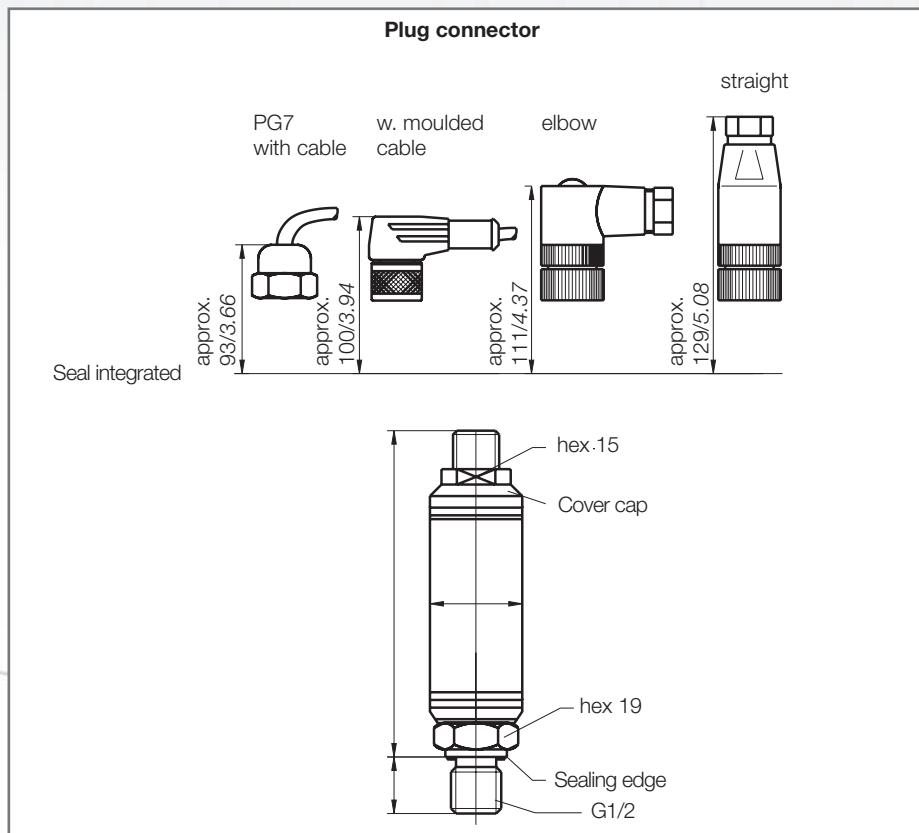
Pressure

Electronic Pressure Transducers

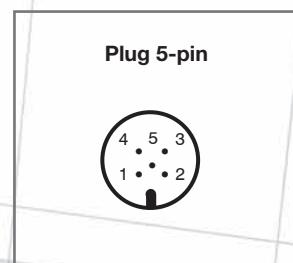
Type UPA 3

Dimensions (in mm / inch)

Index: A



Plug



Electrical Connection

Connection	Current output 4...20 mA (2-wire)			Voltage output 0...10 V (3-wire)		
	Plug	Cable	GL cable	Plug	cable	GL cable
+ Supply	1	brown	blue 1	1	brown	blue 1
- Supply	2	white	blue 2	2	blue	blue 2
+ Signal	---			3	white	white 1
- Signal	---			---		

Specifications are subject to changes without notice.

Order Numbers

All UPA 3 pressure transducers, plug M12x1			
Measuring ranges [bar] relative pressure	Overpressure [bar]	Order No. 4...20 mA	Order No. 0...10 V
0...10	15	0432-099	0432-105
0...50	75	0432-100	0432-106
0...100	150	0432-101	0432-107
0...200	300	0432-102	0432-108
0...400	600	0432-103	0432-109
0...600	800	0432-104	0432-110

Further measuring ranges on request

Accessories

Order Number	Description
901-0677	Damping screw with 0.2 mm restriction against quick pressure changes and high pulsation rate

Electronic Pressure Transducers

Type UPA 5

Electronic pressure transducer for OEM applications, with internal ceramic sensor, linearity accuracy 0.5 % f. s.

Features

Very compact design,
space-saving,
High shock and vibration stability

Measuring ranges

-1...0 bar to 0...400 bar gauge
0...1 bar 0...16 bar absolute pressure

Applications

OEM applications,
hydraulic and pneumatic systems



Technical Data

Sensor element:	Ceramic sensor				
Materials:	<p>Pressure connection: Stainless steel, mat. no. 1.4305 Housing: Stainless steel, mat. no. 1.4305 Wetted parts: Ceramics Al₂O₃ Sensor seal: O ring FKM</p>				
System of protection:	IP65				
Protection class:	III				
Process connection:	G1/4 M				
Dimensions:	Ø27 x approx. 58 mm (without plug connector)				
Weight:	approx. 145 g				
Measuring ranges [bar]:	-1...0	1	1.6	2.5	4
Proof pressure [bar]:	4	4	4.0	4.0	10
Measuring ranges [bar]:	6	10	16	25	40
Proof pressure [bar]:	10	20	40	40	100
Measuring ranges [bar]:	100	160	250	400	
Proof pressure [bar]:	200	400	400	600	

Linearity error:	≤±0.5 % v. f. s.
Electrical connection:	Plug reversed polarity protected, DIN EN 175 301-803-A (prev. DIN 43650) (Optional: PG7/2 m cable)
Temperature influence:	<±0.3 % v. f. s./10K
Compensation range:	0 °C...+70 °C
Temperature range:	<p>Medium: -25 °C...+125 °C Electronics: -25 °C...+85 °C Storage: -40 °C...+125 °C</p>
Output signals:	4...20 mA/2-wire (Optional: 0...10 V/3-wire)
Power supply:	12...36 V DC, reversed polarity protected (SELV, PELV)
Permissible load (Ohm):	<p>Current 2-wire: ≤(Ub-12 V)/20 mA Voltage 3-wire: >1 MΩ</p>
Vibration:	10 g/20...2000 Hz
Shock:	100 g/11 ms

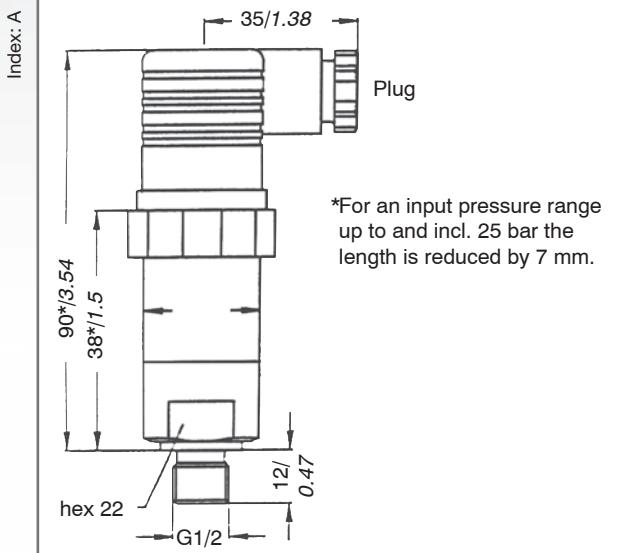
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Index: A

Electronic Pressure Transducers

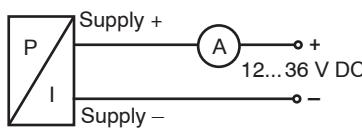
Type UPA 5

Dimensions (in mm / inch)

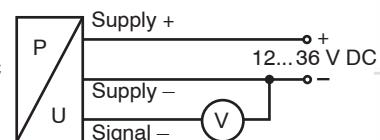


Wiring diagrams

2 wire: 4...20 mA



3 wire: 0...10 V



Electrical Connection

Connection	Current output 4...20 mA (2-wire)		Voltage output 0...10 V (3-wire)	
	Plug (DIN 43650)	Cable (DIN 47100)	Plug (DIN 43650)	Cable (DIN 47100)
+ Supply	1	white	1	white
- Supply	2	brown	2	brown
+ Signal	---	---	3	green
- Signal	---	---	---	---

Order Numbers

Pressure ranges [bar] relative pressure	Output signal 4...20 mA Plug DIN 43650	Output signal 0...10 V Plug DIN 43650	Output signal 4...20 mA PG7/2 m cable	Output signal 0...10 V PG7/2 m cable
-1...0	0434-002	0434-037	0434-046	0434-061
1	0434-006	0434-027	0434-047	0434-062
1.6	0434-007	0434-028	0434-048	0434-063
2.5	0434-008	0434-029	0434-049	0434-064
4	0434-009	0434-030	0434-050	0434-065
6	0434-010	0434-031	0434-051	0434-066
10	0434-011	0434-032	0434-052	0434-067
16	0434-012	0434-026	0434-053	0434-068
25	0434-024	0434-022	0434-054	0434-069
40	0434-014	0434-033	0434-055	0434-070
60	0434-015	0434-034	0434-056	0434-071
100	0434-003	0434-035	0434-057	0434-072
160	0434-004	0434-023	0434-058	0434-073
250	0434-018	0434-005	0434-059	0434-074
400	0434-001	0434-036	0434-060	0434-075
[bar] absolute pressure				
1	0434-041			
2	0434-040			
4	0434-042			
16	0434-043			

Specifications are subject to changes without notice.

