

Electronic Temperature Switches

Catalogue

Electronic Temperature Switches



Overview

Control
Control
every move

Barksdale
CONTROL PRODUCTS

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

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Electronic Temperature Transducer

UTA2

Stainless steel,
accuracy 0.5% f.s.

Measuring ranges

0...+100 °C to -30...+150 °C

Features

Electronic temperature transducer with PT100 sensor
Stainless steel
Compact construction

Applications

Hydraulics and pneumatics, machine and process industry,
mobile applications, test beds, marine applications

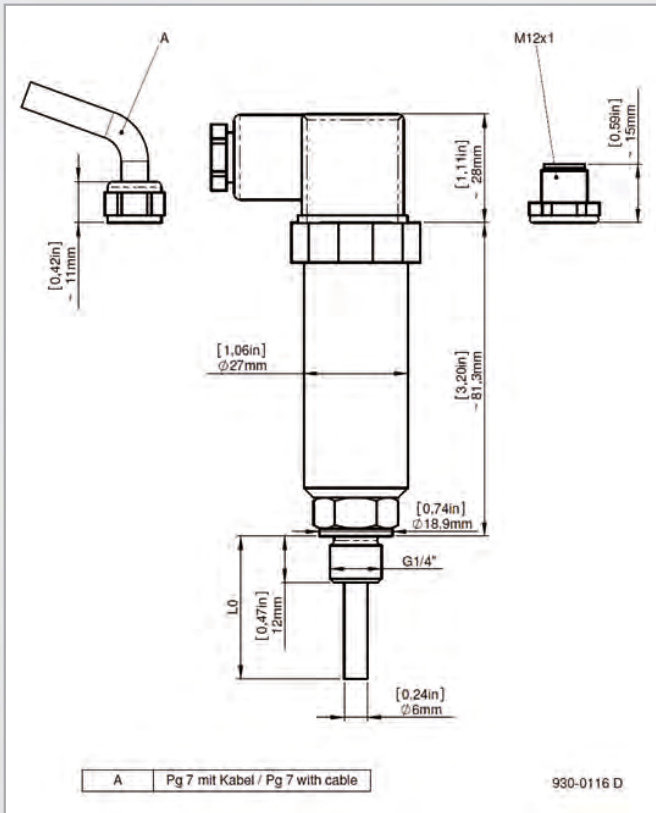


Technical Data

Sensor:	Pt100 (Class B), DIN IEC 751
Materials:	
Wetted Parts	Stainless steel 1.4435
Housing (Electronics)	Stainless steel 1.4435
Seals	FKM, EPDM
Protection class:	IP65 plug, IP67 cable
Process connection:	G 1/4 male, nut across flats 19mm
Dimensions:	see drawings
Weight:	130 g
Measuring ranges:	-30 °C...+100 °C, -30 °C...+150 °C, 0 °C...+100 °C, 0 °C...+150 °C
Proof Pressure:	max. 200 bar, others on request
Linearity error:	≤±0.5 % f. s.
Time constant:	appr. 40 s
Electrical connection:	PG7 incl. 1.5 m cable plug M12 x 1; 5-pin
Sensor length:	17 mm, 50 mm

Sensor diameter:	6 mm
Hysteresis:	≤± 0.1 % f. s.
Repeatability:	≤± 0.1 % f. s.
Temperature range:	-30 °C...+150 °C (Media) -25 °C...+ 80 °C (Electronics) -40 °C...+100 °C (Storage)
Power supply:	10...30 V DC SELV/PELV 13...30 V DC SELV/PELV at 0...10 V
Output signals:	4...20 mA (2wire) 0...10 V DC (3-wire)
Power consumption:	max. 30 mA at current output max. 10 mA at load
Load:	≤ (U _B -8V) / 0.02 A
Accessories:	conduit, electrical plugs

Dimensions (mm / inch)



Electrical Connection

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

Order Numbers

Temperature Transmitter with 4-20 mA, M12x1		
Art. No.	Temp. Range in °C	Sensor length in mm
0631-053	0 100	17
0631-054	-30 +150	17
0631-055	0 100	50
0631-056	-30 +150	50

