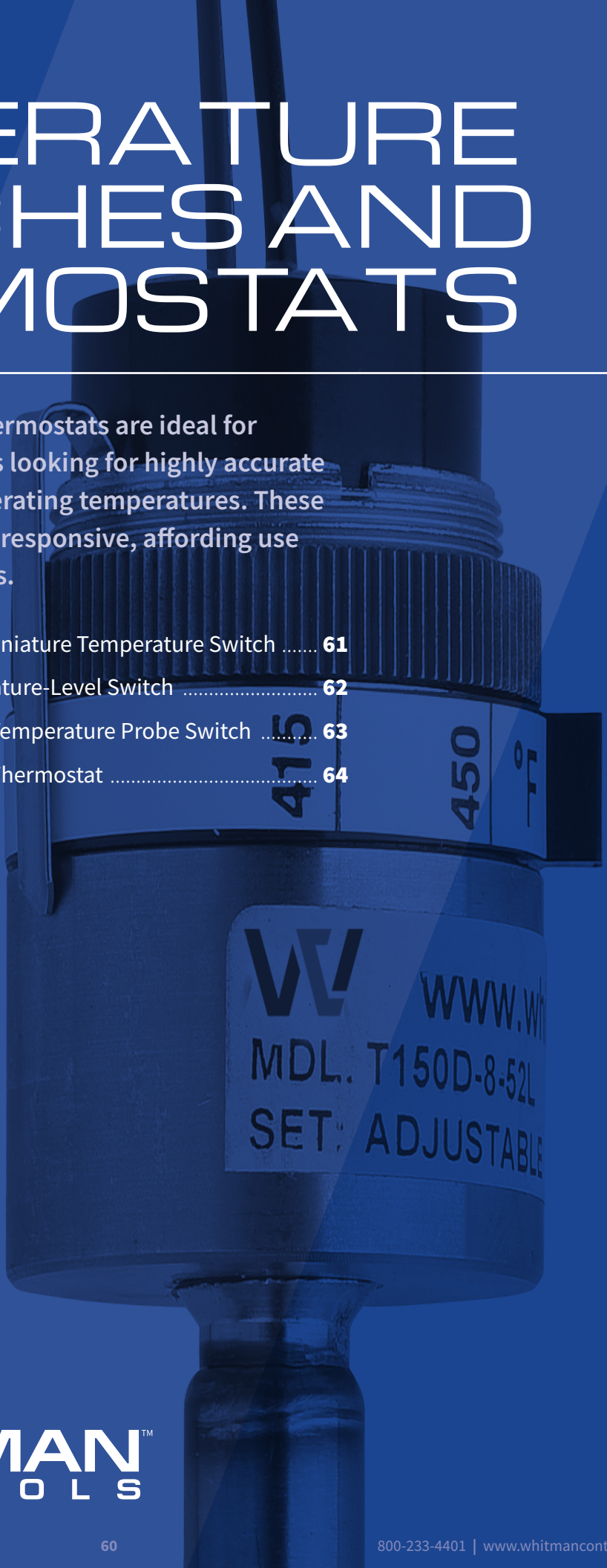
TEMPERATURE SWITCHES AND THERMOSTATS

Our temperature switches and thermostats are ideal for applications where the end user is looking for highly accurate control across a wide range of operating temperatures. These sensors are adjustable and highly responsive, affording use across a number of OEM processes.



