SENSE
Sensors & Instruments

VALVE AUTOMATION

Valve Monitoring Solutions

Product Index

For *Rotary Valves*

M31 Monitors
- General use or increased safety versions
- Point-to-point or industrial networks
- Cable or Connector hookup
- Install directly in Namur standard actuators
- May be used with or without a solenoid valve

M32 Monitors
- General use or increased safety versions
- Plastic,Aluminum or Stainless steel casing
- Point-to-point or industrial networks
- Built-in connection panel
- Install directly in Namur standard actuators
- Smart Diagnostics in network versions

SV Monitors
- General use or increased safety versions
- Aluminum casing
- Point-to-point or industrial networks
- Install directly in Namur standard actuators
- Internal solenoid coil assembly
- Up to four cable connection points

SVA/ SVX Monitors
- Explosion proof versions
- Copper-free Aluminum or Stainless steel casing
- Point-to-point or industrial networks
- Install directly in Namur standard actuators
- Internal solenoid coil assembly
- Up to four cable connection points

For *Linear Valves*

PSH Magnetic Tubular Sensors
- General use or EX m hermetically sealed versions
- Magnetic Hall effect sensors
- M12, M18 or M30 diameters
- Plastic,Brass or Stainless steel casing
- Magnetic actuator switches in three sizes

XNNN Monitors
- Explosion proof versions
- Hermetically sealed Reed switch sensors
- Cable or Terminal block screw-in models
- Casing 100% stainless steel
- Ex d cable gland included

I-VUE Monitors
- Point-to-point or industrial network versions
- Built-in solenoid with casing-enclosed coil
- Wholly configurable via three magnetic switches
- M12 or 7/8"electrical connection
- Internal solenoid coil assembly
- Multi Alarm and Systems diagnostics included

For Rotary and *Linear Valves*

Electromagnetic Positioners
- General use explosion proof versions
- Aluminum or brass casing
- HART or 4-20mA conventional communication
- For rotary or linear actuators
- Contact-free feedback system

		Classification		Electrical Connection			CE		Sensing		Casing				Assembly		Position Indicator		Solenoid		Pages
		General use	Ex version	Cable	Terminal	Connector	Conventional	Industrial networks	Inductive	Magnetic	Stainless Steel	Aluminum	Brass	Plastic	Direct to Actuator	Bracket	Local	Remote	Built-in Option	Interconnection Option	
Rotary	M31 	●	●	●		●	●	●	●	●				●	●		●	●		●	04 - 07
	M32 	●	●		●		●	●	●	●	●	●		●	●		●	●		●	08 - 11
	SV 	●	●		●	●	●	●		●		●			●		●	●	●		12 - 15
	SVA/ SVX 	●	●		●		●	●		●	●	●			●		●	●	●		16 - 19
Linear	PSH 	●	●	●		●	●			●	●		●	●		2		●			20
	XNNN 		●	●	●		●			●	●					2		●			21
	I-VUE 	●	1			●	●	●		●				●	●	2	●	●	●		22 - 25
Linear and Rotary	PFLEX 	●	●		●		●					●	●		●	2	●	●			26 - 31

Note 1: ongoing certification process Note 2: depends on valve brand

M31 Valve Monitor

Connection Method

- Connection via cable or M12 connector
- Ease and speed of maintenance

Local Indicators

- Simple color indicator: blue/ green
- Built-in electronic sensor actuators
- Optional open/closed indicator (colors: yellow and black)

Electrical Configurations

Conventional

- PNP
- NAMUR
- CA 2 wires
- CC 2 wires
- Reed Switch (SPDT)

Industrial Networks

- AS-Interface
- DeviceNet

Contact-Free Sensing

- Increased lifespan
- No moving parts
- Precise detection
- 100% resin encapsulated

Versions

- General Use
- Explosive environments
- INMETRO
  Ex i/ Ex em options

Solenoid Valve

- Installs Directly on Namur actuator
- 24Vcc/0,6W model with 0,25W ultra low power
- AC/DC automatic model (inventory optimization)
- Pneumatic 1/4” BSP or 1/4” NPT connection

V1 - M12 Connector

PG - Cable

VT - Terminal Block

VT - Ex d Terminal Block

Optional Local Indicators

Simple

Open/ Closed

M31 Valve Monitor

Local Indicator

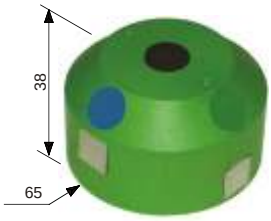
The monitor may be supplied with two types of local indicator:

1) Valve position by color.

2) Open/Closed indicator.

Both are supplied with two magnetic(or metallic actuators in accordance with sensing method) which activate internal monitor sensors and thereby report remote valve position and status feedback.

Status Indication by Color



The monitor may be supplied with a visual color indicator where Blue indicates valve "Open" and Green valve" Closed".

Open/Closed Indicator

Besides indicating valve position status by Yellow for "Open" and Black for "Closed", written text adds to enhanced valve status visibility.

Contact-free Sensing

Two metallic or magnetic actuators are installed in the local signal device. The signal device is attached to the rotary actuator shaft which turns 90° and is operated by a solenoid valve.

The actuators activate the monitor´s internal sensors reporting valve position remotely when local visualization is not the case..

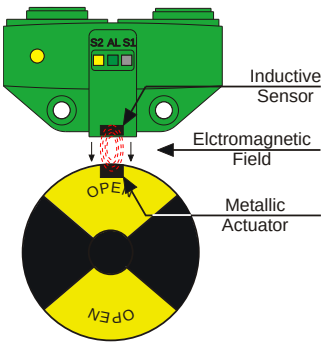
Inductive Monitors

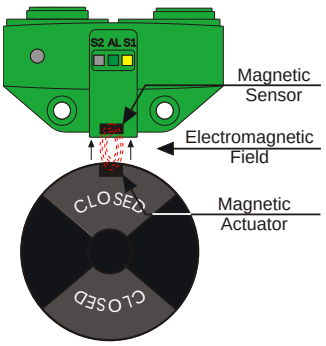
The inductive monitor generates a magnetic field which is partially absorbed by the metallic actuator installed in the local signal housing.

This magnetic field absorption activates the internal sensors inside the monitor which in turn emit a signal to the control center indicating valve position status.

In this type monitor , a magnetic field is detected by the monitor´s internal sensors , thereby generating a signal to the control center and reporting valve status.

It is of note that in this case, the internal sensors are polarized as a means of preventing upper or lower actuators from activating each other respectively.





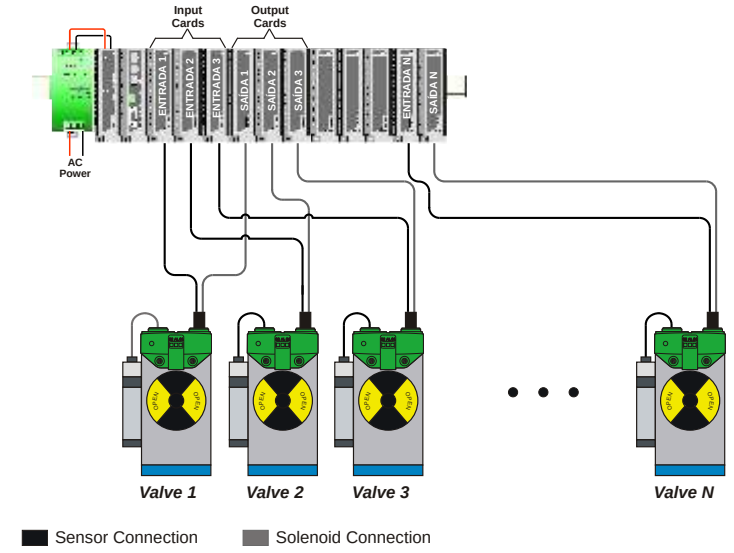
Encapsulated Module Sensor

The module sensor is totally encapsulated and is therefore appropriate for hazardous environments and with high level IP67 protection standards, is immune to liquids ingress.

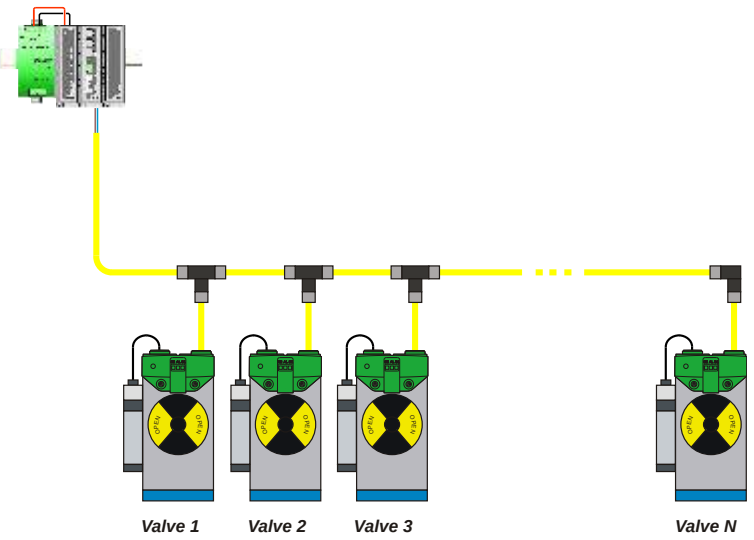
Electrical Configurations

The M31 series monitors are available in point-to-point alternating , direct, or AC/DC current for industrial networks operating under AS-Interface or DeviceNet.parameters.

Point-to-point Topology



Network Topology



M31Valve Monitor

Connection Method: - Point-to-point monitors (Fig. 1)

Cable Connection (No outlet to solenoid) - In this version, the monitor only comes equipped with the sensor connector indicating valve "open" or "closed" status as well as transmitting a monitor signal to the data entry card in the system control center, which allows for remote feedback "open" or "closed" valve status monitoring.

Cable Connection (With outlet to solenoid) - In this version the monitor cable is connected directly to the control center where valve positions are shown and solenoid activation commands are received. The second cable monitor transmits activation command from the logics controller to the solenoid.

M12 Connector (No outlet to solenoid) - In this version the monitor is equipped with a single connector to the sensors accounting for "open" or "closed" valve status and transmits a signal to the data entry card in the system control center , which allows for "open" or "closed" valve status monitoring

M12 Connectors(With outlet to solenoid) -In this version , the monitor is equipped with an M12 connectorpaired to the system control center,where valve position status is indicated and solenoid activation commands are received.The second monitor connector transmits activation command from the control center to the solenoid.

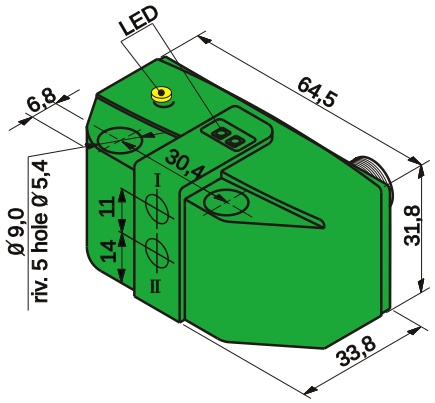
Connection Method - Network Monitors (Fig. 2)

Cable Connection - In this version the monitor is equipped with both a network connection cable which transmits "open" or "closed" valve status position and receives the solenoid activation command , as well as a second cable connected to the solenoid valve itself which controls the valve "open" or "closed" actuator. Available in AS-Interface or DeviceNet versions.

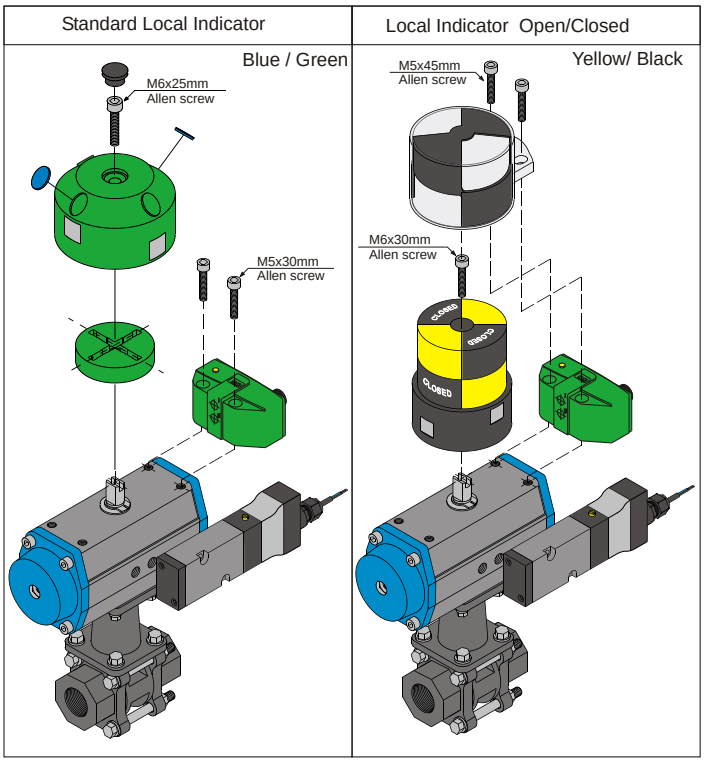
Cable Gland and Cable Connection - In this version the monitor is supplied with a slim gauge Device Net cable which transmits the valve "open" or "closed" position and receives solenoid activation command signal while a second cable is connected to the solenoid valve. Available for Device Net only.

Cable and VY Cable Connection -In this version the monitor is equipped with a VY cable for AS-Interface networks which trransmits the "open" or "closed" valve position status and receives a solenoid activation command as well as a cable connected to the solenoid which controls the "open" or "closed" valve actuator . Available only for AS-Interface.

