



Description:

Perseus range of Temperature switches are manufactured from robust high quality housings with options of 1 or 2 sealed SPDT microswitches. The switch has been designed for use in environments where explosive gases can be present (e.g. gas fields, oil rigs & chemical plants).

One of the benefits of the Perseus range is the separation of the flameproof and adjustment chambers allowing adjustment of the set point with power on and the switch in operation.

Suitable for use in a variety of industries including oil and gas production (onshore and offshore facilities), power stations (nuclear, coal, oil and gas), nuclear waste handling facilities, water companies, manufacturing/production, HVAC/ refrigeration, defence organisations, shipping and railways.

FEATURES

Black anodised aluminium switchcase to IP67 standards.

Internal adjustment scale.

SIL 2 – IEC61508 proven reliability

Single or dual microswitch option.

ATEX/IECEx Flameproof version
CE II2G Exd IIC
T6 Ta = - 50 to +74°C & T5 Ta = - 50°C to +89°C. (with or without resistors)

OPTIONS

ATEX/IECEx/AEx Intrinsically safe
CE II1G Exia IIC
T6 - 50 to +78°C, T5 +93°C, T4 +128°C
(without resistors)

ATEX/IECEx/AEx Intrinsically safe
CE II1G Exia IIC
T5 - 50 to +72°C & T4 - 50 to +122°C
Wetted parts NACE MR-01-75 compliant

Exd Flameproof – Perseus Temperature Switch

- Adjustment between -10°C – 240°C
- Black Anodised IP67 Aluminium Housing
- Internal adjustment Scale
- SIL 2 – IEC61508
- Single or Dual Switching Option
- ATEX/IECEx certified Flameproof Exd
- Supplied with Thermowell



Description - Exd

Manufactured in the UK, the Perseus range of Exd Temperature switches are renowned for long life, accurate repeatability and a wide range of adjustment. This switch can withstand pressures up to 34 bar. It is supplied with a standard stainless steel thermowell.



Beschreibung -Exd

Die Perseus-Serie der Exd-Temperaturschalter, die in Großbritannien hergestellt werden, sind für eine lange Lebensdauer, genaue Wiederholbarkeit und eine große Auswahl an Einstellmöglichkeiten bekannt. Dieser Schalter kann Drücken bis 34 bar standhalten. Es wird mit einem Standard-Edelstahl-Schutzrohr geliefert.



Descripción - Exd

Fabricadas en el Reino Unido, la gama Perseus de interruptores de temperatura Exd es reconocida por su larga duración, repetibilidad precisa y una amplia gama de ajustes. Este interruptor puede soportar presiones de hasta 34 bar. Se suministra con un termopozo de acero inoxidable estándar.



La description-Exd

Fabriqué au Royaume-Uni, la gamme de détecteurs de température Exd de Perseus est réputée pour sa longue durée de vie, sa répétabilité précise et son large éventail de réglages. Cet interrupteur peut supporter des pressions jusqu'à 34 bars. Il est fourni avec un puits thermométrique en acier inoxydable standard.



All information is sourced from our manufacturer's data and is intended for guidance only - Valves Online can accept no liability for changes, omissions or errors.

LOW, MEDIUM & HIGH TEMPERATURE RANGES

ADJUSTMENT RANGE (°C)	MAXIMUM TEMPERATURE (°C)	DEADBAND - FIXED WITH THERMOWELL (°C)	TEMPERATURE CODE	THERMOWELL "U" DIMENSIONS IN MM
-10 TO +40	100	<10	L1	38, 45, 50, 60* 75, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 600, 660, 800, 1000 & 1200 *STANDARD CUSTOM LENGTHS AVAILABLE
0 TO 50	100	<10	L2	
25 TO 75	125	<10	M1	
50 TO 100	150	<10	M2	
75 TO 125	175	<10	M3	
100 TO 150	200	<10	M4	
125 TO 175	200	<10	M5	
150 TO 200	250	<10	H1	
175 TO 225	280	<10	H2	
200 TO 240	280	<10	H3	

Repeatability : +/-1.5% of range (at operating temperature up to 40°C)

Calibration rate : without thermowell 2°C per minute rate of change.