WHITMAN™ CONTROLS

T150D

Adjustable Stainless Steel Miniature Temperature Switch

OVERVIEW

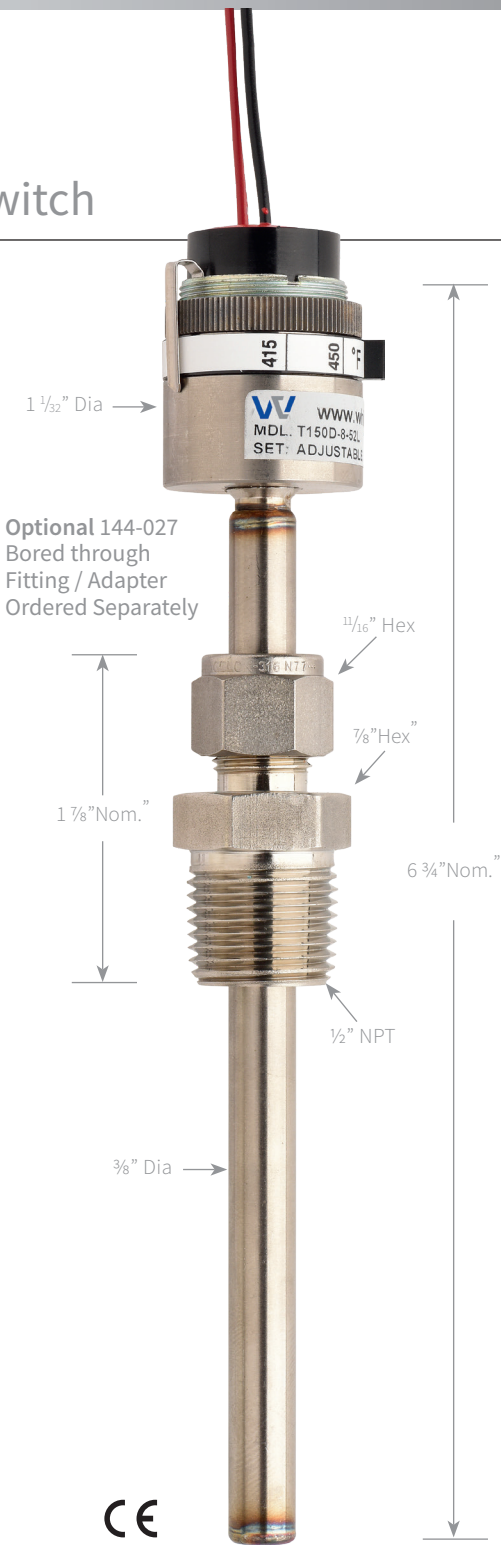
The Whitman Controls T150D Adjustable Stainless Steel Miniature Temperature Switches provide the end-user with a wide range of functionality without impacting durability. The T150 is designed for use up to 510°F but can withstand temperatures up to 800°F while still protecting the set point and life of the switch. The limit filled, saturated vapor sensor is in direct contact with the temperature-sensing outer shell producing fast response and accurate temperature control. The external setting scale provides full range adjustment and the external lock screw allows for easy adjustment of set point. The stainless steel wetted material affords use in any number of processes from medical to food processing, to oil baths and refrigeration.

KEY FEATURES

- Miniature size
- 9 ranges of adjustability from -45°F to +510°F
- Will withstand over temperatures without affecting set point or life of switch
- External lock screw for easy adjustment of set point
- Vibration resistant
- Direct mount offers thermal isolation between electrical switch and sensor
- Numerous electrical interfaces available

SPECIFICATIONS

- **Max System Temperature:** 800°F
- **Max System Pressure:** 1,000 PSI
- **Temperature Range:** -45°F to +510°F (Up to 230°F in oil)
- **Temperature Sensor:** Limit filled, saturated vapor sensor
- **Switch Body Ambient Temperature Limits:** -65°F to +225°F
- **Wetted Parts:** 316 Stainless Steel

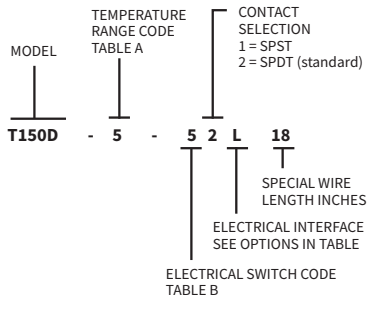


SENSOR CODE AND PERFORMANCE CHARACTERISTICS

Table A			
CODE TEMP RANGE	ADJUSTABLE SET POINT RANGE	REPEATABILITY	MAXIMUM TEMPERATURE*
	°F	°F	°F
1	-45 to +20	± 1.3	200
2	-15 to +65	± 1.6	250
3	+25 to +95	± 1.4	300
4	+80 to +160	± 1.6	350
5	+130 to +220	± 1.8	450
6	+180 to +260	± 1.6	500
7	+240 to +350	± 2.2	600
8	+345 to +450	± 2.1	700
9	+390 to +510	± 2.4	800

**Maximum temperature is the temperature the sensing bulb may be subjected to without causing changes in the operating characteristics of the switch.*

