

AVID

The AVID® (Automated Valve Interface Devices) range of position monitors represents the latest technology for the monitoring and control of automated 1/4 turn valves

Features

- All AVID® products are suitable for NAMUR mounting to actuators.

EasiFix® switch adjustment

- Vibration resistant self-locking cams are fastened to a splined shaft and can be set by hand in seconds. Since there are no set screws, the cams will never slip out of adjustment.

ModMount® assembly

- The AVID® position monitors are directly mounted to the actuator by a low-profile mounting assembly.
- An easy access terminal block having two extra points for solenoid valve integration provides for simplicity of wiring and economy of space.

HiVue® local visual indicator

- All models are fitted with a HiVue® impact and corrosion resistant beacon, capable of displaying exact valve position from any quadrant at distances of up to 50 meters.
- ATEX certified.



CR



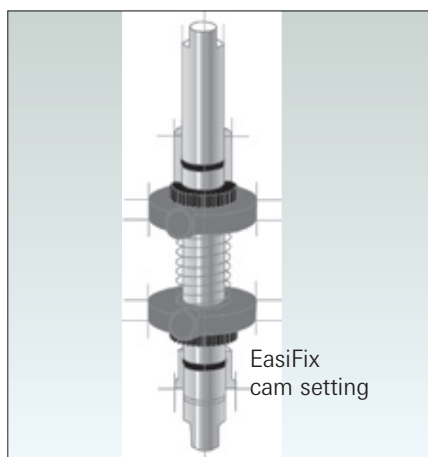
ZR



XA/XS



ZR+



The range

CR position monitor

Corrosion resistant IP68 valve position monitor.

XA/XS position monitor

Flameproof ATEX approved position monitor for hazardous area applications.

ZR position monitor

Corrosion resistant ATEX approved position monitor for general purpose, hazardous area and intrinsically safe applications.

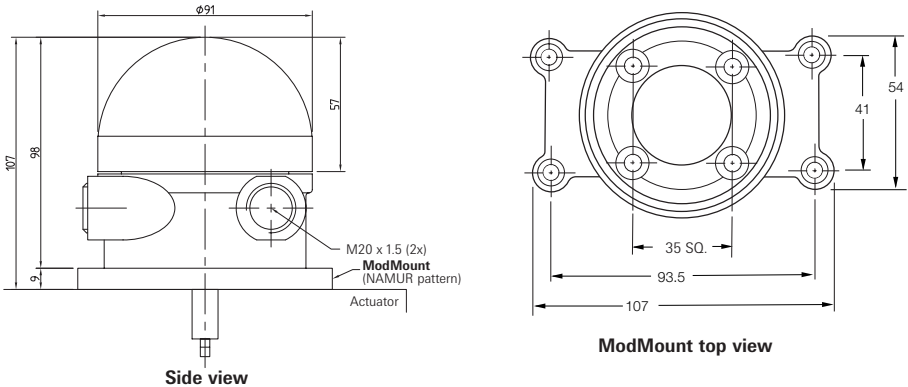
ZR+ Control position monitor

Integrated monitoring and control of a 5/2 or 3/2 solenoid in a single ATEX approved package.

Model CR position monitor



Dimensions (mm)



Micro-switch V3 (mechanical)

Electrical version	SPDT form C
Electrical rating	15 A / 125/250 V AC
(resistive load)	6 A / 24 V DC
	0.5 A / 125 V DC
	0.25 A / 250 V DC
	5 A / 125 V AC 'L'
Inductive proximity sensor	Pepperl & Fuchs: NJ2-V3-N, NBB3-V3-Z4, NBB2-V3-E2 IFM: IS5026, IS5001, IS0003, IS5003, NS5002

Area classification & approvals

Weatherproof	IP66 / IP67 / IP68 (30 m for 24 hrs)
--------------	--------------------------------------

Enclosure

Conduit entries	2 x M20 x 1.5 / 1/2" NPT
Terminal strip	8 points (slide out terminal)
Temperature range	-20°C to +80°C