Dimensions



Actuator Assembly



M31 Valve Monitor

Monitor Selection

PS 3 - M31 - ASI3.2 - 2 - 0,5 - BS S - VT - VSN A - ARN-L-M31-PS

Operating Principle
PS - Inductive

Sensing Range
3 - 3 millimeters

Series
M31 - PBT Thermoplastic monitor

Sensor Type
2N - NAMUR sensor
2E2 - PNP sensor
2N4 - CC - 2 wire sensor
2WA - CA - 2 wire sensor
RDR - CA/CC sensor
ASI3.2 - with Asi communication
DN-B - with DeviceNet communication

Monitor Connection
2 - 2 meter cable
6 - 6 meter cable
V1 - M12 connector
VY - AS-Interface connector

Monitor connection to solenoid coil
__ - without connection to solenoid
0,5 - 0,5 meter cable

Solenoid Coil
__ **-** without solenoid valve

BS - 24Vcc / 0,6W standard
BSM - Ex e encapsulated with enhanced safety
BSI - encapsulated with intrinsic safety

Electric coil configuration
__ - 24 Vcc/ 0,6W general use
S - 28 a 250 Vcc / 28 a 250 Vca smart coil
UL - 24 Vcc/ 0,2W ultra low power

Solenoid coil electrical connection
PG/0,5 - 0,5 meter sealed cable
VT - threaded terminal block
V1 - M12 connector

Valve Body Standard
VS - 1/4" NPT body
VSS - 1/4" BSP body

VN - Namur 1/4" NPT body
VSN - Namur 1/4" BSP body

Housing Material
A - aluminum
X - stainless steel
L - brass

Local Detection Indicator
__ - without actuator
ARN-M31-PS - actuator with local indication by colors (for monitor types: 2E2; 2N; 2N4; 2WA; ASI e DN-B)
ARN-M31-RDR - actuator with local indication by colors(for monitor type RDR)
ARN-L-M31-PS - actuator with local indication open/ closed (for monitor types: 2E2; 2N; 2N4; 2WA; ASI e DN-B)
ARN-L-M31-RDR - actuator with local indication open/closed (for RDR monitor)
ARN-A-M312-PS - actuator with local arrow indicator (for monitor types: 2E2; 2N; 2N4; 2WA; ASI e DN-B) * Consult applications engineering

Options

M32 Valve Monitor

Local Detection Indicator

- Standard Indicator by color: blue/green
- Built in electronic sensor actuators
- Optional open/closed indicator (colors: yellow and black)

Connection System

- Junction box with threaded terminal blocks
- Built in cable gland
- Ideal for industrial networks with cable input/outputs and internal network splitter

Electrical Configurations

Conventional

- PNP
- NAMUR
- CA 2 wire
- CC 2 wire
- Reed Switch (SPDT)

Industrial Networks

- AS-Interface
- DeviceNet
- Profibus DP

Contact-Free Sensing

- Increased Lifespan
- No moving parts
- Precise Detection
- Totally resin encapsulated

Versions

- General use
- Explosive environments
- INMETRO certification
  Ex i/ Ex em/ Ex d options

Solenoid Valve

- Installs directly to Namur actuator
- 24Vcc/0,6W and ultra low power 0,25W Model
- AC/DC automatic model (inventory optimisation)
- 1/4” BSP or 1/4” NPT pneumatic connection

V1 - M12 Connector

PG - Cable

VT - Terminal

VT - Ex d Terminal block

Enclosure options

Ex em enhanced safety plastic
- For general use
- Ex and mb IIC T6 Gb Ip66
- Amb temp: -25°C a +70°C
- Ip66 Protection level

Ex d Explosion-proof aluminum
- Explosion-proof and encapsulated
- Ex d mb IIC T6 Gb Ip66
- Amb.temp: -25°C a +70°C
- Ip66 Protection level

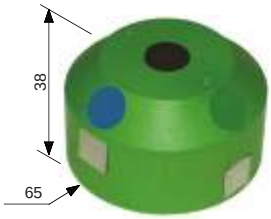
Ex d Explosion-proof stainless steel
- Explosion-proof and encapsulated
- Ex d mb IIC T6 Gb Ip66
- Amb temp: -25°C a +70°C
- Ip66 Protection level

M32 Valve Monitor

Local Detection Indicator

The monitor can be supplied with two types of local detection displays; one showing position by colors and the other open/closed status. Both comprise two magnetic (or metallic) actuators depending on sensing method used, ,which activate internal monitor sensors indicating valve position status remotely.

Indication by Color



The monitor can be supplied with a local visual indicator by color, where blue is for valve"open" and green for valve "closed".

Open/Closed Indicator

Apart from indicating valve position status by the color yellow for valve"open" and black for valve "closed", bold text provides added visual information.

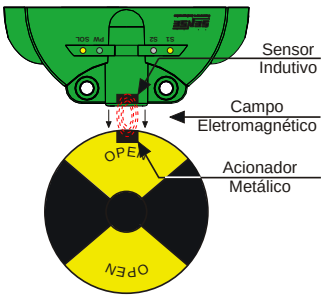
Contact-free Sensing

Two metallic or magnetic sensors are installed in the onboard visor. This indicator is attached to the valve actuator shaft which rotates 90° and is controlled by a solenoid valve.

The actuators activate the internal monitor sensors which in turn report valve position status remotely. .

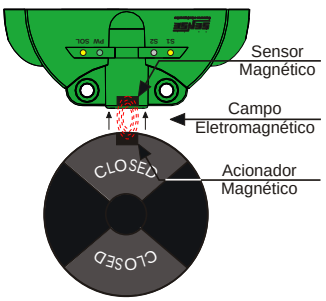
Induction Monitors

The induction monitor generates a magnetic field which is partially absorbed by the actuator installed inside the local detection display. This magnetic field absorption, activates the internal monitor sensors which emit a signal to the control center reporting valve position and status.



Magnetic Monitors

In this type monitor , the actuator generates a magnetic field which is detected by the internal monitor sensors generating a signal to the control center reporting valve position and status.It is of note that the internal sensors are in this case polarized preventing the upper or lower actuators from triggering each other respectively.



Encapsulated Sensor Module

The sensor module is totally encapsulated and the sealed junction box protects the monitor from hazardous environments and provides liquids ingress safeguard based on IP66 protectionstandards.

Electrical Configurations

The M32 monitors are available in point-to-point versions in AC/DC current or CA/CC for industrial networks under AS interface , Device Net or Profibus DP standards..

Point-to-point Topology

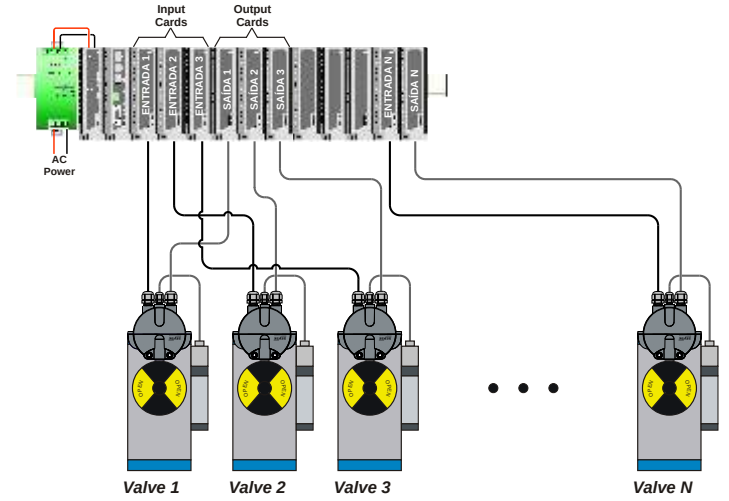


Fig. 1

Network Topology

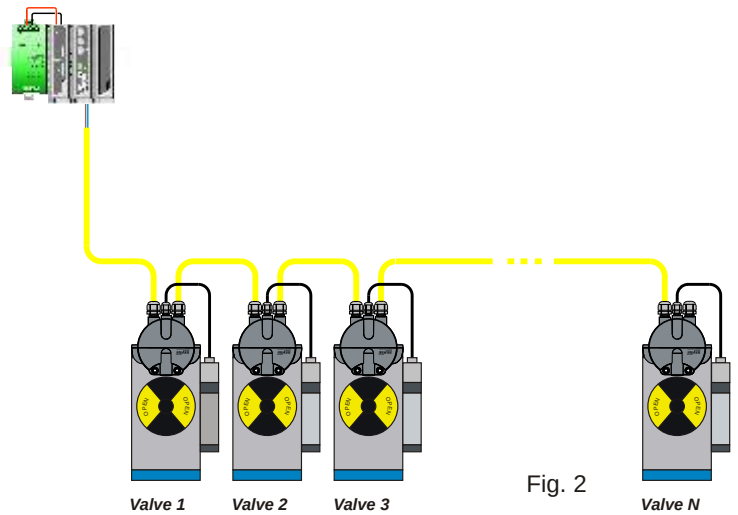


Fig. 2

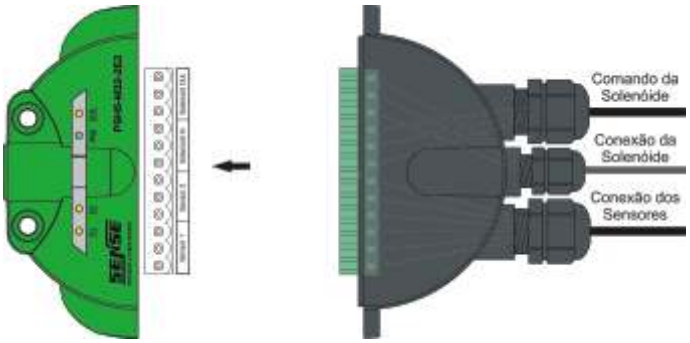
M32 Valve Monitor

Connection Method - Conventional Monitors (Fig. 1)

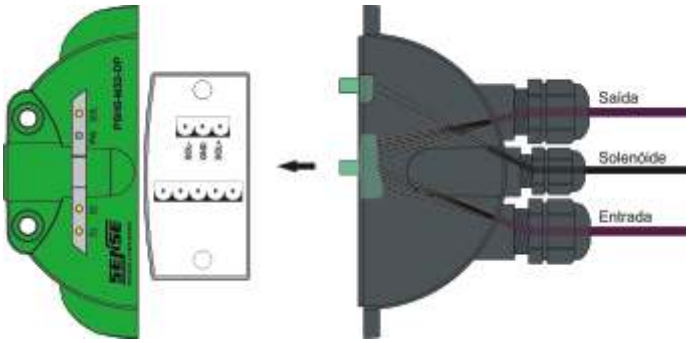
The electrical junction box is sealed to a high protection level as a means of preventing liquids ingress and the plug in type terminal block also allows for monitor exchange and does away with the need for wire disconnection Two PG13,5 cable glands, one for sensor cable input and the other for solenoid commands are included. A third, (also) PG9 cable gland input should be utilized for the localized solenoid valve cable as the command received from the PLC is interconnected with the solenoid cable coupled to the monitor.

Connection Method- Network Monitors (Fig. 2)

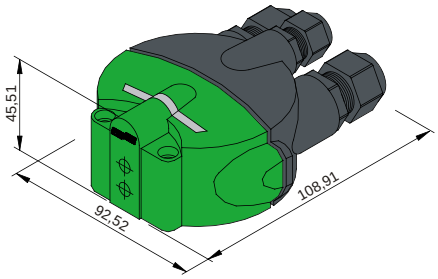
The connection system using plug in type terminal blocks, provides speedy monitor replacement without interrupting the remaining network. A rubber gasket seal and two PG13.5 cable glands for cable in and cable out as well as a PG9 cable gland for the solenoid valve cable , are iincluded providing the best possible protection against liquids ingress within the monitor connection box which in turn eliminates the use of network hubs and external connection boxes.



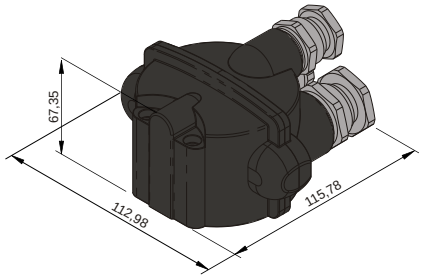
Dimensions



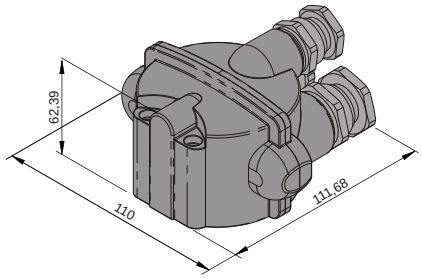
Actuator Assembly



M32 -Ex e m Plastic

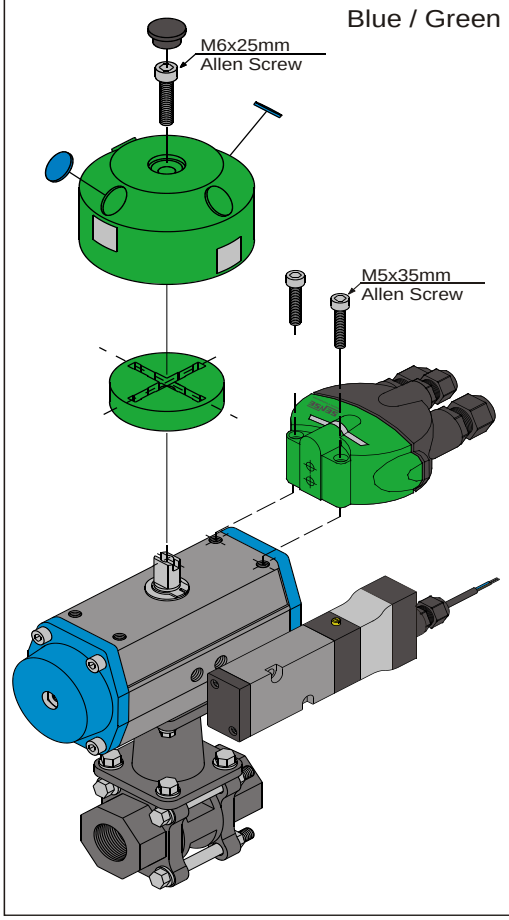


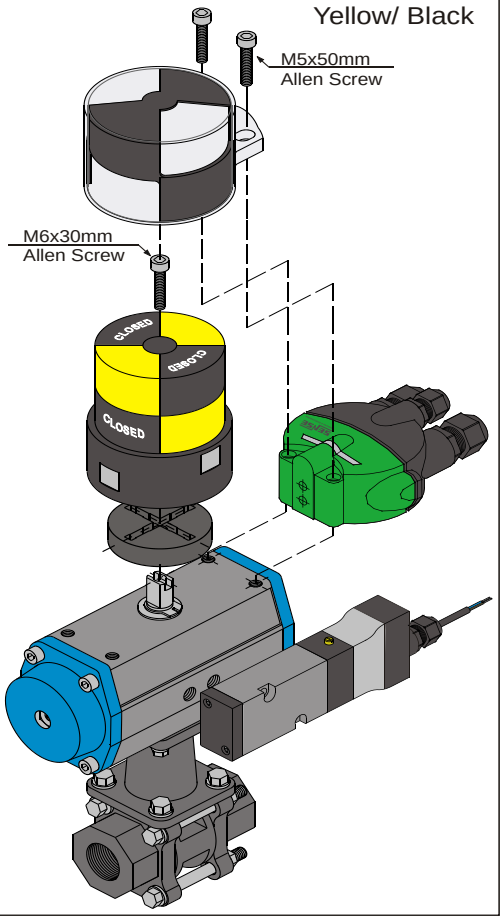
MA32 - Ex d m Aluminum



MX32 - Ex d m Stainless Steel

Standard Local Detection Indicator	Open/Closed Detection Indicator
Blue / Green	Yellow/ Black