CONSTRUCTION OF PART NUMBER



L10

Vertical Brass Buna Temperature-Level Switch

OVERVIEW

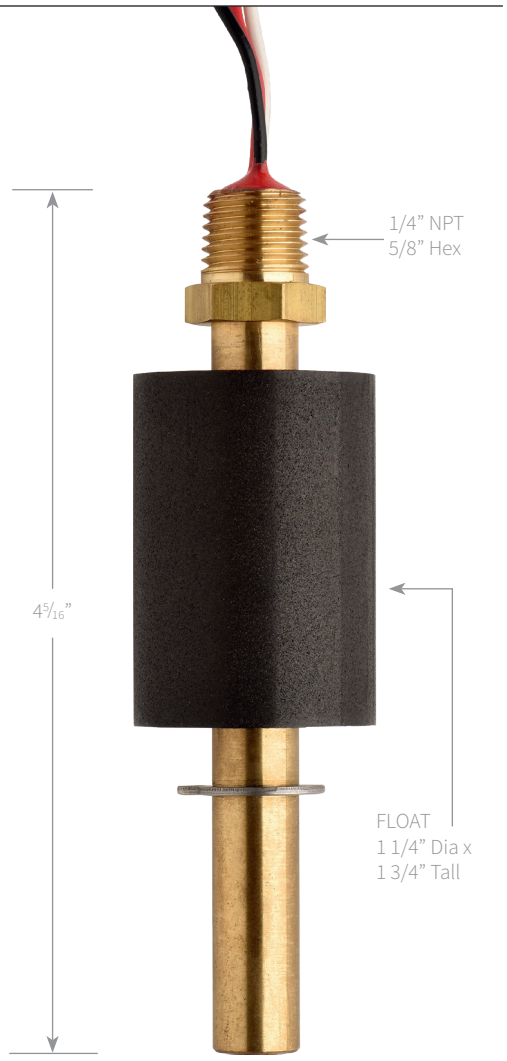
The Whitman Controls L10 Series Vertical Mount Brass Buna Temperature-Level Switches are highly versatile, providing the end-user the ability to control both temperature and liquid level within an application. These switches can be used to set off high/low temperature alarms along with a number of other functions. The buna float can be used in numerous liquids and can survive up to 230°F in oil. The internal thermostats are available from 100°F to 225°F in 25°F increments, with special temperatures available for O.E.M. customers. There are numerous wiring combinations and other options available to afford the end-user extreme functionality.

KEY FEATURES

- Highly versatile with temperature and liquid level control
- Whitman Red Seal potting submersible to a NEMA 6 rating
- Extensive operating temperature range
- SPST availability

SPECIFICATIONS

- **Minimum Liquid Specific Gravity:** 0.75
- **Liquid Temperature range:** -40°F to +180°F (-40°F to +230°F in oil)
- **Temperature Settings**: +100°F to +225°F in 25°F increments
- **Repeatability:** +/- 5°F
- **Max System Pressure:** 160 PSIG
- **Electrical Switch Rating**: 50 VA
- **Weight:** 5.0 oz (approx.)
- **Wetted Materials:** Brass stem, buna float



PERFORMANCE CHARACTERISTICS

	L10 Series
Fitting	1/4" NPT, 5/8" Hex
Wetted Materials	Brass, Buna, 316 SS
Electrical Ratings:	
Level Switch:	50 Volt Amps, 1/4 A at 150 VAC
Temp Switch:	8 Amps at 12 VDC, 2.6 Amps at 120 VAC
Temperature Range	-40°F to +180°F
Minimum Liquid Specific Gravity	0.75
Crush Pressure	160 PSIG
Lead Wires	20 AWG 24" PVC

**Response time is approximately 1°F/second and may vary by media and conditions*
CAUTION: Customer Media and environment must be compatible with construction materials as outlined above

PART NUMBER CONSTRUCTION:

LXX - 06 - C3 - 15 - NX - XX

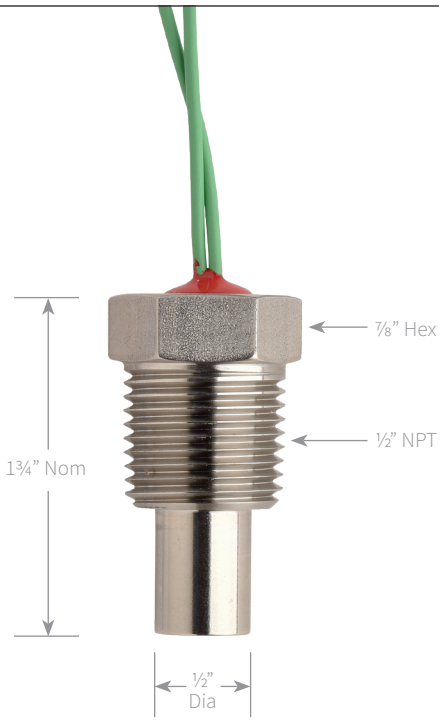
- LXX: 11 = 4 Wire Temp N/O; 12 = 4 Wire Temp N/C; 13 = 3 Wire Temp N/O; 14 = 3 Wire Temp N/C; 15 = 2 Wire Temp N/O Series; 16 = 2 Wire Temp N/C Series; 17 = 2 Wire Temp N/O Parallel; 18 = 2 Wire Temp N/C Parallel
- NX: O = Level N/O, C = Level N/C
- XX: B = Temp N/O, C = Temp N/C
- XX: 2 = 100° F; 3 = 125° F; 4 = 150° F; 5 = 175° F; 6 = 200° F; 7 = 225° F; 8 = SPECIAL