Materials of construction

Part	Description	Material specification
1	Cover assembly with HiVue indicator	ABS (clear white)
2	Shaft assembly with NBR 'O'rings	Acetal resin
3	Terminal strip & switch assembly	ABS (black)
4	Switch to shaft support plate	ABS (black)
5	Housing with EPDM 'O'ring	ABS (black)
6	Actuator mounting screws	Stainless steel
7	NAMUR & 11 x 16 mm shaft coupler	Acetal resin
8	ModMount bracket	Acetal resin
9	Bracket to housing screws	Stainless steel

General description

The CR represents a universal entry level product for the Pentair AVID® range of position monitors.

Features

- The IP68 engineered resin enclosure assures both strength and corrosion resistance. Extra conduit entrance allows for electrical integration of solenoid valves.
- 8 point slide-out terminal strip for electrical integration of solenoid valves and ease of wiring.
- For intrinsically safe applications, it is recommended that the following NAMUR IS inductive proximity sensors are used, either P&F NJ2-V3-N or IFM NS5002. Alternatively gold plated SPDT mechanical switches can be used as Simple Apparatus (for Gas only). Please note that all of the above must be used in combination with a suitable IS barrier.

The unit would then be suitable for use in the appropriate hazardous area as indicated by the certification for the sensor and/or as follows:

P&F NJ2-V3-N

Exia IIC T* *see: PTB 00 ATEX 2032 X
Exia IIC T* *see: ZELM 03 ATEX 0128 X

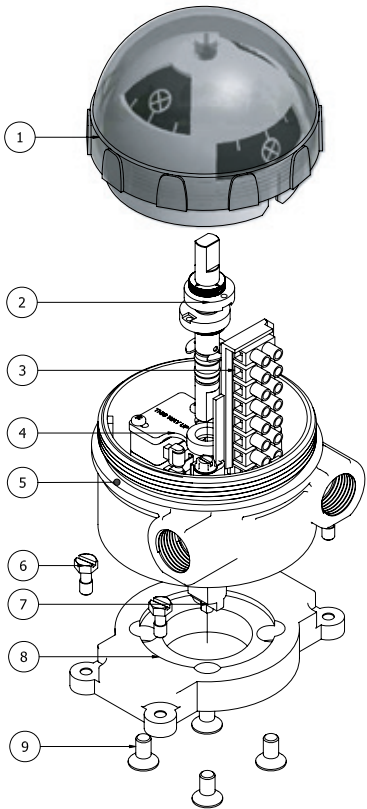
IFM NS5002

Exia IIC T* (max: 70°C) *see: PTB 01 ATEX 2191
Exia IIC T* *see: BVS 04 ATEX E 153


GP SPDT V3 MECH

Exia IIC T
Exia IIC T5


Note: * See corresponding certificate/s for all/any approval variations.



General description

Flameproof ATEX approved  II 2GD T80°C Ex d IIB+H2 position monitors for hazardous area applications.

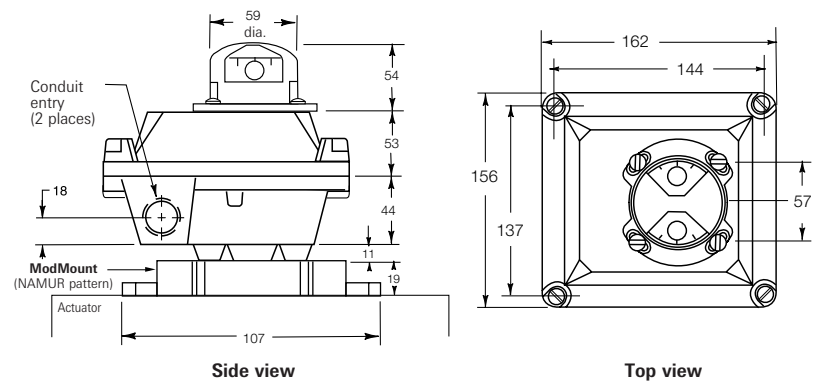
Features

- Flameproof ATEX  II 2GD T80°C Ex d IIB+H2 rated aluminium enclosure, equipped with 2 or 4 mechanical switches.
- Conform to ATEX for use in category 2 group 2 zones 1, 2 (G) and/or zones 21, 22 (D).
- All units are manufactured to IP66/67/68 and NEMA 4, 4x weatherproof ratings.
- Approvals: ATEX, UL, FM, CSA.
- Monitors available with proximity sensors.
- 0 to 100% re-transmission signal (option).