M32 Valve Monitor

Monitor Selection

PSH5 - MA32 - DP - PE - BSDA - S - VT/x - VSN A - ARN-L-M32-PSH - Ex /Z

Operating principle
PS3* - linductive for sensor types:
2E2; 2N; 2N4; 2WA (plastic))
PSH3* - Magnetico for sensor type:
RDR
PSH5-Magnetic Hall effect for sensor type:
ASI3.2; DN-B; DP
***Sensing Distance**
3 - 3 millimeters
5 - 5 millimeters

Enclosure Material
M32 - Plastic
MA32 -Ex d "Copper-Free" Aluminum
MX32 - 316 - Ex d Stainless Steel

Sensor Type
2N - sensor type NAMUR inductive
2E2 - sensor type PNP inductive - 3 wires
2N4 - sensor type CC inductive - 2 wires
2WA - sensor type CA inductive - 2 wires
RDR - sensor type REED SWITCH (SPDT)
ASI3.2 - sensor type magnetic with HALL effect AS -Interface Network
ASI3.2S - Intelligent sensor (AS-i Smart) magnetic type with HALL effect AS-Interface Network
DN-B - sensor type magnetic with HALL effect for DeviceNet Network
DP - sensor type magnetic with HALL effect for Profibus DP Network

Input Connection
__ - without cable gland (Compulsory certified cable glands or coverplates such as Ex d)
PE - Ex d Cable Gland (2 x 3/4"NPT + 1 x 1/2" NPT)
PEA - Ex d 1/2"NPT Cable Gland (Includes 2 x 3/4"NPT threaded adapters for 1/2"NPT for Ex d certification)
A - without cable gland (Includes 2 3/4"NPT threaded adapters for 1/2"NPT Ex d certification)
PI - Ex d certified cable glands built into sensor (2 x 3/4"NPT + 1 x 1/2"NPT)

Note: for plastic monitors leave this option blank

Solenoid Coil
__ - no solenoid valve
BSI - encapsulated and intrinsic safety (24Vcc/0,6W) Ex ib (used only on sensor **ASI3.2S**)
BSDA - encapsulated and explosion-proof with aluminum housing
BSDX - encapsulated and explosion-proof with stainless steel housing

For plastic models:
__ - without solenoid valve
BS - standard 24Vcc / 0,6W
BSM - Ex e encapsulated and increased safety
BSI - Ex ib encapsulated and intrinsic safety (24Vcc / 0,6W) (for model **ASI3.2S** only)

Electric Coil Configuration
__ - standard 24Vcc / 0.6W
S - smart coil - 28 to 250Vcc / 28 to 250Vca (for **BSD** versions and **RDR** sensor types only)
UL - ultra low power - 24Vcc/ 0,2W (for **BSD** versions and **RDR** sensor types only)

Solenoide Electrical Connection
VT/x - connection box with spring pressure terminal block (advise if cable is needed and inform length replacing 'x' by number in meters)

For plastic models:
PG/0,5 - injected 0,5 meter cable (advise other lengths as needed)
VT/x - threaded terminal block(advise if cable is needed and inform length replacing 'x' by number in meters)
V1 - M12 connector(general purpose only)

Valve Type
VS - Standard type pneumatic body with 1/4" NPT connections
VSS - Standard type pneumatic body with 1/4" BSP connections
VN - Namur type pneumatic body with 1/4" NPT connections
VSN - Namur type pneumatic body with 1/4" BSP connections

Valve Body Material
A - anodized aluminum body (recommended for Ma32 version)
X - 316 stainless steel body(recommended for Mx32 version)
L - brass body (recommended for M32 version)

Actuator
__ - without actuator
ARN-L-M32-PS - inductive actuator with local 'open'/ 'closed' position indicator. (for sensor types: **2E2, 2N, 2N4, 2WA**)
ARN-L-M32-PSH - magnetic actuator with local 'open'/'closed' position indicator (for sensor types: **ASI3.2, DN-B and DP**)
ARN-L-M32-RDR- magnetic actuator with local 'open'/'closed' position indicator (for sensor types: **RDR**)
ARN-M32-PS - inductive actuator with local 'open'/'closed' position indicator by color (for sensor types: **2E2, 2N, 2N4, 2WA**)
ARN-M32-PSH - magnetic actuator without local indication by colors (for sensor types: **ASI3.2, DN-B and DP**)
ARN-M32-RDR- magnetic actuator without local indication by colors (for sensor types: **RDR**)

recommended for M32 version

ARN-L-MAX32-PSH - magnetic actuator with local 'open'/'closed' position indicator (for sensor types: **ASI3.2, DN-B and DP**)
ARN-L-MAX32-RDR- magnetic actuator with local 'open'/'closed' position indicator (for sensor types: **RDR**)
ARN-MAX32-PSH - magnetic actuator with local indication by colors (for sensor types: **ASI3.2, DN-B and DP**)
ARN-MAX32-RDR- magnetic actuator with local indication by colors (for sensor types: **RDR**)

recommended for MA32 and Mx32 versions

Customization
/Z - use only if an item is customized (Advise Engineering on specific requirements)

Classification
Ex - hazardous area

Options

SV Valve Monitor

Solenoid Valve

- Coil assembly inside enclosure
- 24Vcc/0,6W and ultra low power 0,25W model
- AC/DC automatic (inventory optimization)
- Pneumatic 1/4” BSP or 1/4” NPT connection

Local Detection Indicator

- High Visibility Detection Indicator
- Built-in electronic sensor actuators
- Monitor casing is shaft-free
- Allows detection angle adjustment.

Cable Inputs

- Up to 4 inputs with or without cable gland
- PG, NPT or M20 standards

Enclosure

- Ex e or general use

Contact-free Sensing

- Increased lifespan
- No moving parts
- Precisena detection
- Totally resin encapsulated

Electrical Configurations

Conventional

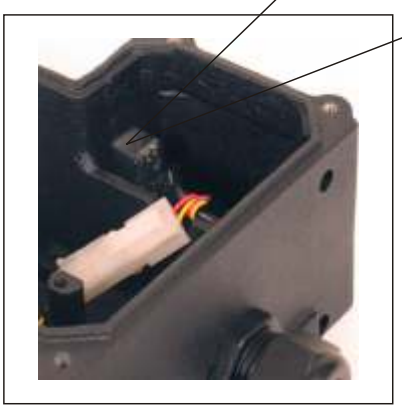
- PNP
- NAMUR
- CA 2 wires
- CC 2 wires
- Reed Switch (SPDT)

Industrial Networks

- AS-Interface
- DeviceNet
- Profibus DP

Solenoid Valve Assembly

Mounting Brackets



Internal Coil

Assembled Valve

SV Valve Monitor

Local Detection Display

The monitor can be supplied with or without a local detection display. With a display, the "open" or "shut" status is shown. Two magnetic actuators activate the internal monitor sensors which provide remote valve position and status feedback.

Minus Local Detection Indicator

For hard- to- reach by operator locations or where no need exists for local indication.Actuators provide sensor activation indicating valve position remotely.

Open/Closed Indicator

Besides indicating valve position by yellow for valve "Open" and black for valve "Closed", bold text provides additional visual information. Actuators provide sensor activation indicating valve position status remotely.

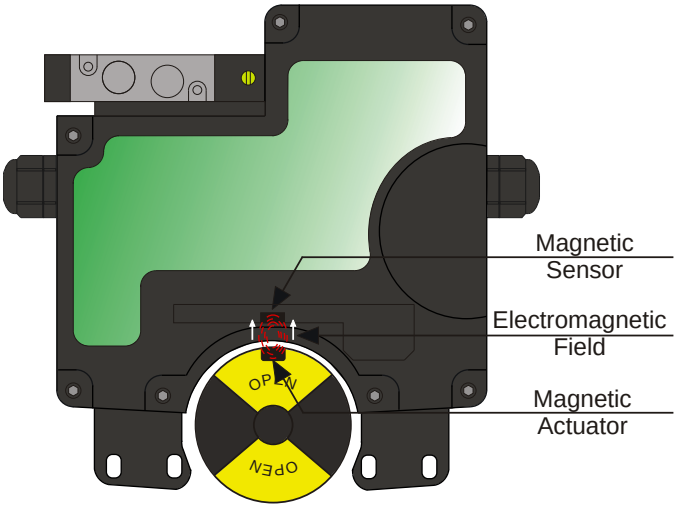
Contact-Free Sensing

Double magnetic actuators are installed in the local detection indicator This indicator is attached to the actuator rotary shaft which revolves. 90° and is activated by a solenoid valve

The actuators serve as internal monitor sensor activators indicating valve position remotely without the need for contact with the local detection indicator

Magnetic Monitors

In this type monitor the actuator generates a magnetic field which is detected by the internal monitor sensors, providing feedback on valve position information to the control system .It is important to note that in this case , the internal sensors are polarized thus preventing the top or bottom actuators from triggering each other respectively.



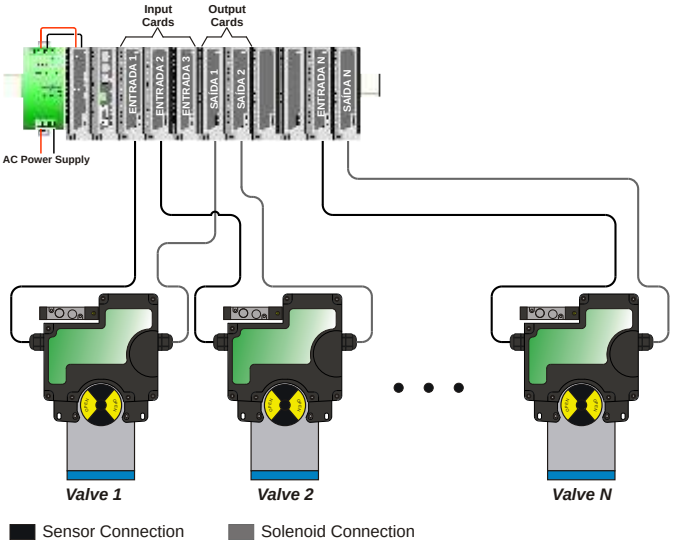
Encapsulated Sensor Module

The sensor module is made with pressure type terminal blocks which speeds up wire connection and because it is installed inside the monitor casing, a high degree of IP66 liquids ingress protection is achieved.

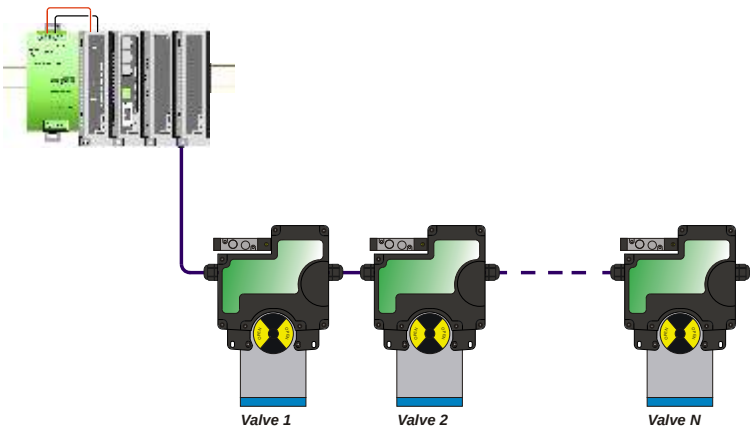
Electrical Configurations

SV series monitors are available in point-to-point in alternating ,direct current or AC/DC for AS-Interface,DeviceNet or`Profibus network standards.

Point-to-Point Topology



Network Topology



SV Valve Monitor

Internal Splitter Box Module System

Entirely housed inside the monitor, the internal hub enables replacement of the electronic module or solenoid valve without interfering with network operation.

In-Operation Module Replacement

This is the only valve monitoring product of its kind which allows network module replacement without interrupting remaining network operations and that includes potentially explosive **ZONE 1** environments.

Solenoid Replacement

The solenoid coil can be analogically replaced without disabling network power

ZONE 1.

Internal Splitter Box Module System- Operating Principle

The internal valve monitor hub is equipped with enhanced safety terminal blocks for connection to network cables which enter and exit the monitor and contains a bypass into the electronic module.On removal of the valve cover the electronic module bypass is de-energized allowing for replacement with no risk of sparking and enabling other equipment connected to the same network to continue to operate.

The hub switching element is activated by a magneto on the cover and switching takes place via resin encapsulated reed switches inside the hub.

Cables In/Out

Monitors are designed to accept rigid/ flexible electrical conduits or cable glands using 1/2" NPT, 3/4" NPT, PG13,5, PG16 or M20 threaded sockets.