TP SERIES

Economical Stainless Steel Temperature Probe Switch

OVERVIEW

The Whitman Controls TP Series Economical Stainless Steel Temperature Probe Switches are a creep action thermostat/thermal protector switch providing almost no differential between opening and closing temperatures. The switch is designed for use up to 250°F but can withstand temperatures up to 275°F while still protecting the life of the switch. They are available in temperature units from 50°F to 250°F in 25°F increments with special temperatures available for O.E.M. customers. These switches are available wired Normally Closed or Normally Open on increasing temperature. The stainless steel wetted material affords use in any number of processes from medical to food processing, to oil baths and refrigeration. They are all made with ½" NPT Male threads so that they can be screwed directly into almost application.



KEY FEATURES

- 316 Stainless Steel
- Extensive temperature operating range
- Will withstand over temperatures without affecting life of switch

SPECIFICATIONS

- **Temperature range:** +50°F to +250°F
- **Max System Temperature:** 275°F
- **Max System Pressure:** 1,000 PSIG
- **Wetted Materials:** 316 Stainless Steel

Part Number Construction: **TP - XXX - NX**

XXX: Customer Temp in °F, i.e. 075 or 225

NX: NO = Normally Open; NC = Normally Closed

T3

Economical Stainless Steel Thermostat

OVERVIEW

The Whitman Controls T3 Economical Stainless Steel Thermostat is a capillary bulb thermostat, with 39” capillary tubes and stainless steel wetted material. These SPDT devices are rated to 10 Amps. The T3 has grown in popularity, frequently used in the medical field and food processing, specifically to control the temperature of foods and various enclosures such as chicken coops. These thermostats are highly versatile and can be panel mounted, affording use across any number of OEM and other industrial applications.

KEY FEATURES

- 316 Stainless Steel
- Capillary bulb thermostat with 39” capillary tubes
- Extensive temperature operating range
- SPDT, rated to 10 Amps

SPECIFICATIONS

- **Wetted Materials:** 316 Stainless Steel
- **Max System Pressure:** 1000 PSIG
- **Temperature range:** +30°F to +190°F
- **Amps:** 10 Amps Max

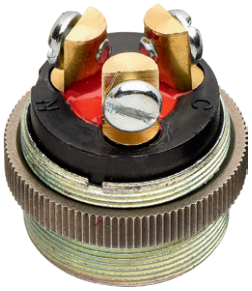
Optional Electrical Interfaces

Available for Models

P100, P117, P119, J205, P605, J705 and W117

T

Standard solder type terminals also accept AMP 60789-2 and 60598-4 Pin Receptacles



TS

Three flat bar terminals with #6-32 pan head screws at right angle

TB

3 standard 1/4" terminals accept arc-less (or equal) female quick connect terminals

DN

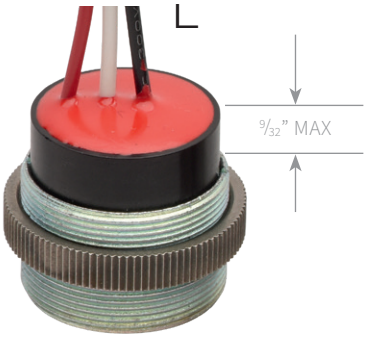
DIN Male Plug
"F" Set Only
Except "C", "K" & "F" Set on P605 Series Units

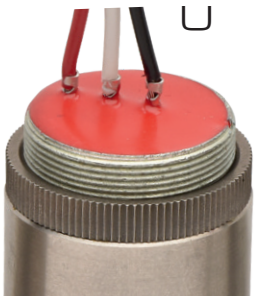
DN Pin-out:
1 = Common
2 = N/C
3 = N/O
Other Pin-outs on request

For L and U Electrical Interfaces

2 or 3 wire pigtail furnished in 12" length
Standard-supplied #20 AWG Insulated with polyvinyl chloride – 300 volts.

