


Zero Pressure Monitor Range

Description	
<p>Safety pressure monitors have been design to interface into new or existing safety systems where residual pressure must be depleted.</p> <p>The monitors consist of a non-adjustable preset between 3&6 psi switchover on depressurisation and 15psi switchover on rising pressure.</p> <p>The pressure monitor incorporates a two-pole positive driven plunger type switch, with positive opening contact pre-approved to category 4 safety applications.</p> <p>A single pressure monitor is suitable for category 2 applications when used in conjunction with another safety function or two independent units are suitable for pressure monitoring in category three or four applications.</p>	
	
Options & Ordering Information	
Description	Part NO.
Zero Pressure Monitor Single 1/4" BSP Port Aluminium	ZPM-1-AG025-0D0-MP0
Zero Pressure Monitor Single 1/4" BSP Port Steel	ZPM-1-SG025-0D0-MP0
Zero Pressure Monitor Dual 1/4" BSP Port Aluminium	ZPM-2-AG025-0D0-MP0
Zero Pressure Monitor Dual 1/4" BSP Port Steel	ZPM-2-SG025-0D0-MP0
Important:	
<p>The products must be used in accordance with the installation instructions and operating conditions in the relevant data sheet, which has been produced to support the requirements of the harmonized standard ISO 13849-1.</p> <p>Additionally, for products intended to be sold in European Economic Area: "Safety devices" or other safety functions mentioned in any product literature are not necessarily "safety components" as defined by the Machinery Directive 2006/42/EC, unless otherwise stated together with the CE Mark and specific reference to said directive.</p> <p>This product is designed for use according to the installation and operating instructions enclosed. It must be installed by a competent and qualified personnel who have read and understood the whole of this document prior to commencing installation. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. Any modification to or deviation from these instructions invalidates all warranties. Fortress Interlocks Ltd accepts no liability whatsoever for any situation arising from misuse or misapplication of this product.</p> <p>SUITABLE FOR APPLICATIONS UP TO AND INCLUDING PERFORMANCE LEVEL E, CATEGORY 4 AS PER ISO 13489-1 AND SIL 3 AS PER IEC 61508. BEWARE OF INTENTIONAL MISUSE CAUSED BY OPERATORS WANTING TO BYPASS SAFETY SYSTEMS. THE INSTALLER SHOULD ASSESS THE RISKS AND MITIGATE AGAINST THEM. IF YOU HAVE ANY QUESTIONS OR QUERIES OF ANY NATURE WHATSOEVER PLEASE CONTACT THE SUPPLIER WHO WILL BE PLEASED TO ADVISE AND ASSIST.</p>	

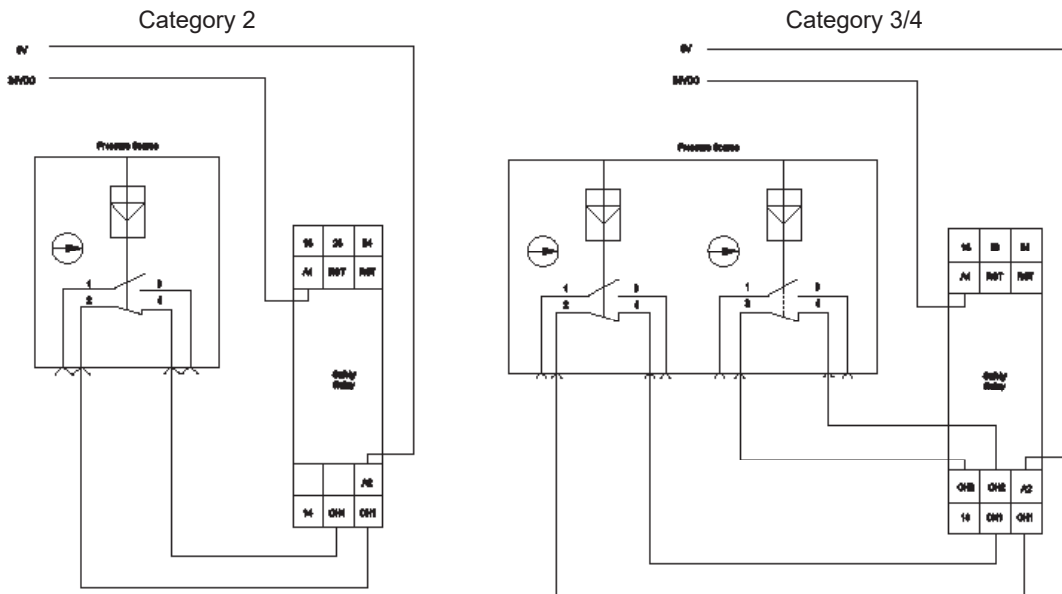
Operating Instructions: Specifications

Pressure monitors and valves manufactured by Fortess Interlocks Ltd conform to the requirements of the following Directives and European Standards.	
EMC Directive	89/336/EEC – EN 55014, EN 50081-2, EN 50082-1, EN 50082-2
Low Voltage Directive	73/23/EEC – EN 60204, IEC 1010, IEC 950
Machinery Directive	98/37/EC – EN 292-1, EN 292-2, EN 983, EN 954-1, EN 1050.

