

## DIFFERENTIAL PRESSURE, LOW PRESSURE & VACUUM


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

Calibrated adjustment scale.

Settings from 2 mBar to 12 Bar

Single or dual microswitch option.

ATEX Flameproof Option


CE  II2GD EExd IIC T6

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

T6 Tamb -50 to +78°C

T5 Tamb -50 to +93°C

T4 Tamb -50 to +128°C

## D560 & D590 ARGUS ATEX EExd, EExia CERTIFIED & INDUSTRIAL DIFFERENTIAL PRESSURE SWITCH



These switches have been designed to suit applications where differential pressures are to be sensed. The Argus provides very competitively priced, lightweight and durable instrumentation. For specification and introduction to the Argus switch range refer to pages 64 and 65.

### D560 DIFFERENTIAL PRESSURE, LOW PRESSURE AND VACUUM RANGES

ADJUSTMENT RANGE (BAR) *MBAR	ADJUSTMENT RANGE (PSI) * "WG	MAX WORKING PRESSURE (BAR)		DEADBAND FIXED (BAR) *MBAR		DIAPHRGM CODE	SPRING CODE
		DIAPHRAGM MAT	ONE SIDE EQUAL	(BAR) *MBAR	DIAPHRGM MAT.		
2.5 - 8.0	15 - 115	14	28	<1.5	<2.0	01N	B
0.5 - 3.0	8 - 40	14	28	<0.4	<0.5	01N	R
0.2 - 2.2	3 - 30	14	28	<0.18	<0.25	01N	T
0.1 - 1.1	2 - 16	7	14	*<80	*<100	02N	T
*30 - 500	*12 - 200	7	14	*<40	*<60	03N	T
*15 - 50	*6 - 20	0.35	3.5	*<5	*<7	08N	R
*2 - 38	*1 - 15	0.35	3.5	*<4	*<6	08N	T

### D590 HIGH STATIC DIFFERENTIAL PRESSURE RANGES

ADJUSTMENT RANGE (BAR)	ADJUSTMENT RANGE (PSI)	MAX WORKING PRESSURE (BAR)	DEADBAND-FIXED (BAR) VITON ONLY	DIAPHRAGM CODE	SPRING CODE
2 - 12	30 - 180	200	<1.5	25N	B

For detailed drawing of diaphragm code 01N please refer to page 75

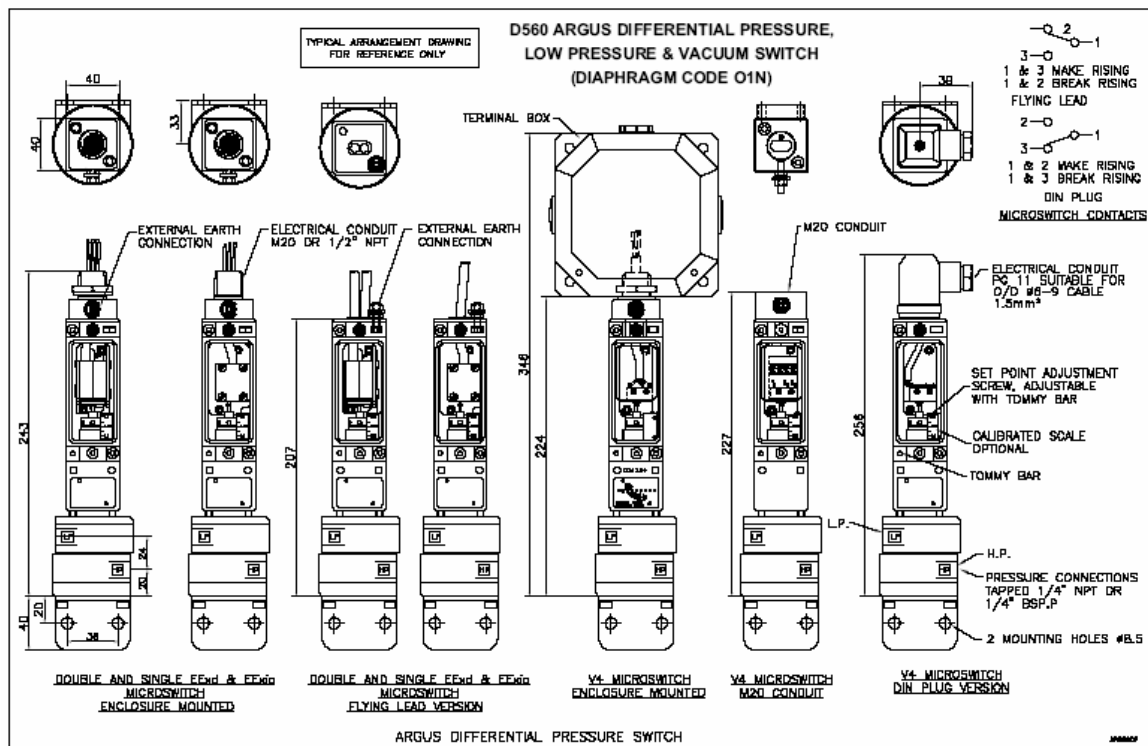
For detailed drawing of diaphragm code 02N & 03N please refer to drawing on page 76