Electr. Dual Pressure Switch

Type Switch 2000

Electronic pressure switch for pressure control with internal stainless steel diaphragm, digital display, 2 solid state contacts or 1 solid state plus 1 analog output, linearity error 0.5 % f. s.

Features

7-segment LED display, microprocessor controlled, self monitoring with error display

All parameters are configured by keypad, adjustable keypad lock, rugged construction, vibration and shock-proof, long-term stability

Measuring ranges

0...1 bar to 0...600 bar gauge

Applications

OEM applications in hydraulic and pneumatic systems, press construction, lubricant monitoring, apparatus engineering, machine/tool industry, automobile industry, injection molding machines



Technical Data

Sensor element:	Piezoresistive silicon measuring cell					
Materials:	Wetted parts: Stainless steel, mat. no. 1.4301 Electronics housing: Aluminum die-cast Seals: FKM					
Operating elements:	3 easy-response pushbuttons					
System of protection:	IP65					
Protection class:	III					
Process connection:	G1/4 M					
Dimensions:	36x130 mm (without plug connector)					
Weight:	approx. 200 g					
Measuring ranges [bar]:	10	50	100	200	400	600
Proof pressure [bar]:	15	75	150	300	600	800
Linearity error:	<±0.5 % v. f. s. at +25 °C					
A/D converter:	Resolution: 10 bit (1024 steps per measuring span) Scanning rate: 200/s					
Electrical connection:	Plug M12x1, 4-pin					
Temperature influence:	<±0.2 % v. f. s./10K					
Compensation range:	-10 °C...+70 °C					
Repeatability:	±0.1 % v. f. s.					
Temperature range:	Medium: -25 °C...+100 °C Electronics: -10 °C...+70 °C Storage: -30 °C...+80 °C					

Power supply:	15...32 V DC, reversed polarity protected (SELV, PELV)
Digital display:	3-digit 7-segment LED display, red, digit height 10 mm -1 ... 999 20/s
Error display:	LED yellow and alphanumeric display
Power consumption:	approx. 50 mA (without load)
Analog output:	4...20 mA max. RI = (Ub-12 V)/20 mA RI = 600 Ohm at Ub = 24 V DC 0.3 %/100 Ohm 5 ms 0...10 V DC max. 10 mA 25 %...100 % f. s.
Transistor switching outputs PNP:	Switching function: Adjustment range for switching point and hysteresis: Switching frequency: Delay Status display(s):
	Normally open/normally closed, standard / window mode and diagnosis function adjustable 0 %...125 % f. s. max. 100 Hz max. 500 mA, short-circuit proof 0.0 s ... 9.9 s adjustable LED(s) green
Accessories:	Adapter for pressure switch adjustment, damping screw, plug connector
Approvals:	cULus: file no. E42816

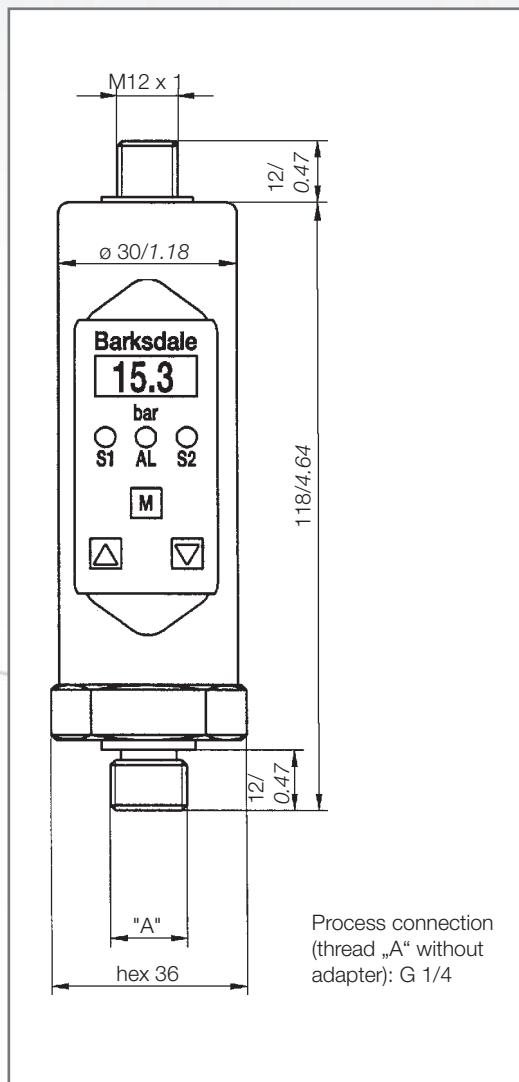
Pressure

Electr. Dual Pressure Switch

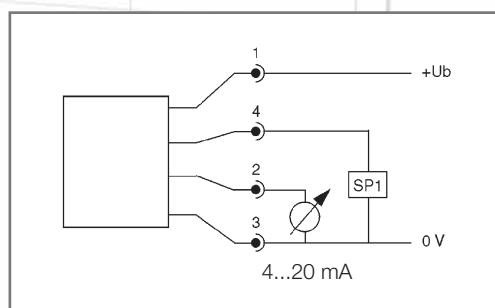
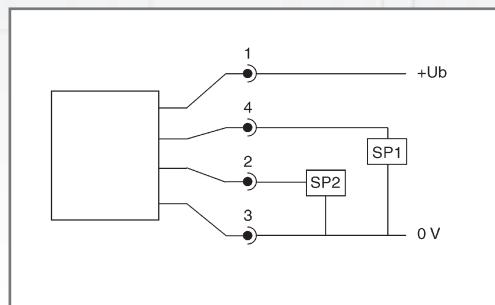
Type Switch 2000

Dimensions (in mm / inch)

Index: A



Connection diagram



Plug

Plug 4-pin



Specifications are subject to changes without notice.

Order Numbers

Pressure range	0...10 bar	0...50 bar	0...100 bar	0...200 bar	0...400 bar	0...600 bar
2 switching outputs	0428-017	0428-018	0428-019	0428-020	0428-021	0428-022
1 switching output 1 analog output 4...20 mA	0428-127	0428-128	0428-129	0428-130	0428-131	0428-132

Further measuring ranges on request

Accessories

Order Number	Description
0499-016	Adapter G1/4 IG - G1/4 male thread for optimum alignment of pressure switch
901-0677	Damping screw with 0.2 mm restriction against quick pressure changes and high pulsation rate
907-0357	Plug connector M12x1, 4-pin, with screw terminals, angled
907-0344	Plug connector M12x1, 4-pin, with screw terminals, straight

Electr. Dual Pressure Switch

Type UDS 7

Electronic pressure switch for pressure control with internal or flush stainless steel diaphragm, digital display, 2 solid state contacts or solid state plus 1 analog output, linearity error 0.5 % f. s.

