

proSense® 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 www.AutomationDirect.com for a wide variety of cable options

ProSense Series Temperature Sensors

Part Number	Description	Pcs/Pkg	Wt(lb)	Price	Optional Cover	Price
<u>TSDA25N-AP-0284-H</u>	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	\$116.00	PSD-CV	\$3.75
<u>TSDA25N-OP-0284-H</u>	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	\$116.00	PSD-CV	\$3.75

Note: Purchase cable separately

ProSense TSDA25 Series Technical Specifications

	<u>TSDA25N-AP-0284-H</u>	<u>TSDA25N-OP-0284-H</u>
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	500mA each output	
Current Consumption	< 30mA	
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)	*t0.5 = 1 sec/ t0.9 = 3 sec	

* t0.5 = a 50% of full scale change in output when immersed in water at 0.4m/s, t0.9 = a 90% FS change.

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

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ProSense TSDA25 Series Technical Specifications Continued		
	<i><u>TSDA25N-AP-0284-H</u></i>	<i><u>TSDA25N-OP-0284-H</u></i>
<i>Minimum Installation Depth</i>	0.6 in (15 mm)	
<i>Housing Material</i>	PBT (Pocan); PC (Makrolon); FPM (Viton); stainless steel (316L)	
<i>Materials (wetted parts)</i>	Stainless steel (316L)	
<i>Indication/Switch Status</i>	Switching Status: 2 LEDs: yellow	Power: LED - green - Switching Status: LED - yellow
<i>Ambient Temperature</i>	-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.	
<i>Medium Temperature</i>	-40 to 293°F (-40 to 145°C)	
<i>Storage Temperature</i>	-40 to 212°F (-40 to 100°C)	
<i>Protection</i>	IP67	
<i>Protection Class</i>	III	
<i>Insulation Resistance</i>	> 100MΩ (500VDC)	
<i>Shock Resistance</i>	50g (DIN / IEC 68-2-27, 11ms)	
<i>Vibration Resistance</i>	20g (DIN / EN 68-2-6, (10 to 2000 Hz)	
<i>EMC</i>		
<i>EN 61000-4-2 ESD</i>	4 kV CD/8 kV AD	
<i>EN 61000-4-3 HF Radiated</i>	10 V/m	
<i>EN 61000-4-4 Burst</i>	2 kV	
<i>EN 61000-4-6 HF Conducted</i>	10 V	
<i>Approvals</i>	cULus File # E324411, CE	

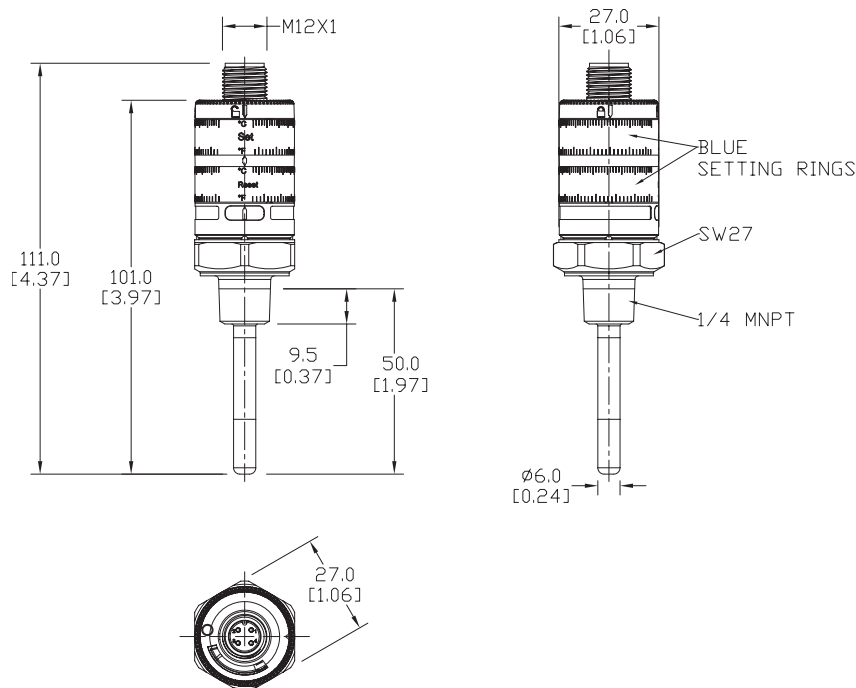
To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page



Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

Dimensions

mm [inches]

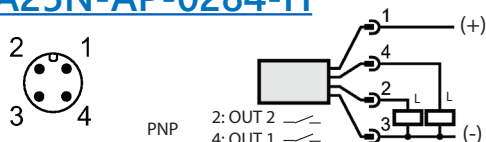


See our Web site www.AutomationDirect.com for complete Engineering drawings.

pro^{ense} TSDA25 Series Temperature Switches

Wiring

TSDA25N-AP-0284-H

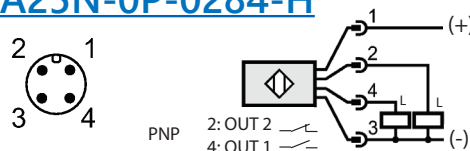


Note: wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.

Cable Assembly Wiring Colors:

Pin 1 - Brown
Pin 2 - White
Pin 3 - Blue
Pin 4 - Black

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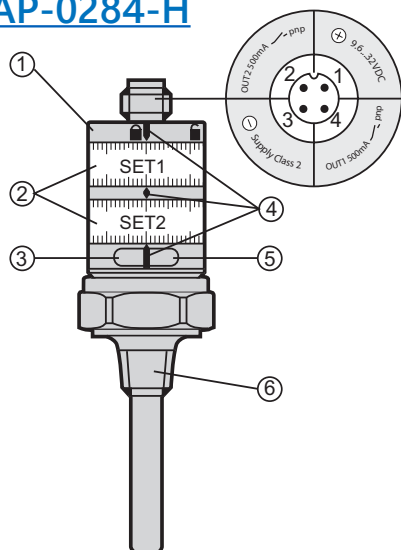
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Setting and Operation

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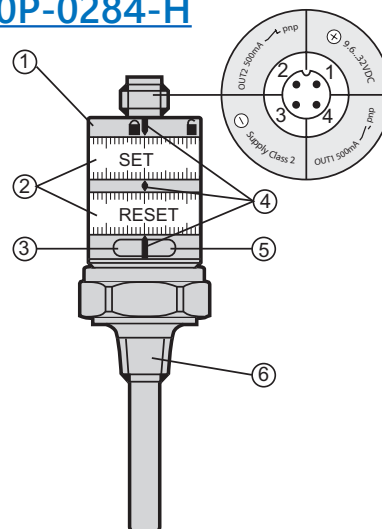
- 1: locking ring
 - 2: setting rings (manually adjustable after unlocking)
 - 3: LED yellow: lights if OUT1 = ON, temperature $\geq$ [SET1]
 - 4: setting marks
 - 5: LED yellow: lights if OUT2 = ON, temperature $\geq$ [SET2]
 - 6: process connection 1/4\" NPT
- Pin 4 = OUT1 / Pin 2 = OUT2

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



Scan the QR Code above or click to view the
[TSDA25N-AP-0284-H](#) product insert.

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 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.



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