ARGUS LEVEL

TYPE L510 & L520 ATEX/ IECEx Exia CERTIFIED LEVEL SWITCH

L510 HORIZONTAL LEVEL SWITCH

These liquid level switches are designed to give indication of high or low level alarms in tanks or vessels. They are fitted with a round or cylindrical float, the movement of which operates an SPCO microswitch via an offset pivot and push rod. A second microswitch can be fitted to give an additional signal.

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 100˚C.

The switch can be installed either via a 27mm clearance hole, utilising the joint washer and back nut supplied, and the float re-attached to the rod. Where there is no access to the tank interior, the cylindrical float with 2”/50mm flange version enables installation without removing and re-attaching the float.

LEVEL HORIZONTAL & VERTICAL

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 100˚C. They can be fitted with a cover plate or flange to ease installation. The float rod can be supplied between 260mm 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. A back nut and nitrile bonded seal are provided to aid installation.

FEATURES

- Single or dual microswitch option.
- 316 stainless steel or PPS engineering polymer switchcase to IP66/IP67 standards.
- Horizontal or vertical Mounting
- SIL 2 - IEC 61508 proven reliability
- 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

PART NUMBER BREAKDOWN

MICROSWITCH
1 = 1 x SPDT INDUSTRIAL & Exia
8 = 2 x SPDT FLYING LEAD Exia & INDUSTRIAL

MOUNTED
51 = HORIZONTAL
52 = VERTICAL

OPTIONS
X = STANDARD - NO BRACKET
A = Exe JUNCTION BOX (6 TERMINALS)
B = Exe JUNCTION BOX (HIGH AMB. TEMP)
R = MONITORING RESISTORS
IF MORE THAN ONE OPTION IS REQUIRED IT SHOULD BE WRITTEN AFTER THE PART NUMBER

L S 5 2 8 S P R 8 1 / F S 0 0 1 / S X X

CERTIFICATION
I = ATEX/IECEx Exia
S = INDUSTRIAL

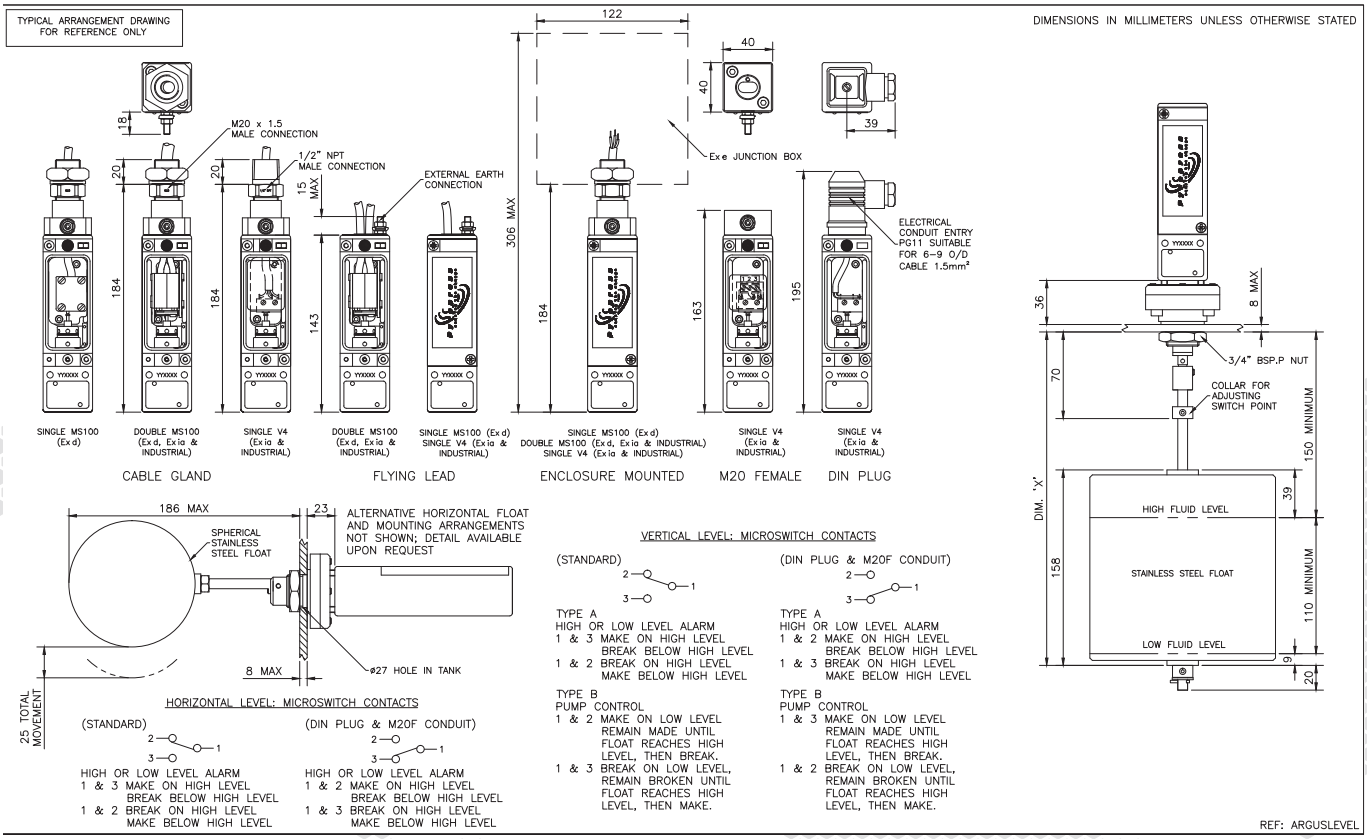
CASE MATERIAL
P = PPS (ENGINEERING POLYMER)
S = 316 STAINLESS STEEL