Electronic Temperature Sensors

UTF2

for OEM applications

Temperature monitoring with Pt100-Sensor (Class B)

Features

Rugged and compact stainless steel construction,
protection class IP65,
high shock- and vibration stability

Measuring Ranges

-40 °C...+150 °C

Applications

Machine industry, mobile hydraulics and environmental
technology, air conditioning control

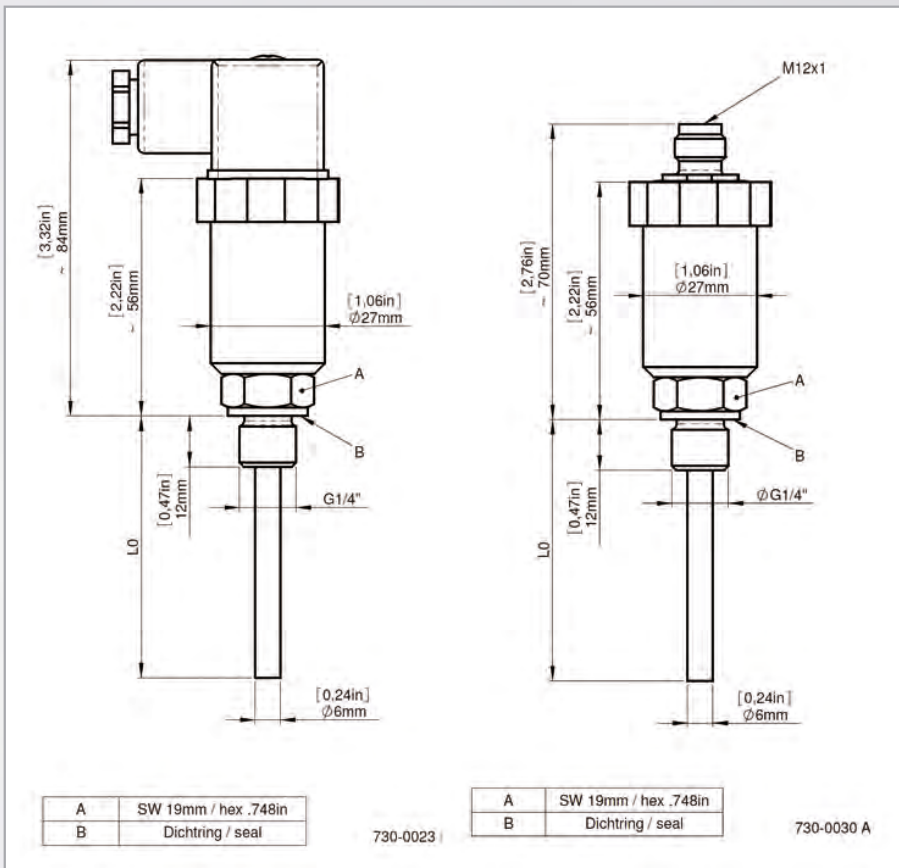


Technical Data

Sensor:	Sensing resistor Pt100 acc.to DIN IEC 751, (Class B, 4-wire)
Materials: Wetted Parts Housing (Electronics) Seals	Stainless steel 1.4301 Stainless steel 1.4301 FKM
Protection class:	IP65 plug
Process connection:	G 1/4 male, nut across flats 19mm
Proof Pressure:	max. 200 bar, others on request

Dimensions:	see drawings
Weight:	130 g
Time constant:	appr. 40 s
Measuring current:	max. 5 mA
Electrical connection:	Plug 4-pin, M12x1
Sensor length:	17 mm, 50 mm
Sensor diameter:	6 mm

Dimensions (mm / inch)



Order Numbers

Temperature Transmitter with Pt100 output, M12x1		
Art. No.	Temp. Range in °C	Sensor length in mm
0631-014	-40 +150	17
0631-132	-40 +150	50

Electronic Temperature Switch

TempSwitch 2000

Temperature control digital display, 1 or 2 solid state contacts or 1 solid state contact plus 1 analog output 4...20 mA, accuracy class 0,5% f. s.