Features

Alphanumeric 4-digit dot-matrix display, microprocessor controlled, self monitoring with error display, scalable analog output. All parameters are configured by keypad, adjustable keypad lock, various access levels, rugged stainless steel construction,
optional: rotatable display

Measuring ranges

0...1 bar 0...10 bar, absolute pressure
-1...0 bar; 0...0.2 bar to 0...600 bar; relative pressure

Applications

Hydraulic and pneumatic systems, process/chemical technology, test bed and apparatus construction, automation



Technical Data

Sensor element:	Piezoresistive silicon measuring cell							
Materials:	Wetted parts: Stainless steel, material no. 1.4301 Electronics housing: Stainless steel, material no. 1.4571 Seals: FKM							
Operating elements:	3 easy-response pushbuttons							
System of protection:	IP67 with PG/IP65 with plug							
Protection class:	III							
Process connection:	G 1/4 M; G 1/2, flush diaphragm for viscous media							
Dimensions:	32 mm x 120 mm (without plug connector)							
Weight:	approx. 350 g							
Measuring ranges [bar]:	0.2	0.4	0.6	1	2	5	10	50
Proof pressure [bar]:	2.5	2.5	2.5	3	4	7	15	75
Measuring ranges [bar]:	100	200	400	600	-	1		
Proof pressure [bar]:	150	300	600	800		2.5		
Linearity error:	$\pm 0.5\%$ f. s. at 25 °C special calibration Option: $\pm 0.25\%$ v. f. s.							
A/D converter:	Resolution: 12 bit (4096 steps per measuring span) Scanning rate: 100/s							
Electrical connection:	Plug M12x1, 5-pin							
Temperature influence:	$\pm 0.2\%$ f. s./10K							
Compensation range:	-10 °C... +70 °C							
Repeatability:	$\pm 0.1\%$ f. s.							

Temperature range:	Medium: -25 °C...+100 °C Electronics: -10 °C...+70 °C Storage: -30 °C...+80 °C							
Power supply:	18...32 V DC, reversed polarity protected (SELV, PELV)							
Digital display:	4-digit dot-matrix display, digit height 5 mm, green Display range: -999...+999 Display rate: 5/s Delay: 0.0 s ... 9.9 s adjustable Brightness: 20...100 % adjustable Error display: LED red and alphanumeric display							
Power consumption:	approx. 40 mA at $U_b = 24$ V DC (without load)							
Analog output:	4...20 mA Current output: Load: Load influence: Voltage output: Rating: Adjustment range: max. $RI = (Ub-12\text{ V})/20\text{ mA}$ $RI = 600\text{ Ohm}$ at $Ub = 24$ V DC 0.3 % / 100 Ohm 0...10 V DC max. 10 mA, short-circuit proof 25 %...100 % f. s.							
Transistor switching outputs PNP:	Switching function: Adjustment range: Switching frequency: Delay:Display: Normally open / normally closed, standard / window mode and diagnosis function adjustable 0 %...125 % f. s. max. 100 Hz max. 500 mA, short-circuit proof 0.0 s...9.9 s adjustable LED green							
Accessories:	Adapter for pressure switch adjustment, damping screw, plug connector							
Approval:	GL, cULus: file no. E42816							

Specifications are subject to changes without notice.

Index: A

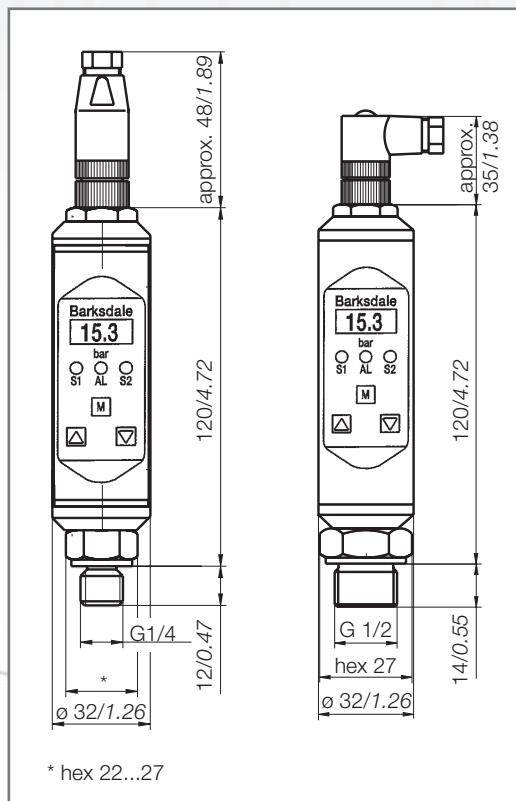
Pressure

Electr. Dual Pressure Switch

Type UDS 7

Dimensions (in mm / inch)

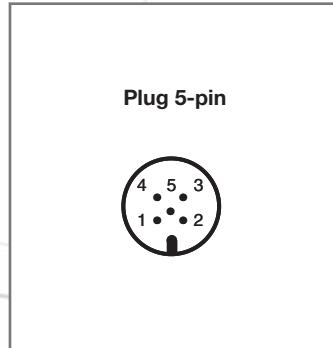
Index: A



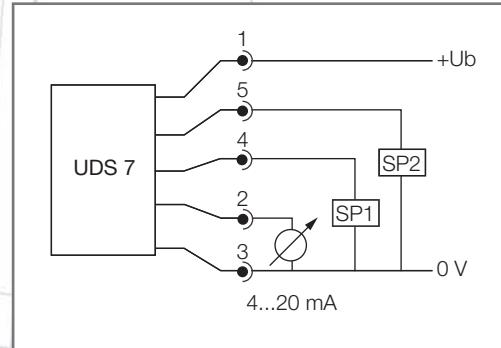
Connection chart Plug 1 (standard)

Plug M 12 x 1, 5-pin	Model with 2 switching outputs	Model with 2 switching outputs and 1 analog output
Pin 1	+Ub 18...32 V DC	+Ub 18...32 V DC
Pin 2	SP2 0.5 A max.	analog 4...20 mA/ 0...10 V DC
Pin 3	0 V	0 V
Pin 4	SP1 0.5 A max.	SP1 0.5 A max.
Pin 5	---	SP2 0.5 A max.

Plug



Connection diagram



Order Numbers

Pressure ranges	Process connection: G1/4 M		Process connection: G1/2, M, quasi flush	
	4...20 mA	0...10 V DC	4...20 mA	0...10 V DC
0... 1 bar abs.	0427-488	0427-729	---	---
0... 5 bar abs.	0427-489	0427-730	---	---
0... 10 bar abs.	0427-490	0427-731	---	---
0... 10 bar relative	0427-491	0427-735	0427-509	0427-736
0... 50 bar relative	0427-492	0427-737	0427-510	0427-738
0... 100 bar relative	0427-493	0427-739	0427-511	0427-740
0... 200 bar relative	0427-494	0427-741	0427-512	0427-742
0... 400 bar relative	0427-495	0427-743	0427-513	0427-744
0... 600 bar relative	0427-496	0427-745	0427-514	0427-746

Specifications are subject to changes without notice.

Further measuring ranges on request

Accessories

Order Number	Description
0499-016	Adapter G1/4 IG - G1/4 male thread for optimum alignment of pressure switch
906-0052	Adapter G1/4 IG - G1/2 male thread manometer connection
0499-002	Wall mounting brackets, stainless steel
901-0677	Damping screw with 0.2 mm restriction against quick pressure changes and high pulsation rate

Electronic pressure switch for pressure control in explosion-proof areas with internal stainless steel diaphragm, digital display, 2 solid state contacts accord. to Namur DIN 19234 and 1 analog output, linearity error 0.5 % f. s.

