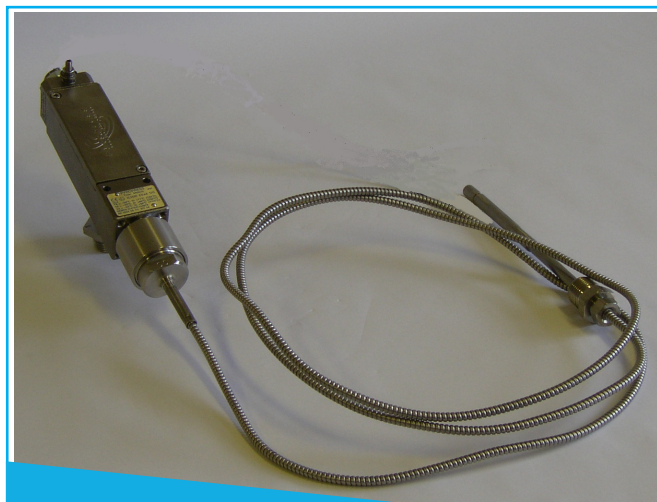


## ARGUS

### LOW - MEDIUM - HIGH TEMPERATURE

### T570 ARGUS ATEX/ IECEX, Exia CERTIFIED & INDUSTRIAL CAPILLARY TEMPERATURE SWITCH

The standard range represents the basic models to cover temperature applications spanning -30 to +240°C. The T570 as standard is supplied with a sliding gland, thermowells can be provided to suit individual applications. Capillary is 316 stainless steel armoured and is available from 2 to 10 metres in length. Dual microswitch options are available for alarm and shutdown applications. Switching differential figures shown in the table overleaf refer to single set points only, if dual microswitches are specified switching differential may increase by up to a factor of 2.



**CAPILLARY  
TEMPERATURE**

## FEATURES

- ✓ 316 stainless steel or PPS engineering polymer switchcase to IP66/IP67 standards.
- ✓ Internal adjustment scale.
- ✓ 316 stainless steel armoured capillary from 2 to 10 metres
- ✓ Wetted parts NACE MR-01-75 compliant
- ✓ Temperature settings from -30° to 240°C.
- ✓ SIL 2 - IEC 61508 proven reliability
- ✓ Single or dual microswitch option.
- ✓ ATEX/IECEX Intrinsically Safe  
CE Ex II 1G Exia IIC T6...T2  
T6...T5 T amb -50 to +78°C  
T5...T2 T amb -50 to +93°C

ADJUSTMENT RANGE (°C)	MAXIMUM TEMPERATURE (°C)	DEADBAND (°C)	CAPILLARY CODE	Min bulb length according to capillary length		
				2m - 4m	5m - 7m	8m - 10m
-30 TO -0	40	<5.0	40	100	100	100
-20 TO +20	70	<5.0	41	100	150	200
0 TO 45	80	<5.0	42	100	150	200
20 TO 90	120	<5.0	45	100	150	200
40 TO 100	145	<7.5	43	100	100	100
60 TO 120	145	<8.0	43	100	100	100
100 TO 180	200	<8.0	44	100	100	100
160 TO 240	280	<9.0	46	100	100	100

