

20 and 25 Series Temperature Switchgauge® 2 and 2 1/2 in. (51 and 64 mm) Dial

The 20 Series (2 inch/51 mm dial) and the 25 Series (2-1/2 inch/64 mm dial) Switchgauge models are diaphragm-actuated, temperature-indicating gages with built-in electrical switches for tripping alarms and/or shut-down devices.

Ranges are available from 32°-120°F (0°-45°C) through 300°-440°F (160°-220°C).

The gage mechanism is enclosed in a steel case coated to resist corrosion. A polycarbonate, break-resistant lens and a polished, stainless steel bezel help protect this instrument.

These vapor-actuated gages feature a sealed capillary tube and a sensing bulb. When subjected to heat, the liquid in the sensing bulb changes to vapor creating pressure against the diaphragm mechanism. The diaphragm translates this vapor pressure into a mechanical gage reading.

For series 20T and 25T, the gage pointer acts as a temperature indicator and as one switch pole which completes a circuit when it touches the adjustable limit contact. Contact(s) are grounded through the Switchgauge case. They have a self-cleaning motion to enhance electrical continuity.

These instruments are used on equipment in oil field and monitoring engine coolant, crankcase oil and transmission oil.



20T Series shown



1 Products covered by this bulletin comply with EMC Council directive 89/336/EEC regarding electromagnetic compatibility as noted.

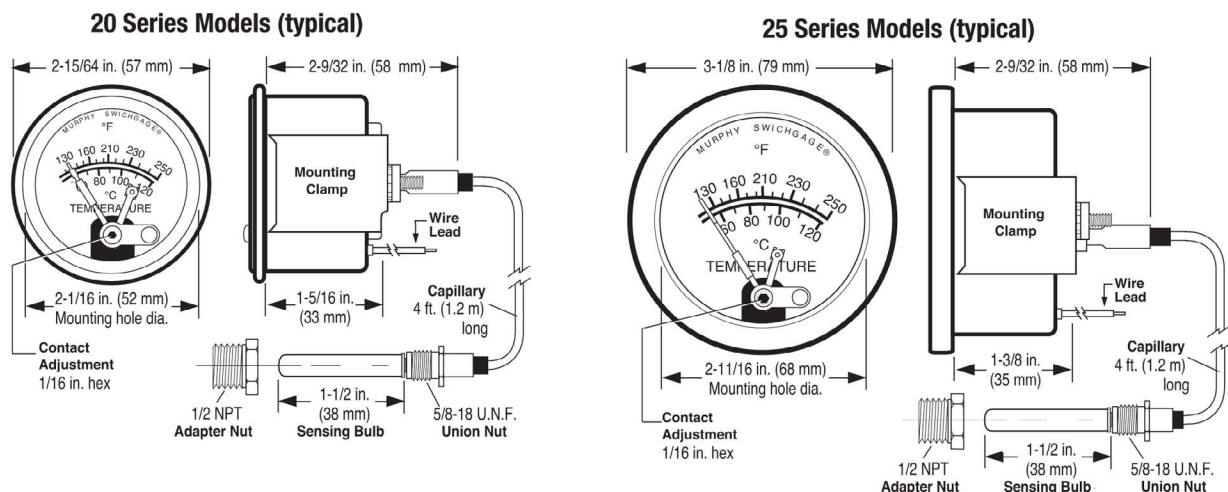
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Base Models

Coolant or Oil Temperature 20T and 25T Series Switchgauge

For these models the gage pointer makes with an adjustable contact to complete a pilot-duty circuit.

Dimensions



Specifications

Dial: White on black; U.S.A. standard scale is dual scale °F/°C

Case: Plated steel; mounting clamp included (except direct mount models)

Bezel: Polished stainless steel, standard

Pointer: Tempered nickel silver

Lens: Polycarbonate, high-impact

Sensing Element: Beryllium copper diaphragm

Capillary: PVC armored copper; 4 ft. (1.2 m)

Sensing Bulb: Copper

Gage Accuracy: See Temperature Accuracy Chart

Maximum Temperature:

See Temperature Ranges and Factory Settings Table

Maximum Ambient Temperature:

-40°F (-40°C) through 150°F (66°C)

Adjustable Limit Contact (20T and 25T): SPST contact; pilot duty only, 2 A @ 30 VAC/VDC; Ground path through encasement. Normally Closed (NC) when the high limit is met. Normally Open (NO) when pointer is in normal operating range. Contacts are gold flashed silver.

Limit Contact Adjustment: By a 1/16 in. hex wrench through 100% of the scale

Limit Contact Wire Leads: 18 AWG (1.0 mm) 2 x 12 in. (305 mm)

Snap-Switch Wire Leads: 20 AWG (0.75 mm²) x 12 in. (305 mm)

Unit Weight: 20 Series: 12.7 oz. (0.39 kg); 25 Series Models: 13.8 oz. (0.43 kg)

Unit Dimensions:

20 Series: 4-3/4 x 4-3/4 x 2-3/4 in. (121 x 121 x 70 mm)

25 Series Models: 4-3/4 x 4-3/4 x 3 in. (121 x 121 x 76 mm)

Temperature Ranges and Factory Settings

NOTES

- Values in () are mathematical conversions from °F to °C – they do not reflect actual second scale range. U.S.A. standard scale is °F/°C.
- For adjustable switch models, the trip point is adjustable only over the upper half of the scale.

Ranges Available			Max. Temp.	Std. Settings*			Hi/Lo Settings	
Dual Scale Dial		Single Scale					Low	High
°Fahrenheit	(°Celsius)	°Celsius only	°F (°C)	°F (°C)	°C only	°F (°C)	°F (°C)	
130 – 250	(54 – 121)	50 – 120	310 (154)	210 (99)	97	160 (71)	210 (99)	

* Standard setting for 20T and 25T models.