Model XA/XS position monitor - hazardous areas



Dimensions (mm)





Micro-switch V3 (mechanical)

Electrical version	SPDT form C
Electrical rating	15 A / 125/250 V AC
	6 A / 24 V DC
	0.5 A / 125 V DC
	0.25 A / 250 V DC
	5 A / 125 V AC 'L'

Inductive proximity sensors

The XA/XS position monitor is also available with 2 & 3-wire DC PNP/NPN (NO/NC) inductive proximity sensors (5-36 V DC) and 2-wire AC/DC inductive proximity sensors (20-140 V AC/10-140 V DC).

Area classification & approvals

Weatherproof	IP66/67/68
ATEX	 II 2G Ex d IIB+H2 T*
	 II 2D Ex tD A21 T*°C
UL, FM & CSA	NEMA 4, 4X
	Cl. Grps. C & D, Cl. II,
	Grp. E, F & G, Div. 1 & 2

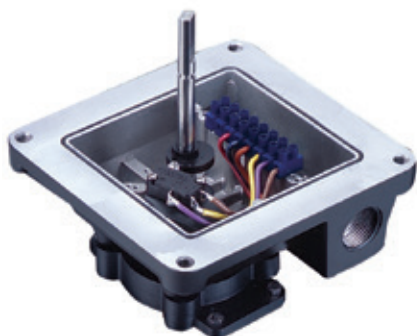
* See corresponding certificate for approval variations

Enclosure

Conduit entries	2 x M20 / 1/2" NPT
Terminal strip	8 or 16 points
Temperature range	Ex d approved at ambient
	-30°C to +85°C

Materials of construction

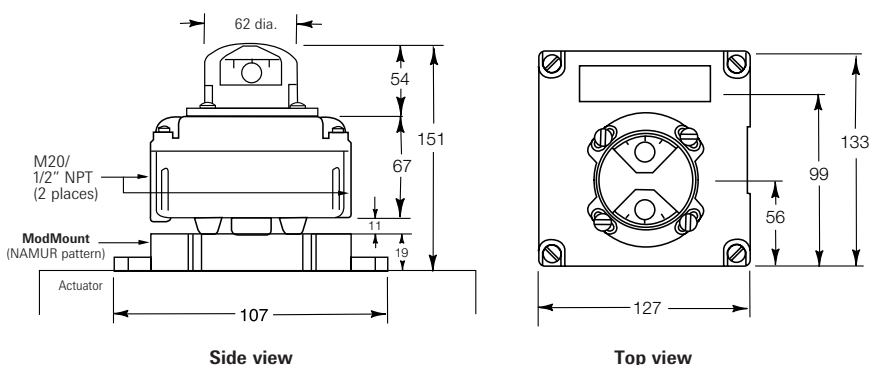
Item	Material XA	Material XS
Housing	Aluminium	Stainless steel
Cover	Aluminium	Stainless steel
Shaft	Stainless steel	Stainless steel
Fasteners	Stainless steel	Stainless steel
HiVue	Grilamid resin	Grilamid resin
ModMount	Nylon	(not used)



Model ZR position monitor



Dimensions (mm)



Micro-switch V3 (mechanical)

Electrical version	SPDT form C
Electrical rating	15 A / 125/250 V AC
	6 A / 24 V DC
	0.5 A / 125 V DC
	0.25 A / 250 V DC
	5 A / 125 V AC 'L'