**Repeatability** : +/-1.5% of range (at ambient temperatures up to 40°C).

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

PART NUMBER BREAKDOWN					
<b>MICROSWITCH</b> <b>1</b> = 1x SPDT INDUSTRIAL & Exia <b>8</b> = 2x SPDT FLYING LEAD Exia AND  INDUSTRIAL (MECHANICALLY LINKED TO GIVE DPDT SWITCHING OPTION)		<b>CAPILLARY CODE</b> REFER TO TABLE ABOVE	<b>STEM LENGTH</b> <b>1</b> = 150mm - STANDARD <b>2</b> = 250mm <b>4</b> = 400mm <b>6</b> = 600mm, (150 NOT AVAILABLE WITH 150mm OR 200mm BULB LENGTH)	<b>THERMOWELL LENGTH</b> 100MM - STANDARD IF NOT REQUIRED LEAVE BLANK (OTHER LENGTHS THREADS AND FLANGES ARE AVAILABLE. PLEASE CONTACT OUR SALES OFFICE)	<b>OPTIONS</b> <b>O</b> = NONE <b>A</b> = Exe JUNCTION BOX WITH 6 TERMINALS <b>P</b> = PIPE BRACKET IF MORE THAN ONE OPTION IS REQUIRED IT SHOULD BE WRITTEN AFTER THE PART NUMBER
<div> <div>T</div> <div>S</div> <div>5</div> <div>7</div> <div>5</div> <div>F</div> <div>P</div> <div>R</div> <div>5</div> <div>1</div> <div>/</div> <div>4</div> <div>3</div> <div>-</div> <div>3</div> <div>-</div> <div>1</div> <div>-</div> <div>6</div> <div>/</div> <div>P</div> <div>A</div> <div>1</div> <div>0</div> <div>0</div> <div>O</div> </div>					
<b>CERTIFICATION</b> <b>TI</b> = ATEX/IECEx EExia  <b>TS</b> = INDUSTRIAL		<b>LENGTH OF CABLE</b> <b>0</b> = DINPLUG, M20 FEMALE OR M12 MALE <b>1</b> = 1 METRE ETC <b>X</b> = CABLE LENGTH OVER 9 METRES	<b>CAPILLARY LENGTH</b> 2 METRES UP TO 10 METRES	<b>THERMOWELL CONN. (STANDARD)</b> <b>PA</b> = 1/2" BSP.P <b>PB</b> = 1/2" NPT <b>PC</b> = 3/8" BSP.P <b>PD</b> = 3/4" BSP.P <b>PE</b> = 3/4" NPT <b>PF</b> = 1" BSP.P <b>PG</b> = 1" NPT <b>THERMOWELL CONNECTION (HIGH PRESSURE)</b> <b>HA</b> = 1/2" BSP.P <b>HB</b> = 1/2" NPT <b>HC</b> = 3/8" BSP.P <b>HD</b> = 3/4" BSP.P <b>HE</b> = 3/4" NPT <b>HF</b> = 1" BSP.P <b>HG</b> = 1" NPT	
<b>CASE MATERIAL</b> <b>P</b> = PPS (ENGINEERING POLYMER) <b>S</b> = 316 STAINLESS STEEL		<b>ELECTRICAL CONNECTION</b> <b>A</b> = 1 or 2, 3 CORE CABLES <b>T</b> = M20 FEMALE <b>R</b> = M20 MALE ST. STEEL <b>L</b> = M12x1 CIRCULAR CONNECTOR <b>P</b> = DIN EN 17531-803-A PLUG & SOCKET (WAS DIN 43650) <b>S</b> = 1/2" NPT MALE ST. STEEL		<b>SLIDING GLAND THREAD</b> <b>3</b> = 1/2" BSP.P <b>6</b> = 1/2" NPT	

**Thermowell and stem material :**

316 stainless steel

**Max working pressure :**

35 Bar - standard

420 Bar - high pressure

Thermowells can be provided flanged or screwed to suit the

application. All exotic metals can be catered for. Material

certificates and wake frequency vibration analysis calculations can be provided.

[illegible]

SINGLE MS100 (Ex d)	DUAL MS100 (Ex d)	SINGLE MP501 (Ex ia & INDUSTRIAL)	SINGLE MP501 (Ex ia & INDUSTRIAL)	ALL MICROSWITCH OPTIONS	ALL SINGLE MP501 (Ex ia & INDUSTRIAL ONLY)
CABLE GLAND		FLYING LEAD	ENCLOSURE MOUNTED	M20 FEMALE	M12 CIRC. CONNECTOR DIN PLUG

# ARGUS ATEX/IECEx Exia & INDUSTRIAL SWITCHES

## INTRODUCTION

The Argus pressure, differential pressure, temperature, level and flow switches are designed for use in environments where explosive gases and extremes of both high and low ambient temperature can be present (e.g. gas fields, oil rigs and chemical plants etc.) They have been ATEX & IECEx certified suitable for CAT 1 CE Ex II1G Exia IIC environments.

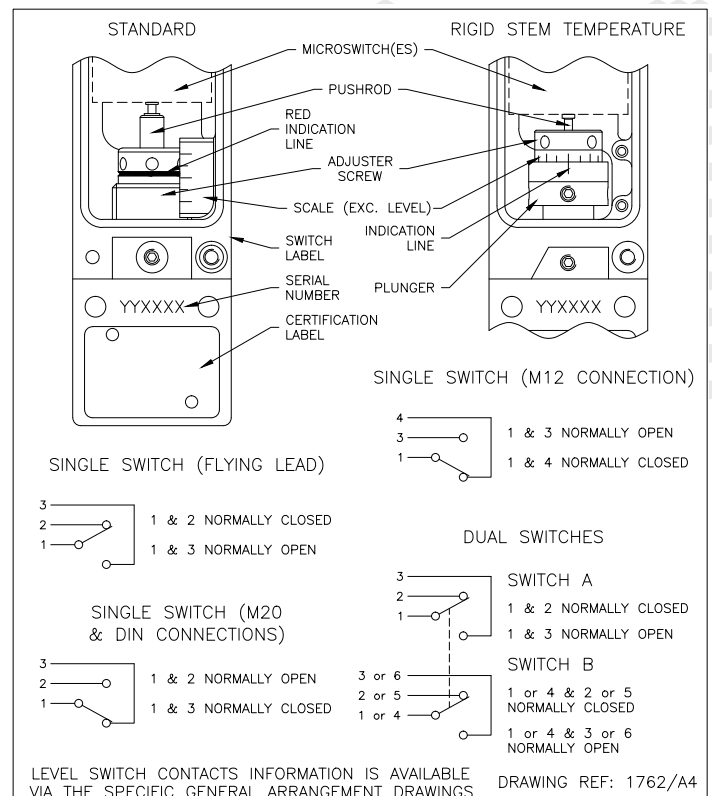
These switches are manufactured from either PPS (engineering polymer) or high quality investment cast 316 stainless steel, both offering a robust construction and protection to IP66/IP67 for use within heavily polluted industrial and marine environments. Declaration available for SIL2 - IEC61508 proven reliability.

