ARGUS MEDIUM / HIGH PRESSURE

P510, P520, P530 & P540 ARGUS ATEX/ IECEx Exia CERTIFIED & INDUSTRIAL PRESSURE SWITCH

This range of switches features a unique switchcase option injection moulded from a PPS engineering polymer. Reliable and proven design concepts from our established range of switches have also been incorporated. This provides a very competitively priced, lightweight and durable sensor.

FEATURES

- 316 stainless steel or PPS engineering polymer switchcase to IP66/IP67 standards.
- Internal adjustment scale.
- Settings from 0.2 to 800 bar.
- Single or dual microswitch option.
- 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

PandID®B.V. | t: +31 174 280 371 |e: info@pandid.nl | i: www.pandid.nl | www.lineblind.eu

P510 & P520 MEDIUM PRESSURE RANGES

1. With dual microswitches minimum set point is 0.4 bar.
2. With dual microswitches minimum set point is 4.0 bar.

ADJUSTMENT RANGE (bar)	ADJUSTMENT RANGE (psi)	MAX WORKING PRESSURE (bar) DIAPHRAGM MAT		DEADBAND-FIXED (bar) DIAPHRAGM MAT.		DIAPHRAGM CODE	SPRING CODE
		NITRILE	VITON	NITRILE	VITON		
[1] 0.2 - 8.2	5 - 115	32	40	<0.6	<0.8	1	T
[2] 3.0 - 11.0	45 - 145	32	40	<0.5	<1.0	1	R
6.0 - 22	90 - 320	32	40	<1.4	<2.2	1	B

P530 & P540 HIGH PRESSURE RANGES

3. Please note 1/4" process connections only on these ranges.
With 1/2" process connection max. pressure is reduced to 700 bar.

ADJUSTMENT RANGE (bar)	ADJUSTMENT RANGE (psi)	MAX WORKING PRESSURE (bar)	DEADBAND FIXED (bar)	PISTON CODE	SPRING CODE
0.8 - 16.8	12 - 232	700	<1.5	S6	T
4 - 20	60 - 300	700	<2.0	S6	R
15 - 55	220 - 800	700	<5.5	S3	R
20 - 120	300 - 1700	700	<12	S3	B
40 - 200	600 - 2900	700	<20	S2	B
[3] 100 - 450	1500 - 6500	1000	<45	S1	B
[3] 200 - 800	2900 - 11600	1000	<80	S7	B

PART NUMBER BREAKDOWN - MEDIUM PRESSURE

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

SPRING CODE
PLEASE REFER TO RANGE TABLE

MOUNTED
51 = CASE/CONDUIT MOUNTING
52 = STEM MOUNTED PROCESS CONNECTION

DIAPHRAGM MATERIAL
A = NITRILE
B = VITON - STD

OPTIONS
F = BRACKET FOR PPS HOUSING
S = BRACKET FOR ST.ST HOUSING
A = Exe JUNCTION BOX (6 TERMINALS)
B = Exe JUNCTION BOX (HIGH AMB. TEMP)
E = PIPE MOUNTING BRACKET 2”
R = MONITORING RESISTORS
IF MORE THAN ONE OPTION IS REQUIRED IT SHOULD BE WRITTEN AFTER THE PART NUMBER

P S 5 1 8 S P R 8 1 / B R 1 0 N 1 / S 6 F

CERTIFICATION
PI = ATEX/IECEx Exia
PS = 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

PROCESS CONNECTIONS
P_51 FEMALE
10N = STANDARD
P_52 MALE
22N = 1/2” BSP.P
24N = 1/2” NPT

WETTED PARTS
M = MONEL
S = ST. ST.

PROCESS CONNECTIONS P_51 FEMALE
1 = 1/4” BSP.P
2 = 1/4” NPT
5 = 1/2” BSP.P
6 = 1/2” NPT MALE
FOR P_52 USE 1

ELECTRICAL CONNECTION
A = 1 or 2, 3 CORE CABLES
R = M20 MALE ST. STEEL
P = DIN EN 175301-803-A PLUG & SOCKET (WAS DIN 43650)
T = M20 FEMALE (INDUSTRIAL & IS)
L = M12 x 1 CIRCULAR CONNECTOR
S = 1/2” NPT MALE ST. STEEL

DIAPHRAGM CODE
PLEASE REFER TO RANGE TABLE

PART NUMBER BREAKDOWN - HIGH PRESSURE

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

SPRING CODE
PLEASE REFER TO RANGE TABLE

SEAL MATERIAL
A = NITRILE
B = VITON - STD
D = PTFE*
E = EPDM*
*NOT AVAILABLE WITH PISTON CODE S7.