Features

Intrinsically safe accord. to ATEX, alphanumeric 4-digit LCD display, microprocessor controlled, self monitoring with error display, all parameters are configured by keypad, adjustable keypad lock, various access levels, rugged stainless steel construction

Measuring ranges

0...1 bar 0...10 bar, absolute pressure
-1...0 bar; 0...0.2 bar to 0...600 bar; relative pressure

Applications

Gas compressors, process / chemical technology test bed and apparatus engineering, injection moulding machines



Technical Data

Sensor element:	Piezoresistive silicon measuring cell				
Materials:	Wetted parts: Stainless steel, mat. no. 1.4301 Electronics housing: Stainless steel, mat. no. 1.4571 Seals: FKM (standard), EPDM				
Operating elements:	3 easy-response pushbuttons				
System of protection:	IP65 plug				
Protection class:	---				
Process connection:	G1/4 M				
Dimensions:	32 x 163 mm				
Weight:	approx. 250 g				
Measuring ranges [bar]:	10	50	100	200	400
Proof pressure [bar]:	15	75	150	300	600
Linearity error:	$\pm 0.5\%$ v. f. s. at 25 °C				
A/D converter:	Resolution: 12 bit (4096 steps per measuring span) Scanning rate: 100/s (for peak value memory)				
Electrical connection:	Plug M12 x 1; 4-pin, female / male thread				
Temperature influence:	$\pm 0.2\%$ f. s./10K (20 °C)				
Compensation range:	-10 °C...+70 °C				
Repeatability:	$\pm 0.1\%$ v. f. s.				
Temperature range:	Medium: 0 °C...+60 °C Operating range: 0 °C...+60 °C Storage: -10 °C...+65 °C				

Max. ambient temperature	-20 °C...+80 °C
Power supply:	18...28 V DC, intrinsically safe acc. to ATEX
On-status display:	4-digit LCD display, digit height 10 mm Display rate: 5/s Delay: 0.0 s ... 9.9 s adjustable Error display: on LCD display
Power consumption:	approx. 40 mA at $U_b = 24$ V DC
Analog output:	Current output: Load: Load influence: Adjustment range: max. $R_l = (U_b - 12\text{ V})/20\text{ mA}$ $R_l = 600\text{ Ohm}$ at $U_b = 24$ V DC 0.3 %/100 Ohm 25 %...100 % f. s.
Transistor switching outputs:	acc. to Namur DIN 19234 Normally open / normally closed, standard / window mode and diagnosis function adjustable Adjustment range: 0 %...125 % f. s. max. 100 Hz Delay:Status display: 0.0...9.9 s adjustable on LCD display
Item designation	II 1/2 G EEx ia IIC T4 category 1, 2
Certificate no.:	TÜV 02 ATEX 1879X

Pressure

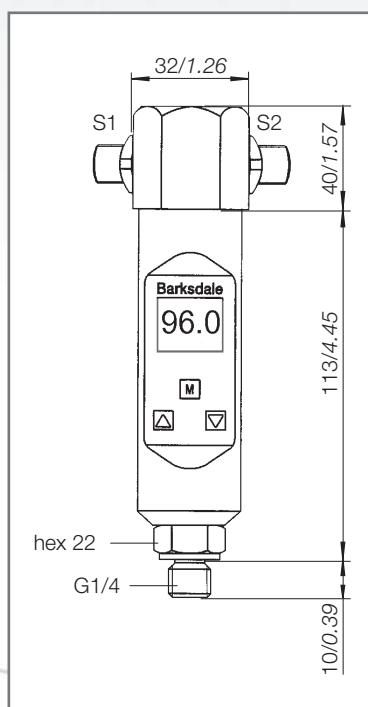
Electr. Dual Pressure Switch



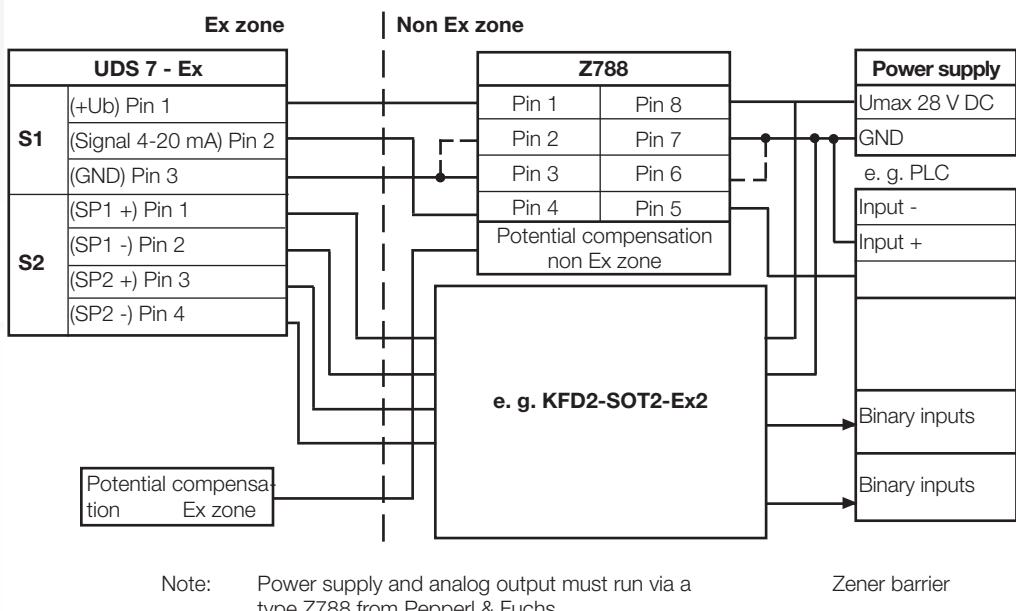
Type UDS 7 - Ex

Dimensions (in mm / inch)

Index: A



Connection scheme



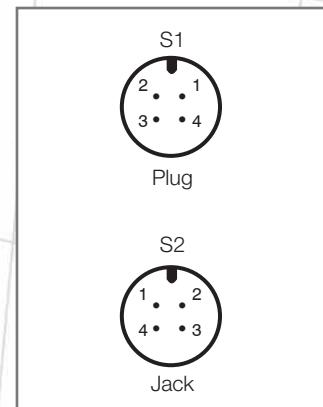
Order Numbers

2 solid state outputs acc. to Namur DIN 19234, analog output 4...20 mA, plug/load M12x1, 4-pin		
Measuring ranges	Process connection: G1/4 M	Process connection: G1/2 M
0... 10 bar relative	0427-818	0427-879
0... 50 bar relative	0427-819	0427-880
0... 100 bar relative	0427-820	0427-881
0... 200 bar relative	0427-821	0427-882
0... 400 bar relative	0427-822	0427-883
0... 600 bar relative	0427-866	0427-884

Further measuring ranges on request

Specifications are subject to changes without notice.

Plug



Accessories

Order Number	Description
0499-016	Adapter G1/4 IG - G1/4 male thread for optimum alignment of pressure switch
0499-002	Wall mounting brackets, stainless steel
901-0677	Damping screw with 0.2 mm restriction against quick pressure changes and high pulsation rate
907-0357	S1 plug M12 x 1, 4-pin, female thread, with screw terminals
907-0418	S2 plug M12 x 1, 4-pin, male thread, with screw terminals
909-0482	Zener barrier type Z788 with potential compensation
909-0483	Isolation amplifier type KFD2-SOT2-Ex2

Electr. Pressure Switch with 4 Relay Outputs

Type UDS 3 - V3

Electronic pressure switch for pressure control with internal stainless steel diaphragm, digital display, 4 switching outputs and 1 analog output, linearity error f. s.

Features

8-digit 14-segment LCD display with Bargraph and trend indication, microprocessor controlled, self monitoring, all parameters are configured by keypad, display unit selectable, adjustable keypad lock, high accuracy, quick scanning rate (1000/s)

Measuring ranges

0...1 bar 0...10 bar, absolute pressure
-1...0 bar to 0...600 bar gauge

Applications

OEM applications
hydraulic and pneumatic systems,
heavy industry and plant engineering,
automobile industry

Technical Data

Sensor element:	Piezoresistive silicon measuring cell
Materials:	
Wetted parts:	Stainless steel, material no. 1.4301
Electronics housing:	Cast aluminum G AL SI 12
Seals:	FKM, optionally: EPDM
Keypad:	Polyester
Operating elements:	Keypad with easy-response pushbuttons
System of protection:	IP65
Protection class:	I
Process connection:	G1/4 female thread, bottom entry Option: 1/4" NPT female thread
Dimensions:	100x135x80 mm (WxHx D)
Weight:	approx. 1080 g
Measuring ranges [bar]:	10 50 100 200 400 600
Proof pressure [bar]:	15 75 150 300 600 800
Linearity error:	±0.5 % f. s. at 25 °C
A/D converter:	12 bit (4096 steps per measuring span) 1000/s
On-status display:	8-digit 14-segment LCD display, digit height 12 mm, green 20-segment for current value last changes -9999...9999 4 / s bar/psi/psix10/hPa/mbar switchable
Electrical connection:	14-pin screw terminal for 1.5 mm ² AWG14, plug-in type