For detailed drawing of diaphragm code 08N please refer to page 77

For detailed drawing of piston code 25N please refer to drawing on page 78

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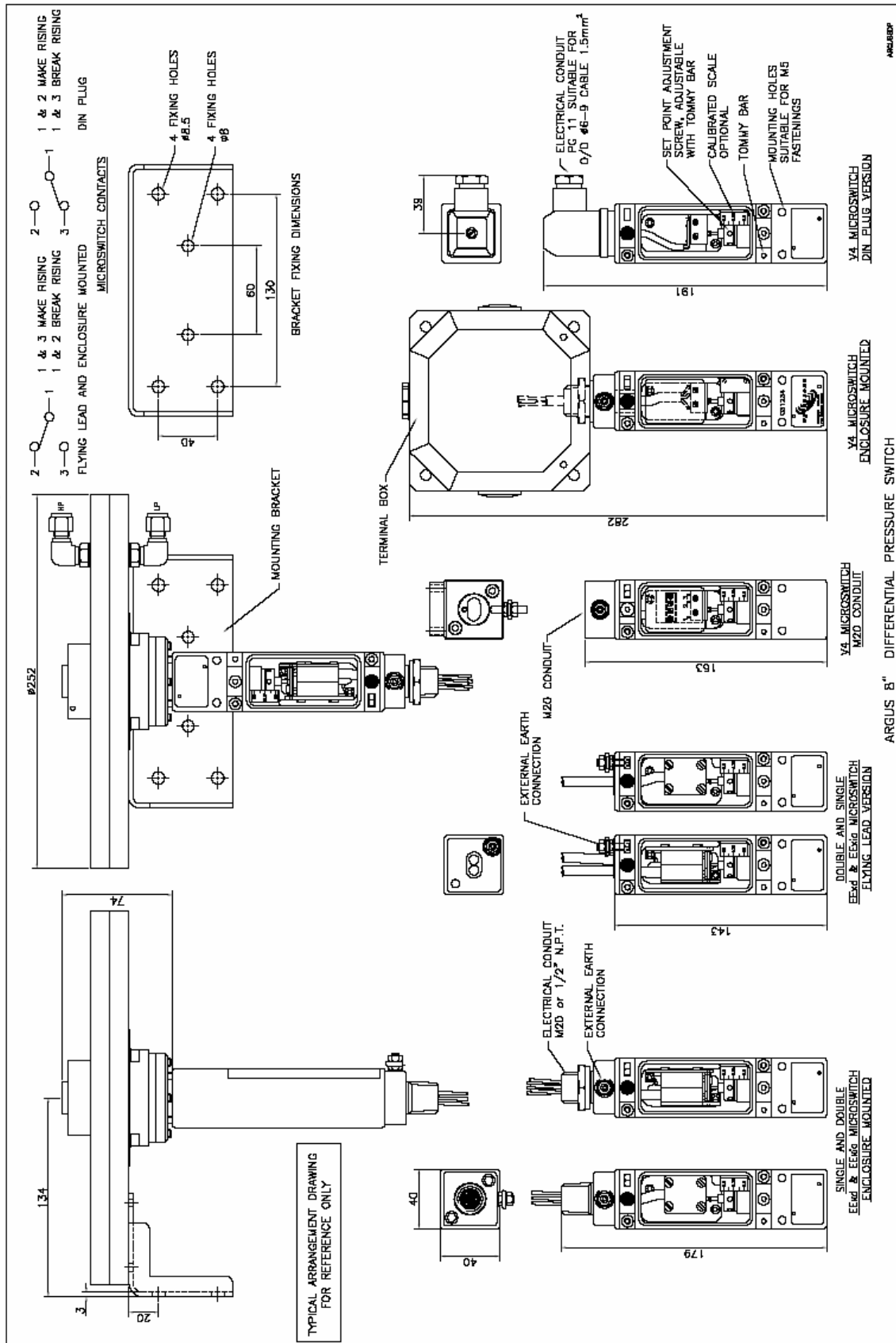
PART NUMBER BREAKDOWN - D560 & D590			
<b>MICROSWITCH</b> 1 = 1x SPDT INDUSTRIAL & I.S. FLYING LEAD 5 = 1x SPDT FLYING LEAD EExd 6 = 2 x SPDT FLYING LEAD EExd, EExia & INDUSTRIAL		<b>OPTIONS</b> O = NONE A = EExe JUNCTION BOX (6 TERMINALS) B = EExe JUNCTION BOX (HIGH AMB. TEMP) C = EExe JUNCTION BOX (HIGH AMBIENT TEMP) & 2" PIPE BRACKET D = EExe 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	
<b>MOUNTED</b> D_56 = DIFF PRESSURE D_59 = DIFF PRESSURE HIGH STATIC P_56 = LOW PRESSURE V_56 = 56 VACUUM		<b>SPRING CODE</b> PLEASE REFER TO RANGE LIST	<b>DIAPHRAGM MATERIAL</b> A = NITRILE B = VITON - STD
<b>D F 5 6 5 F P R 5 1 / B R 0 1 N 4 / S 2 O</b>			
<b>CERTIFICATION</b> F = ATEX EExd I = ATEX EExia S = INDUSTRIAL		<b>LENGTH OF CABLE</b> 0 = PLUG & SOCKET OR M20 FEMALE 1 = 1 METRE ETC X = CABLE LENGTH OVER 9 METRES	
<b>CASE MATERIAL</b> P = PPS (ENGINEERING POLYMER) S = 316 STAINLESS STEEL		<b>DIAPHRAGM/ PISTON CODE</b> REFER TO RANGE SHEET 4 = DP 5 = LOW PRESSURE 6 = VACUUM	
<b>ELECTRICAL CONNECTION</b> A = 3 CORE CABLE N = 1/2" NPT MALE BRASS R = M20 MALE ST. STEEL* *CONNECTION TO BE USED FOR EExe JUNCTION BOX		<b>WETTED PARTS</b> M = MONEL S = ST. ST <b>PROCESS CONNECTIONS</b> DIAPHRAGM CODE 01N, 02N & 03N 1 = 1/4" BSP.P FEMALE 2 = 1/4" NPT FEMALE DIAPHRAGM CODE 08N 1 = COMPRESSION FITTING FOR 1/4" OD PIPE	