MOUNTING
53 = CASE/CONDUIT MOUNTING
54 = STEM MOUNTED PROCESS CONNECTION

OPTIONS
F = BRACKET FOR PPS HOUSING
S = BRACKET FOR ST.ST HOUSING
A = Exe JUNCTION BOX (6 TERMINALS)
B = Exe JUNCTION BOX (HIGH AMB. TEMP)
E= PIPE MOUNTING BRACKET 2”
R = MONITORING RESISTORS
IF MORE THAN ONE OPTION IS REQUIRED IT SHOULD BE WRITTEN AFTER THE PART NUMBER

P S 5 3 1 S P R 1 1 / B R 3 2 N 3 / S 6 F

CERTIFICATION
PI = ATEX/IECE Exia
PS = 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

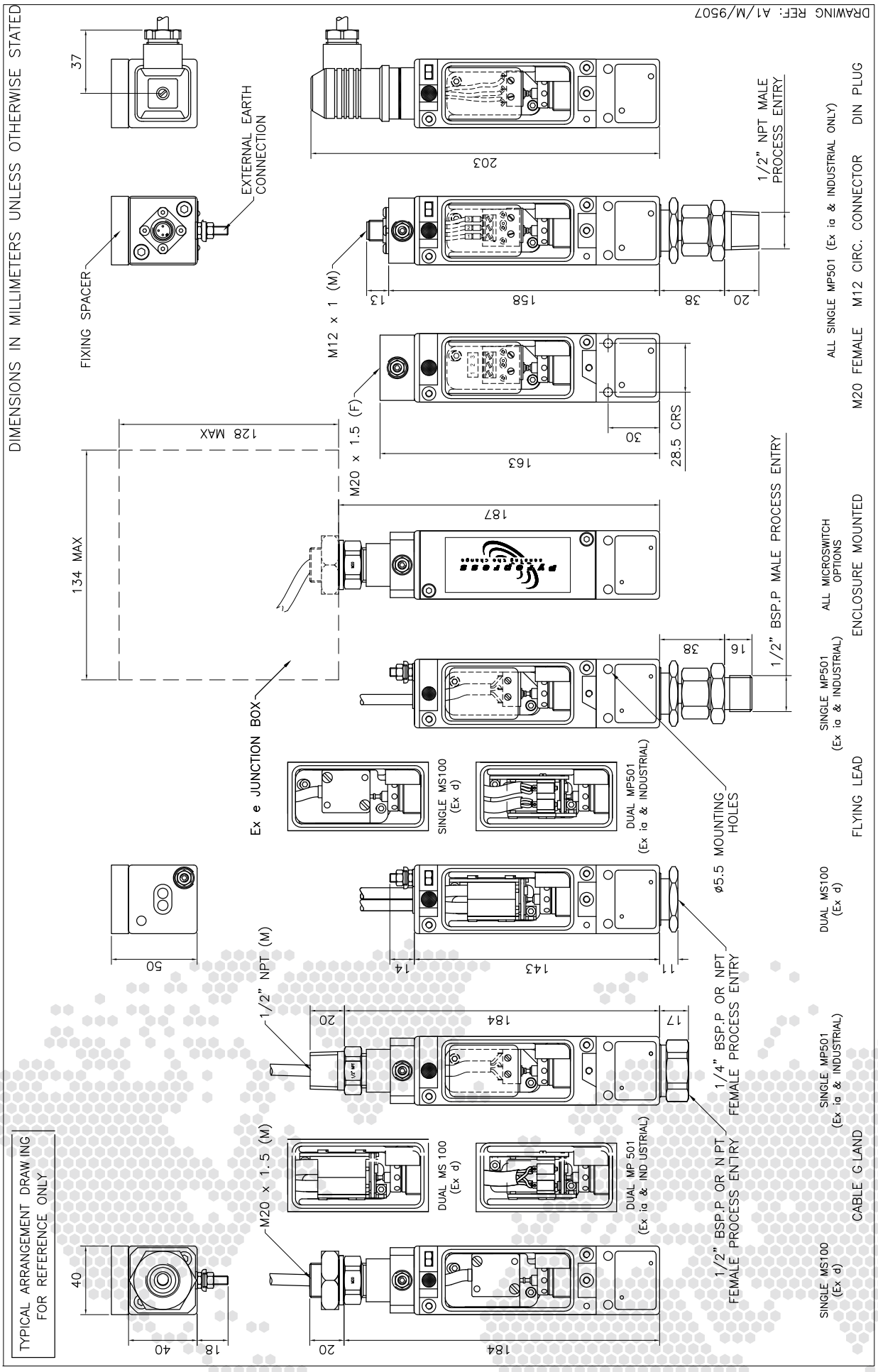
PROCESS CONNECTIONS
P_53 FEMALE
31N3 = 1/4” BSP.P
32N3 = 1/4” NPT
33N3 = 1/2” BSP.P
34N3 = 1/2” NPT

