

LOW - MEDIUM - HIGH TEMPERATURE

316 stainless steel or PPS engineering polymer switchcase to IP67 standards.

Calibrated adjustment scale.

Settings from -40 to 250°C.

Single or dual microswitch option.

ATEX Flameproof Option

CE  II2GD EExd IIC

T6 Tamb -50 to +71°C

T5 Tamb -50 to +86°C

T4 Tamb -50 to +96°C

ATEX I.S. Option

CE  II1G EExia IIC

T6 Tamb -50 to +78°C

T5 Tamb -50 to +93°C

T4 Tamb -50 to +128°C

T510 & T520 ARGUS ATEX EExd, EExia CERTIFIED & INDUSTRIAL TEMPERATURE SWITCH



The standard range represents the basic models to cover temperature application spanning -40 to +250°C. The T510 is supplied fitted with a screwed thermowell, the T520 has no thermowell but is supplied with a screwed stem. Dual microswitch option is available for simultaneous switching. For specification and introduction to the Argus range refer to pages 64 & 65.

ADJUSTMENT RANGE (°C)	MAXIMUM TEMPERATURE (°C)	DEADBAND-FIXED WITHOUT THERMOWELL (°C)	TEMPERATURE ELEMENT CODE	THERMOWELL "U" DIMENSIONS IN MM
-40 TO + 10	70	5	EL	38, 45, 50, 60*
-10 TO + 40	100	4	LT	75*, 100, 125,
0 TO 50	100	4	LT	150, 175, 200,
20 TO 70	120	4	MT	225, 250, 300,
50 TO 100	150	4	MT	350, 400, 600,
70 TO 120	150	8	MT	660, 800, 1000,
100 TO 180	230	8	HT	& 1200
150 TO 230	280	8	HT	* STANDARD LENGTHS

REPEATIBILITY:

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

CALIBRATION RATE:

2°C per minute rate of change

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PART NUMBER BREAKDOWN		OPTIONS	
MICROSWITCH 1=1x SPDT INDUSTRIAL & I.S. FLYING LEAD 5=1x SPDT FLYING LEAD EEExd 6=2x SPDT FLYING LEAD EEExd, EEExia & INDUSTRIAL		OPTIONS O = NONE A = EEExe JUNCTION BOX (6 TERMINALS) B = EEExe JUNCTION BOX (HIGH AMB. TEMP) C = EEExe JUNCTION BOX (HIGH AMBIENT TEMP) & 2" PIPE BRACKET D = EEExe JUNCTION BOX (3 TERMINALS) P = PIPE MOUNTING BRACKET 2" R = MONITORING RESISTORS IF MORE THAN ONE OPTION IS REQUIRED IT SHOULD BE WRITTEN AFTER THE PART NUMBER	
MOUNTED 51 = WITH THERMOWELL 52 = LESS THERMOWELL	"U" DIMENSION REFER TO TABLE		
T F 5 1 5 F P R 5 1 / 0 6 0 M T / P A 1 O			
CERTIFICATION TF = ATEX EEExd TI = ATEX EEExia TS = INDUSTRIAL	LENGTH OF CABLE 0 = PLUG & SOCKET OR M20 FEMALE 1 = 1 METRE ETC X = CABLE LENGTH OVER 9 METRES	TEMPERATURE ELEMENT CODE - REFER TO RANGE TABLE P = WITH THERMOWELL S = WITH THERMOWELL	THERMOWELL/STEM 1 = 316 ST. ST. 4 = HIGH PRESS 0 = NO THERMOWELL NON STANDARD OR FLANGE
CASE MATERIAL P = PPS (ENGINEERING POLYMER) S = 316 STAINLESS STEEL	ELECTRICAL CONNECTION A = 3 CORE CABLE N = 1/2" NPT MALE BRASS R = M20 MALE ST. STEEL* *CONNECTION TO BE USED FOR EEExe JUNCTION BOX = 1" NPT O = FLANGE	PROCESS CONNECTION A = 1/2" BSP.P B = 1/2" NPT C = 3/8" BSP.P D = 3/4" BSP.P E = 3/4" NPT F = 1" BSP.P	
T = M20 FEMALE (INDUSTRIAL & IS) M = M20 MALE BRASS* P = DIN 43650 PLUG & SOCKET (IS & IND) S = 1/2" NPT MALE ST. STEEL			

SPECIFICATION

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.