Index: A

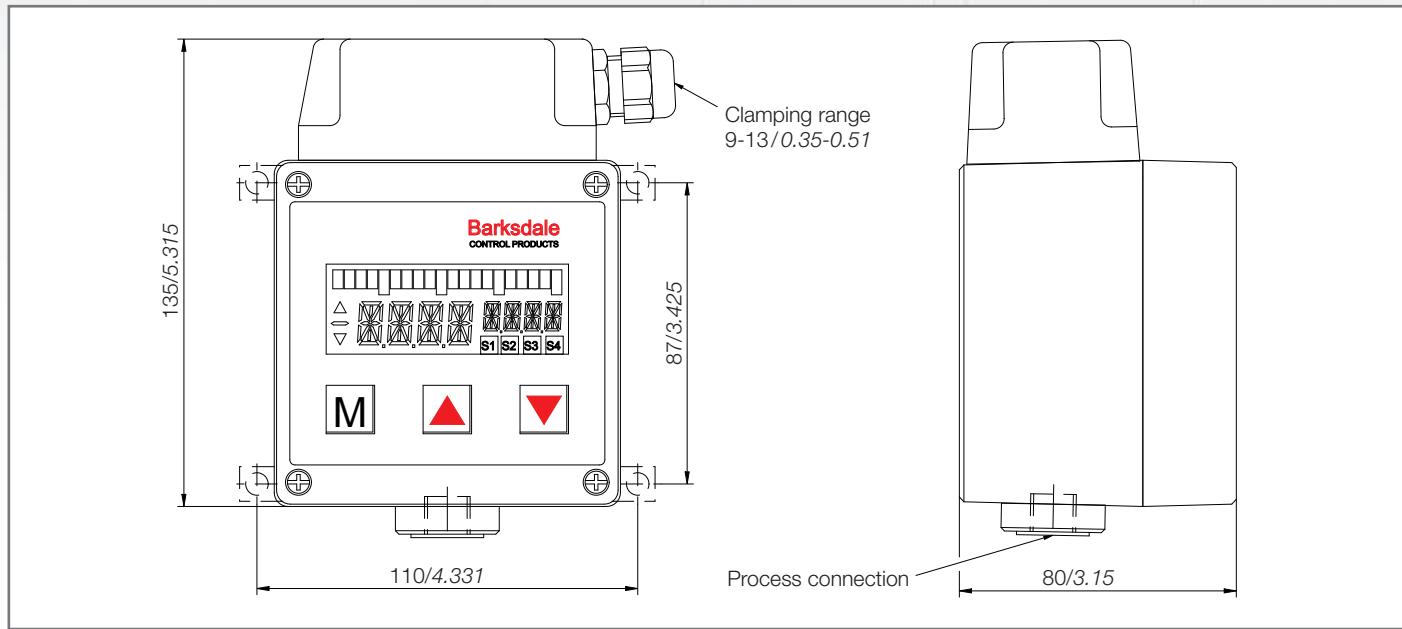
Cable gland:	1 x PG13.5 side entry
Temperature influence:	±0.2 % v. f. s./10K
Compensation range:	-10 °C...+70 °C
Repeatability:	±0.1 % v. f. s.
Temperature range:	
Medium:	-25 °C...+100 °C
Electronics:	-10 °C...+70 °C
Storage:	-30 °C...+80 °C
Power supply:	18...32 V DC, reversed polarity protected (SELV, PELV)
Power consumption:	approx. 350 mA at Ub = 24 V DC (without load)
Analog output:	
Current output:	4...20 mA
Load:	max. RI = (Ub-12 V)/20 mA RI = 600 Ohm at Ub = 24 V DC
Load influence:	0.3%/100 Ohm
Scanning rate:	1 ms
Voltage output:	0...10 V DC
Rating:	max. 10 mA, short-circuit proof
Adjustment range:	25%...100 % f. s.
4x relay output(s) - change-over contacts (SPDT):	
Switching voltage:	max. 120 V DC/250 V AC
Switching power:	max. 12 W/1250 VA
Cycles:	1 mio. at 24 V DC/2 A
Switching rate:	max. 20/s
Delay:	0.0 s ... 9.9 s adjustable
Operation time:	1 ms
Status display:	S1...S4 on LCD display
Accessories:	Damping screw 0.2 mm; mounting traverse; vibration damper
Approval:	cULus: file no. E42816

Specifications are subject to changes without notice.

Pressure

Electr. Pressure Switch with 4 Relay Outputs Type UDS 3 - V3

Dimensions (in mm / inch)

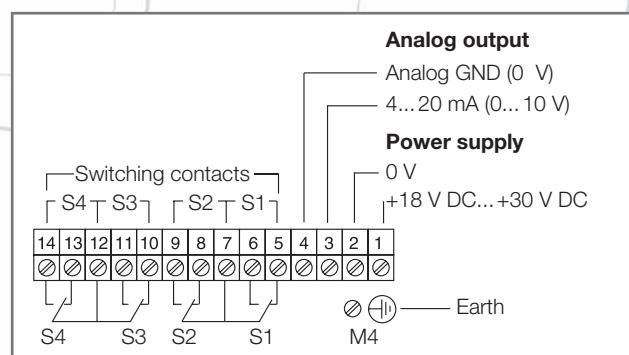


Order Numbers

Pressure switch with digital display and 4 relays, G1/4 female		
Measuring ranges [bar]	Analog Output	Order No.
10	---	0423-129
10	4...20 mA	0423-117
10	0...10 V	0423-118
50	---	0423-130
50	4...20 mA	0423-119
50	0...10 V	0423-120
100	---	0423-131
100	4...20 mA	0423-121
100	0...10 V	0423-122
200	---	0423-132
200	4...20 mA	0423-123
200	0...10 V	0423-124
400	---	0423-133
400	4...20 mA	0423-125
400	0...10 V	0423-126
600	---	0423-134
600	4...20 mA	0423-127
600	0...10 V	0423-128

Specifications are subject to changes without notice.

Electronic connection scheme



Accessories

Order Number	Description
901-0677	Damping screw M4 x 0.2 for UDS 3, UDS 7, Switch 2000, material: brass
0099-001	Mounting traverse (1 set = 2 pcs)
0099-002	Mounting traverse (1 set = 2 pcs) - Hydac-compatible
914-0107	Vibration damper (1 pack = 4 pcs)

Electronic Displays

Type UAS 7

**Trip amplifier for all physical quantities with digital display,
2 switching outputs and
1 analog output,
Linearity error 0.2% f. s.**

Features

4-digit 7-segment LED display, microprocessor-controlled, self monitoring, all parameters are configured by Keypad, display unit selectable, adjustable keypad lock, high accuracy, quick scanning rate (1 ms)

Display range

freely scalable: -9,999...+9,999

Applications

OEM applications,
Hydraulics and pneumatics,
test bed and apparatus engineering,
heavy industry



Technical Data

Measuring principle:	Amplifier with 10 bit A/D converter
Materials: Electronics housing: Housing seal: Keypad:	Aluminum die-cast NBR Polyester
Operating elements:	Keypad with easy-response pushbuttons
Protection system/ class	IP65/ III
Dimensions:	75x75x55 mm (WxHxD)
Weight:	approx. 330 g
Analog measuring inputs: Current input: Voltage input:	4...20 mA 0...10 V DC
Linearity error:	<±0.2 % v. f. s. at 25 °C
A/D converter: Resolution: Scanning rate:	10 bit (1024 steps per measuring span) 200/s
On-status display: Display range: Display rate: Display unit:	4-digit 7-segment LED display, red, digit height 10 mm -9,999... +9,999 2/s all technical units
Sensor connection:	Plug M12x1, 4-pin
Electrical connection:	Plug M12x1, 4-pin or 5-pin

Temperature influence:	< 0.05 % v. f. s./10K
Compensation range:	-10 °C...+70 °C
Repeatability:	≤±0.05 % v. f. s.
Temperature range: Electronics: Storage:	-10 °C...+70 °C -30 °C...+80 °C
Power supply:	15...32 V DC, reversed polarity protected (SELV, PELV)
Power consumption:	approx. 50 mA (without load)
Analog output: Current output: Load: Load influence: Scanning rate: Voltage output: Rating: Adjustment range:	4...20 mA max. RI = (Ub-12 V)/20 mA RI = 600 Ohm at Ub = 24 V DC 0.3 %/100 Ohm 5 ms 0...10 V DC max. 10 mA 25 %...100 % f. s.
Transistor switching outputs PNP: Switching function: Adjustment range: Switching frequency: Delay Status display(s):	Normally open / normally closed, standard / window mode and diagnosis function adjustable 0 %...125 % f. s. max. 100 Hz max. 500 mA, short-circuit proof 0.0 s ... 9.9 s adjustable LED(s) green
Accessories:	Plug connector

Specifications are subject to changes without notice.

