

Electr. Dual Temperature Switch

BTS3000

Features

- ▶ Measuring ranges: 0 ... 100 °C to -30 ... 140 °C
- ▶ max. 2 switch points
- ▶ Analogue output 4 - 20 mA or 0 - 10 V
- ▶ Rotatable 320° display & electrical connection
- ▶ Menu navigation refers to VDMA standard

Applications

- ▶ Temperature control for
 - Hydraulics & Pneumatics
 - Lubrication systems
 - Cooling

Technical Data

Sensor element:	PT100 Class A DIN/IEC 60751
Materials:	
Wetted parts:	Stainless steel, mat. no. 1.4301
Electronics housing:	Stainless steel, V2A, PC, PA6.6 GF30
Seals:	FKM
Operating elements:	3 easy-response pushbuttons
System of protection:	IP65/IP67
Protection class:	III
Electrical connection:	Plug M12 x 1, 4-pin / 5-pin / 8-pin
Process connection:	G1/4" M, 1/4" NPT M
Dimensions:	110 x 41 mm (without plug connector and probe)
Weight:	approx. 200 g
Measuring ranges:	0 ... 100 °C / 32 ... 210 °F -30 ... 140 °C / -22 ... 280 °F
A/D converter:	
Resolution:	12 bit (4096 steps per measuring span)
Scanning rate:	1000 / s
Linearity error:	< ± 0.5 % v. f. s. at +25 °C
Temperature influence:	< ± 0.2 % FSO / 10K
Compensation range:	-10 °C... +70 °C
Repeatability:	± 0.1 % v. f. s.
Time constante T09:	40 sec
Max. pressure:	200 bar
Temperature range:	
Electronics:	-10 °C... +60 °C
Storage:	-30 °C... +80 °C
Power supply:	15... 28 V DC, reversed polarity protected (SELV, PELV)
Digital display:	4-digit 14-segment LED display, red, digit height 9 mm
Error display:	LED red and alphanumeric display

Accessories

Order Number	Description
907-0357	Plug connector M12 x 1, 4-pin, with screw terminals, angled (IP65)
907-0185	Plug connector M12 x 1, 5-pin, with screw terminals, angled (IP65)
908-0361	Plug connector M12 x 1, 5-pin, with moulded cable (IP67), 2 m length
908-0544	Plug connector M12 x 1, 8-pin, with moulded cable (IP67), 2 m length