## CALIBRATION

The design features a simple form of calibration adjustment against a scale block. This allows users to either order units with a specific setting, or stock a mid range setting and then adjust to suit the application.

On removal of the adjustment cover the adjusting screw can be turned with a Tommy bar. The setting is read from the centre of the red indicating ring against the internal scale plate. Rotation to the left will increase the set point and to the right decrease the set point. The adjustment mechanism incorporates a friction device to ensure set point will not change under vibration conditions.

(For ultra low pressure, vacuum and differential pressure switches the switchcase in inverted. Set point adjustment will be opposite to that shown above)



## TECHNICAL SPECIFICATION

**Switchcase and covers:** 316 Stainless steel or PPS (Polyphenylene Sulphide) + stainless steel fibres engineering polymer.

**Environmental Protection:** Switches have been tested and certified by an external test house to IP66/IP67 in accordance with EN 60529:1992+A2:2013 and IEC 60529:1989:A1:1999+A2:2013.

**Vibration and shock parameters:** Switches have been tested and certified by an external test house to BS EN 60068-2-6 : 1995 (test Fc vibration) and BS EN 60068-2-27 : 1987 (test Ea shock).

**Microswitch:** 1 or 2 SPDT (dual switches mechanically linked to give DPDT).

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

**Accuracy:** +/-1% at 20°C.

# ELECTRICAL CONNECTION EXIA AND INDUSTRIAL

**Plug & Socket:** DIN EN 175301-803-A (was DIN 43650) Plug and socket suitable for unarmoured cable up to 1.5mm<sup>2</sup>. Cable OD between 4.5mm (PG11).

**M20 x 1.5 ISO female:** 3 terminals suitable for cables up to 1.5mm<sup>2</sup>.

**M12 x 1 Circular socket:** 3 contacts, A-coded plug to IEC61076-2-101.

**Flying lead:** 1 metre of 3 core, for single switch (6.8mm diameter) or 7 core, for dual switches (9.2mm diameter) Silicone insulated flying lead with M20 x 1.5 ISO or 1/2" NPT male threaded conduit gland (part number code R & S) or one, for single switch 1 metre of 3 core cable or two, for dual switches 1 metre of 3 core cable supplied with no thread (part number code A). Longer lead lengths can be requested and a range of junction boxes can be supplied fitted and wired to the switch. The standard Exe box has an ambient temperature range of -40 to +55°C. Higher temperatures can be catered for.

## CERTIFICATION: ALL SWITCHES ARE CE MARKED IN ACCORDANCE WITH EU DIRECTIVES

**Exia Intrinsically Safe:** ATEX 2014/34/EU marked CE Ex II 1G Exia IIC T6...T2 Ga, T6...T5 T amb -50 to +78°C, T5...T2 T amb -50 to +93°C

**Special conditions for safe use.** During live maintenance, adjustment or servicing of the equipment the aluminium parts may be exposed. Care should be taken to avoid the risk of ignition from incendive impact or abrasion sparks. The DIN plug cover is made of non-conductive plastic material. Care shall be taken to avoid electrostatic discharge during maintenance, adjustment or servicing. Clean only with a damp cloth.

**Industrial:** 2014/35/EU (Low voltage directive).

## TEMPERATURE LIMITATIONS

**Capillary switches.**

**Process temperature:** -40°C to maximum shown on range table dependant on range selected.

**Ambient temperature:** -40 to +85°C. (-50°C & +125°C options – refer to sales office).

**Storage temperature:** -40 to +85°C

**Certification temperature:** (Exia only) T6...T5 T amb -50 to +78°C, T5...T2 T amb -50 to +93°C. Due to the remote location of the switchcase in relation to the process, the permitted process temperatures shown on the ATEX & IECEx certificate can be ignored.

Continuous development may result in changes to specification without prior notice

## ABOUT PYROPRESS

Our products are designed to work in demanding and hazardous environments which require fast and cost effective solutions in instrumentation and control.

Pyropress control sensors provide safe and reliable electrical switching of alarm or control circuits in response to changes in temperature, pressure, differential pressure, vacuum, flow and level conditions.

## QUALITY

To support the design of state of the art products the company has invested heavily in the latest CNC technology.

We are able to produce our own components to a high degree of accuracy assuring a reliable and consistent quality product.

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