P_54 MALE
41N3 = 1/2” BSP.P
42N3 = 1/2” NPT

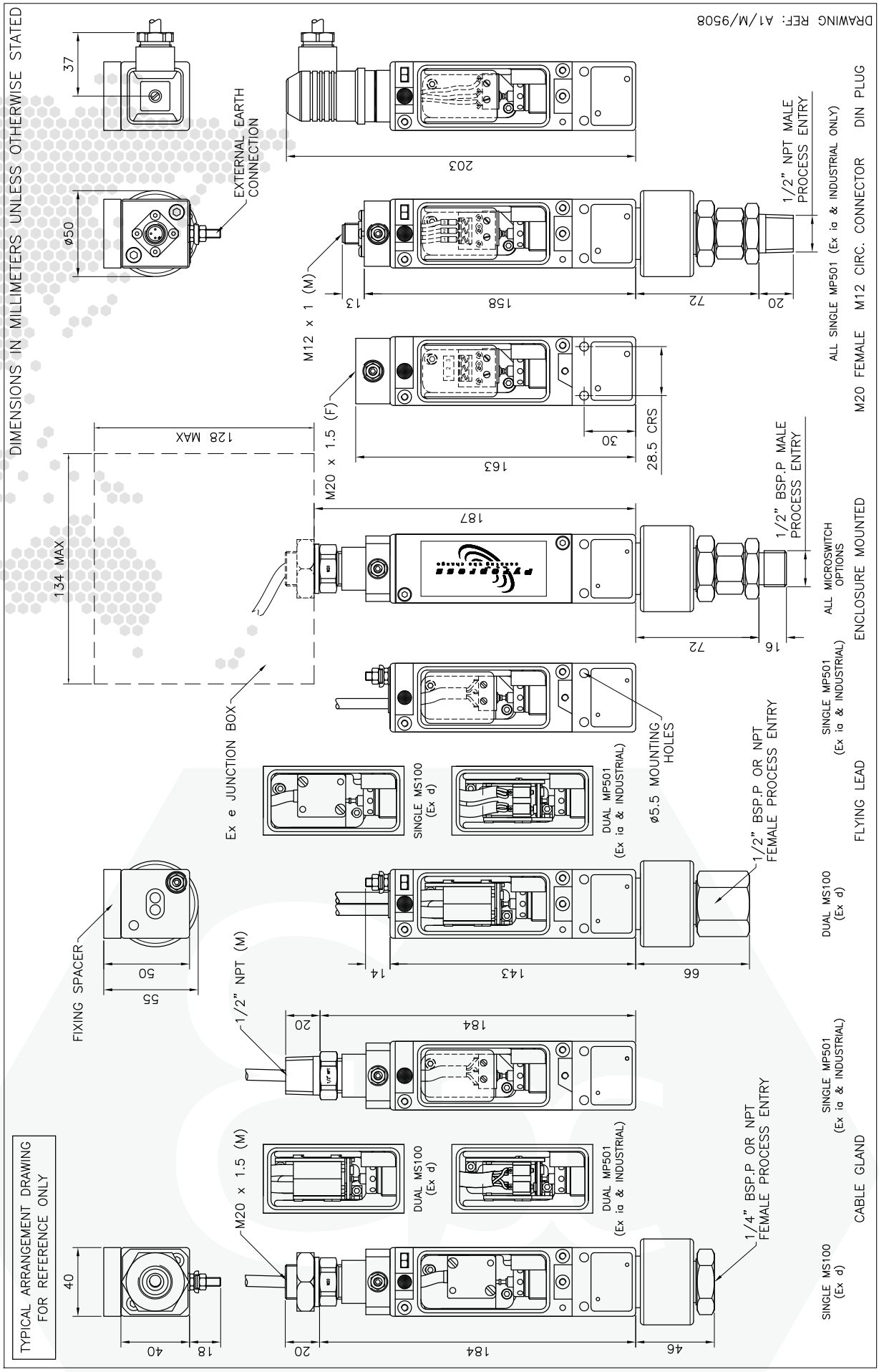
PISTON CODE
PLEASE REFER TO RANGE TABLE

ELECTRICAL CONNECTION
A = 1 or 2, 3 CORE CABLES
R = M20 MALE ST. STEEL*
P = DIN EN 175301-803-A PLUG & SOCKET (WAS DIN 43650)