CAPILLARY OPTION

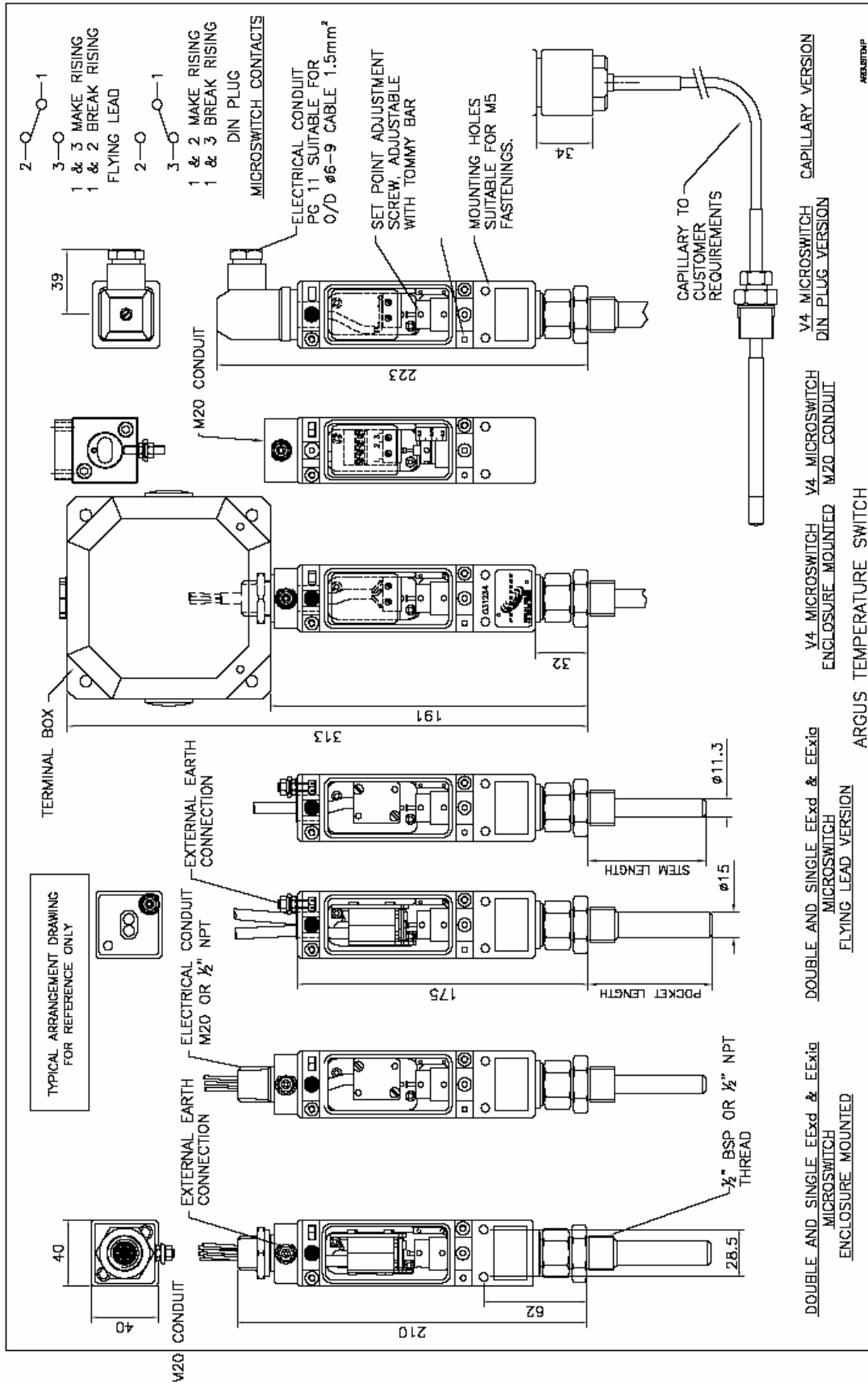
All switches can be provided with 316 stainless steel armoured capillary between 2 and 10 metres in length. Full part number will be advised by our sales department upon receipt of your specification.

RANGE (DEG.C)	TEMP. CODE	MAX. TEMP.
-40 TO 0	40	40
-20 TO + 20	41	70
0 TO 45	42	80
20 TO 90	45	120
60 TO 120	43	145
100 TO 180	44	200
160 TO 250	46	290

Insertion lengths between 100 and 600mm, and supplied with 1/2" BSP.P or NPT slinding gland. Custom manufactured thermowells can be provided. For detailed drawing refer to Page 79.