Standard Flexible

Flexible Conduit

Metal Conduit

Cable Gland

Dimensions

SV Valve Monitor

Monitor Selection

SV N A - 3 1 P - D C - DNB - BSI E VS MS

Function
SV - valve monitor

Local Detection Signalling
_ - open/closed yellow and black
N - without local detection signalling
G - open/closed green and white
R - open/closed red and white
B - open/closed blue and white
O - 3 way flow indicator
T - 3 way flow indicator
F - 3 way flow indicator
S - 4 way flow indicator
U - user-defined indicator

Housing Material
A - alumínum

Cable Inputs
1 - 2 ½" NPT threads
2 - 2 M20 threads
3 - 2 3/4" NPT threads
5 - 2 PG13,5 threads
6 - 2 Pg16 threads
V1 - M12 5 pin male connector
VM - 7/8" 5 pin male connector
VY - AS-Interface connector

Extra Cable Inputs
_ - without extra input
1 - 1 Pg9 thread
2 - 2 Pg9 threads
3 - 3 Pg9 threads

Cable Gland
_ - without cable gland
P - with cable gland

Internal Splitter
_ - without splitter
A - as-interface splitter
D - devicenet splitter
P - profibus DP splitter
F - foundation fieldbus splitter
DG - general purpose splitter

Splitter Actuator
_ - without magnetic splitter actuator
C - with magnetic splitter actuator

Remote Network Detection Signalling

ASI3.2 -	Standard:	ASI3.2-SV-2EH-2ST
	with two extra inlets:	ASI3.2-SV-2EH-2EC-2ST
DN-B -	DeviceNet	DN-B-SV-2EH-2EC-2ST
DP -	Profibus	DP-SV-2EH-2EC-2ST
FF -	Foundation	FF-SV-2EH-2EC-2ST

Conventional Remote Network Detection Signalling

RD -	Reed	SV-2RD-2DS*
RDR -	Reed	SV-2RDR-DS**
2E2 -	PNP	SV-2E2-2DS
2E -	NPN	SV-2E-2DS
2N -	NAMUR	SV-2N-2DS

*RD - 2 NA reeds with two outlets to solenoid
**RDR - 2 reeds NA+NF with one outlet to solenoid

Coil Types
BS - 24 Vcc general use version
BSI - intrinsic safety version
* Check for other models with our Applications Engineering Department

Coil Assembly
_ - inside monitor housing
E -outside monitor housing

Valve Body
VS - valve standard 1/4" BSP
VSS - valve standard 1/4" NPT
A - alumínum
X - stainless steel
L - brass
* Check for other models with our Applications Engineering Department

Conversion Mount
_ - without conversion mount
MS - 90° adaptor

Options

SVA/SVX Valve Monitor

Solenoid Valve

- Coil assembly inside enclosure
- 24Vcc/0,6W and ultra low power 0,25W model
- Automatic AC/DC model (inventory optimization)
- 1/4" BSP or 1/4" NPT pneumatic connection

Enclosure

- Ex d, Ex and, Ex i Protection
- Available in 316 grade stainless steel or copper-free aluminum

Cable Inputs

- Up to 4 inputs with or without cable gland
- PG, NPT or M20 standards

Local Detection Indicator

- High visibility detection indicator
- Built-in electronic sensor actuators
- Monitor casing is shaft-free
- Allows for detection angle adjustment

Contact-free Sensing

- Increased Lifespan
- No moving parts
- Precise detection
- Totally resin encapsulated

Electrical Configurations

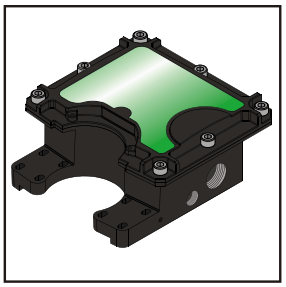
Conventional

- Reed Switch (SPDT)

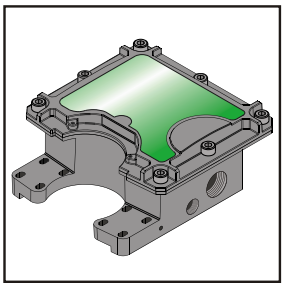
Industrial Networks

- AS-Interface
- DeviceNet
- Profibus DP

Enclosure Options



Ex d Explosion-proof aluminum
- explosion-proof
- Ex d IIB + H2 T6 Gb IP66
- Ambtemp: -20°C a +55°C
- Ip66 Protection level



Ex d Explosion-proof stainless steel
- explosion-proof
- Ex d IIB + H2 T6 Gb
- Ambtemp: -20°C a +55°C
- Ip66 Protection level

SVA / SVX Valve Monitor

Built-in Visor

The monitor can be supplied without a built-in visor or with an "Open"/"Closed" status indicator. Dual magnetic actuators activate internal monitor providing remote valve status feedback..

Without a Built-in Visor

For hard to reach locations by operators or where no need exists for local valve status indication. Actuators provide sensor activation for remote monitoring of valve status..

Open/Closed Signal Display

Apart from indicating valve position by colors yellow for valve "Open" and black for valve "Closed" bold text provides additional valve status information, Two actuators activate the sensors providing remote valve status feedback.

Contact-Free Sensing

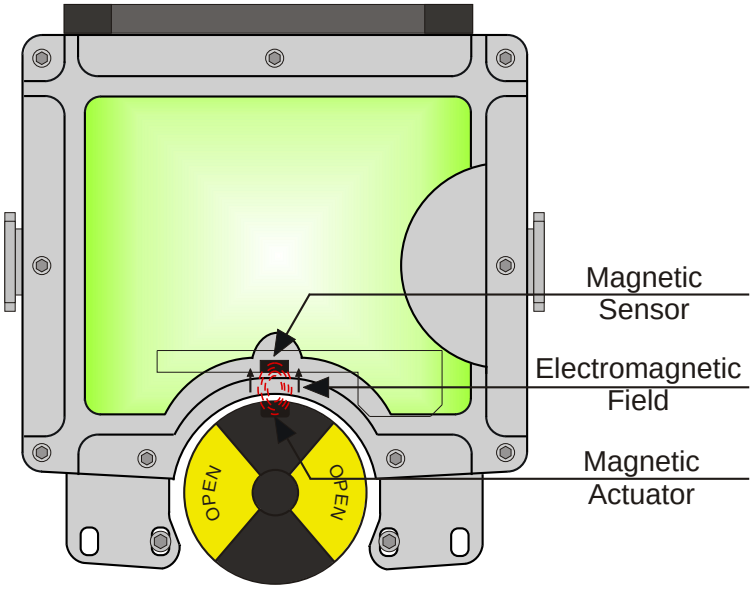
Two magnetic actuators are installed on the local detection indicator.. These are affixed to the rotary actuator shaft which revolves at 90° on command from a solenoid valve..

The purpose of the actuators is internal sensor monitoring indicating remote valve status without local detection presence. activation.

Magnetic Monitors

In this type monitor , the actuator generates a magnetic field which is detected by the internal monitor sensors generating a valve position signal to the Logics Controller.It is of importance to note that in this case , the internal sensors are polarized preventing either the top or bottom actuators from triggering each other respectively.

Encapsulated Sensor Module

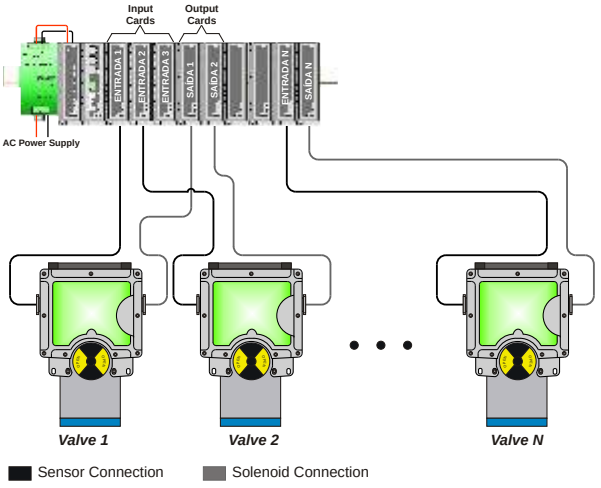


The sensor module is equipped with pressure type terminal blocks for ease of wire connection and because they are encased inside the monitor, provide a high level of IP66 protection against liquids ingress.

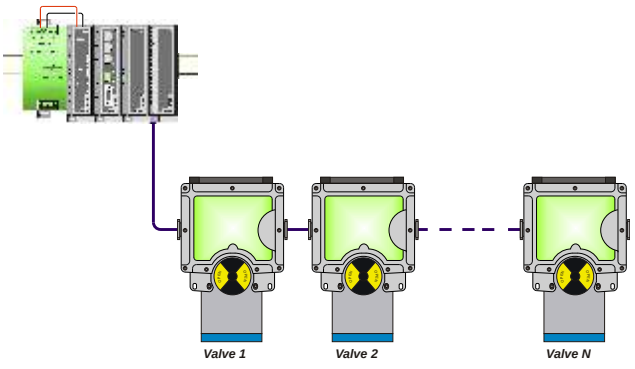
Electrical Configuration Types

SVA / SVX series monitors are available in point-to-point and AC or DC current versions or AC/DC for industrial networks in AS-Interface, DeviceNet or Profibus standards.

Point-to-Point Topology



Network Topology



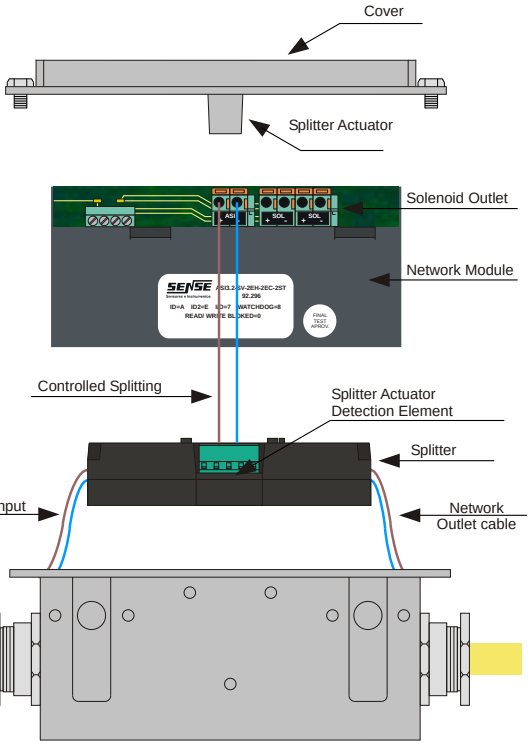
SVA / SVX Valve Monitor

Internal Hub System

The internal hub is totally built into the monitor allowing for electronic module or solenoid replacement without interrupting other network operations.

In-Operation Module Replacement

This is the only valve monitoring product of its kind that allows for network electronic module replacement without interruption to remaining network including potentially explosive **ZONE 1** environments.



Solenoid Replacement

The solenoid coil is analogically relaceable without powering down the network, including **ZONE1**areas.

Network Hub Operating Principle

The internal valve monitor hub is equipped with terminal blocks for the network cables that enter and exit the monitor and are equipped with a socket for electronic module connection.

On removal of the valve monitor cover the electronic module socket automatically shuts off power allowing for replacement with no risk of sparking and without interference or downtime to other equipment connected to the same network..

The internal hub switching element is activated by a magneto fixed to the monitor cover plate and switching takes place inside resin encapsulated reed switches inside the hub.

Cables In/Out

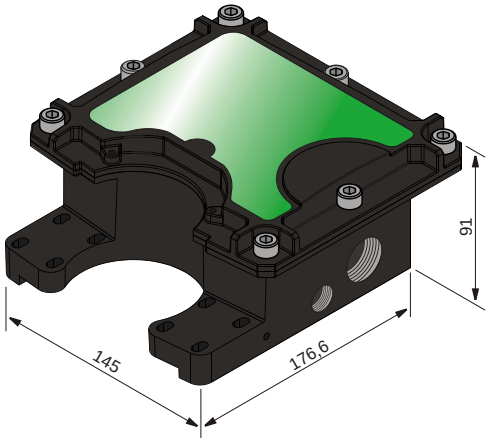
The monitors have been designed for rigid or flexible conduit or cable gland connections via threaded sockets. They are equipped with female threaded inserts in 1/2" NPT, 3/4" NPT, PG13,5, PG16 or M20.thread configurations.

Ex d Flexible

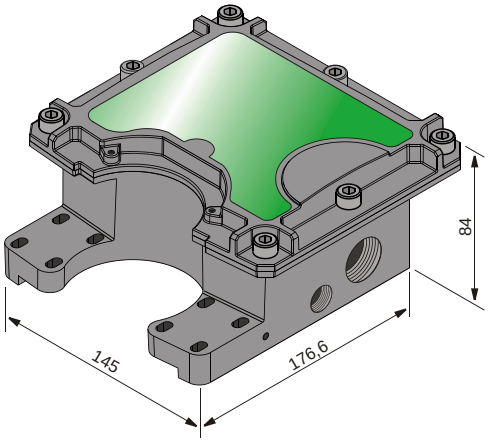
Ex d Conduit

Ex d Cable gland

Cable gland



SVA -Ex d Aluminum



SVX - Ex d Aluminum

SVA / SVX Valve Monitor

Monitor Selection

SVA N - 212 - PE - D C - DNB - BSDS - VX - Ex

Casing Material
SVA - aluminum
SVX - 316 stainless steel

Local Indicator
_ - open/ closed yellow and black
N - no local indicator
G - open/closed green and white
R - open/closed red and white
B - open/closed blue and white
O - 3-way flow indicator
T - 3-way flow indicator
F - 3-way flow indicator
S - 4-way flow indicator
U - user-defined indicator

Cable Input/Output
212 - 2 ½" NPT tapped holes
312 - 3 ½" NPT tapped holes
234 - 2 3/4" NPT tapped holes
21 - 2 1" NPT tapped holes
234112 - 2 3/4" tapped holes+ 1 ½"NPTtapped holes
21112 - 2 1" tapped holes+ 1 ½"NPT tapped holes
213 - 2 PG13,5 tapped holes
313 - 3 PG13,5 tapped holes
216 - 2 Pg16 tapped holes
316 - 3 Pg16 tapped holes
220 - 2 M20 tapped holes

For General use version only

Cable Gland threaded to Casing
- without cable gland
P - plastic general purpose cable gland
PE - external cable gland(installed)

Cable Gland built into Casing
212 PI e 312 PI - ½"NPT allows for 10 to 12 mm ⌀ cables
213 PI e 313 PI - PG13,5 allows for 10 to 12mm ⌀ cables
234 PI e 334 PI - 3/4"NPT allows for 13.5 to16mm ⌀cables
216 PI e 316 PI - PG16 allows for 13.5 to 16mm⌀cables
220 PI - M20 allows for 13.5 a 16mm ⌀cables

Internal Cable Splitter
- no splitter
A - as-interface splitter
D - devicenet splitter
P - profibus DP splitter
F - foundation fieldbus splitter
DG - general purpose splitter

Splitter Activator
_ - no splitter magnetic actuator
C - with splitter magnetic actuator

Sinalização Remota por Rede

ASI3.2 - Standard:		ASI3.2-SV-2EH-2ST
with 2 extra input sockets:		ASI3.2-SV-2EH-2EC-2ST
DN-B -	DeviceNet	DN-B-SV-2EH-2EC-2ST
DP -	Profibus	DP-SV-2EH-2EC-2ST
FF -	Foundation	FF-SV-2EH-2EC-2ST

Conventional Remote Signalling

RD -	Reed	SV-2RD-2DS
RDR -	Reed	SV-2RDR-DS

RD - 2 NA reeds NA with two solenoid outlets
RDR - 2 NA +NF reeds with solenoid outlet

Coil Types
BSD - Explosion proof and general use version (24 Vcc)
BSDI - Explosion proof and inherent security version (24 Vcc)
BSDS - Explosion proof multi current version (28 - 250 Vca/ Vcc
BSDUL - Explosion proof ultra low power version (24 Vcc)
* Kindly consult with our Engineering applications staff for other options

Valve Body
V - single coil valve
VC - double coil valve with closed centerpiece
VD - double coil valve last position
A - aluminum
X - stainless steel
L - brass
* Kindly consult with our Engineering applications staff for other options

Classification
- general usage
Ex - version for high security area

Options

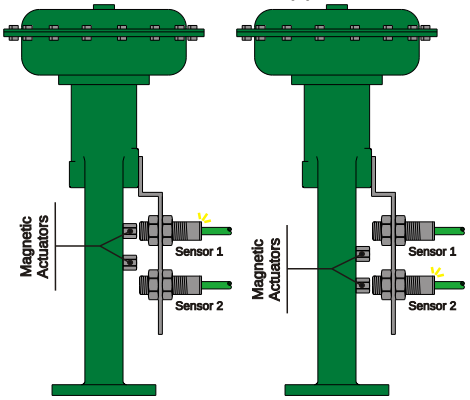
PSH Magnetic Sensors

The magnetic sensors were designed to detect the magnetic field generated by a permanent magnet , (or even electromagnet)

The sensor front end houses an electronic component which on reacting to a magnetic field, alters its behaviour and generates a signal to the sensor exit stage.