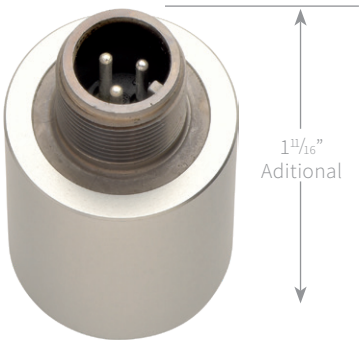
COLOR CODE:
Black – Common
White – N.O.
Red – N.C.





"M" Interface Quick-Disconnect 3-Pin Connector

This interface is rated as environmentally resisting. It is intended for use where the connector will be subjected to heavy condensation and rapid changes in environmental temperature or pressure. This connector is equivalent to MS3102E-10SL-3P. Applicable to models shown below only.



"M" Interface

P117, J705, J205, P605
"F" Set Only Except "C"
"K" and "F" Set on P605

MS3106E

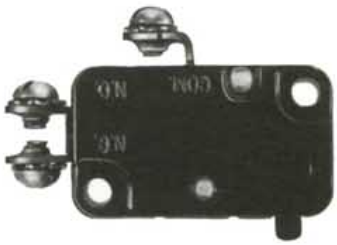
Connectors – All Models With "M" Interface

Interface Options

Optional Electrical Interfaces Available for Model P88

TB

1/4" (TB)
Blade terminals
UL Recognized
CSA Listed



TS

Screw Terminal
UL Listed
(except 25 amp)
CSA Listed

Set Point Adjustments and Wiring Instructions

SET POINT ADJUSTMENTS

PRESSURE SWITCHES

PRESSURE SET POINT ADJUSTMENT-JAM NUT STYLE ADJUSTING RING MODELS P100, P117, W117, P119, J205, J705 – K OR C SET.

The K & C designs are readily adjustable throughout their prescribed range by loosening the knurled locking ring. Turning the electrical switch clockwise will lower the set point, turning it counterclockwise will increase the set point. When desired set point is reached, the assembly is locked again by tightening the knurled locking ring.

Entire adjustable range may be covered by rotating approximately 250° each side of the mean.

The knurled locking ring requires very little effort to establish a reliable locked position. By placing a wrench on the fitting hex to hold switch body in position, grip the knurled locking ring with pliers and turn counterclockwise to loosen or clockwise to tighten. Only a slight snug is required to lock in position.

VACUUM SET POINT ADJUSTMENT – VACUUM MODELS

To lower set point turn electrical switch counterclockwise. To raise set point turn electrical switch clockwise.

PRESSURE SET POINT ADJUSTMENT – MODEL P605

Slide spring clip cover down past adjusting ring window. Insert .093 inch dia. pin into adjusting ring radial hole. Pushing the pin to the right (counterclockwise) will lower the set point: to the left (clockwise) will raise the set point. Align center of pin holes to the desired pressure. When desired set point is reached, remove pin and slide up the cover to close the adjusting ring window.

PRESSURE SET POINT ADJUSTMENT MODEL P88 K OR C SET

The standard field adjustable versions of the Guardian P/V Model P88 are easily adjusted throughout the prescribed pressure range by aligning the top of the knurled adjusting nut with the desired pressure setting indicated on the adjacent range scale.

PRESSURE SET POINT FOR ADJUSTABLE SWITCHES

All switches are easy to adjust. First, loosen the knurled locking ring. Now, set the sliding gauge pointer to the desired pressure point. Tighten the locking ring and the pressure (vacuum) switch is locked and ready to use.

NOTE: Little effort is required to establish a reliable locked position. If tools are used, place a wrench on the hex nut under the switch to hold the switch body in place; then grip the knurled locking ring with pliers to tighten or loosen as desired.

