

pro^{sense} TSDA25 Series Temperature Switches



Part No.
TSDA25N-AP-0284-H



Part No.
TSDA25N-OP-0284-H

Features

- Compact temperature switch with simple setup using mechanical adjustment dials
- Extremely durable housing with 316 stainless steel wetted parts
- No internal moving parts ensure long-term stability without setpoint drift
- LEDs indicate switching and operating status
- Two normally open or complementary normally open/normally closed PNP DC switching outputs
- Optional plastic protective cover: PSD-CV
- Use with compatible liquid or gas media
- 3-year warranty



See _____ for
a wide variety of cable options

ProSense Series Temperature Sensors						
Part Number	Description	Pcs/Pkg	Wt(lb)	Price	Optional Cover	
TSDA25N-AP-0284-H	ProSense temperature switch, integral Pt1000 RTD, -13 to 284 deg F, 50mm insertion length, 6mm probe diameter, 1/4in male NPT process connection, output 1: switch PNP, N.O., output 2: switch PNP, N.O.	1	0.25		PSD-CV	
TSDA25N-OP-0284-H	ProSense temperature switch, integral Pt1000 RTD, -4 to 284 deg F, 50mm insertion length, 6mm probe diameter, 1/4in male NPT process connection, output: switch PNP, N.O./N.C. complementary.	1	0.25		PSD-CV	

Note: Purchase cable separately

ProSense TSDA25 Series Technical Specifications		
	TSDA25N-AP-0284-H	TSDA25N-OP-0284-H
Operating Voltage	9.6 to 32 VDC**	
Process Connection	1/4" MNPT	
Electrical Connection	M12 connector; gold-plated contacts	
Outputs	Two PNP N.O. switching DC outputs	Two complementary PNP (1-N.O./1-N.C.) switching DC outputs
Current Rating	500 mA each output	
Current Consumption	< 30 mA	
Short-Circuit Protection	Yes (pulsed)	
Reverse Polarity Protection	Yes	
Overload Protection	Yes	
Voltage Drop	< 2 VDC	
Pressure Rating	5802 psi (400 bar)	
Temperature Sensing Range	-13 to 284°F (-25 to 140°C)	-4 to 284°F (-20 to 140°C)
Setpoint scale	-4 to 284°F (-20 to 140°C)	3 to 284°F (-16 to 140°C)
Reset point scale	Fixed 9°F (5°C) below setpoint	-4 to 277°F (-20 to 136°C)
Adjustment of the Switch Point	Setting dials	
Setting Accuracy	± 5.4°F (3°C)	
Repeatability	± 0.1% of full range in °C	
Temperature Drift	± 0.1%, of full temperature range/10°C; 32 to 176°F (0 to 80°C).	
Power-on Delay Time	0.5 seconds	
Measuring Element	1 x Pt 1000, to DIN EN 60751, class A	
Dynamic Response (DIN EN 60751)	*to.5 = 1 sec/ to.9 = 3 sec	

* to.5 = a 50% of full scale change in output when immersed in water at 0.4m/s, to.9 = a 90% FS change.

** Class 2 power supply must be used in order to comply with UL requirements

ProSense® TSDA25 Series Temperature Switches

ProSense TSDA25 Series Technical Specifications Continued		
	TSDA25N-AP-0284-H	TSDA25N-OP-0284-H
Minimum Installation Depth	0.6 in (15 mm)	
Housing Material	PBT (Pocan); PC (Makrolon); FPM (Viton); stainless steel (316L)	
Materials (wetted parts)	Stainless steel (316L)	
Indication/Switch Status	Switching Status: 2 LEDs: yellow	Power: LED - green - Switching Status: LED - yellow
Ambient Temperature	-40 to 176°F (-40 to 80°C) at max. 176°F (80°C) medium temp. -40 to 122°F (-40 to 50°C) at max. 293°F (145°C) medium temp.	
Medium Temperature	-40 to 293°F (-40 to 145°C)	
Storage Temperature	-40 to 212°F (-40 to 100°C)	
Protection	IP67	
Protection Class	III	
Insulation Resistance	> 100 MΩ (500 VDC)	
Shock Resistance	50g (DIN / IEC 68-2-27, 11ms)	
Vibration Resistance	20g (DIN / EN 68-2-6, (10 to 2000 Hz)	
EMC		
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 61000-4-6 HF Conducted	10 V	
Approvals	cULus File # E324411, CE	