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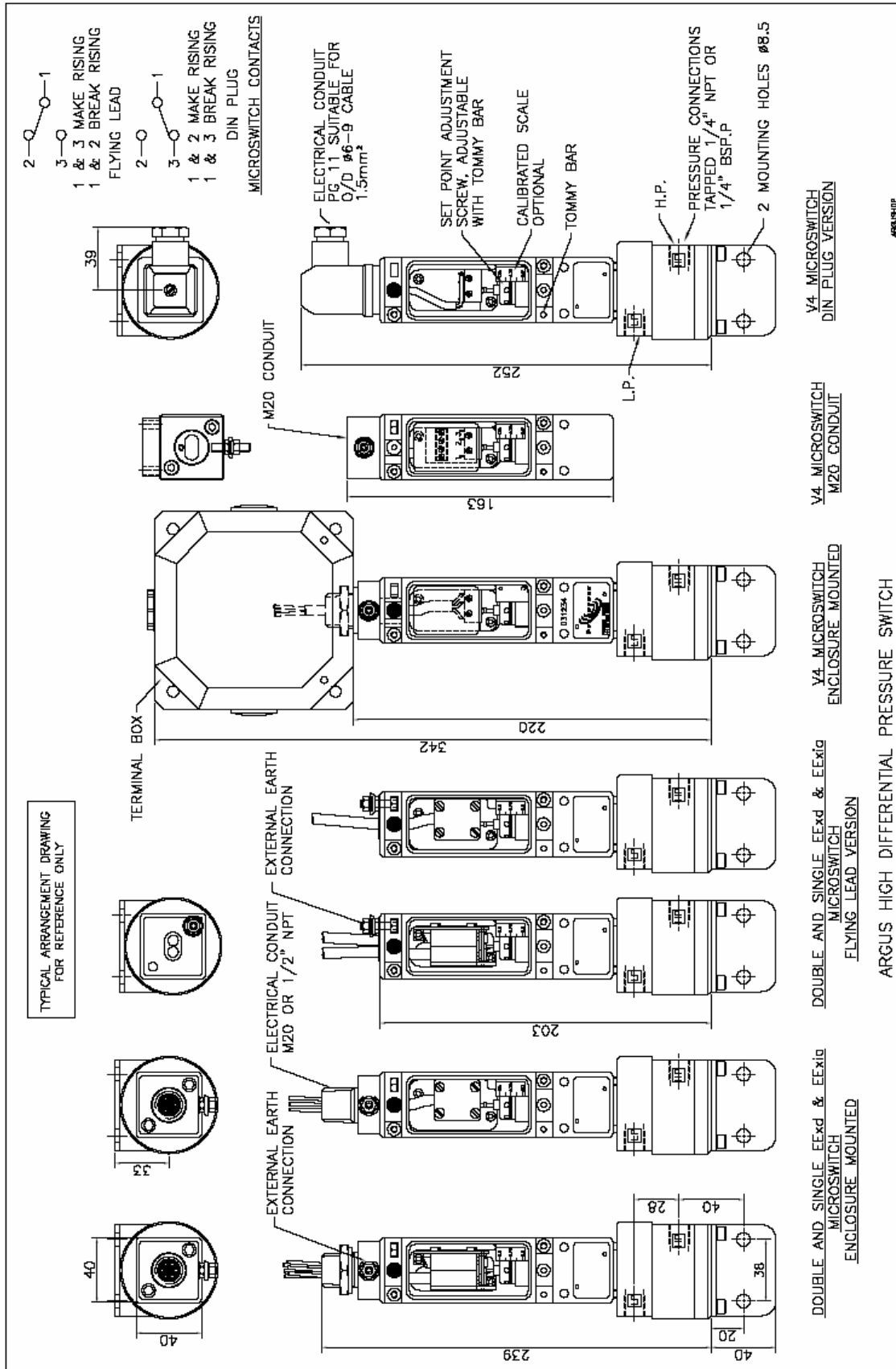