Application on Linear Valves

Two sensors are required for linear valves: One for valve Open and one for valve Closed.In this case the actuator magnets must be installed on a fixed valve shaft support.



Activation Distance

The sensing distance depends on the intensity of the magnetic field which in the case of SENSE magnetic actuators, is relative to their size.

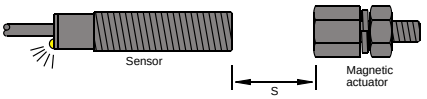
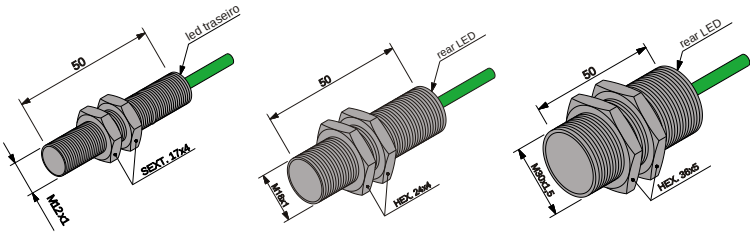


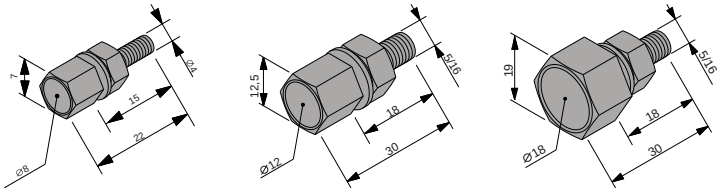
Chart for detection distances using SENSE actuators

	PSH-12	PSH-18	PSH-30
MS-PSH-P	9 mm	9 mm	9 mm
MS-XNNN	20 mm	20 mm	20 mm
MS-PSH-G	36 mm	36 mm	36 mm

Dimensions



PSH-12 PSH-18 PSH-30



MS-PSH-P MS-XNNN MS-PSH-G

Sensor Selection

PSHX - 12 GX 50 - E2 - 6

Proximity Sensor
H - magnetic with plastic faceplate
HX - magnetic with metallic faceplate

Tube diameter
M12x1; M18x1; M30x1,5

Tube type
GI - Metal threaded, rear LED
GP - plastic threaded, rear LED
GX - stainless steel threaded, rear LED

Tube length
50 - 50 mm

Electrical Configuration
N- Namur
E2- DC Current PNP NA - 3 leads

Connection
_ - 2 meter PVC cable
6 - 6 meter PVC cable

XNNN Magnetic Sensors

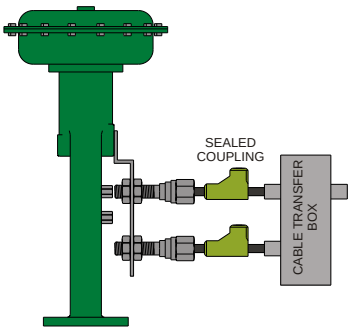
The magnetic monitor detects proximity of a magnetic drive without the need for physical contact between sensor and trigger..

Built entirely of stainless steel these are ideal for hazardous, wet or dusty environments involving chemicals etc

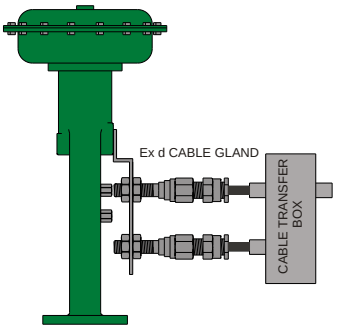
Mounting Comparison

See below drawings for assembly comparison using sealed or cable gland connection

Sealed Connection



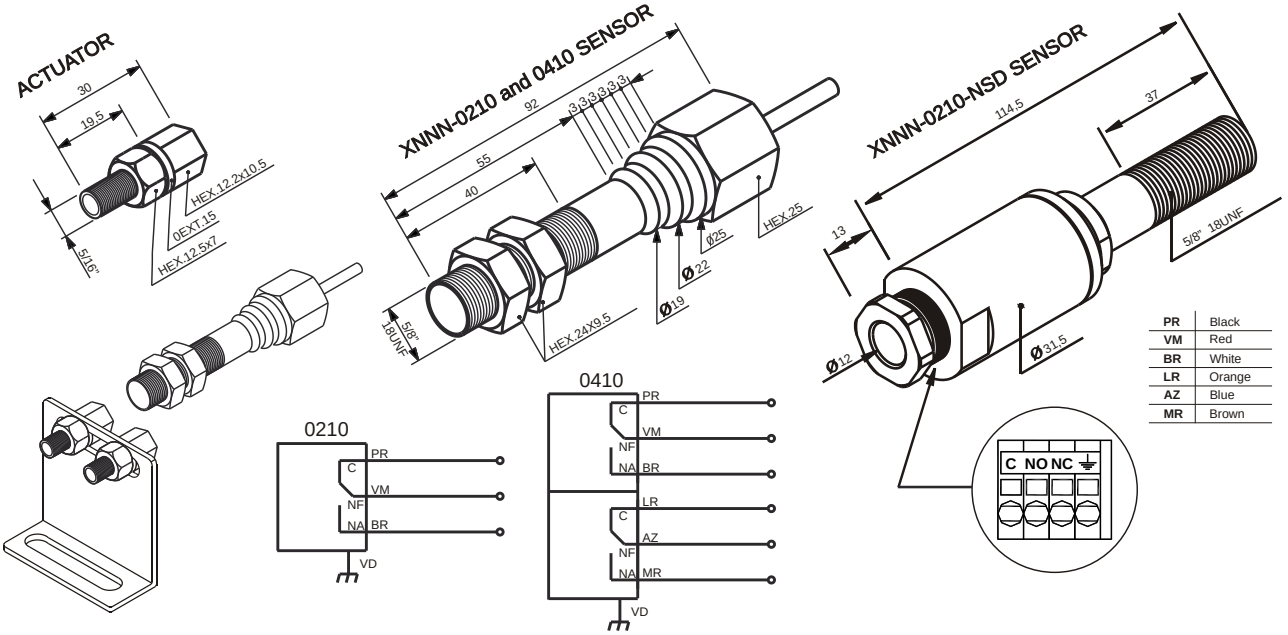
Ex Cable Gland Connection



Features

- Connection by Cable or Connector
- Optional Installation bracket developed in accordance with valve model.
- Explosion Proof Certification.
- NA + NF Models handle up to 3A/110vCA OR 2A/24Vcc Switching currrent loads.
- Up to 800000 cycles Lifespan
- Eliminates the need for conduits or sealing units

Dimensions



Especificando o Monitor

XNNN - 0210 - NSD

Tipo de Sensor
XNNN - sensor magnético tipo reed switch para aplicação com válvulas ou atuadores lineares

Contatos
0210 - 1 contato NA + NF
0410 - 2 contatos NA + NF

Conexão Elétrica
__ - cabo lacrado com 90 cm
NSD - bornes aparafusáveis

I-VUE Intelligent Monitor

Local Position Sensing Indicator

- Local display is via a spring operated mechanical indicator.

Local Detection Led Display

- Apart from the mechanical indicator, ultra bright LEDs are used to indicate local valve position, where green display is for valve«Open» position and red for valve «Closed» position.

Digital Display

- This is the main communications portal both for the operator as for installation start-up and maintenance technicians

Solenoid Valve

- Aluminum or Stainless Steel Body
- 1/8" NPT pneumatic connection
- Internal coil inside monitor housing

Magnetic Switches

- Only three magnetic switches are needed to configure all sensor functions

Electrical Connection

- M12 connector for ease of power plugging and unplugging

Enclosure

- Couples to up to 4”valves
- Independant module and junction box for ease of connectivity and maintenance

Local and Remote Diagnostics

- Open/Closed Valve time
- Mechanical breakdown trends
- Solenoid short circuit and many more

Electrical Configurations

Conventional

- 24 Vcc - PNP
- Analog 4 - 20mA

Industrial Networks

- AS-Interface
- DeviceNet

High Resolution

- Detects movements of up to 0,2mm with 16-bit resolution

Configuration Protection

- Password protection prevents non-authorized personnelfrom effecting changes to programmed monitor configurations.

I-VUE Intelligent Monitor

The Most Complete and Compact Diaphragm Valve Automation System of its Kind.

Valve Monitoring Innovation

The I-VUE series monitors are equipped with a precise contact-free and advanced electronics detection system The monitor is activated and calibrated by means of three magnetic switches.

With additional features such as Hi-Viz LEDs, built in visual indicators, low power consumption solenoid and a two year warranty, it may well be described as the most compact and complete diaphragm valve monitoring system.

Hi-Visibility LEDs

The "Open" or "Closed" valve positions can be seen from up to 8 metres (26+ feet)and from almost every angle.

The LEDs show valve position by lighting green for "Open" and red for "Closed"

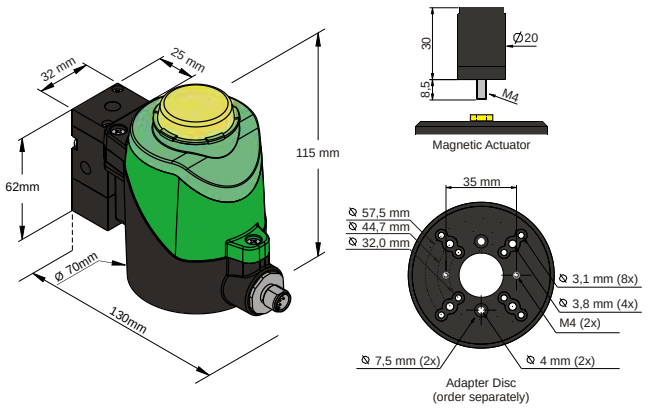
Built-in Visual Indicator

Even under power outage conditions, the valve position can be seen by means of a built in spring operated visual indicator which moves behind the transparent cover regardless of valve stroke or size.

IP 66

High Liquids Ingress Protection Level

Dimensions



I-VUE Intelligent Monitor

Operating Principle

Operating priciple is based on contact-free operation from actuator shaft.

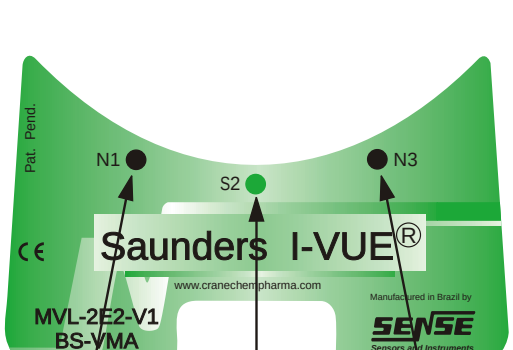
An electrical circuit converts the electromagnetic field variation into a signal which is proportional to the internal monitor circuit displacement.

Using sophisticated electronics, the monitor detects movement of up to 0,2mm with a 16 bit resolution.

Magnetic Switches

The monitor is equipped with three magnetic switches which provide a higher degree of protection against liquids ingress when compared to conventional mechanical buttons.

These three magnetic switches eliminate the need to open the casing and allow for ease and speed of configuration



"S"South Pole

"N"North Pole

Magnetic Key Ring

The monitor is supplied with a magnetic key ring which comprises two poles : "N" for North and "S" for South.In order to activate the magnetic switches, bring the key ring into close proximity and with the correct polarity to the magnetic switch and observe activation via the respective LED which will light up in red.

Auto Setup

All the intelligent monitor requires is a 24volt supply source and a magnetic Key ring The monitor will activate or de-activate the solenoid which in turn will open or close the valve until it learns the open/close timing intervals.

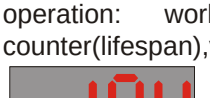
When the magnetic key ring is placed with the "N" pole near the monitor against the N3 target for three seconds, the monitor will undergo a self calibrating process regardless of any connection with the control system , making the configuration process much faster and more efficient. The solenoid valve will activate to control the actuator in 3,5 or 10 consecutive cycles to "learn" the open and closed valve position in keeping with shaft displacement. This procedure eliminates cover removal,limit switch configuration as well as the use of, tools and monitoring equipment which can only be configured in the control center.

Digital Display

Intelligent Diagnostics are an additional benefit. This unique feature shows all the alarm codes allowing for on-the-spot immediate corrections or showing up a potential future problem. The display is also fundamentally important in monitor configuration.