Proximity type (inductive), intrinsically safe

Sensing range	2-4 mm
Electrical version	D.C. voltage 2 wire in accordance with EN 60947-5-6
Switching frequency	1.0 kHz
Nominal voltage	8 V DC
Input voltage range	Dependent on barrier
Output/current consumption	$\geq 1 \text{ mA}$, $\leq 3 \text{ mA}$

T-sensor for Ex mb e classification

Electrical version	SPDT form C normally open
Contacts	Rhodium
Electrical rating	2 A / 120 V AC, 1.5 A / 24 V DC, 1.0 A / 230 V AC
Contact resistance	0.08 ohms
Seal	Encapsulation

Proximity type (inductive)

The ZR position monitor is also available with 2 and 3-wire DC PNP/NPN (NC/NO) inductive proximity sensors (5-36 V DC) and 2-wire AC/DC inductive proximity sensors (20-140 V AC/10-140 V DC).

General description

A highly corrosion resistant, IP67 resin enclosure suitable for general purpose, hazardous area and intrinsically safe, zones 1, 2 (G) and/or zones 21, 22 (D).

Features

- High-impact, engineered resin enclosure compatible with many corrosive environments.
- Position sensors are available in mechanical and inductive proximity configurations.
- Up to 4 SPDT form C micro-switches or inductive proximity sensors or up to 2 proximity T-switches.
- Inductive T-switches are internationally approved for intrinsically safe applications as are mechanical sensors under their classification as 'Simple Apparatus'.
- Two conduit entries and an easy access terminal block having two extra points for solenoid valve integration.
- 0 to 100% re-transmission signal (option).
- Suitable for hazardous area zones 1 and 2 (G) and/or zones 21, 22 (D).

Area classification & approvals

Weatherproof IP67

ATEX	II 1G Ex ia IIB/C T* Ga
	II 1D Ex t IIIC T135°C Da
	II 2G Ex mb e IIC T* Gb
	II 2D Ex tb IIIC T*° Db

* See corresponding certificate for approval variations

Enclosure

Conduit entries	2 x M20 / 1/2" NPT
Terminal strip	8 points
Temperature range	
ZR with V3 mech.	-40°C to +80°C
ZR with NJ2-V3-N	-25°C to +80°C

All ATEX/IECEx models check certificate

Materials of construction

Item	Material
Housing	Black Grilamid resin
Cover	Clear Grilamid resin
Shaft	Stainless steel
Fasteners	Stainless steel
HiVue	Grilamid resin
ModMount	Nylon



General description

Providing integrated monitoring and control of automated process valves, the ZR+ is designed for general purpose, increased safety & encapsulation or intrinsically safe applications.

Eliminates the need for costly adaptors to mount solenoids onto Scotch Yoke type actuators.

Features

- Solenoid valves are pre-wired and integrated within the ZR+ enclosure.
- High-impact, engineered resin enclosure.
- Position sensors are available in mechanical and inductive proximity configurations.
- Up to 4 SPDT form C micro-switches or inductive proximity sensors or up to 2 proximity T-switches.
- Solenoid valves, in both 3/2-way and 5/2-way configurations are supplied in a variety of coil voltages and body materials.
- A high Cv value of 1.1 is standard on all valves.
- Non-venting valve design with spool position indicator.
- Models available for hazardous area zones 1, 2 (G) and/or zones 21, 22 (D).
- Solenoid valves available as standard with manual override.

Solenoid coils (standard)



General purpose 24 V DC/2 W, 110 V AC/6 W, 230 V AC/6 W
 Intrinsically safe 24 V DC/1.6 W
 Increased safety 24 V DC/3 W, 120 V AC/5 W, & encapsulation 230 V AC/3.2 W

Solenoid specifications

Body	Anodised aluminium/ 316 stainless steel
Cv	1.1
Tube connection	1/4" NPT or G1/4 ISO228
Configuration:	
Mechanical	3/2-way or 5/2-way
Electrical	Normally closed
Pressure rating	3 to 10 bar
Operating media	Air, inert gas
Operations	1,000,000 (typ)
Mounting	Any position