T = M20 FEMALE (INDUSTRIAL & IS)
L = M12x1 CIRCULAR CONNECTOR
S = 1/2” NPT MALE ST. STEEL
* CONNECTION TO BE USED FOR Exe JUNCTION BOX

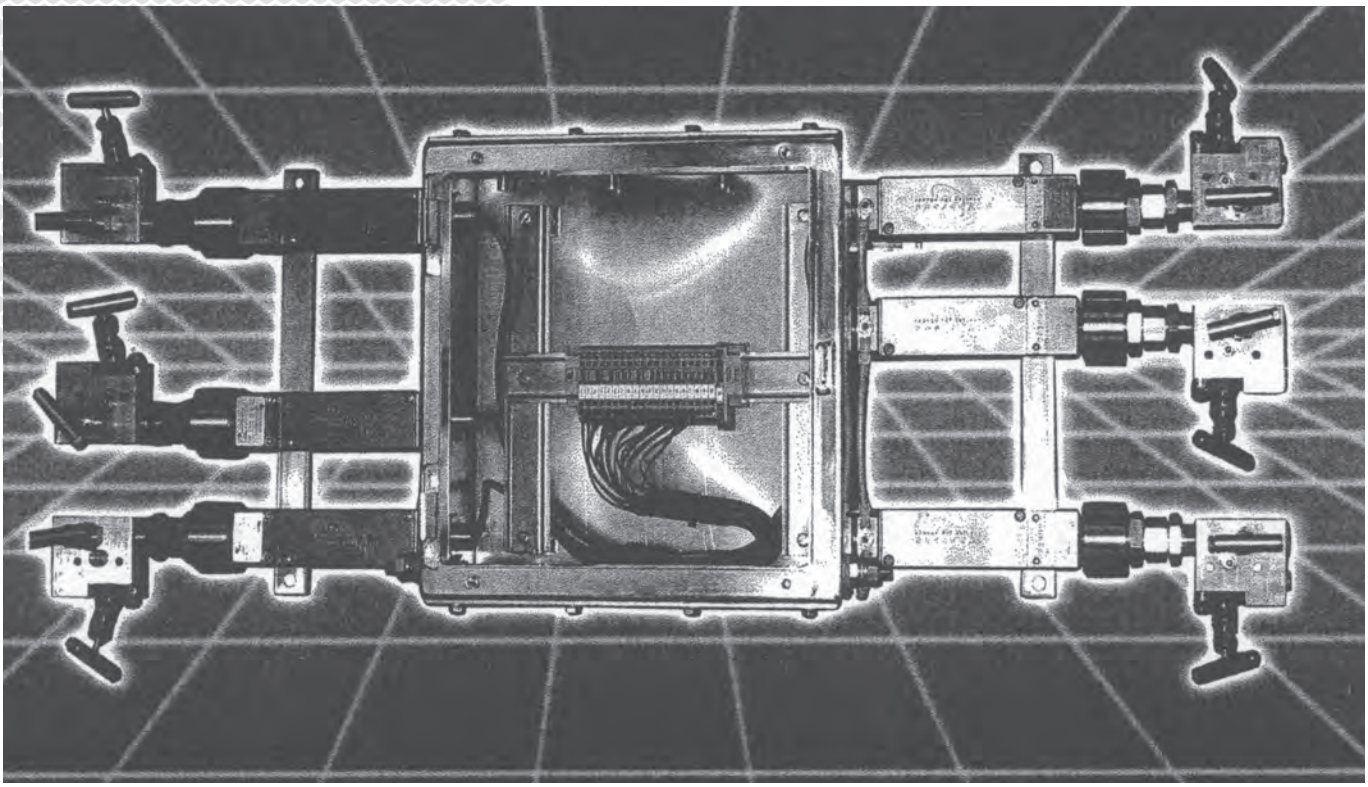
TYPE P510 & P520 ARGUS MEDIUM PRESSURE SWITCH