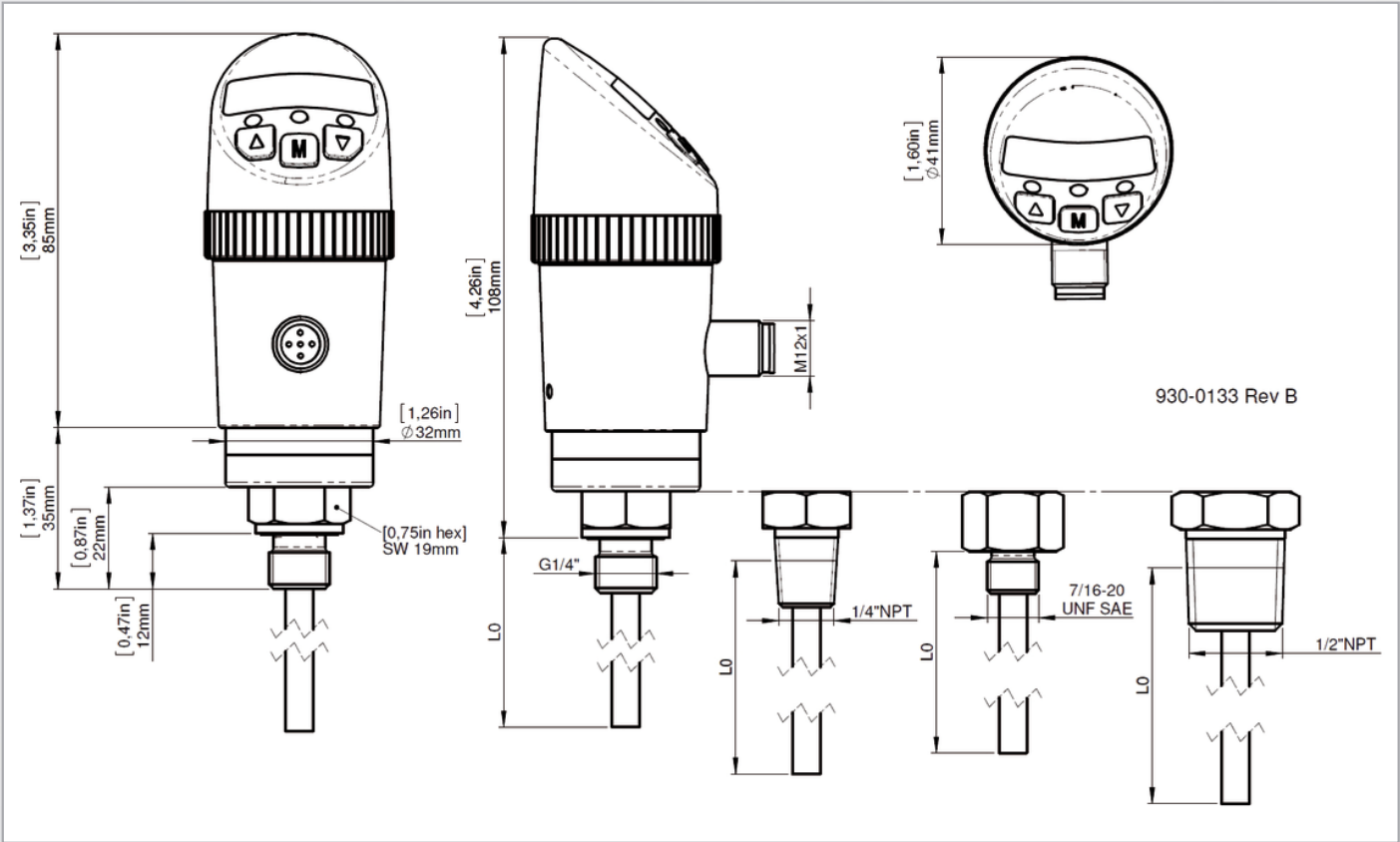


Power consumption:	approx. 50 mA (without load) approx. 80 mA (Output Code 6)	
Relay output:	Rel. 1 normally closed, Rel. 2 normally open, Load: max. 1 A, max. 60 W, max. 30 W	
Analog output: Current output: Load: Scanning rate: Voltage output: Rating: Adjustment range:	4...20 mA max. RI = (Ub-12V) / 20 mA RI = 600 Ohm at Ub = 24 V DC 2 ms 0...10 V DC max. 10 mA 25 %... 100 % f. s.	
Transistor switchting outputs PNP:		
Switching function:	Normally open/normally closed, standard / window mode and diagnosis function adjustable	
Adjustment range for switching point and hysteresis:	0 %... 125 % f. s.	
Switching frequency:	max. 100 Hz	
Load:	max. 500 mA, short-circuit proof	
Delay:	0.0 s ... 50 s adjustable	
Status display(s):	LED(s) red	
EMV	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5-Surge	1/2 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance:	DIN EN 60028-2-27	50 g (11 ms)
Vibrations resistance*	DIN EN 60028-2-26	20 g (10...2000 Hz)
Approvals	cULus - E302981	

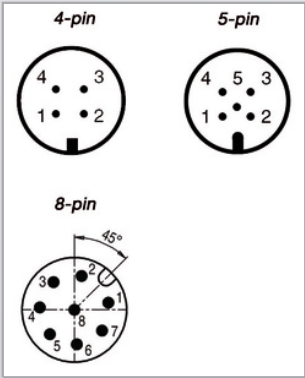
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Dimensions (mm / inch)



Plug



Electrical Connection

Pin	Signal Order Code 1	Signal Order Code 2, 3	Signal Order Code 4, 5	Signal Order Code 6	
1	+Ub	+Ub	+Ub	+Ub	
2	SP2	Signal	Signal	SP1a	NC
3	OV	0V	0V	SP1b	
4	SP1	SP1	SP1	0V	
5	-	-	SP2	SP2a	NO
6	-	-	-	SP2b	
7	-	-	-	-	
8	-	-	-	Housing	

Order Code

BTS3000										
BTS3				Base Mode						
Output										
1				2 switch points						
2				4...20mA - 1 switch point						
3				0...10 V 1 - switch point						
4				4...20 mA - 2 switch points						
5				0...10 V 2 - switch points						
6				2 relais switch points (1x NO SPST / 1 x NC SPST), no UL						
Process Connection										
G				G1/4" ext. Threat, (Sealing Code V, E and F)						
2				G1/2" ext. Threat, on request, (Sealing Colde V, E and F)						
N				1/4" NPT ext. Threat (Sealing Code X)						
3				1/2" NPT ext. Threat (Sealing Code X)						
E				7/16...20 UNF ext. Threat (Sealing Code X)						
Sealing										
V				FKM						
E				EPDM						
F				FFKM on request						
X				No sealing						
				other on request						
Electrical Connection										
M				M12						
Probe length*										
0 0 1 7 M				17 mm (Process Connection Code G and 2)						
0 0 2 5 M				25 mm (Process Connection Code G and 2)						
0 0 5 0 M				50 mm (Process Connection Code G and 2)						
0 1 0 0 M				100 mm (Process Connection Code G and 2)						
0 3 0 0 M				300 mm (Process Connection Code G and 2)						
0 6 5 0 M				650 mm (Process Connection Code G and 2)						
0 . 7 0 Z				0.7 in (Process Connection Code N, 3 and E)						
2 . 0 0 Z				2 in (Process Connection Code N, 3 and E)						
4 . 0 0 Z				4 in (Process Connection Code N, 3 and E)						
6 . 0 0 Z				6 in (Process Connection Code N, 3 and E)						
1 2 . 0 Z				12 in (Process Connection Code N, 3 and E)						
				other on request						
Temperature Range										
1				0...100°C						
2				-30...140°C						
3				32...210°F						
4				-22...280°F						
BTS3	X	X	X	X	X	X	X	X	X	X

* If probe length >100 mm shock and vibration values can deviate - depending on application.

If probe length >300 mm keep away the flow from the probe.

If probe length < 25 mm linearity error and time constant values can deviate - depending on application.