Area classification & approvals

Weatherproof IP66/67

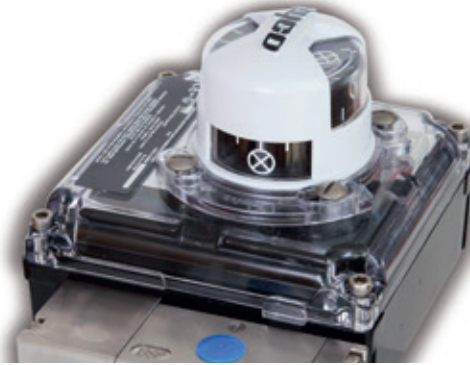
ATEX*	 II 1GD Ex ia IIC T6 Ga Ex t IIIC T135°C Da IP67
	 II 2GD Ex mb e IIC T5 Gb Ex tb IIIC T100°C Db IP67
IECEx*	Ex ia IIC T6 Ga Ex t IIIC T135°C Da IP6X Ex mb e IIC T5 Gb Ex tb IIIC T100°C Db IP6X

* See corresponding certificate for approval variations

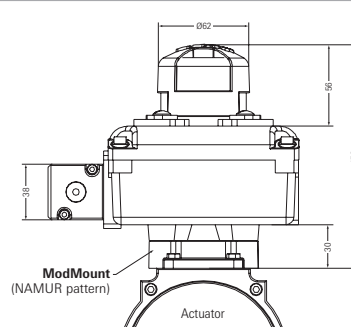
Enclosure

Conduit entries	1 x M20 / 1/2" NPT
Terminal strip	8 points
Temperature range	
ZR+ with V3 mech.	-40°C to +85°C
ZR+ with T-sensor	-40°C to +85°C
All ATEX/IECEx models check certificate	

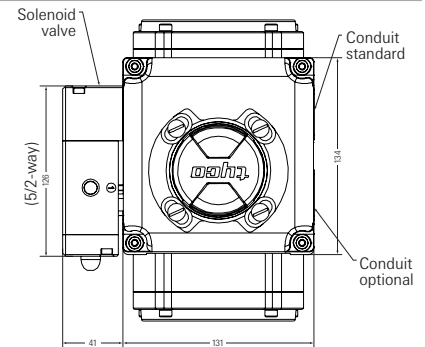
Model ZR+ Control position monitor



Dimensions (mm)



Side view



Top view

Micro-switch V3 (mechanical)

Electrical version	SPDT form C
Electrical rating	15 A / 125/250 V AC 6 A / 24 V DC 0.5 A / 125 V DC 0.25 A / 250 V DC 5 A / 125 V AC 'L'

Proximity type (inductive), intrinsically safe

Sensing range	2-4 mm
Electrical version	D.C. voltage 2 wire in accordance with EN 60947-5-6
Switching frequency	1.0 kHz
Nominal voltage	8 V DC
Input voltage range	Dependent on barrier
Output/current consumption	≥ 1 mA, ≤ 3 mA

T-sensor for Ex mb e classification

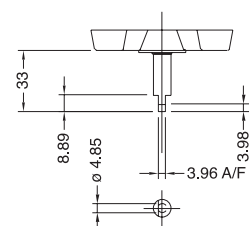
Electrical version	SPDT form C normally open
Contacts	Rhodium
Electrical rating	2 A / 120 V AC, 1.5 A / 24 V DC, 1.0 A / 230 V AC
Contact resistance	0.08 ohms
Seal	Encapsulation

Proximity type (inductive)

The ZR+ Control position monitor is also available with 2- and 3-wire DC PNP/NPN (NC/NO) inductive proximity sensors (5-36 V DC) and 2-wire AC/DC inductive proximity sensors (20-140 V AC/10-140 V DC).

Materials of construction

Item	Material
Housing	Black Grilamid resin
Cover	Clear Grilamid resin
Shaft	Stainless steel
Fasteners	Stainless steel
HiVue	Grilamid resin
ModMount	Nylon



NAMUR shaft details