TYPE P530 & P540 ARGUS HIGH PRESSURE SWITCH



ARGUS SWITCH AND JUNCTION BOX ASSEMBLY



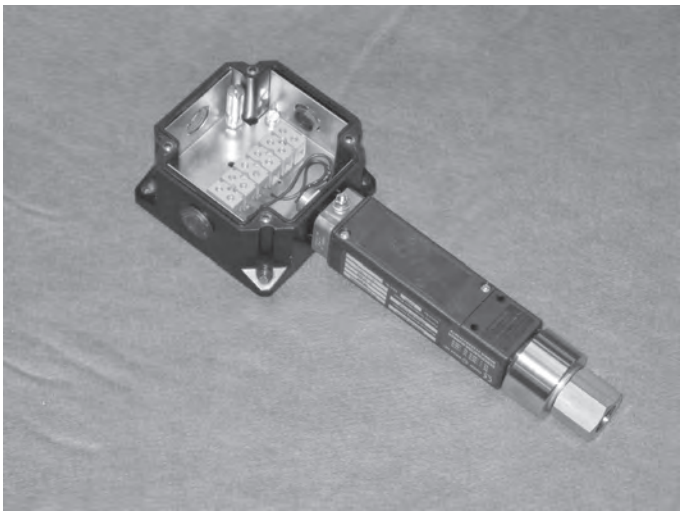
We have extensive experience gained over 50 years of supplying most sectors of industry and believe these custom assemblies can assist cost saving. A recent example of this was an approach made to us by a leading company from the fire protection sector. They had previously been mounting 6 switches on a bulkhead and individually wiring each switch back to an Exe enclosure via armoured cable and certified cable glands.

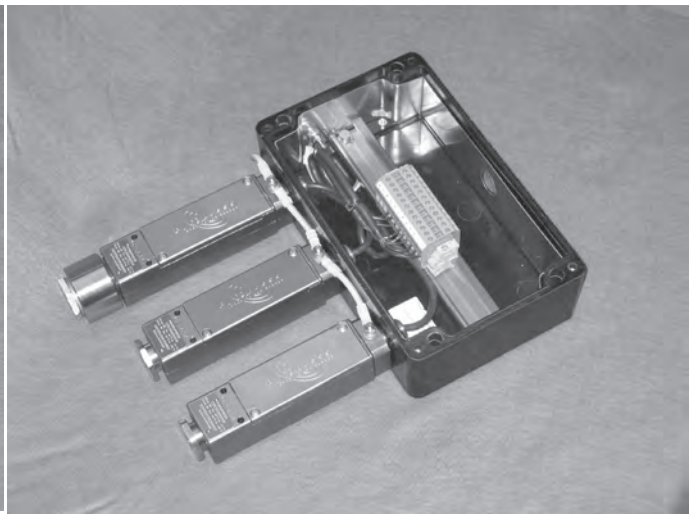
Our solution, which can be seen above, was to supply a stainless steel Exe junction box fitted with pressure switches. We incorporated manifold valves and supplied a complete wired assembly. This was bolted to a bulkhead and the process connections attached. The concept saved them considerable time as the pressure switches did not need to be individually mounted and wired.

In addition, a single order was placed, when normally separate orders for switches, junction boxes and manifold valves would have been required. Our customer and their inspection authority were so impressed with the initial system that we received an order for 80 sets.