Display Readouts

The display is the primary communication portal for operators and technicians whether installing the monitor for the first time or during maintenance. Using the main menu it is possible to determine what will be shown on screen during normal operation: worked days , partial counter, total counter(lifespan),valve position or DN address.



Days Worked-When this option is selected the display will show the number of days worked in conjuction with the valve.

Partial Counter-When this option is selected the display will show the number of partial valve cycles

Total Counter-When this option is selected the display will show the total number of valve cycles .

Valve Position-When this option is selected,local indicator shows valve position .

Address -When this option is selected display will show Device Net configured address

I-VUE Intelligent Monitor

Alarms and Diagnostics

The I-VUE monitor is equipped with preventive maintenance alarms as well as other anomaly alarms in the event that any mechanical or electric flaws are detected.

The following alarms are generated by the monitor:

- Partial Counter Alarm
- Worked Days Alarm
- Date Alarm
- Open/Closed Position Timer Alarm
- Solenoid Alarm
- Off-center shaft Alarm
- Unexpected position shift Alarm
- Solenoid short circuit Alarm
- Solenoid cable breakage Alarm
- Internal temperature Alarm
- PNP outlets short circuit Alarm
- Duplicated DN address Alarm
- Non-addressed monitor Alarm
- Power supply parameters error Alarm

DN Address

MVL - ASI3.2 - V1 - BS - VMA

Enclosure Type
MVL - linear valve monitor

Remote Detection Indication
J - 4-20mA analog
2E2 - 24 Vcc PNP
ASI3.2 - AS-Interface
DN - DeviceNet
DP - Profibus DP

Power Connection
V1 - M12 connector - 4 pin
V15 - M12 connector - 5 pin
V16 - M12 connector - 6 pin
VM - 7/8"connector- 5 pin

Internal Solenoid Coil
BS - standard 24Vcc coil

Valve Body Material
VMA - aluminum
VMX - stainless steel

Options

PFLEX Analog Positioner

Pneumatic Inlet

- Feed Pressure 40 - 150 psi
- 1/4" NPT Connection

I/P - HART Convertor

- HART - 4 - 20 mA input signal
- General use model (plastic cover)
- Explosion-proof model

Enclosure

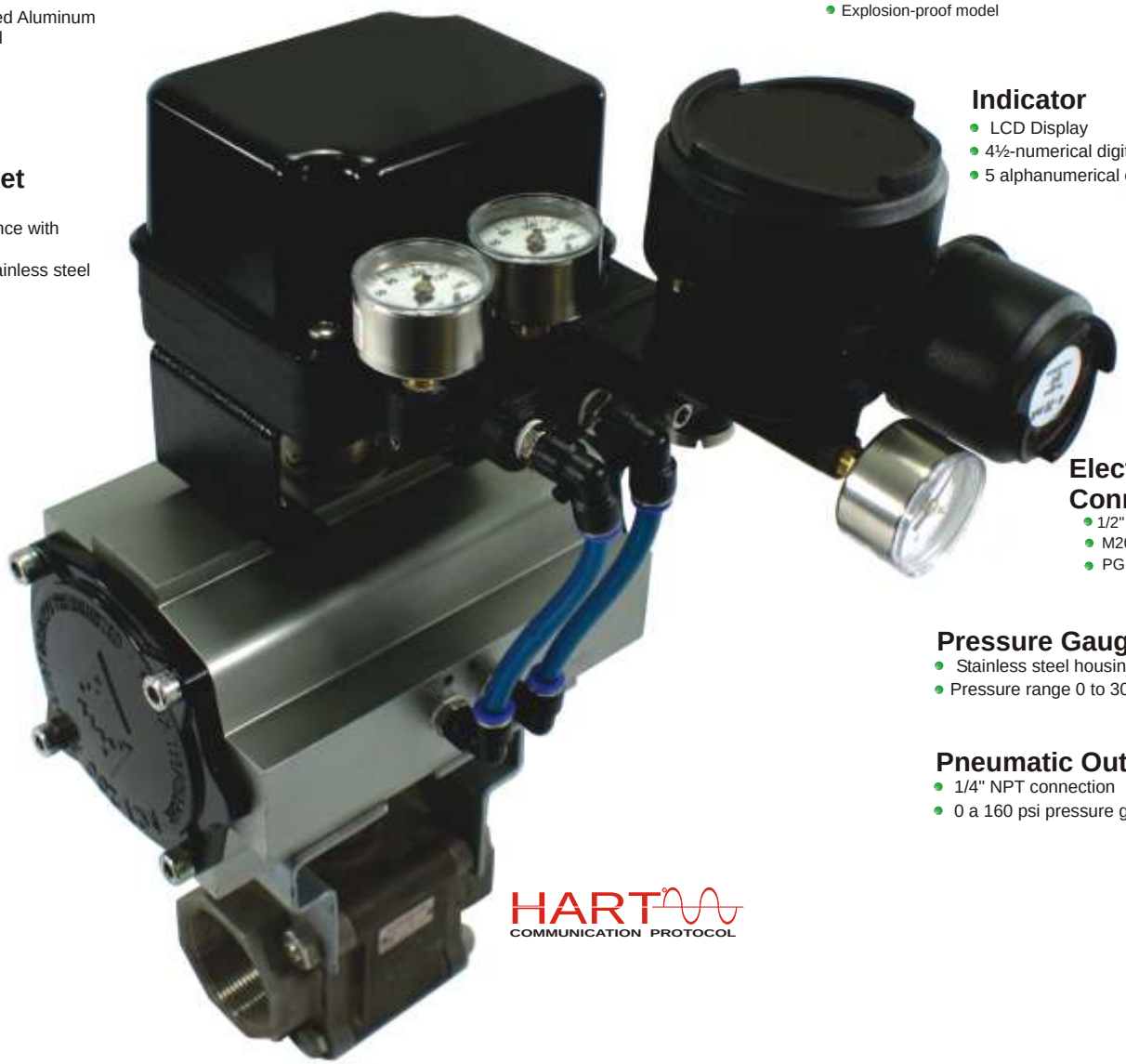
- Electrostatic painted Aluminum
- Nickel plated brassl
- Plastic cover

Indicator

- LCD Display
- 4½-numerical digits
- 5 alphanumerical characters

Support Bracket

- Optional bracket
- Developed in compliance with actuator model
- Made inCarbon or Stainless steel



Electrical Connection

- 1/2" NPT
- M20 x 1,5
- PG13,5

Pressure Gauge

- Stainless steel housing
- Pressure range 0 to 30 psi

Pneumatic Outputs

- 1/4" NPT connection
- 0 a 160 psi pressure gauges

Enclosure Options

General Use
- For general use
- Ambtemp: -10°C to +75°C
- Ip66 Protection level

Hazardous Area
- Explosion-proof
- Exd IIB + H2 T6 Gb
- Ambtemp: -10°C to +75°C
- Ip66 Protection level

PFLEX Analog Positioner

The PFLEX analog positioner receives an input signal from the master controller and controls feed pressure to the control valve actuator providing precise valve shaft position in accordance with the input signal.

The versatile design of the PFLEX analog positioner as well as its high standard of construction enables it to operate several types of pneumatic valve actuators.

It is built for installation in aggressive industrial environments with no loss in precision.

Features

Corrosion resistant components

Electrostatic epoxy paint deposition and stainless steel components provide protection in aggressive environments.

Dispenses with the use of pressure regulator and positioner and handles up to 150psi of air pressure

Tolerance to pneumatic air supply dirt

Large bore air passages assure protection against blockage resulting from pneumatic dirt

Vibration Resistant

Sistem components are designed to assure stable performance under mechanical vibration conditions.

Stable/Precise operation

The electronic inflow monitoring system controls the pneumatic pressure outlet signal variations and corrects them. This reduces sensitivity in feed-in pressure as well as potential leak compensation in the outlet section.

Standard and Double acting

Installs in double acting rotary or linear actuators

Camshaft Features

Optional rotary or linear movement and split range operation. Easy zero reset and span adjustment

Ease of Zero and Span Adjustments

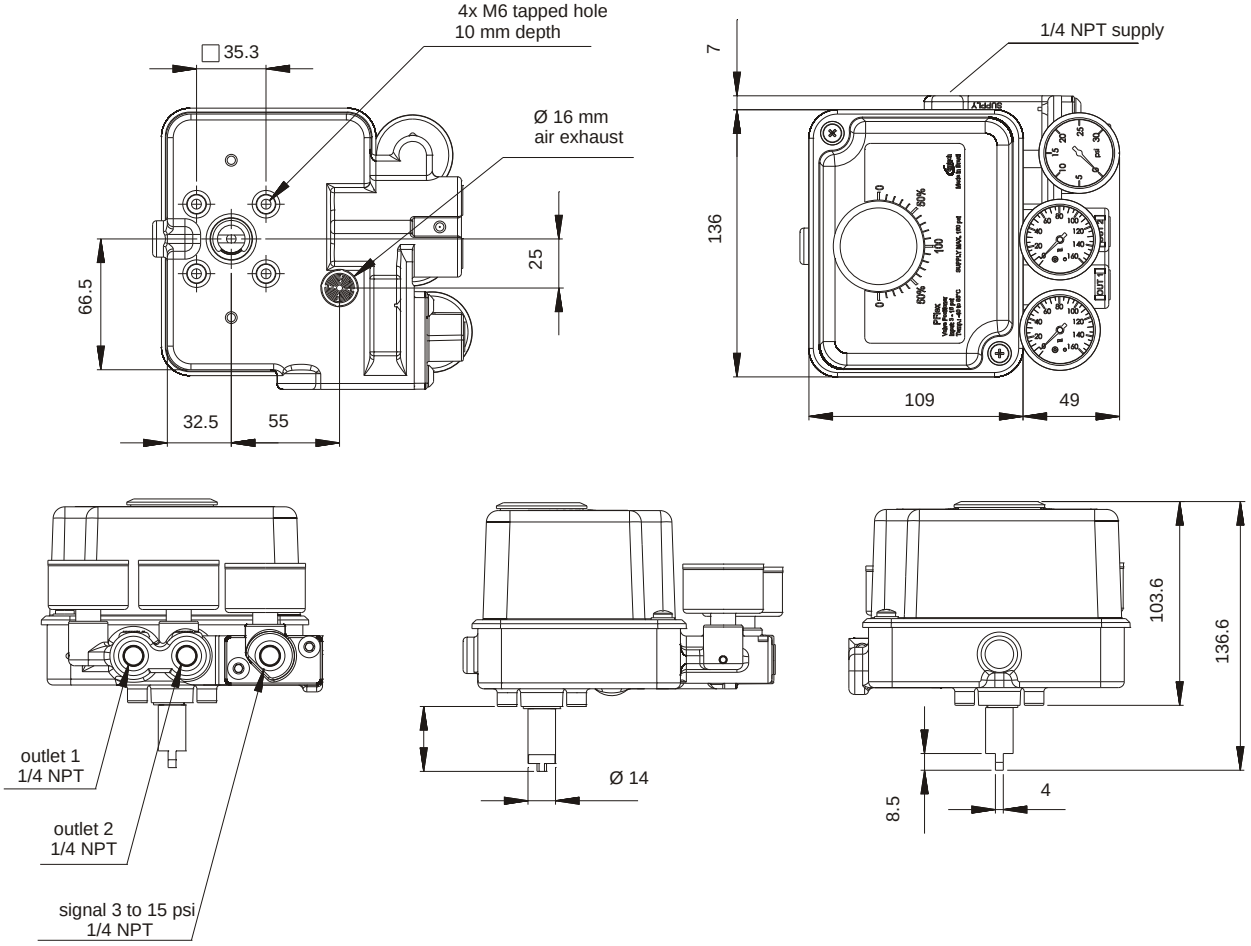
Fast access and adjustments using standard tools