Valve Specifications	
Materials	
Main body	Aluminium or Steel
Piston housing	Aluminium
Piston	Aluminium
Glide seal	PTFE
Energizer seal	Nitrile Rubber
Return spring	Mild Steel Zinc Plated
Piston Housing seal	Nitrile rubber
Screws	Cap Screws M8X20
Lubricant	Teflon Grease
Switch Points	
Normally closed contact	3-6psi (20-40kPa)
Switch	
Type	Plunger
Contacts	1 x N/O, 1 x N/C – Each Monitor
Approvals	En 60947-1, EN 60947-5-1, VDE 0660/100/200
Performance	
Valve working pressure range	0-210 Bar (Aluminum) 0 – 340 Bar (Steel)
Single monitor port connection	1/4" BSP
Medium	Compressed air filtered & lubricated or Hydraulic
Operating temperature range	-5 C to +50 C
Rating	
Protection	IP 65
Approvals	
Low Voltage Directive	73/23/EEC – EN 60204
EMC Directive	89/336/EEC – EN 55014, EN 50081-2, EN 50082-1, EN 50082-2, IEC 1010, IEC 950
Machinery Directives	98/37/EC – EN 292-1, EN 292-2, EN 983, EN 954-1, EN 10
Weight	
ZPM-1-AG025-0D0-MP0	4 kg
ZPM-1-SG025-0D0-MP0	8.5 kg
ZPM-2-AG025-0D0-MP0	5 kg
ZPM-2-SG025-0D0-MP0	10 kg
ISO 13849-1 Data	
Performance Level	PLe and category 4
B10d	1,000,000 cycles
Vibration	Vibration in line with spool axis < 5g

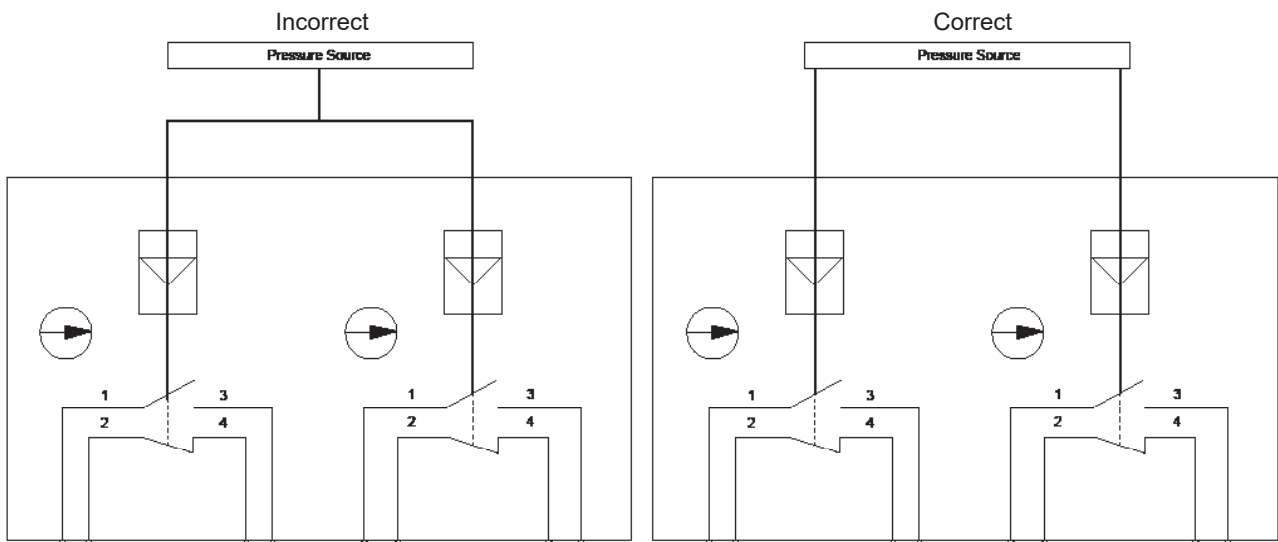
Operating Instructions: Specifications

Figure 1: Wiring Diagram - Electrical Interlocking / Interfacing



Note: Normally closed monitoring contacts are mechanically linked positive opening with safety certification use in category 4 applications.

Figure 2: Wiring Diagram - Hydraulic / Pneumatic Connection



Note: Pressure source inputs shall not be joined via a Tee connector.

Note: Pressure source inputs shall be independent from each other.