Features

7-segment LED display, microprocessor controlled, self monitoring with error display, display rotatable around 330°, all parameters are configured by keypad, tamper proof, keypad lock, rugged construction, vibration- and shock-proof, long term stability

Measuring Ranges

0...+100 °C to -30...+150 °C, 0...+212 °F to -22...+302 °F

Applications

Hydraulics and pneumatics (e. g. presses), lubrication monitoring, machine industry, automobile industry, machine tools, injection moulding machines

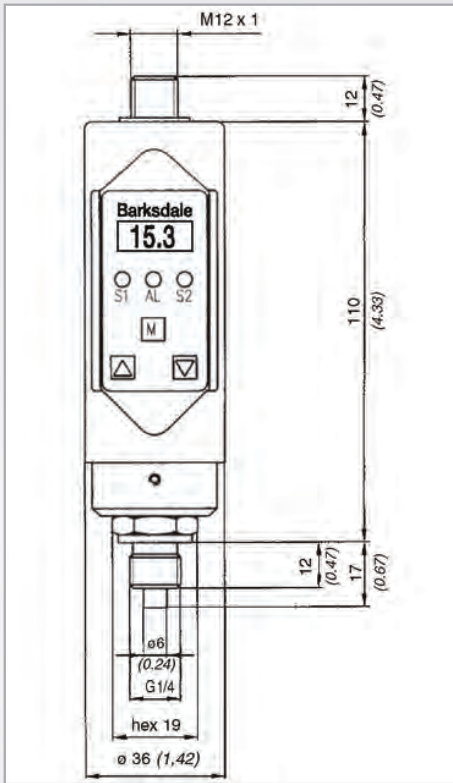


Technical Data

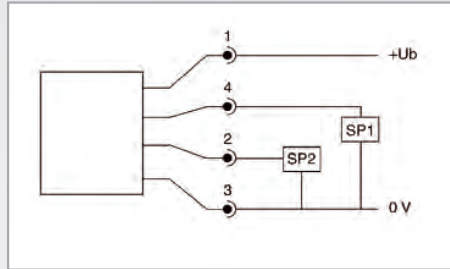
Sensor element:	PT100-element (Class B)
Materials:	
Wetted parts:	Stainless steel, mat. no. 1.4301
Electronics housing:	Aluminum die-cast
Seals:	FKM
Proof Pressure	600 bar (8700 psi)
Operating elements:	3 easy-response pushbuttons
System of protection:	IP65
Protection class:	III
Process connection:	G1/4 M
Dimensions:	36 x 130 mm (1,42 x 5,12 inch) (without plug connector)
Weight:	appr. 200 g with 17 mm sensor length appr. 0.44 lb with 0.67 inch sensor l.
Measuring ranges [bar]:	-30...+100 °C, -30...+150 °C 0...+100 °C, 0...+150 °C (-22...+212 °F, -22...+302 °F 0...+212 °F, 0...+302 °F)
Proof Pressure:	max. 200 bar, others on request
Linearity error:	± 0.5 % f. s. at +25 °C (77 °F)
Time Constant:	appr. 40 s
A/D converter:	
Resolution:	10 bit (1024 steps per measuring span)
Scanning rate:	100 / s (for peak value memory)
Sensor Length:	17 mm (Standard), 25, 50, 100, 150, 200, 250 mm (0.67 inch standard, 0.98, 1.97, 3.94, 5.91, 7.88, 9.85 inch)
Power supply:	15... 32 V DC, unregulated, max 10% residual ripple, reversed polarity protected (SELV, PELV)

Sensor Diameter	6 mm (0,24 inch)
Digital display:	3-digit LED display, 7-segment, red, digit height 10 mm (0,39 inch) -99 ... 999
Display range:	
Display rate:	20 / s
Display unit:	°C, °F - adjustable
Error display:	LED yellow and alphanumeric display
Power consumption:	approx. 50 mA (without load)
Repeatability:	±0.1 % f. s.
Temperature range:	
Medium:	-30 °C... +150 °C (-22 °F...+302 °F)
Electronics:	-10 °C... +70 °C (+14 °F...+158 °F)
Storage:	-30 °C... +80 °C (-22 °F...+176 °F)
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:	5 ms
Voltage output:	0...10 V DC
Rating:	max. 10 mA
Adjustment range:	25 %... 100 % f. s.
Transistor switching outputs PNP:	
Switching function:	Normally open/normally closed, standard / window mode and diagnosis function adjustable
Adjustment range for switching point:	0 %... 125 % f. s.
hysteresis:	0 %... 125 % f. s.
Switching frequency:	max. 100 Hz
Contact Rating:	max. 500 mA, short-circuit proof
Delay:	0.0 s ... 9.9 s adjustable
Status display(s):	LED(s) green for activated switching point
Options:	see accessories