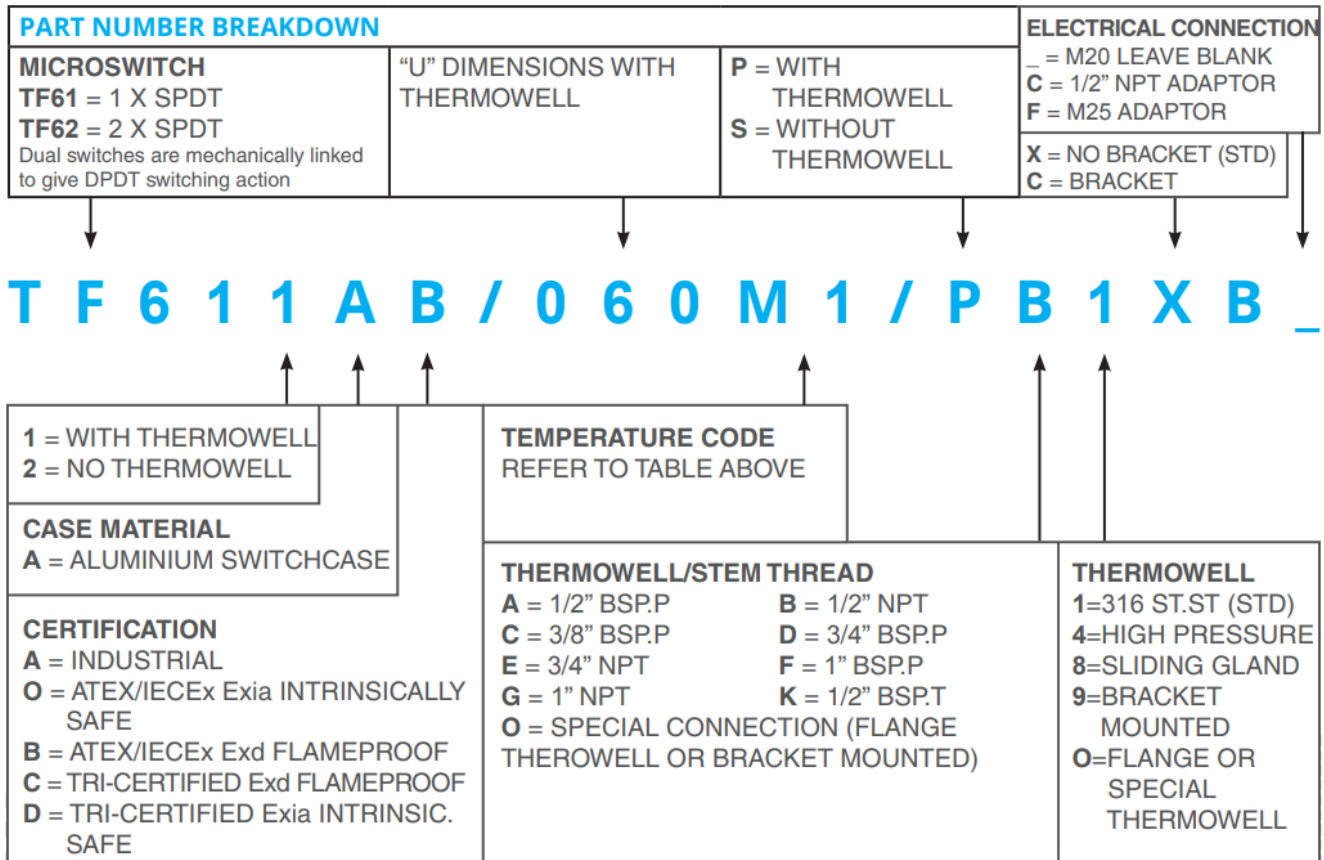
Max. working pressure : 35 bar standard. 420 bar high pressure

Temperature Limitations :