Warning: These Fortress Safety products are for monitoring purposes only, and will not bleed a fluid power system.

Operating Instructions: Specifications

Figure 3: Dimensional Drawing - Single Zero Pressure Monitor - ZPM-1-SG025-0D0-MP0

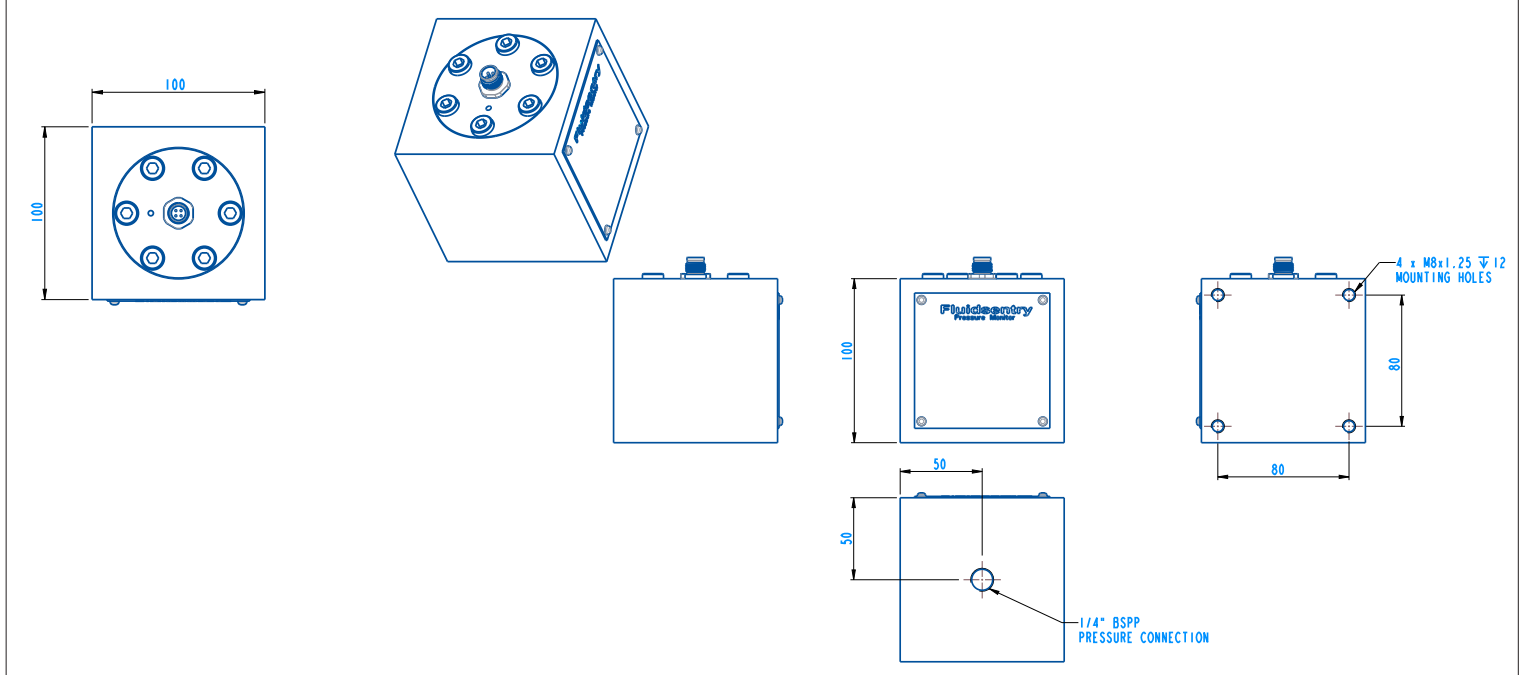
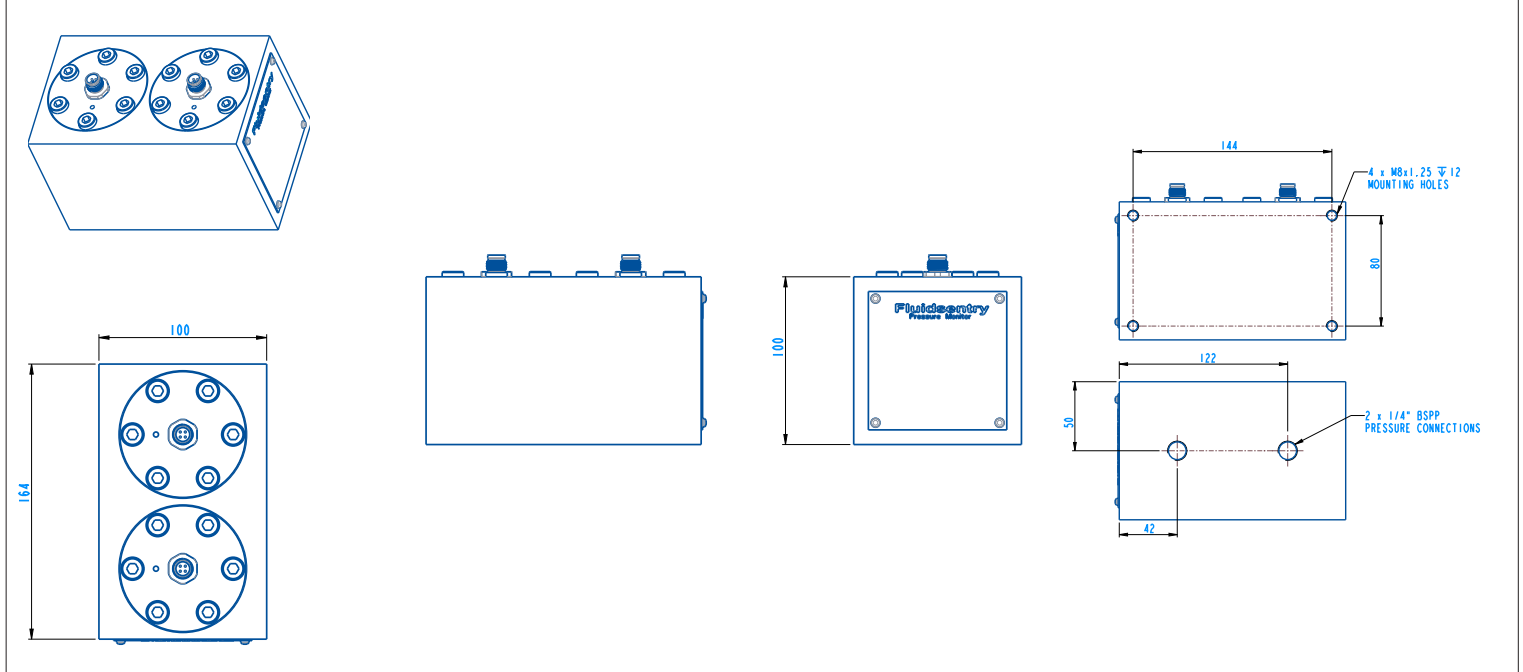