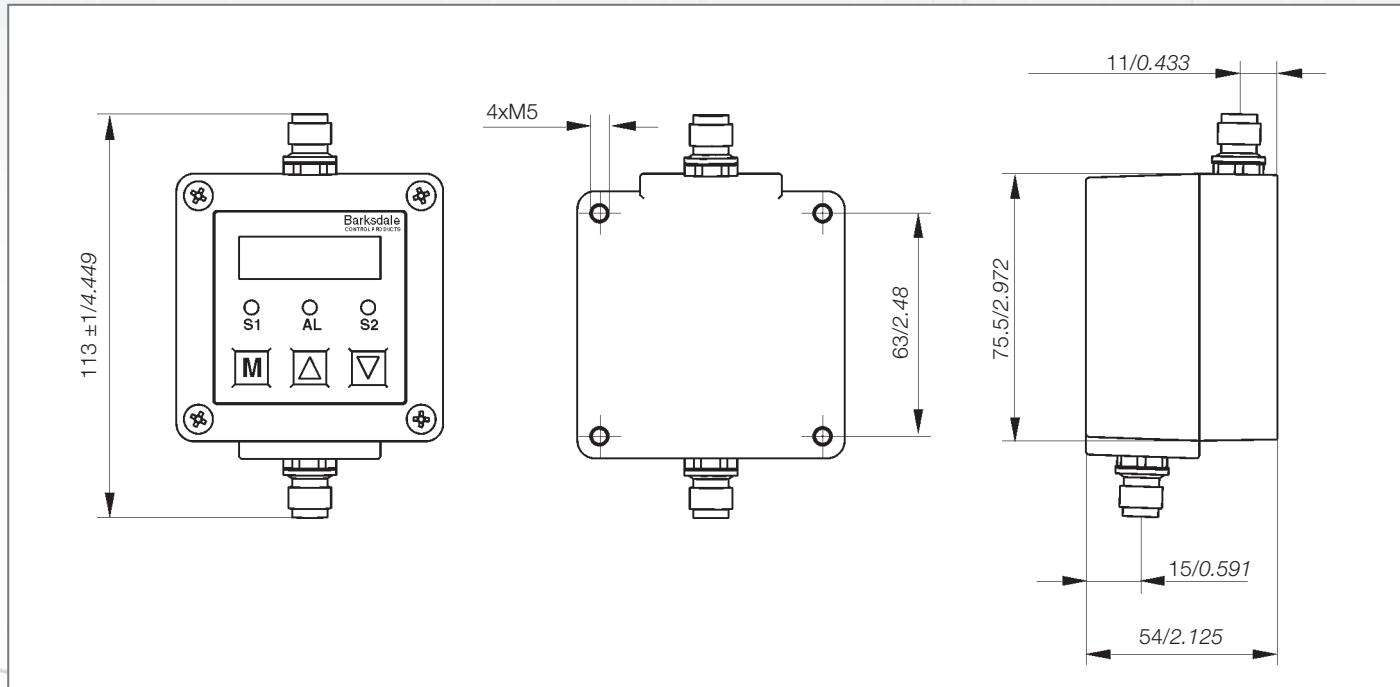
Pressure

Electronic Displays

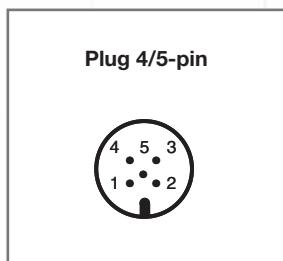
Type UAS 7

Dimensions (in mm / inch)

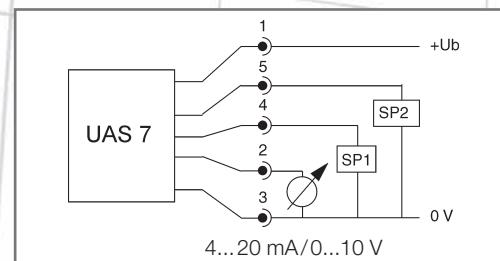
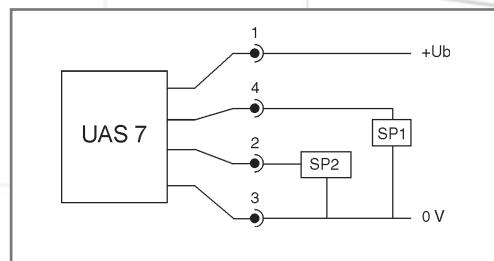
Index: A



Plug



Connection diagram



Sensor Connection

M12 x 1

- 1 = +Ub
- 2 = Signal
- 3 = -Ub (*)



(*) Pin 2 is not needed with 2-wire connection.

Analog measuring input

- Optional:
- Current input: 4...20 mA
- Voltage input: 0...10 V DC

Order Numbers

Electronic trip amplifier with 2 PNP outputs		
Analog Input	Analog Output	Order Number
4...20 mA	---	0001-004
4...20 mA	4...20 mA	0001-002
4...20 mA	0...10 V	0001-003
0...10 V	---	0001-007
0...10 V	4...20 mA	0001-005
0...10 V	0...10 V	0001-006

Specifications are subject to changes without notice.

Electronic Displays

Type UAS 3 - V3

Trip amplifier for all physical quantities with digital display,
4 switching outputs and 1 analog output.
Accuracy 0.2% v. M. E.

Features

8-digit 14-segment LCD display with bargraph and trend indication, microprocessor controlled, self monitoring, all parameters are configured by keypad, display unit selectable, adjustable keypad lock, high accuracy, quick scanning rate (1000/s)

Display range

freely scalable: -9,999...+9,999

Applications

OEM applications,
Hydraulics and pneumatics,
test bed and apparatus engineering,
heavy industry



Technical Data

Measuring principle:	Amplifier with 12 bit A/D converter
Materials:	
Electronics housing:	Cast aluminum G AL SI 12
Housing seal:	CR
Keypad:	Polyester
Operating elements:	Keypad with easy-response pushbuttons
System of protection:	IP65
Protection class:	I
Dimensions:	100 x 135 x 80 mm (W x H x D)
Weight:	approx. 1080 g
Analog measuring inputs:	
Current input:	4...20 mA
Voltage input:	0...10 V DC
Resistance input:	0.5...100 kOhm
Temperature:	PT100 element accord. to IEC751, see UTS3
Linearity error:	<±0.2% v. f. s. at 25 °C
A/D converter:	
Resolution:	12 bit (4096 steps per measuring span)
Scanning rate:	1000/s
On-status display:	
Bargraph:	8-digit 17-segment LCD display, digit height 12 mm, green
Trend arrows:	20-segment for current value last changes
Display range:	-9999...+9999
Display rate:	4/s
Display unit:	all technical units
Sensor connection:	
	Plug 3-pin, DIN EN 175 301-803-A (prev. DIN 43650), incl. plug connector
Electrical connection:	14-pin screw terminal for 1.5 mm ² AWG14, plug-in type

Cable gland:	
Standard:	1 x PG13.5 side entry
Option:	2 x PG13.5 top entry
Temperature influence:	<0.05 % v. f. s./10K
Compensation range:	-10 °C...+70 °C
Repeatability:	≤±0.01 % v. f. s.
Temperature range:	
Electronics:	-10 °C...+70 °C
Storage:	-30 °C...+80 °C
Power supply:	18...32 V DC, reversed polarity protected (SELV, PELV)
Power consumption:	approx. 350 mA at Ub = 24 V DC (without load)
Analog output:	
Current output:	4...20 mA
Load:	max. RI = (Ub-12 V)/20 mA RI = 600 Ohm at Ub = 24 V DC
Load influence:	0.3 %/100 Ohm
Scanning rate:	1 ms
Voltage output:	0...10 V DC
Rating:	max. 10 mA
Adjustment range:	25 %...100 % f. s.
4x relay output(s) - change-over contacts (SPDT):	
Switching voltage:	max. 120 V DC/250 V AC
Switching power:	max. 120 W/1250 VA
Cycles:	1 mio. at 24 V DC/2 A
Switching rate:	max. 20/s
Delay:	0.0 s ... 9.9 s adjustable
Operation time:	1 ms
Status display:	S1...S4 on LCD display
Accessories:	Mounting traverse, vibration damper
Approval:	cULus: file no. E248549