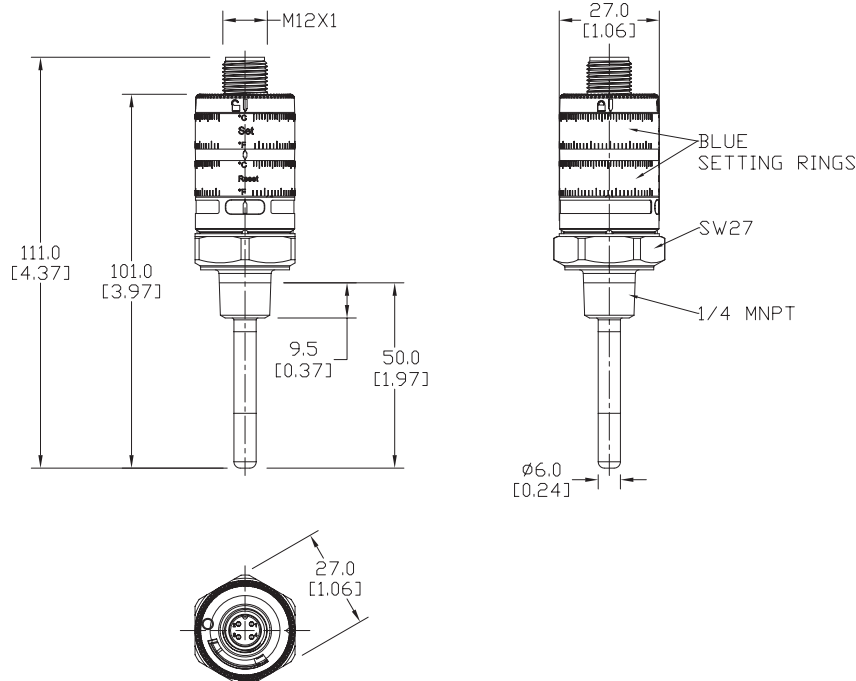
To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page



NOTE: CHECK THE CHEMICAL COMPATIBILITY OF THE SENSOR'S WETTED PARTS WITH THE MEDIUM TO BE MEASURED.

Dimensions

mm [inches]

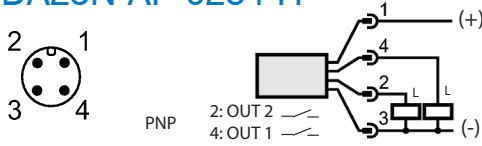


See our Web site [for complete Engineering drawings.](#)

pro^{ense} TSDA25 Series Temperature Switches

Wiring

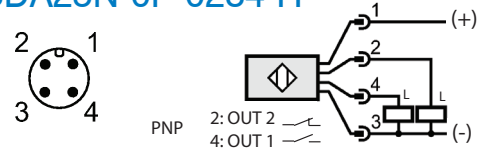
TSDA25N-AP-0284-H



Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.

Cable Assembly Wiring Colors:
Pin 1 - Brown
Pin 2 - White
Pin 3 - Blue
Pin 4 - Black

TSDA25N-0P-0284-H

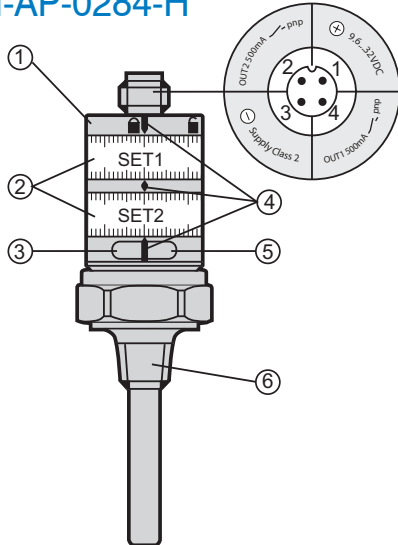


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Setting and Operation

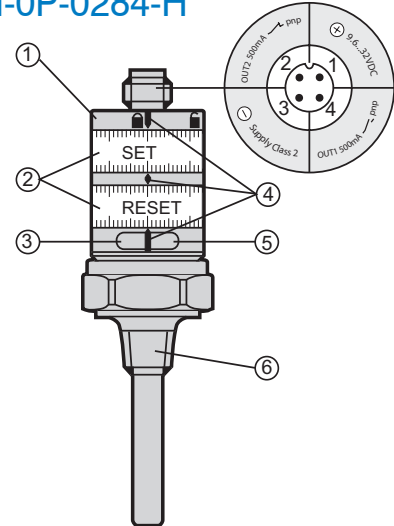
TSDA25N-AP-0284-H



- 1: locking ring
 - 2: setting rings (manually adjustable after unlocking)
 - 3: LED green: lights if OUT1 = ON, temperature \geq [SET1]
 - 4: setting marks
 - 5: LED yellow: lights if OUT2 = ON, temperature \geq [SET2]
 - 6: process connection $\frac{1}{4}$ " NPT
- Pin 4 = OUT1 / Pin 2 = OUT2

To obtain the setting accuracy: Set both rings to the minimum value, then set the requested values.

TSDA25N-0P-0284-H



- 1: locking ring
 - 2: setting rings (manually adjustable after unlocking)
 - 3: LED green: supply voltage O.K.
 - 4: setting marks
 - 5: LED yellow: value [SET] reached, OUT1 = ON / OUT2 = OFF
 - 6: process connection $\frac{1}{4}$ " NPT
- pin 4 = OUT1 / pin 2 = OUT2

Minimum distance between [SET] and [RESET] = 3°C.