Installation on Linear valve

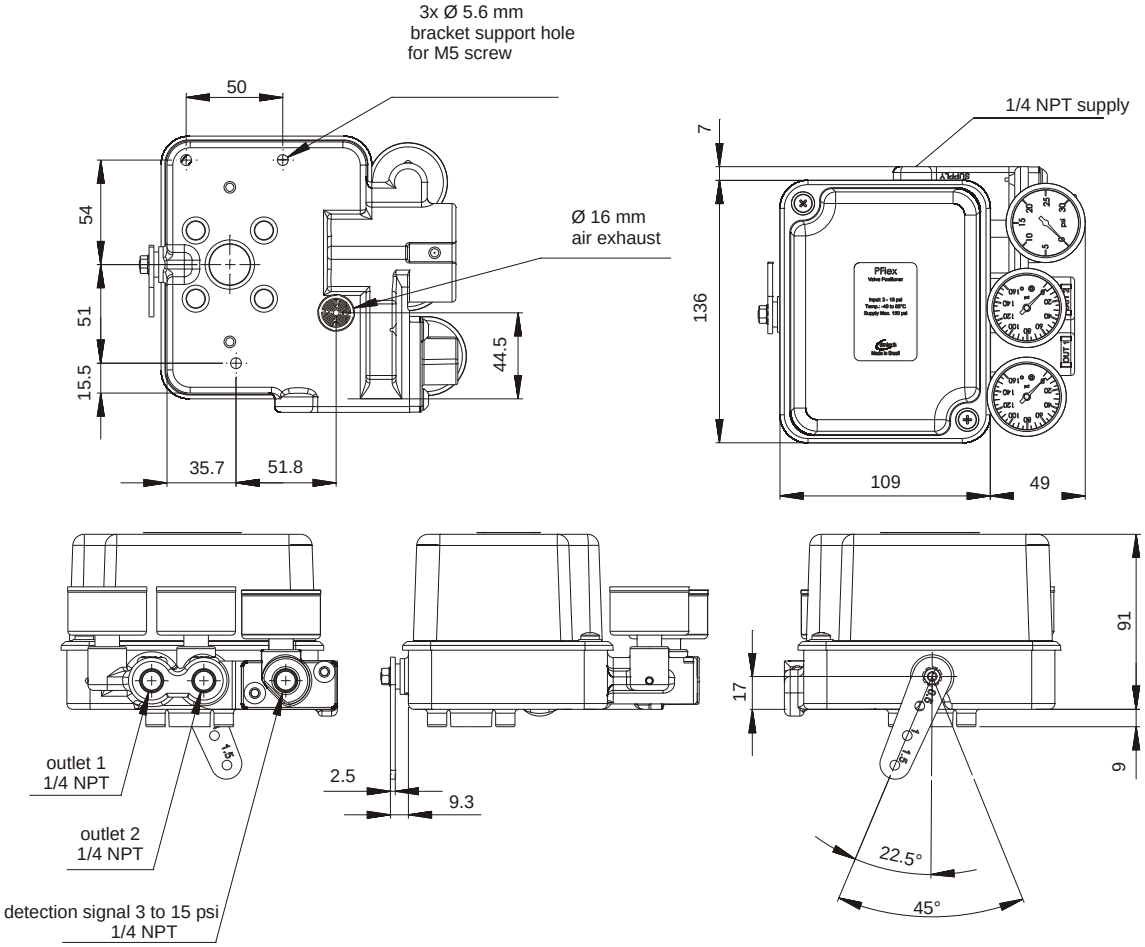
Installation on Rotary Valve

PFLEX Analog Positioner

Pneumatic Rotary Positioner Dimensions

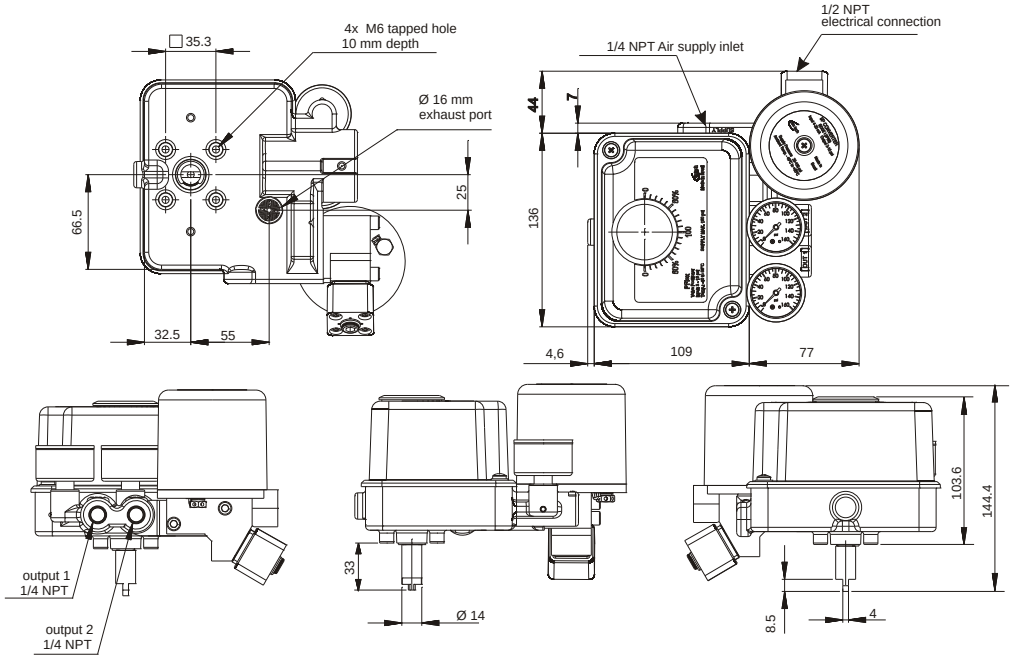


Pneumatic Linear Positioner Dimensions

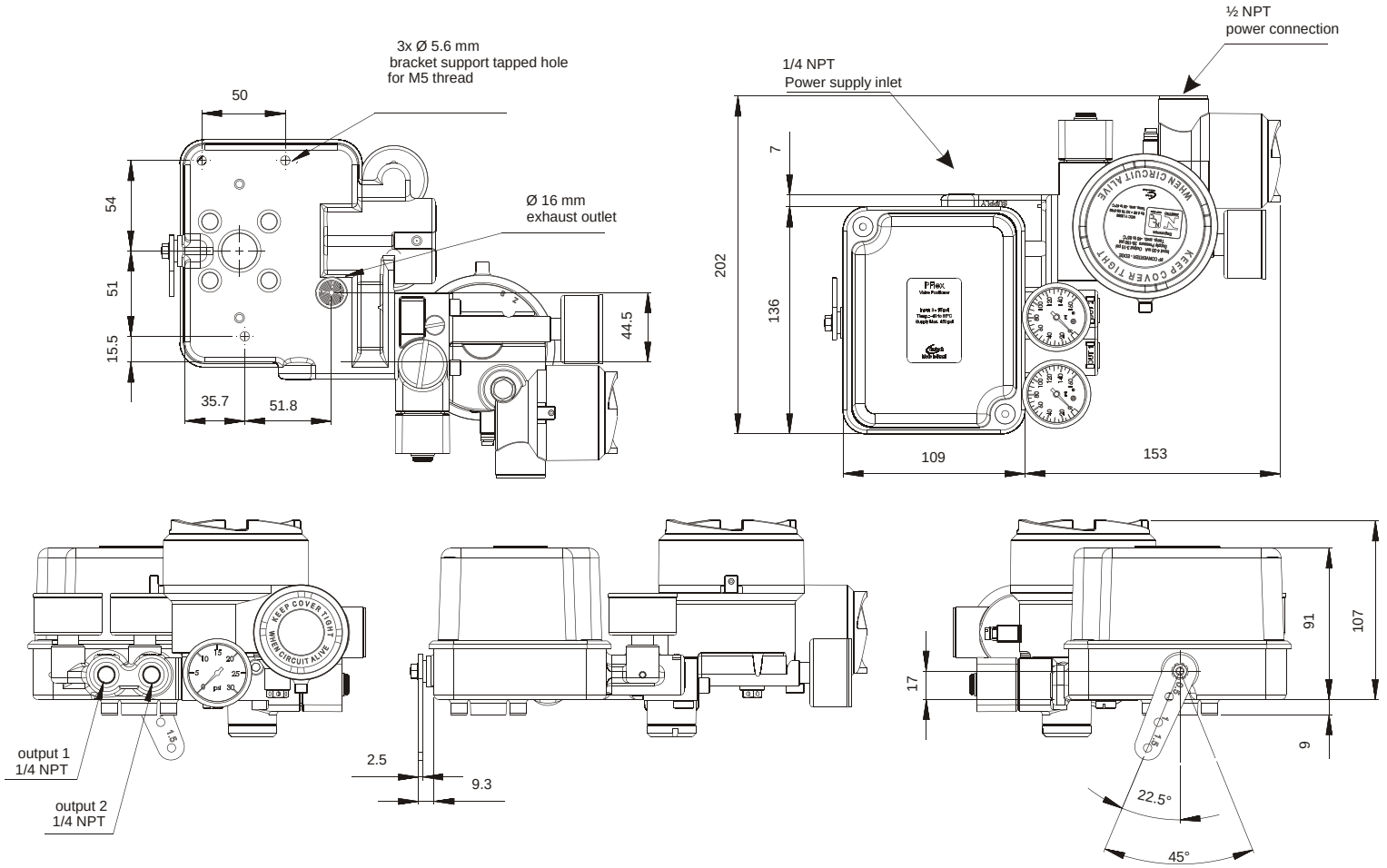


PFLEX Analog Positioner

Dimensions for General Use - Electro-pneumatic Rotary Positioner

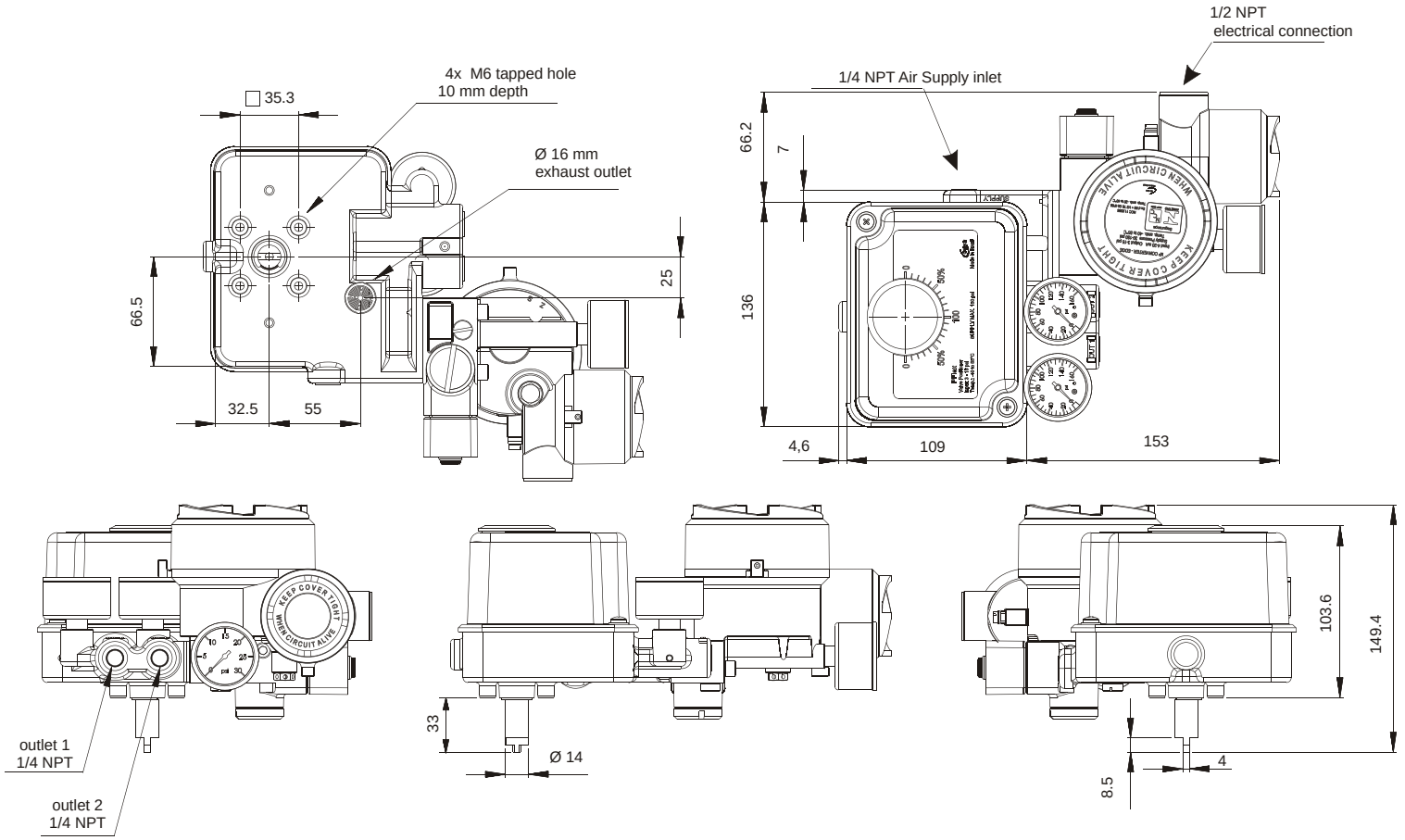


Dimensions for General use Electro-pneumatic Linear Positioner

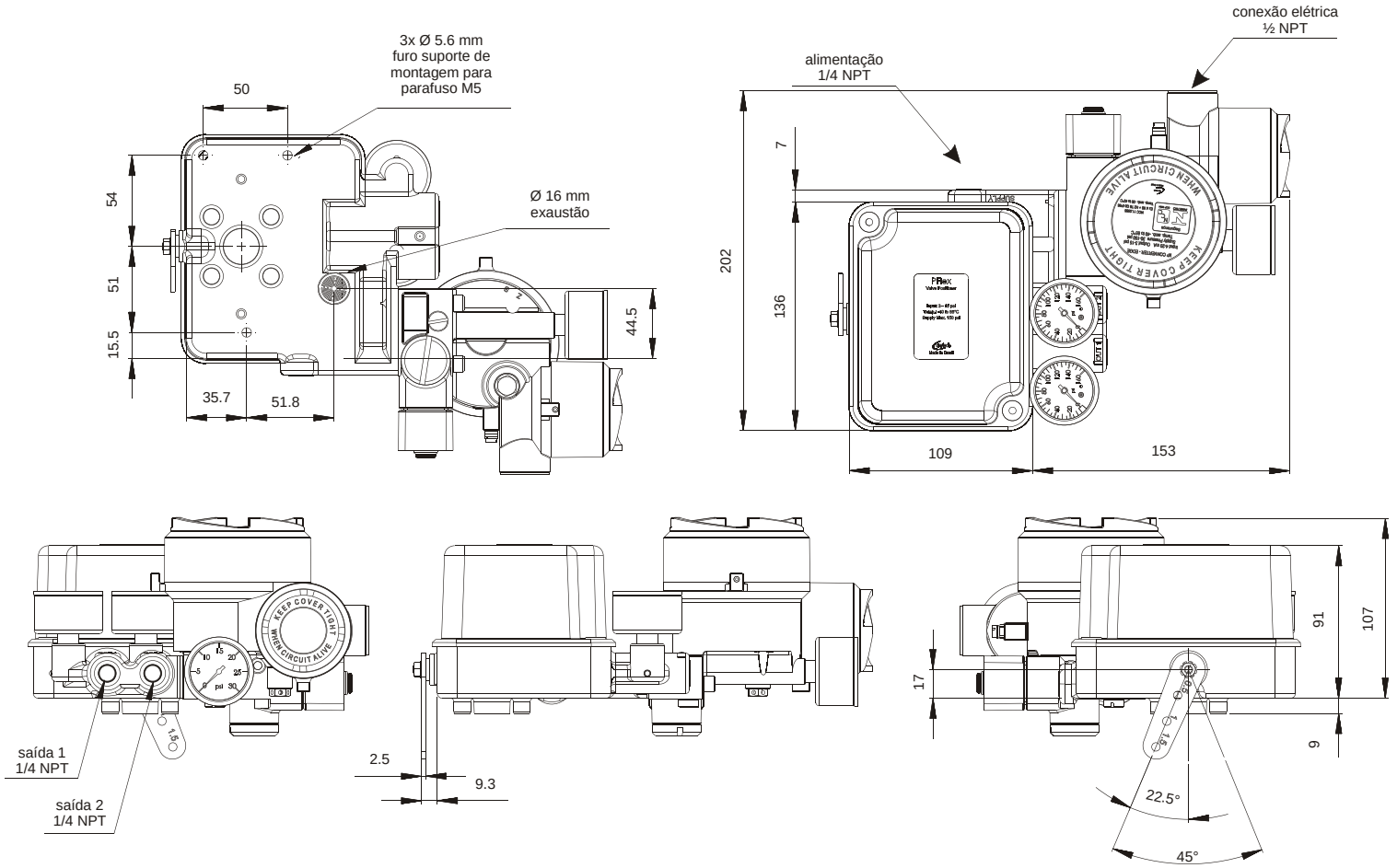


PFLEX Analog Positioner

Dimensions for Explosion-proof Electro-Pneumatic Rotary Positioner



Dimensions for Explosion-proof Electro-Pneumatic Linear Positioner



PFLEX Analog Positioner

Analog Positioner Selection Guide

P	EX	1	1	1	1	1	0

Product
P PFLEX

Classification by type
P pneumatic
EP - electro-pneumatic
EX - electro-pneumatic Ex