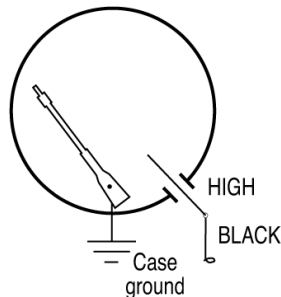
Temperature Accuracy Chart

Temperature Range	Lower 1/3 of Scale	Middle 1/3 of Scale	Upper 1/3 of Scale
130 to 250°F (54 to 121°C)	± 9°F (± 5°C)	± 5°F (± 2.4°C)	± 4°F (± 2°C)

Typical Internal Wiring Diagrams

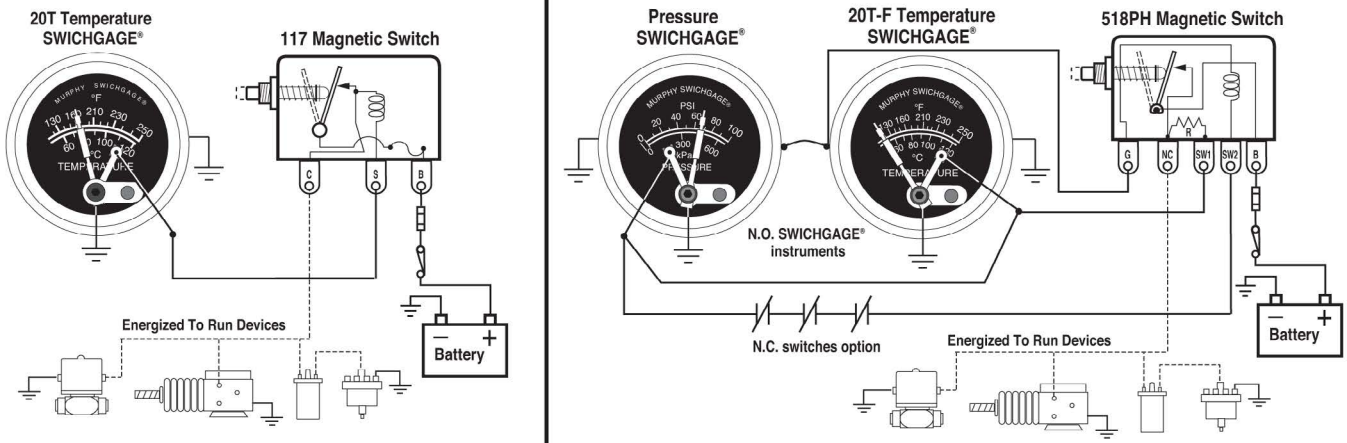
Pointer shown in the shelf position. Pointer type contact rating: pilot duty 2 A @ 30 VAC/VDC.

Snap-acting switch rating: 3 A @ 30 VDC inductive. 4 A @ 125 VAC inductive.



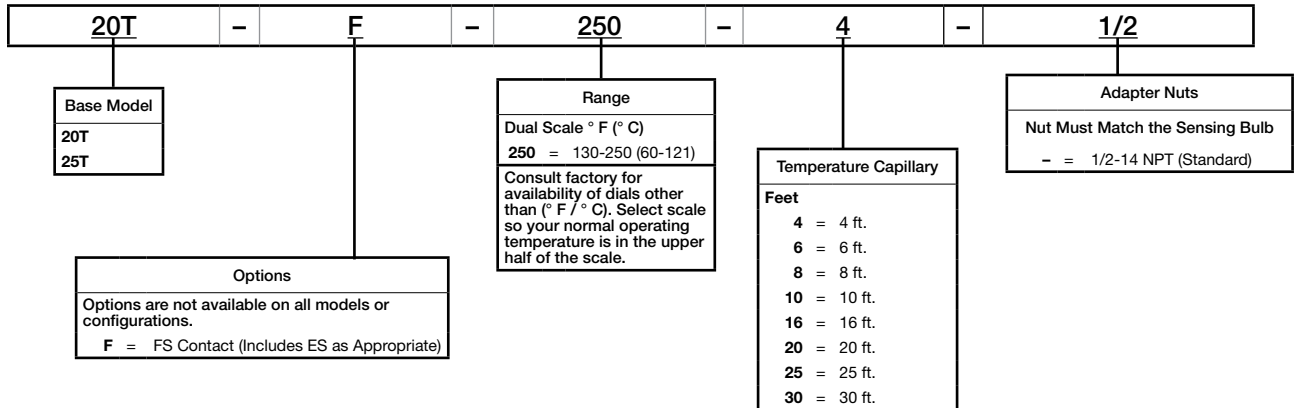
Magnetic Switch

INDUCTIVE AND HIGH CURRENT LOADS REQUIRE THE USE OF A MAGNETIC SWITCH. The Swichgag contacts are for light-duty electrical switching to operate alarms or control devices. Tattletale® Magnetic Switches show the cause of shutdown for applications that include: capacitor discharge or magneto ignitions, battery systems and electric motor driven equipment. Typical wiring diagrams are shown below.



How to Order

Options listed below. All configurations may not be available. Call your sales representative or FW Murphy for more information.



Approximate Shipping Weight and Dimensions		
Model	Weight	Dimension
20T	12.7 oz. (0.39 kg);	4-3/4 x 4-3/4 x 2-3/4 in. (121 x 121 x 70 mm)
25T	13.8 oz. (0.43 kg)	4-3/4 x 4-3/4 x 3 in. (121 x 121 x 76 mm)