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TYPE T510 ARGUS TEMPERATURE SWITCH



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ARGUS ATEX EExd, EExia & INDUSTRIAL SWITCHES

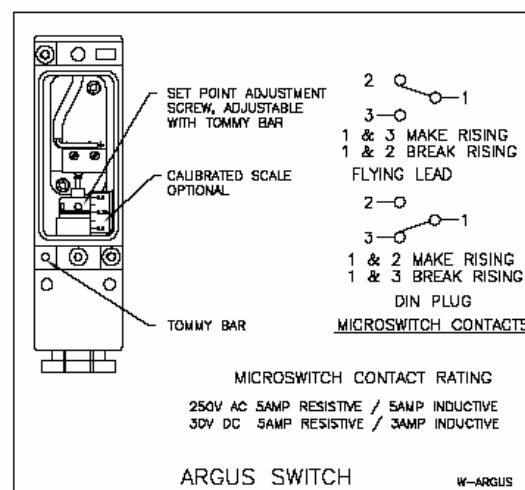
INTRODUCTION

The Argus **pressure, differential pressure, temperature, level and flow** switches are designed for use in environments where explosive gases, dusts 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 certified for CAT 1 CE Ⓢ II1G EExia IIC T6,T5 & T4 and CAT 2 CE Ⓢ II2GD EExd IIC T6,T5 & T4.

These switches are manufactured from either PPS (engineering polymer) or high quality investment cast 316 stainless steel both offer a robust construction and protection to IP67 for use within heavily polluted industrial and marine environments. These instruments can be adjusted with the power on and the switch in operation.

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. This can be set safely with the switch supply live. On removal of the adjustment cover the adjusting screw can be turned with the small Tommy bar supplied. The setting is read from the centre of the red indicating ring against the calibrated 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.



TECHNICAL SPECIFICATION

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

Environmental Protection : Switches have been tested and certified by an external test house to IP67 in accordance with BS EN 60529 : 1992.

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).

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Temperature Limitations : Pressure, Vacuum and Differential Pressure

Ambient : See below

Process : Diaphragm actuated -50 to +90°C (Nitrile) or -20 to +150°C (Viton).

Piston actuated -40 to +120°C (Nitrile) or -20 to +150°C (Viton).

Storage : -60 to +80°C (+125°C upon request).

(For temperature, level and flow switches please refer to specific pages)

Certification : All switches are CE certified and marked in accordance with the following EU directives

Industrial : 73/23/EEC Low voltage directive

EExia : 94/9/EC ATEX coded CE Ⓢ II1G EExia IIC for CAT 1 (Zone 0) areas

EExd : 94/9/EC ATEX coded CE Ⓢ II2GD EExd IIC for CAT 2 (Zone 1) areas

Accuracy : 1% at 20°C Setting Accuracy: 2%

INDUSTRIAL AND EExia DIN PLUG AND SOCKET OR M20 x 1.5 ISO

Microswitch : 1 x SPCO/SPDT Gold Plated

Microswitch rating : 5 Amps @ 250 VAC resistive and inductive

5 Amps @ 30VDC resistive, 3 Amps @ 30 VDC inductive

Ambient temp : -40 to +86°C (+125°C special – refer to sales office)

Electrical Connection : DIN 43650 plug and socket suitable for unarmoured cable up to 1.5mm². Cable OD between 6 and 9mm (PG11) or M20 x 1.5 ISO.

EExd & EExia FLYING LEAD CONNECTION

Microswitch : 1 or 2 SPCO/SPDT Gold Plated (Dual switches are mechanically linked to give DPDT switching action)

Microswitch rating : 5 Amps @ 250 VAC resistive and inductive

5 Amps @ 30VDC resistive, 3 Amps @ 30 VDC inductive

Ambient temp : -50 to +86°C (128°C on EExia – refer to sales office)

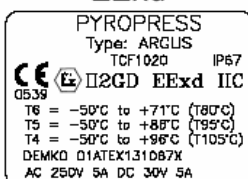
(96°C on EExd – refer to sales office)

Electrical Connection :

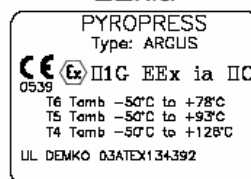
EExd – 1 metre of 3 or 6 individual 0.75mm² silicon insulated flying lead via brass or stainless steel 1/2" NPT or M20 x 1.5 ISO conduit gland (part no code M,N, R & S) or 1 metre of 6.0mm dia 3 core x 0.75mm² silicon insulated cable (part no code A). Longer lead lengths can be specified and a range of EExe certified junction boxes can be supplied and fitted direct to the switch.

EExia - 1 metre of 6.0mm dia 3 core x 0.75mm² silicon insulated cable via brass or stainless steel 1/2" NPT or M20 x 1.5 ISO conduit gland (part no code M,N, R & S) or supplied with no thread (part no code A).

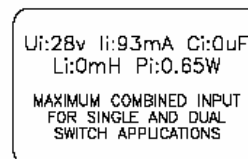
EExd



EExia



EExia



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