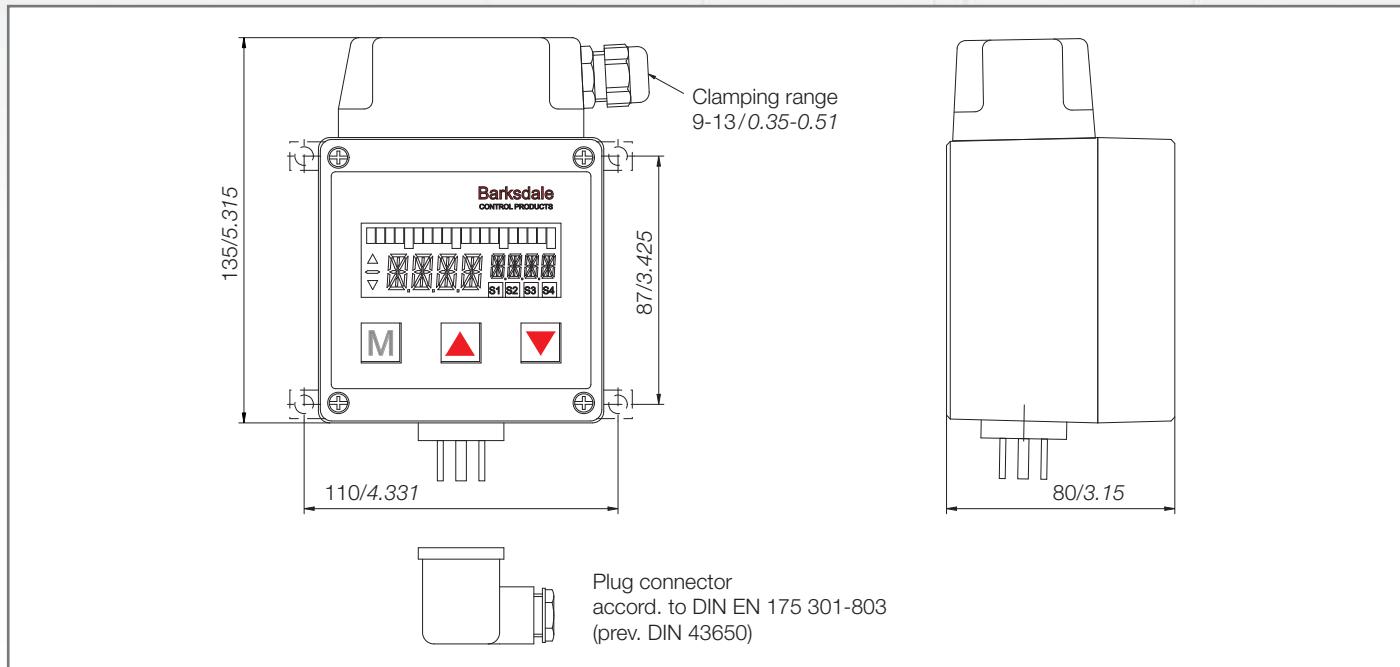
Pressure

Electronic Displays

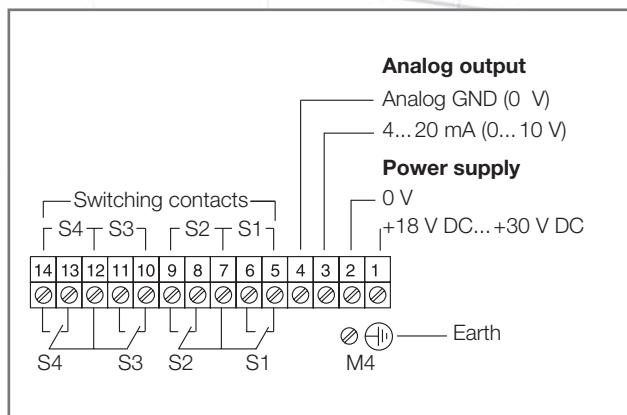
Type UAS 3 - V3

Dimensions (in mm / inch)

Index: A



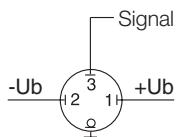
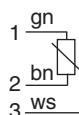
Electronic connection scheme



Sensor Connection

according to DIN 43650

- 1 = +Ub
- 2 = -Ub*
- 3 = Signal



* Pin 2 is not needed with 2-wire connection.

Analog measuring input

Optional:
Current input: 4...20 mA
Voltage input: 0...10 V DC

Specifications are subject to changes without notice.

Order Numbers

Electronic trip amplifier with 4 relays, 1 input and multifunction display		
Analog Input	Analog Output	Order No.
4...20 mA	---	0003-026
4...20 mA	4...20 mA	0003-024
4...20 mA	0...10 V	0003-025
0...10 V	---	0003-032
0...10 V	4...20 mA	0003-030
0...10 V	0...10 V	0003-031

Accessories

Order Number	Description
0099-001	Mounting traverse (1 set = 2 pcs)
0099-002	Mounting traverse (1 set = 2 pcs)
914-0107	Vibration damper (1 pack = 4 pcs)

Electronic Displays

Type UAD 3 - V3

**Trip amplifier for all physical quantities with digital display,
4 switching outputs and 2 analog outputs.
Linearity error 0.2% f. s.**

Features

Two 8-digit 14-segment LCD displays with bargraph and trend indication, microprocessor controlled, self monitoring, all parameters are configured by keypad, display unit selectable, adjustable keypad lock, high accuracy, quick scanning rate (1000/s)

Display range

freely scalable: -9999...+9999

Applications

OEM applications, hydraulic and pneumatic systems, test bed and apparatus engineering, heavy industry



Technical Data

Measuring principle:	Amplifier with 12 bit A/D converter
Materials:	
Electronics housing:	Cast aluminum G AL SI 12
Housing seal:	CR
Keypad:	Polyester
Operating elements:	Keypad with easy-response push-buttons
System of protection:	IP65
Protection class:	I
Dimensions:	100 x 150 x 80 mm (WxHx D)
Weight:	approx. 1080 g
Analog measuring inputs:	
Current input:	4...20 mA
Voltage input:	0...10 V DC
Linearity error:	<±0.2% v. f. s. at 25 °C
A/D converter:	
Resolution:	12 bit (4096 steps per measuring span)
Scanning rate:	1000/s
On-status display:	
Bargraph:	Two 8-digit 14-segment LCD displays, digit height 12 mm, red and green
Trend arrows:	20-segment for current value last changes
Display range:	-9999...+9999
rate: Display unit:	4/s all technical units
Sensor connection:	2 plugs 3-pin, DIN EN 175 301-803-A (prev. DIN 43650), incl. plug connector
Electrical connection:	16-pin screw terminal for 1.5 mm ² AWG14, plug-in type