Figure 4: Dimensional Drawing - Dual Zero Pressure Monitor - ZPM-2-SG025-0D0-MP0



Operating Instructions: Cautions & Warnings

Warning
Selection
Confirm specifications Products represented in this data sheet are designed for use in compressed air and hydraulic applications only, unless otherwise indicated. Do not use the products outside their design parameters.
Installation
1. Do not install unless the safety instructions have been read and understood. Keep this data sheet on file for future reference.
2. Maintenance When installing the products, please allow access for maintenance.
3. Tightening Torque When installing the products, please follow the listed torque specifications.
Special Precautions for use with air supply (pneumatic)
1. Operation fluid For use with compressed air
2. Install an air dryer, after cooler etc. Excessive condensate in a compressed air system may cause valves and other pneumatic equipment to malfunction. Installation of an air dryer, after cooler, etc. is recommended.
3. Drain If condensate in the drain bowl is not emptied on a regular basis, the bowl will overflow and allow the condensate to enter the compressed air lines. If the drain is difficult to check and remove, it is recommended that a drain bowl with the auto drain option be installed.
4. Use clean air If the compressed air supply is contaminated with chemicals, synthetic materials, corrosive gas, etc., damage to the pneumatic equipment may occur.
Caution
Piping
1. Before Piping Make sure that all debris, cutting oil, dust, etc. are removed from the piping.
2. Sealant Tape When installing piping or fitting into a port, ensure that sealant material does not clog up the pressure port. When using sealant tape leave the first 1.5 to 2 thread turns exposed at the end of the pipe/fitting.
Warning
Environment
1. Do not use in an environment where the product is directly exposed to corrosive gases, chemicals, salt water, water or steam.
2. Do not expose the product to direct sunlight for an extended period of time. If the product has to be mounted in an area where exposure to direct sunlight cannot be avoided, the use of a protective cover is recommended.
3. Do not mount the product in a location where it is subject to strong vibrations and/or shock.
4. Do not mount the product in a location where it is exposed to radiant heat.
Maintenance
1. Maintaining the product If handled improperly, compressed air can be dangerous. Assembly, handling and repair of pneumatic and hydraulic systems should be performed by qualified personnel only.
2. Drain Remove condensate from the filter bowl on a regular basis (pneumatic applications).
3. Shut-down before maintenance Before attempting any kind of maintenance make sure the supply pressure is shut off and all residual air pressure is released from the system to be worked on.
4. Start-up after maintenance Apply operating pressure and power to the equipment and check for proper operation and possible air leaks. If operation is abnormal, please verify product set-up parameters.
5. Do not make any modification to the product Do not take the product apart.