Our experienced engineers work closely with our customers enabling us to maintain our position as a leader in the control and instrumentation field. This close relationship has resulted in switch ranges such as the Argus as well as an expanding range of instrumentation products. We are in a position to offer a full range of switches, indicators and transmitters for industrial or hazardous area applications no matter how arduous.

ARGUS SWITCH AND JUNCTION BOX ASSEMBLY





The Argus range of pressure, temperature, differential pressure, level and flow switches manufactured by Pyropress are available Exia ATEX/IECEx certification. There is also an industrial version enabling one range of switches to be used for all applications.

Pyropress are offering switch, transmitter and junction box assemblies suited for hazardous area and industrial applications. They are custom designed and are delivered fully assembled and wired. We can also incorporate gauges and manifold valves and additional terminals for other instrumentation.

The Argus range is available with a corrosive resistant robust PPS (engineering polymer) case or 316 stainless steel cast, both possessing a versatile rating of IP66/IP67. They can be used for ambient temperatures between -40 and +85°C. Full details of the complete range can be found on our website www.pyropress.com.

In keeping with our long standing customer oriented philosophy, the entire organisation constantly strives to improve the effectiveness of our service. Computerised order processing and communication systems plus large stocks of standard and special parts, and a highly skilled workforce ensure that your orders receive prompt attention from initial quotation through to shipment.

A full procurement and project management service ensures a complete turnkey package of equipment and suppor 1 which can be sought from a single source rather than incurring. The cost and inconvenience of multiple suppliers.

ARGUS ATEX/IECEx Exia & INDUSTRIAL SWITCHES

INTRODUCTION

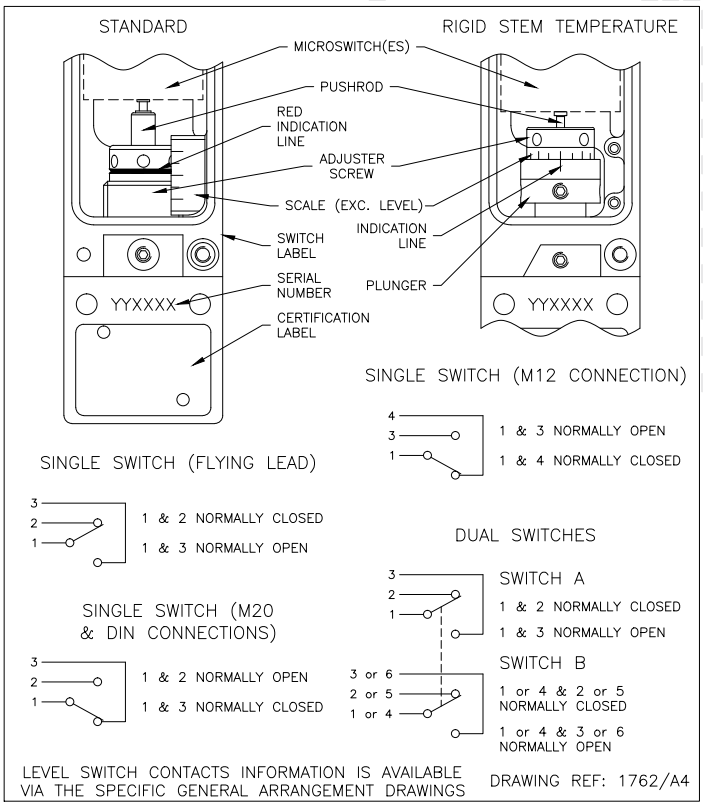
The Argus pressure, differential pressure, temperature, level and flow switches are designed for use in environments where explosive gases and extremes of both high and low ambient temperature can be present (e.g. gas fields, oil rigs and chemical plants etc.) They have been ATEX & IECEx certified suitable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

Pressure, Vacuum and Differential Pressure.

Process temperature: Diaphragm actuated unless otherwise stated -30 to +100°C (Nitrile) or -20 to +150°C (Viton). Piston actuated -30 to +100°C (Nitrile) or -20 to +150°C (Viton) or -40 to +150°C (PTFE) -35 to +100°C (EPDM).

Ambient temperature: -40 to +85°C (-50°C & +125°C options – refer to sales office).
Storage temperature: -40 to +85°C (For temperature, level and flow switches please refer to specific pages).
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.