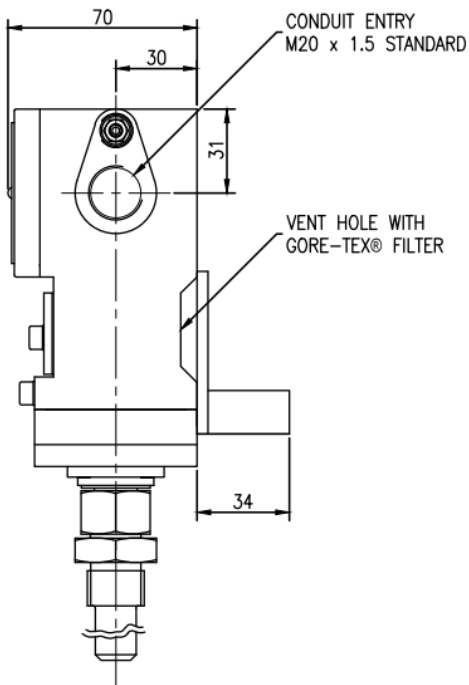
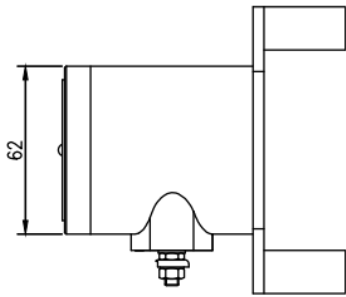
Ambient : -20 to +85°C standard

Process : -20 to max on table

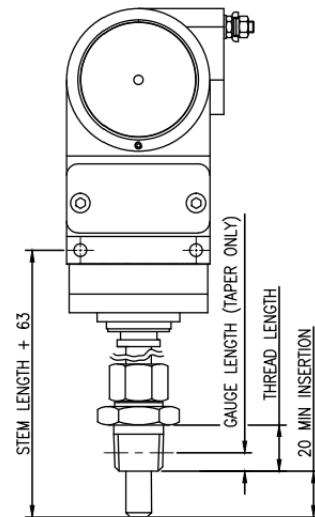
Storage : -20 to +85°C



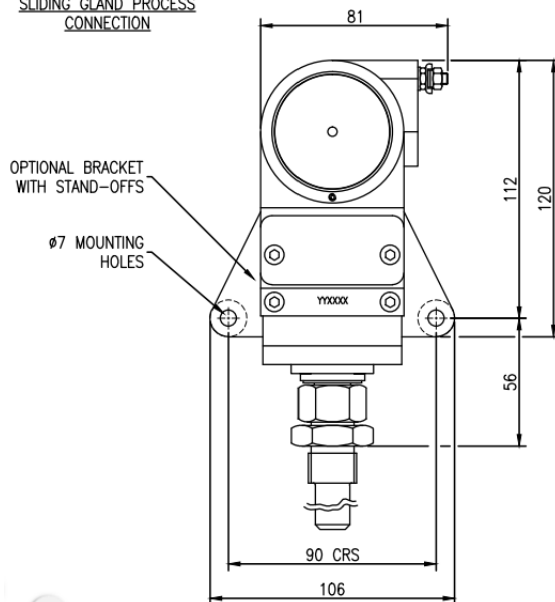
DIMENSIONS IN MM UNLESS STATED



DRAWING FOR REFERENCE ONLY

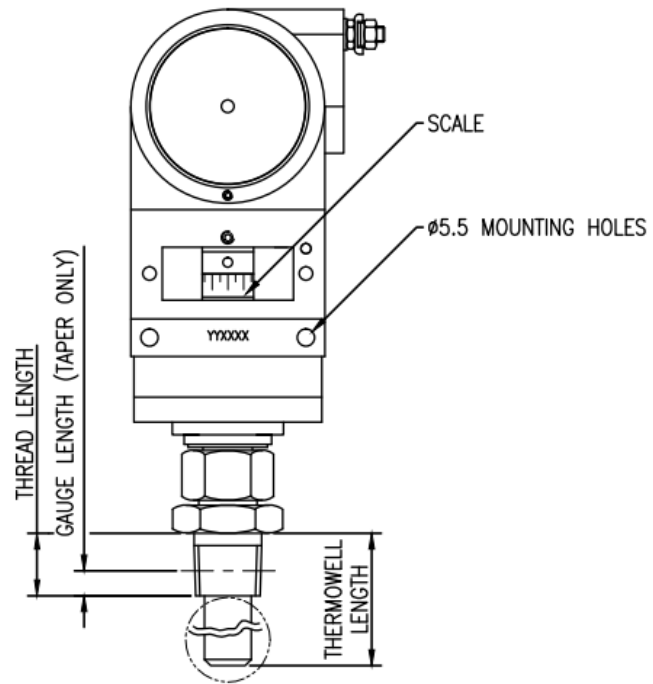
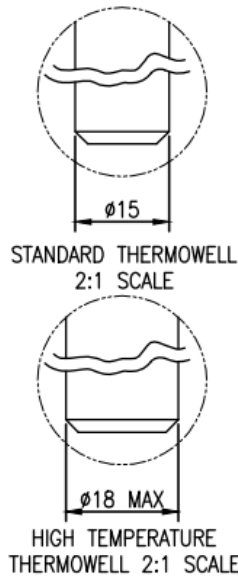


