LEVEL

L510 & L520 ARGUS ATEX Exd, Exia CERTIFIED & INDUSTRIAL LEVEL SWITCH

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

Horizontal or vertical Mounting

Single or dual microswitch option.

ATEX Flameproof Option
CE Ⓔx II2G Exd IIC
T6 Tamb -50 to +71˚C
T5 Tamb -50 to +86˚C
T4 Tamb -50 to +96˚C

ATEX I.S. Option
CE Ⓔx II1G Exia IIC
T6 Tamb -50 to +78˚C
T5 Tamb -50 to +93˚C
T4 Tamb -50 to +128˚C

(For resistor certification refer to page 67)

TYPE L510 HORIZONTAL LEVEL SWITCH

Switching is effected in this unit through transforming by means of an eccentric cam at fulcrum, the vertical motion of the float with level change to the considerably reduced movement of a horizontal switch plunger which is arranged to operate a SPDT/SPCO microswitch. Isolation of the switch mechanism from the liquid monitored is effectively maintained by the use of a 'O' ring seal on the horizontal switch plunger.

This type of level switch can therefore be used on tanks under pressure or vacuum, being suitable for pressures up to 3.5 Bar and liquid temperatures up to 100C.

The device can be mounted through a 27mm hole drilled in the side tank with joint washer and back nut provided. Alternatively it can be fitted in a suitable tank cover plate of sufficient dimension to allow insertion of the switch complete with float.

TYPE L520 VERTICAL LEVEL SWITCH

This design is suitable for mounting through a tank top or cover and utilises a free float principle. The float is allowed to travel unrestricted up or down the rod in response to level change between the limits set by the upper and lower adjustable rod collars which are fixed in position at preselected points.

Both types L520 mode A (for high or low alarms) and type L520 B (with a latching mechanism suitable for pump control) can be installed in non-pressurised tanks and sumps with liquid temperatures up to 100C. They can be fitted with a cover plate or flange to ease installation. The float rod can be supplied between 500mm and 2000mm to suit application, the required length must be stated upon ordering. Each float switch is tested and adjusted individually to suit float and & rod fitted.

For detailed drawing showing options please refer to page 87

PART NUMBER BREAKDOWN

MICROSWITCH

1 =1x SPDT INDUSTRIAL & I.S. FLYING LEAD

5 =1x SPDT FLYING LEAD Exd

6 =2x SPDT FLYING LEAD Exd, Exia & INDUSTRIAL

MOUNTED

51 = HORIZONTAL

52 = VERTICAL

OPTIONS

O = NONE

A = Exe JUNCTION BOX (6 TERMINALS)

B = Exe JUNCTION BOX (HIGH AMB. TEMP)

C = Exe JUNCTION BOX (HIGH AMBIENT TEMP) & 2" PIPE BRACKET

D = Exe 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

L F 5 2 6 F P R 6 1 / F S 0 0 1 / S X O

CERTIFICATION

F = ATEX Exd

I = ATEX Exia

S = INDUSTRIAL

CASE MATERIAL

P = PPS (ENGINEERING POLYMER)

S = 316 STAINLESS STEEL

LENGTH OF CABLE

0 = PLUG & SOCKET OR M20 FEMALE

1 = 1 METRE ETC

X = CABLE LENGTH OVER 9 METRES

FS050 = L510 STANDARD (HOR)

FS001 = L520 MODE A (VERT)

FS002 = L520 MODE B (VERT)

FLOAT MATERIAL

P = POLYPROPYLENE L510 ONLY

S = 316 STAINLESS STEEL

ELECTRICAL CONNECTION

A = 3 CORE CABLE

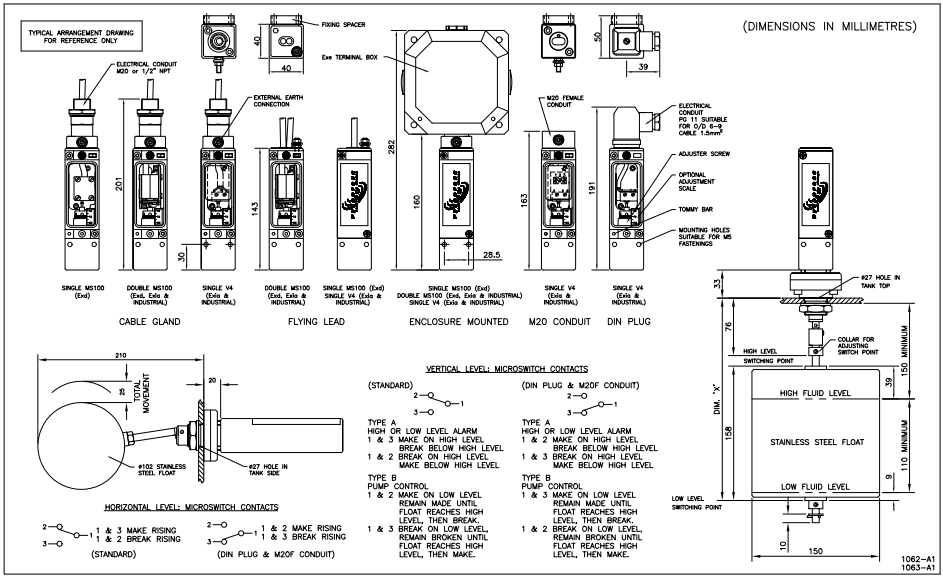
R = M20 MALE ST. STEEL*

T = M20 FEMALE (INDUSTRIAL & IS)