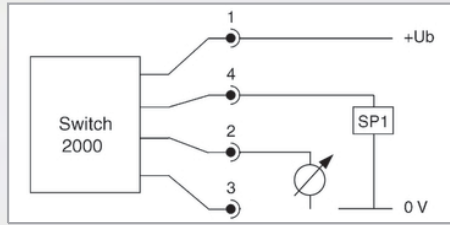
Dimensions (mm / inch)



Connection Diagram 1



Connection Diagram 2



Connection Chart

Plug, M 12 x 1, 4-pin	Version with 1 switching output	Version with 1 switching output and 1 analog output
Pin 1	+Ub (15...32 V DC)	+Ub (15...32 V DC)
Pin 2	---	analog
Pin 3	0 V	0 V
Pin 4	SP1 (0,5 A max.)	SP1 (0,5 A max.)

Order Numbers

Measuring range (°C)	0...+100 °C	-30...+150 °C	0...+100 °C	-30...+150 °C	0...+100 °C	-30...+150 °C
Measuring range (°F)	0...+212 °F	-22...+302 °F	0...+212 °F	-22...+302 °F	0...+212 °F	-22...+302 °F
Sensor length	17 mm (0.67 inch)		50 mm (1.97 inch)		300 mm (11.82 inch)	
1 Switching output	0628-011	0628-012	0628-013	0628-014	0628-023	0628-024
2 Switching output	0628-015	0628-016	0628-017	0628-018	0628-025	0628-026
1 Switching output 1 Analog output 4... 20 mA	0628-096	0628-097	0628-098	0628-099	0628-100	0628-101

Accessories

Order No.	Description
907-0357	Electrical plug M 12 x 1, 4-pin, with screw terminal, 90° elbow
907-0344	Electrical plug M 12 x 1, 4-pin, with screw terminal, straight

Electronic Temperature Switch

UTS7

For temperature monitoring with digital display, 2 solid state outputs and 1 analog output, accuracy class 0,5 % f. s.

Features

Alphanumeric 4-digit LED-Dot-Matrix-display, display rotatable around 330°, microcontroller and self monitoring with error output, all parameters programmable via keypad, adjustable keypad lock, different access levels, rugged stainless steel construction.