SLIDING GLAND PROCESS CONNECTION



BRACKET OPTIONS

PERSEUS Exd



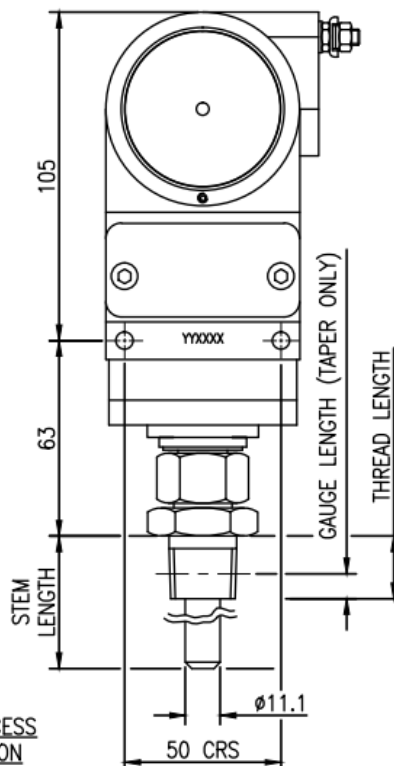
THERMOWELL PROCESS CONNECTION

PROCESS CONNECTIONS
THERMOWELL OR STEM CONNECTION THREADS

PARALLEL	THREAD LENGTH
3/8" BSP.P	16
1/2" BSP.P	16
3/4" BSP.P	16
1" BSP.P	20

TAPER	THREAD LENGTH	GAUGE LENGTH
1/2" NPT	20	8.1
3/4" NPT	20	8.6
1" NPT	25	10.1

FLANGE MOUNTING OPTIONS CAN ALSO BE SUPPLIED. DETAILS AVAILABLE UPON REQUEST.



STEM PROCESS CONNECTION

PERSEUS Exd

INTRODUCTION

The Perseus pressure, vacuum, differential pressure, temperature, and level switches are designed for use in environments where explosive gases can be present (e.g. Gas fields, Oil rigs and Chemical plants etc.) and have been ATEX and IECEx certified as detailed overleaf (SIL2 - IEC61508 proven reliability).

These switches are manufactured from a high quality casting which offers robust construction and protection to IP67 for use within heavily polluted industrial environments. A special feature of the instruments is the separation of the flameproof and adjustment compartments allowing for safe on-site adjustment of the set point with power on and the switch in operation.