P = DIN 43650 PLUG & SOCKET (IS & IND)

S = 1/2" NPT MALE ST. STEEL

*CONNECTION TO BE USED FOR EExe JUNCTION BOX



ARGUS ATEX Exd, Exia & INDUSTRIAL SWITCHES

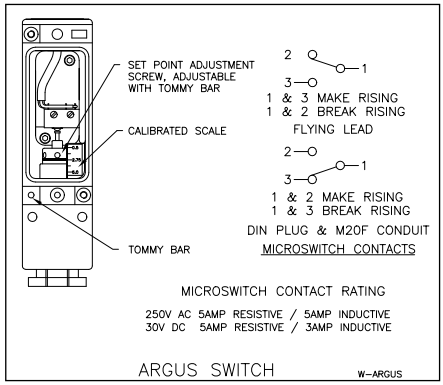
INTRODUCTION

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 certified for CAT 1 CE Ex II1G Exia IIC T6,T5 & T4 and CAT 2 CE Ex II2G Exd 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).

Temperature Limitations : Pressure, Vacuum and Differential Pressure
Ambient : See Exd, Exia or industrial specification on the opposite page.

Process : Diaphragm actuated unless otherwise stated -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 unless otherwise stated : -60 to +86°C
(For temperature, level and flow switches please refer to specific pages)

Microswitch : 1 or 2 SPDT (dual switches mechanically linked to give DPDT)
Microswitch rating : 5 Amps @ 250 VAC resistive and inductive
5 Amps @ 30VDC resistive, 3 Amps @ 30 VDC inductive

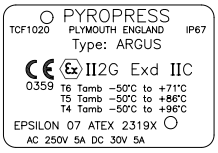
INDUSTRIAL AND Exia DIN PLUG AND SOCKET OR M20 x 1.5 ISO FEMALE

Ambient temp : -40 to +86°C (+125°C special – refer to sales office)
Electrical Connection : DIN 43650 plug and socket suitable for unarmoured cable upto 1.5mm2. Cable OD between 6 and 9mm (PG11) or M20 x 1.5 ISO female.

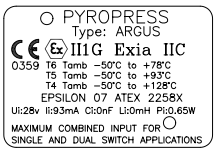
Exd & Exia FLYING LEAD CONNECTION

Ambient temp : -50 to +86°C (128°C on Exia – refer to sales office)
Electrical Connection :
Exd – 1 metre of 3 or 6 core 0.75mm2 silicon insulated flying lead via stainless steel ½" NPT or M20 x 1.5 ISO male threaded conduit gland (part no code 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 Exe certified junction boxes can be supplied fitted and wired direct to the switch. The standard Exe box has an ambient temperature range of –40 to +55°C. Higher temperature can be catered for.
Exia - 1 metre of 6.0mm dia 3 core x 0.75mm2 silicon insulated cable via stainless steel ½" NPT or M20 x 1.5 ISO male threaded conduit gland (part no code R & S) or supplied with no thread (part no code A)
Certification : All switches are CE certified and marked in accordance with the following EU directives
Exd Flameproof : 94/9/EC ATEX coded CE Ex II2G Exd IIC T6 Ta –50 to +71°C, T5 Ta +86°C, T4 Ta +96°C. (Switches to be installed in accordance with EN60079-14) Special conditions for save use. The permanently attached cable associated with the apparatus shall be terminated in accordance with EN60079-14. Appropriate overload protection must be provided during installation. (to be ignored if junction box is fitted)
Exia Intrinsically Safe (without resistors) 94/9/EC ATEX coded CE Ex II1G Exia IIC T6 Ta –50°C to +78°C, T5 Ta +93°C, T4 Ta +128°C
Exia Intrinsically Safe (with resistors) 94/9/EC ATEX coded CE Ex II1G Exia IIC T5 Ta –50°C to +72°C, T4 Ta +122°C
Special conditions for save use. (Category 1, Zone 0) Aluminium may only be used when the ignition hazard assessment shows that there is no risk of ignition from incendive, impact or abrasion sparks.
Industrial : 2006/95/EC (Low voltage directive)
Accuracy : +/-1% at 20°C

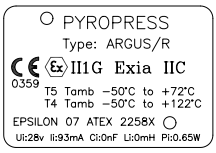
Exd



Exia



Exia



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