To obtain the setting accuracy: Set both rings to the minimum value, then set the requested values.

pro^oense[®] Thermocouple and RTD Temperature Range

Thermocouple Temperature Range	
THMK-C06-04	32 to 2100°F (0 to 1149°C)
THMK-C12-04	
THMK-C18-04	
THMK-H06L01-03	
THMK-H12L01-03	
THMK-H18L01-03	32 to 2100°F (0 to 1149°C) lead wire transition rated to 204°C (400°F)
THMK-T06L06-03	
THMK-T12L06-03	
THMK-T18L06-03	
TTD25C-20-0300F-H	
TTD25N-20-0300F-H	0 to 300°F (-17.8 to 148.9°C)
THMJ-A01L04-01	32 to 900°F (0 to 482°C)
THMJ-A01L06-01	
THMJ-A01L10-01	
THMJ-A01L10-02	
THMJ-B01L06-01	
THMJ-B01L06-02	
THMJ-B02L06-01	
THMJ-B02L06-02	
THMJ-D08L04-01	
THMJ-D08L06-01	
THMJ-D08L10-01	
THMJ-D08L10-02	
THMK-A01L04-01	
THMK-A01L06-01	
THMK-A01L10-01	
THMK-A01L10-02	
THMK-B01L06-01	
THMK-B01L06-02	
THMK-D08L04-01	
THMK-D08L06-01	
THMK-D08L10-01	
THMK-D08L10-02	
THMJ-T06L06-01	
THMJ-T12L06-01	
THMJ-T18L06-01	
THMJ-P06-01	
THMJ-P12-01	
THMJ-P18-01	
THMJ-C04-03	
THMJ-C04R-03	
THMJ-C06-01	
THMJ-C06-02	
THMJ-C06-03	
THMJ-C06R-03	
THMJ-C12-01	
THMJ-C12-02	
THMJ-C12-03	
THMJ-C12R-03	
THMJ-C18-01	
THMJ-C18-02	
THMJ-H04L01-02	
THMJ-H06L01-01	
THMJ-H06L01-02	
THMJ-H12L01-01	
THMJ-H12L01-02	
THMJ-H18L01-01	

Thermocouple Temperature Range	
THMJ-T06L06-02	32 to 1330°F (0 to 720°C) lead wire transition rated to 400 °F (204 °C)
THMJ-T12L06-02	
THMJ-T18L06-02	
THMJ-P06-02	32 to 1330°F (0 to 720°C) plug rated to 400 °F (204 °C)
THMJ-P12-02	
THMJ-P18-02	
THMK-C04-03	32 to 1700°F (0 to 927°C)
THMK-C04R-03	
THMK-C06-01	
THMK-C06-02	
THMK-C06-03	
THMK-C06R-03	
THMK-C12-01	
THMK-C12-02	
THMK-C12-03	
THMK-C12R-03	
THMK-C18-01	
THMK-C18-02	
THMK-H04L01-02	
THMK-H06L01-01	
THMK-H06L01-02	
THMK-H12L01-01	
THMK-H12L01-02	
THMK-H18L01-01	
THMK-T06L06-01	
THMK-T06L06-02	
THMK-T12L06-01	
THMK-T12L06-02	
THMK-T18L06-01	
THMK-T18L06-02	
THMK-P06-01	
THMK-P06-02	
THMK-P12-01	
THMK-P12-02	
THMK-P18-01	
THMK-P18-02	
THMK-B02L06-01	
THMK-B02L06-02	
THMT-P06-01	
THMT-P12-01	
THMT-P18-01	
THMT-T06L06-01	
THMT-T12L06-01	
THMT-T18L06-01	
TTD25C-20-0100C-H	
TTD25N-20-0100C-H	
TSD25N-0P-0284-H	
TSD25N-AP-0284-H	

RTD Temperature Range	
RTD1-R01-01	40 to 185°F (-40 to 85°C)
RTD1-S04-01	-58 to 572°F (-50 to 300°C)
RTD1-S04-02	
RTD1-S04-03	
RTD1-S04-04	
RTD1-B01L06-01	
RTD1-B02L06-01	
RTD1-C04-03	
RTD1-C04R-03	
RTD1-C06-01	
RTD1-C06-03	
RTD1-C06R-03	
RTD1-C12-01	
RTD1-C12-02	
RTD1-C12-03	
RTD1-C12R-03	
RTD1-C18-01	
RTD1-C18-02	
RTD1-H04L01-02	
RTD1-H06L01-01	
RTD1-H06L01-02	
RTD1-H12L01-01	
RTD1-H12L01-02	
RTD1-H18L01-01	
RTD1-P06-01	-58 to 572°F (-50 to 300°C) Plug rated to 400°F (204°C)
RTD1-P12-01	
RTD1-P18-01	
RTD1-D08L10-01	
RTD1-T06L06-01	
RTD1-T12L06-01	
RTD1-T18L06-01	

J, K, & T Thermocouple Color Code		
J	White	+
	Red	-
K	Yellow	+
	Red	-
T	Blue	+
	Red	-