Perseus Exd switches must be installed in accordance with BS EN 60079-14

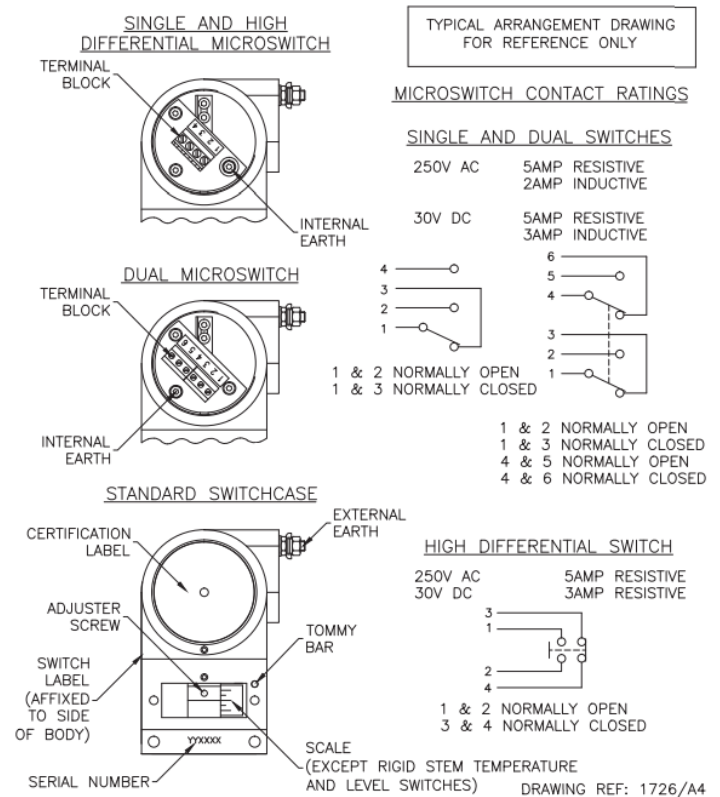
CALIBRATION

The design features a simple form of adjustment against a calibrated scale. This enables a user to order switches set at a predetermined point or stock a mid range setting and adjust switches to suit the particular application.

The set point can be safely adjusted with the switch electrically live.

Adjustment is made by removing the access cover and rotating the set point adjuster using the supplied tommy bar stowed to the right of the scale plate.

The setting is read from the centre of the set point adjuster against the calibrated scale. Rotation to the left will increase the set point and to the right decrease it.



Technical Specification

Switchcase & covers: Black anodised aluminium case and 316 stainless steel adjustment cover.

Microswitch: 1 x SPCO/SPDT or 2 x SPCO/SPDT gold flashed silver contacts. Dual switches are mechanically linked to provide DPDT switching action, reset of switches could be up to 3% apart. Dual microswitches may increase deadband by a factor of two.

Microswitch rating: 5 Amps @ 250 VAC resistive, 2 Amps @ 250VAC inductive
5 Amps @ 30VDC resistive, 3 Amps @ 30 VDC inductive

Electrical Connections: Terminals suitable for cable 0.5 - 2.5 mm².
(Max 1.5 mm² for dual microswitch version)

Electrical Conduit Entry: M20 x 1.5 ISO. ½" NPT via adaptors

Environmental Protection: IP67 in accordance with BS EN 60529 : 1992 & IEC 60529 : 2001.

Vibration and shock parameters: Switches were subjected Lloyds Register Test Specification 1, section 13 BS EN 60068-2-6 : 1996 (Test Fc vibration) and BS EN 60068-2-27 : 1995 (Test Ea shock).
Temperature Limitations: Pressure, Vacuum and Differential Pressure.

Process: Diaphragm actuated (unless otherwise stated) -30 to +100°C (Nitrile) or -20 to +150 Deg.C (Viton). Piston actuated -30 to 100°C (Nitrile), -20 to +150°C (Viton), -50 to +150°C (PTFE) or -30 to +125°C (EPDM).

Ambient: -50 to +85°C (standard). Storage: -50 to +85 Deg.C
(For temperature, level and flow switches please refer to specific pages).

Certification: Switches can be supplied for gas environments.
ATEX/IECEx certified Exd Flameproof - Gas (with or without resistors)
CE Ex II2G Exd IIC T* Gb. T6 Tamb -50°C to +74°C, T5 Tamb -50°C to +89°C.
Special conditions for safe use. 1) No modifications must be made to the flamepaths of the unit without consultation of the drawings. 2) When conduit is utilised it must be sealed in accordance with Clause 13.2.2 of EN **60079-1:2007** with a suitably approved (Ex d IIC Gb) conduit sealing devise. 3) Suitably rated cable must be selected based on T Class shown above. 4) Only suitably certified Ex d IIC Gb cable glands to be used.

ATEX/IECEx certified Exia Intrinsically Safe - Gas

CE Ex II1G Exia IIC T6 Ta -50 to +78°C, T5 Ta +93°C, T4 Ta +128°C or
CE Ex II1G Exia IIC T5 Ta -50 to +72°C, T4 Ta +122°C (with resistors).

Special conditions for safe use. 1) Aluminium may only be used when the ignition hazardous assessment shows there is no risk of ignition from incendive impact or abrasion sparks.

AEX certification is available on medium pressure, metal diaphragm and high pressure switches and rigid stem temperature switches.

Accuracy: +/-1% at 20°C.