LENGTH OF CABLE
0 = DINPLUG, M20 FEMALE OR M12 MALE
1 = 1 METRE ETC
X = CABLE LENGTH OVER 9 METRES

FLOAT MATERIAL
P = POLYPROPLYENE L510 ONLY
S = 316 STAINLESS STEEL

ELECTRICAL CONNECTION **T =** M20 FEMALE
A = 1 OR 2, 3 CORE CABLE **L** = M12x1 CIRCULAR CONNECTOR
R = M20 MALE ST. STEEL **S** = 1/2* NPT MALE ST. STEEL
P = DIN EN 175301-803-A PLUG & SOCKET (WAS DIN 43650)

FLOAT TYPE
HORIZONTAL
FS050 - SPHERICAL FLOAT - 4" ROD
FS051 - CYLINDRICAL FLOAT - 4" ROD
FS052 - CYLINDRICAL FLOAT - 8" ROD
FS053 - CYLINDRICAL FLOAT - 2" ROD
VERTICAL
FS001 = LS520 MODE A (VERT)
FS002 = L520 MODE B (VERT)



ARGUS ATEX/IECEx Exia & INDUSTRIAL SWITCHES

INTRODUCTION

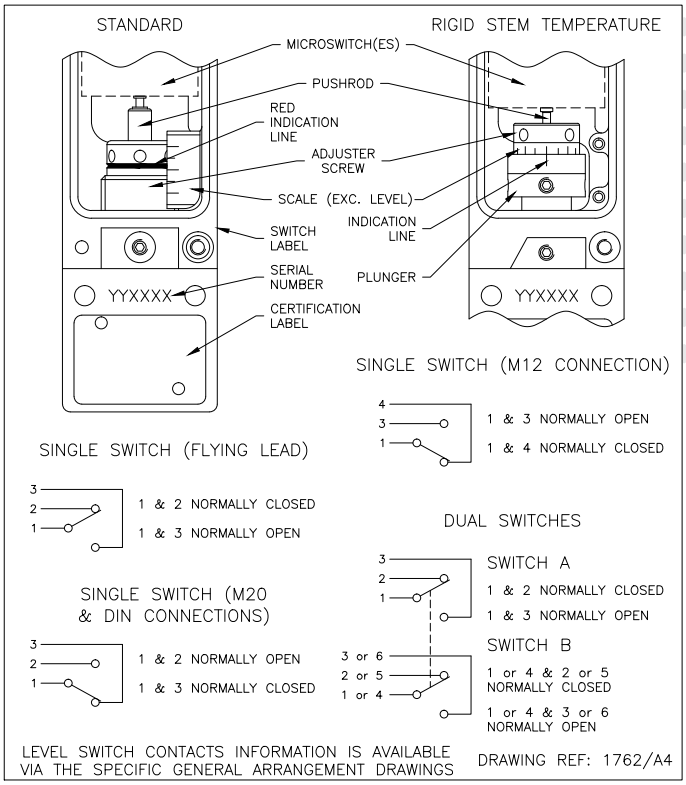
The Argus pressure, differential pressure, temperature, level and flow switches are designed for use in environments where explosive gases and extremes of both high and low ambient temperature can be present (e.g. gas fields, oil rigs and chemical plants etc.) They have been ATEX & IECEx certified suitable 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 1.5mm2. Cable OD between 4.5mm and 11mm (PG11).
M20 x 1.5 ISO female: 3 terminals suitable for cables upto 1.5mm2.
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 aviod electostatic discharge during maintenance, adjustment or servicing. Clean only with a damp cloth.

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

TEMPERATURE LIMITATIONS

Level switches switches.

Process temperature: -20°C to +100°C.
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. Please refer to ATEX & IECEx certificate showing permitted process temperature in relation to temperature class.

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.