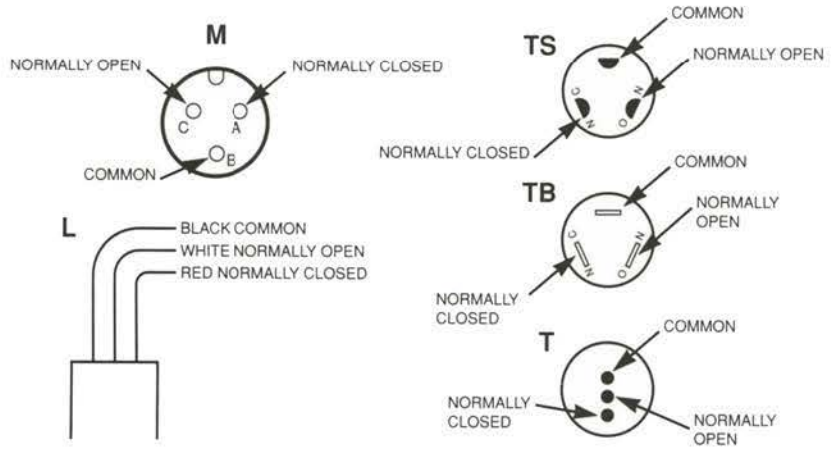
Loosen knurled ring, set pointer to desired pressure and tighten ring to hold in position.

Knurled Locking Ring

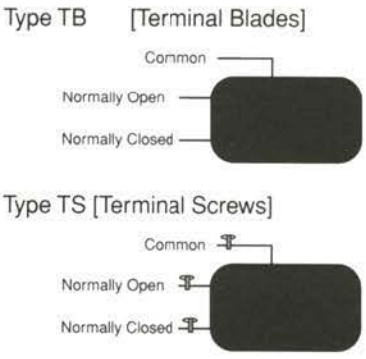
On P605 Models, insert the pin (provided) into the adjusting ring and align center of pin holes to the desired pressure.

WIRING INSTRUCTIONS

MODELS P90, P95, P100, P117, P119, J205, J705, P605, W117



MODEL P88



WHITMAN VALUE

High Quality Switches, Fully Customizable, with an Unrelenting Focus on Superior Service

Whitman Controls has been a leader in the pressure, vacuum, and liquid level switch industry for over 40 years. The Whitman Value is built on our differentiated offering of high quality switches, and the ability to deliver product to EXACT customer specifications in two weeks or less. Off the shelf switches limit an application's functionality and versatility – Why choose a competitor switch that results in inferior performance? We take into account your application and media environment, as well as all desired specifications to design a switch that will meet performance needs and exceed your expectations. Quality switches, designed to customer specifications in two weeks or less, with an unrelenting focus on superior service - Together they add up to the Whitman Value.

ISO 9001 Certified – We Hold Ourselves, and Our Products, to the Highest Standards

Whitman Controls is ISO 9001:2015 Certified, which gives our customers the confidence that we hold our internal processes, and products, to the highest standards of quality and rigorous testing requirements. You can be confident that the product you receive has met all necessary regulatory requirements and will outperform your desired expectations.

Experience and Knowledge, That's Invaluable.

Whitman Controls directs its years of design and manufacturing experience toward providing value-added services to our customers. These services can help you lower costs and increase efficiency. Our engineering team will work intimately with you and your team to design a switch that will maximize application performance no matter what the environment. In addition, our exceptional mechanical abilities allow us to perform additional assemblies and deliver more complete tested systems and subassemblies.

Diversified Product Offering – More Choices and More Savings.

We offer the most extensive pressure, vacuum, and liquid level switch offering in the industry. What does this mean for you? The ability to identify a switch that is suited perfectly for your application at a price that doesn't break your budget. At Whitman, we are constantly evaluating our input prices to identify savings we can pass along directly to the buyer. And we do all of this without sacrificing performance and quality.

Numerous Choices and Additional Options – Have it your Way.

Need additional wire on top of the 12" standard offering? Looking for a 1/4" NPT fitting instead of 1/8" NPT? Need Teflon tape or Loctite Vibraseal on your fitting? These are just a few of the numerous additional options that are available to customers on all our switch offerings. You have a need and we have an answer. All our switches can be customized to meet any end-user requirements.

At the Other End, Whitman Can Handle Wire Harness Assemblies Too.

As a UL and CSA approved harness assembly house, Whitman can do your next level of assembly. With our capabilities we can provide "value-added" benefits top to bottom. Whitman can guarantee leak free subassemblies and can handle a wide variety of switch mounts in customer designed systems. From T's to elbows, we will purchase and assemble parts and switches to your specifications.

Plus we can do it all at a price that will save you money. Call or email us today and we will give you a quotation on your assembly project.

Quality products, fully customizable, with a commitment to superior service. Together they add up to the Whitman Value.

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