## TYPE D560 ARGUS DIFFERENTIAL PRESSURE, LOW PRESSURE & VACUUM SWITCH (DIAPHRAGM CODES 08N)



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## TYPE D590 ARGUS HIGH STATIC PRESSURE DIFFERENTIAL PRESSURE SWITCH



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## ARGUS ATEX EExd, EExia & INDUSTRIAL SWITCHES

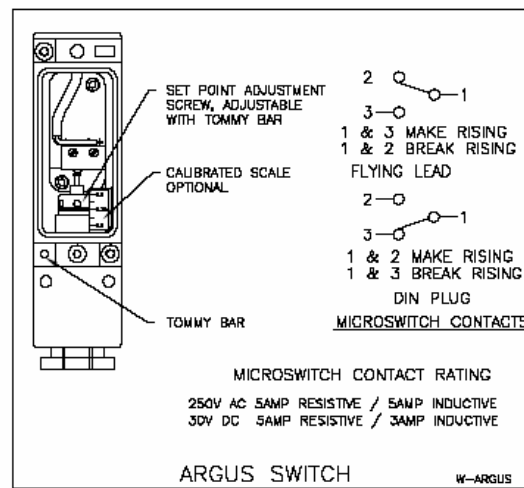
### INTRODUCTION

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 1.5mm<sup>2</sup>. 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)

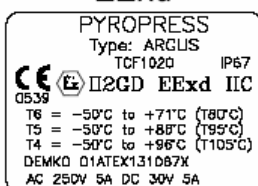
(96°C on EExd – refer to sales office)

**Electrical Connection :**

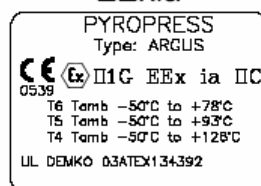
**EExd** – 1 metre of 3 or 6 individual 0.75mm<sup>2</sup> silicon insulated flying lead via brass or stainless steel 1/2" NPT or M20 x 1.5 ISO conduit gland (part no code M,N, R & S) or 1 metre of 6.0mm dia 3 core x 0.75mm<sup>2</sup> silicon insulated cable (part no code A). Longer lead lengths can 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 0.75mm<sup>2</sup> 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).

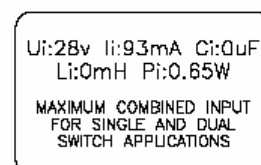
### EExd



### EExia



### EExia



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