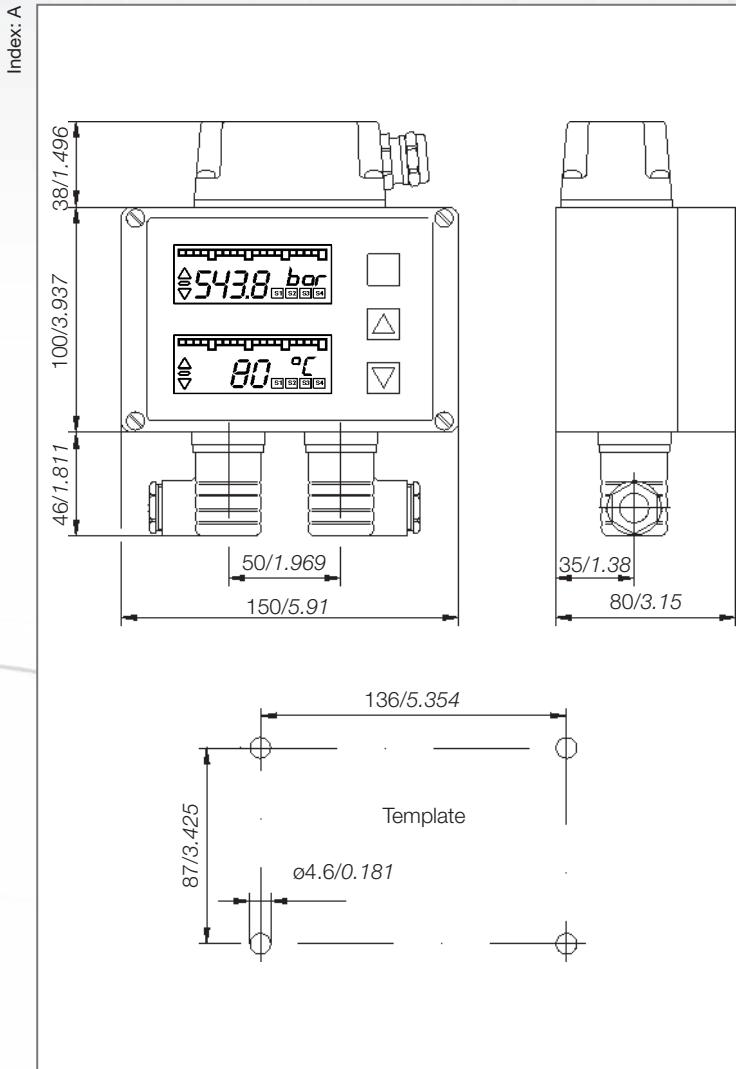
Cable gland:	
Standard:	1 x PG13.5 side entry
Option:	2 x PG13.5 top entry
Temperature influence:	<0.1% v. f. s./10K
Compensation range:	-10 °C...+70 °C
Repeatability:	≤±0.01% v. f. s.
Temperature range:	
Electronics:	-10 °C...+70 °C
Storage:	-30 °C...+80 °C
Power supply:	18...32 V DC, reversed polarity protected (SELV, PELV)
Power consumption:	approx. 250 mA at Ub = 24 V DC (without load)
Analog output:	
Current output:	4...20 mA
Load:	max. RI = (Ub-12 V)/20 mA RI = 600 Ohm at Ub = 24 V DC
Load influence:	0.3%/100 Ohm
Scanning rate:	1 ms
Voltage output:	0...10 V DC
Rating:	max. 10 mA
Adjustment range:	25%...100% f. s.
4x relay output(s)-change-over contacts (SPDT):	
Switching voltage:	max. 120 V DC/160 V AC
Switching power:	max. 120 W/1250 VA
Cycles:	1 mio. at 24 V DC/2 A
Switching rate:	max. 20/s
Delay:	0.0 s ... 9.9 s adjustable
Operation time:	1 ms
Status display:	S1...S4 on LCD display
Accessories:	Mounting traverse, vibration damper

Pressure

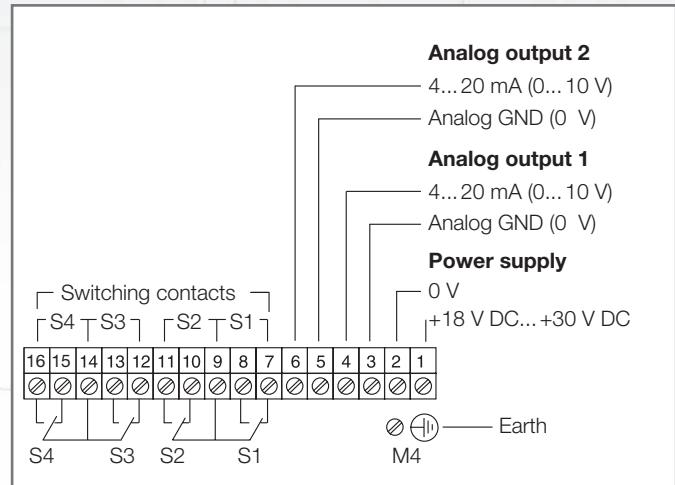
Electronic displays

Type UAD 3 - V3

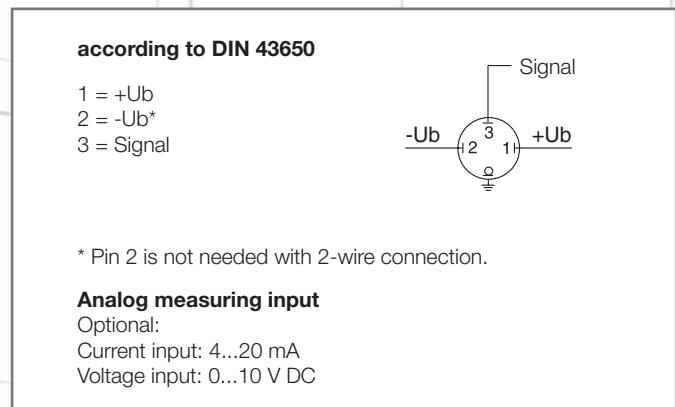
Dimensions (in mm / inch)



Electronic connection scheme



Sensor Connection



Specifications are subject to changes without notice.

Order Numbers

Electronic trip amplifier with 4 relays, 2 inputs and multifunction display		
Analog Input	Analog Output	Order No.
4...20 mA	---	0007-017
4...20 mA	4...20 mA	0007-018
0...10 V	---	0007-019
0...10 V	4...20 mA	0007-020

Accessories

Order Number	Description
0099-002	Mounting traverse (1 set = 2 pcs)
914-0107	Vibration damper (1 pack = 4 pcs)

Damping screw

Order Number	Description
901-0693	Damping screw 0.1 mm; brass
901-0677	Damping screw 0.2 mm; brass
901-0694	Damping screw 0.3 mm; brass

Accu chargers

Order Number	Description
931-0039	Accu chargers for electronic appliances (supply 230 V AC/24 V AC)

Accessories for type UDS 7 - Ex

Order Number	Description
907-0357	S1 plug M12 x 1, 4-pin, female thread, with screw terminals
907-0418	S2 plug M12 x 1, 4-pin, male thread, with screw terminals
909-0482	Zener barrier type Z788 with potential compensation
909-0483	Isolation amplifier type KFD2-SOT2-Ex2

Accessories for types UDS 3 - V3 and UAS 3 - V3

Order Number	Description
0099-002	Attachment traverse for wall-mounted housing (1 set = 2 pcs)
914-0107	Vibration damper (1 pack = 4 pcs)

Adaptors

Index: A

Order Number	Description
0499-002	Wall mounting element, rotatable, of stainless steel, for devices with G1/4 male thread
0499-016	Adapter G1/4 female thread - G1/4 male thread for optimum alignment of the device
906-0052	Adapter G1/4 female thread - G1/2 male thread manometer connection

Plug connectors

Order Number	Description
908-0361	Plug connector M12x1, 4-pin, vulcanized cable 1.5 m
907-0357	Plug connector M12x1, 4-pin, with screw terminals, angled
907-0344	Plug connector M12x1, 4-pin, with screw terminals, straight
908-0361	Plug connector M12x1, 5-pin, vulcanized cable 1.5 m
907-0185	Plug connector M12x1, 5-pin, with screw terminals, angled
907-0177	Plug connector M12x1, 5-pin, with screw terminals, straight
926-0420	Cube plug 3-pin + PE, acc. to DIN 43650

Tests and Certificates

Order Number	Description
on request	Single calibration for electronic gauge accuracy 0.5 % with certificate
on request	Single calibration for electronic gauge accuracy 0.25 % with certificate
on request	DKD calibration with certificate (DKD = German Calibration Service)
998-9991	Works certificate acc. to DIN 50049-2.1
998-9992	Works certificate acc. to DIN 50049-2.2
on request	Oil and grease-free design

Index: A

Specifications are subject to changes without notice.

Pressure

Electr. Pressure Transducers / Switches

Index: A

Specifications are subject to changes without notice.

Experts

Specialists for monitoring and control of:

- ▶ Pressure
- ▶ Temperature
- ▶ Level
- ▶ Flow

Almost sixty years of experience in the area of mechanical and electronic control of liquid media and responding to customers needs have resulted in an extensive range of products to meet a wide range of applications. Barksdale's priority is clear. It is our commitment to quality instrumentation and exceptional customer service that has remained the cornerstone of our success. Based on our innovative and market-focused technologies in the areas of pressure, level, flow and temperature measuring processes we provide solutions that fit.



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