Measuring Ranges

0... +100 °C and -30...+150 °C

Applications

Hydraulics and pneumatics, machine industry, machine tools

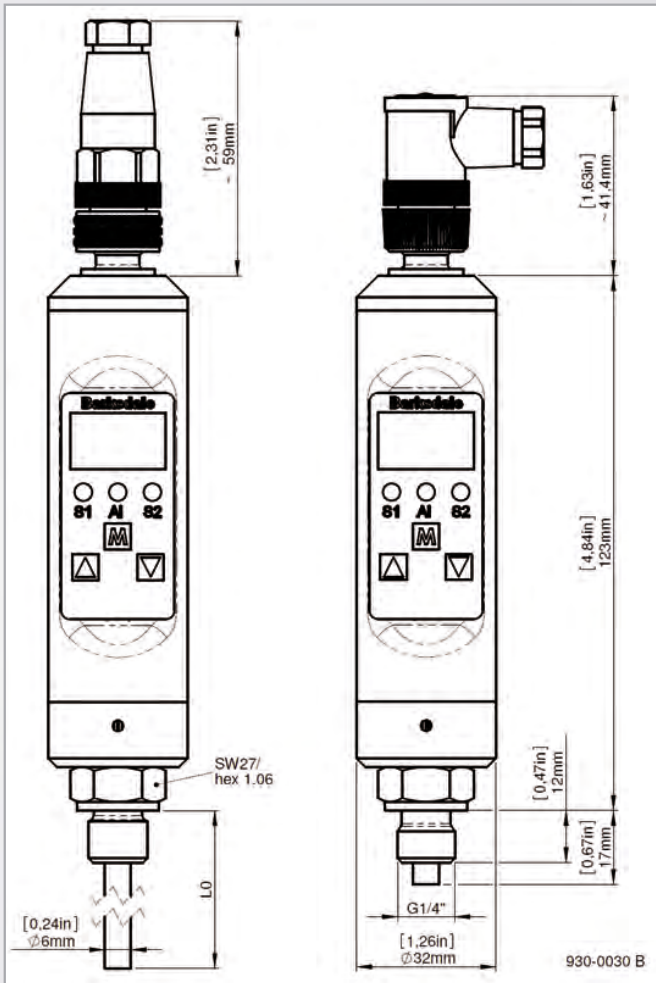


Technical Data

Sensor element:	Pt100
Materials: Housing: Process Seals:	Stainless steel, material no. 1.4571 FKM, EPDM optional
Operating elements:	3 easy-response pushbuttons
System of protection:	IP67 with PG / IP65 with plug
Protection class:	III
Process connection:	G 1/4
Dimensions:	131 mm (without electrical plug),
Weight:	approx. 350 g with 17 mm sensor length
Measuring ranges [°C]:	0...+100 °C, -30...+150 °C
Linearity error:	±0.5 % f. s.
Time constant:	appro. 40 s
Data acquisition: Resolution: Scanning rate:	microcontroller with self monitoring and error output 12 bit (4096 steps) 100 Hz
Electrical connection:	Plug M12 x 1, 5-pin
Sensor length:	17 mm (standard) 25, 50, 100, 150, 200, 250 mm
Sensor diameter:	6 mm
Temperature influence:	±0.1 % f. s. / 10K
Compensation range:	-10 °C... +70 °C
Repeatability:	±0.1 % f. s.
Temperature range: Medium: Electronics: Storage:	-30 °C... +150 °C -10 °C... +70 °C -30 °C... +80 °C

Proof Pressure:	max. 200 bar, others on request
Power supply:	18... 32 V DC, reversed polarity protected (SELV, PELV)
Digital display: Display range: Display rate: Delay: Brightness: Error display:	4-digit dot-matrix display, digit height 5 mm, green -999... +999 5 / s 0.0 s ... 9.9 s adjustable 20... 100 % adjustable LED red and alphanumeric display
Power consumption:	approx. 40 mA at $U_b = 24$ V DC (without load)
Analog output: Current output: Load: Load influence: Voltage output: Rating: Adjustment range:	4...20 mA max. $RI = (U_b - 12 \text{ V}) / 20 \text{ mA}$ $RI = 600 \text{ Ohm}$ at $U_b = 24 \text{ V DC}$ 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:	Plug connector
Approval:	GL, cULus: file no. E56247

Dimensions (mm / inch)



Connection Chart

Plug	PG9 with cable LifYY11Y, 4/5x0,25mm ²	Version with 2 switching outputs and 1 analog output
Pin 1	brown	+Ub 18... 32 V DC
Pin 2	white	analog 4... 20 mA / 0...10 V DC
Pin 3	blue	0 V
Pin 4	black	SP1 0.5 A max.
Pin 5	grey	SP2 0.5 A max.

Order Code

Measuring range (°C)	0...+100 °C	-30...+150 °C	0...+100 °C	-30...+150 °C
Measuring range (°F)	0...+2120 °F	-22...+302 °F	0...+2120 °F	-22...+302 °F
Sensor length	17 mm (0.67 inch)		50 mm (1.97 inch)	
Art. No.	0627-039	0627-040	0627-041	0627-042

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

Experts

Specialists for monitoring
and control of

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

Barksdale develops market-focused solutions for customers in the fluid power, transportation and industrial equipment markets focusing on applications that include:

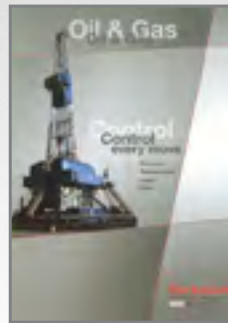
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Sensors for Hydraulic
Power Packs



Product overview



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