Feedback Linkage
0 linear no feedback arm
1 Namur class rotary
2 linear feedback arm rated travel 0.5 a 1.5"
3 linear feedback arm rated travel 0.5 a 2.0"
4 linear feedback arm rated travel 0.5 a 4.0"
5 R5 mount - size 50 linkage
6 R5 mount - size 25 linkage
7 linear feedback arm rated travel 0.5 a 2.5"
8 linear feedback arm rated travel 4.0 a 8.0"

Cover
1 standard rotary - 90° -90° indicator
2 standard linear - without indicator
3 rotary- aluminum with 90° -90° indicator
4 linear - aluminum without indicator

Cam Disk
1 rotary 90° - linear curve
2 linear 45° - linear curve
3 linear 45° - curve =%
4 rotary 30° - linear curve
5 rotary 90° - curve =% e $^{2}\surd$

Material
1 aluminum with black electrostatic paint
2 nickel plated brass

Pressure Gauge
0 without pressure gauge
1 stainless steel casing with brass connection

Opção
0 no option
C 3/4 BSP connection
E no label
F For Pneumatic Positioner - Viton 'O' ring - temperature operation range-10 a +120°C
G remote installation with I/P boosted converter
H high flow rate construction
I pneumatic positioner sina 6 to 30 psi
J pressure regulator filter
K general use convertor with explosion-proof housing
L1 linear carbon steel mount - Valtek 25 globe valve
L2 linear carbon steel mount - IEC534-6 - lateral
L3 linear carbon steel mount - Fisher globe valve
L4 linear carbon steel mount - IEC534-6 - frontal
L5 linear carbon steel mount - Hiter globe valve (assembly not applied to rotary positioner)
L6 cylindrical carbon steel mount - travel range 97 to 162 mm
L7 cylindrical carbon steel mount - travel range 157 to 262 mm
L8 cylindrical carbon steel mount - travel range 255 to 425 mm
L9 cylindrical carbon steel mount - travel range 427 to 712 mm
L10 cylindrical carbon steel mount - travel range 712 to 1187 mm
L11 linear carbon steel mount - Gemu valve
L12 linear carbon steel mount - Valtek 50 globe valve
L13 linear carbon steel mount - Lupateck LH2/LH3 globe valve
L14 linear carbon steel mount - Lupateck Lh4 globe valve
M stainless steel identification plate
P dual switch proximity position monitor
R1 carbon steel rotary mount - VDI/VDE 3845 A80 B20
R2 carbon steel rotary mount - VDI/VDE 3845 A80 B30
R3 carbon steel rotary mount - VDI/VDE 3845 A130 B30
R4 carbon steel rotary mount - VDI/VDE 3845 A130 B50
R5 carbon steel rotary mount - Valtek rotary valve
R6 carbon steel rotary mount - Minitork Masoneilan valve
R7 carbon steel rotary mount - Camflex II Masoneilan valve
R8 carbon steel rotary mount - BC11 Metso valve
R9 carbon steel rotary mount - 79U003 Keystone valve
R10 carbon steel rotary mount - 79U006/12 Keystone valve
R11 carbon steel rotary mount - 79U024/36 Keystone valve
R12 carbon steel rotary mount - 79U065/181 Keystone valve
R13 stainless steel rotary mount - 79U003 Keystone valve
R14 stainless steel rotary mount - 79U006/12 Keystone valve
R15 stainless steel rotary mount - 79U024/36 Keystone valve
R16 stainless steel rotary mount - 79U065/181 Keystone valve
R17 carbon steel rotary mount - 790-710 Keystone valve
R18 stainless steel rotary mount - 790-710 Keystone valve
R19 carbon steel rotary mount - BJ25 Metso valve
R20 carbon steel rotary mount - BC6 Metso valve
R21 carbon steel rotary mount - BC9 Metso valve
R22 carbon steel rotary mount - Combustherm butterfly valve
S position monitor coverplate and dual mechanical switches
S1 Ex monitor cover plate and dual mechanical switches
S2 General use monitor cover plate and dual mechanical switches with indicator
T cover plate with 4 to 20 mA position transmitter
T1 cover plate Ex position transmitter 4 to 20 mA
V without signal adapter

PFLEX Hart Digital Positioner

Local Detection Signal Indicator
- Arrow position indicator 0 - 100%

Pneumatic Inlet
- Pressure Supply 30 - 150 psi
- 1/4" NPT Connection

I/P Convertor
- Signal input 4 - 20 mA
- General purpose model (plastic cover)
- Explosion-proof model

Enclosure
- Electrostatically painted aluminum
- Nickel plated brass
- Plastic cover

Support Bracket
- Optional bracket
- Developed in accordance with actuator model
- Manufactured in Carbon steel or Stainless steel

Power Connection
- 1/2" NPT
- M20 x 1,5
- PG13,5

Pressure Gauge
- Stainless steel housing
- Pressure range 0 to 30 psi

Pneumatic Outlets
- 1/4" NPT connection
- Gauges 0 to 160 psi

Enclosure Options

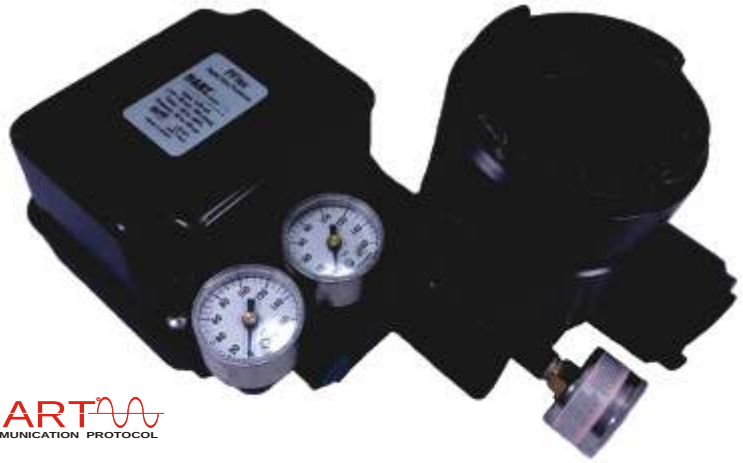
General purpose
- General purpose
- AT: -40°C to +85°C
- Ip66 Protection level

Hazardous Area
- explosion-proof
- Exd IIB + H2 T6 Gb
- AT: -20°C to +40°C
- Ip66 Protection level

PFLEX Hart Digital Positioner

The PD - PFLEX digital positioner using HART protocol digital communication, receives an input signal and controls flow pressure to the control valve actuator providing precise information as to valve shaft position in direct relation to input signal.

The PD digital positioner provides ease of access to important information related to the valve assembly. This diagnosis assists in valve performance verification through a signature comparison between bench parameters (seating pressure, friction etc) and stored recorded data thereby assisting detection of changes in performance as a means of offsetting process operation precision deviations and loss.



HART COMMUNICATION PROTOCOL

- For extreme applications such as high temperatures, small sized valves , confined installing or where access is an issue, it is possible to mount the position sensor on the valve and the positioner base on piping or on a wall mount.

Electrical Certification

- Certification for hazardous areas - IP66 enclosure and explosion proof.

Positioner Assembly

Non mechanical feedback system eliminates physical contact between valve shaft and positioner

Linear Actuator

Magnet for Linear Actuator

Rotary Actuator

Magnet for Rotary Actuator

Remote Installing

Enables assembly of positioner base connected to feedback unit externally from actuator

Features

Ease of Setup and Configuration

- Excellent Process Control Performance
- Self calibrating
- Configurable by on- the- spot adjustment or via software.
- Standard feature curve patterns or user-defined

Ease of Installation

- Same product for assembly in single and double action actuators, rotary and linear valves
- Magnet selection allows assembly in rotary or linear actuators
- Support bracket suited to several valve manufacturers

Local Interface

- Rotating display makes for easy viewing in any position.
- Local adjustment dispenses with need for disassembly.

Valve Diagnostics

- Control valve maintenance diagnostics

Corrosion Resistant Components

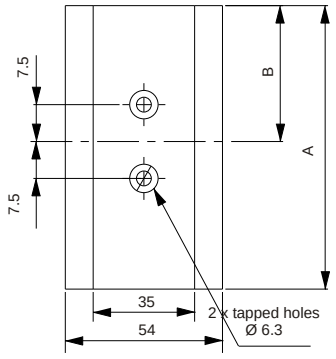
- Electrostatic epoxy paint deposition and engineering grade plastic components assure protection in aggressive environments.
- The electronic module is wholly encapsulated with resin which protects component and electronic circuitry from contamination.

Position Measurement without Mechanical Contact

- Valve position reading is carried out by a Hall magnetic field sensor assuring better performance in high mechanical vibration applications.

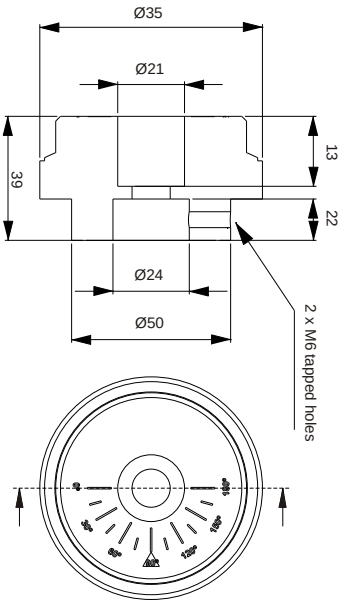
Magnet Dimensions

Magnet for Linear Actuator



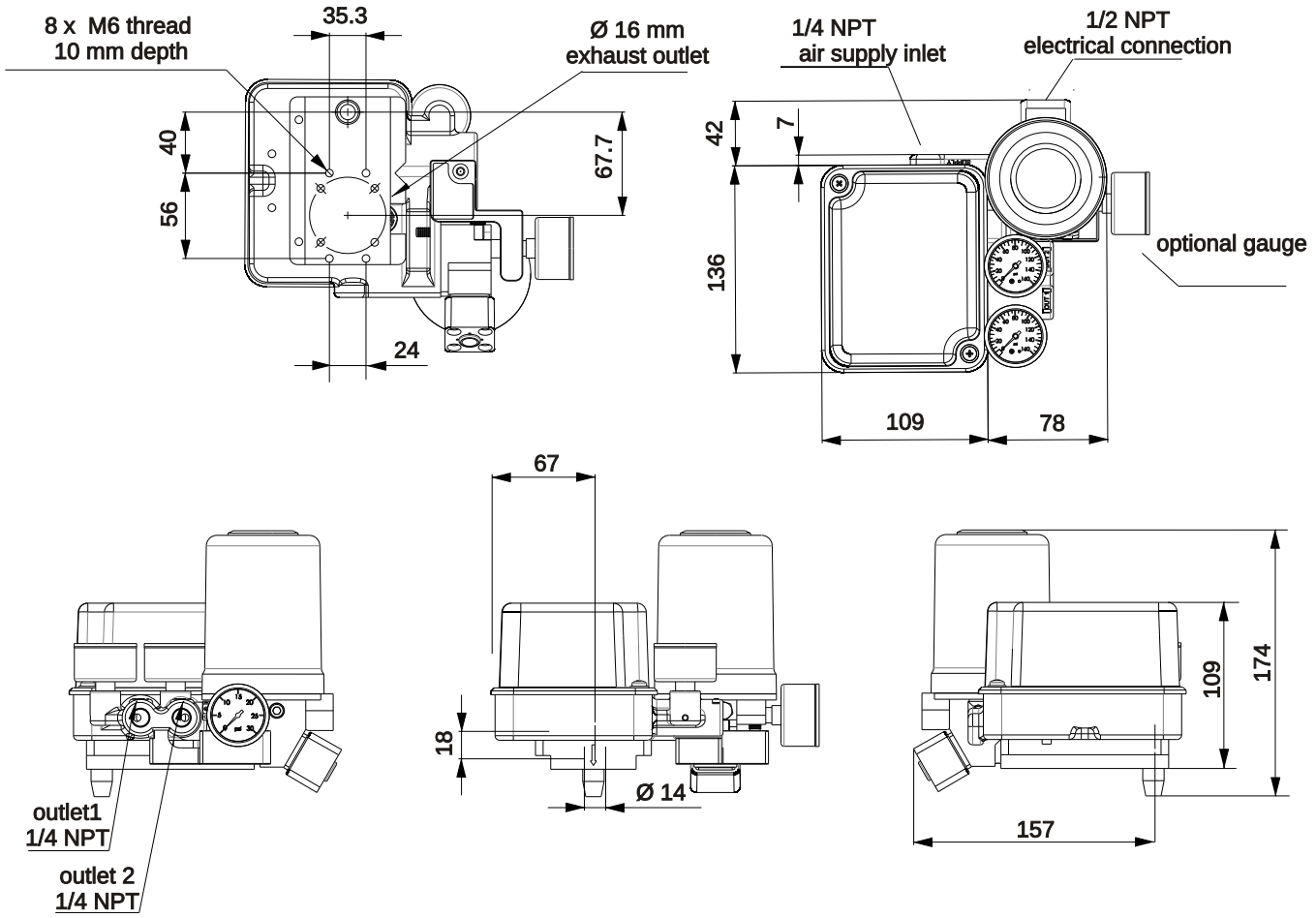
Actuator stroke range	Dimensions	
	A	B
up to 30 mm	76	38
up to 50 mm	102	51
up to 100 mm	180	90

Magnet for Rotary Actuator

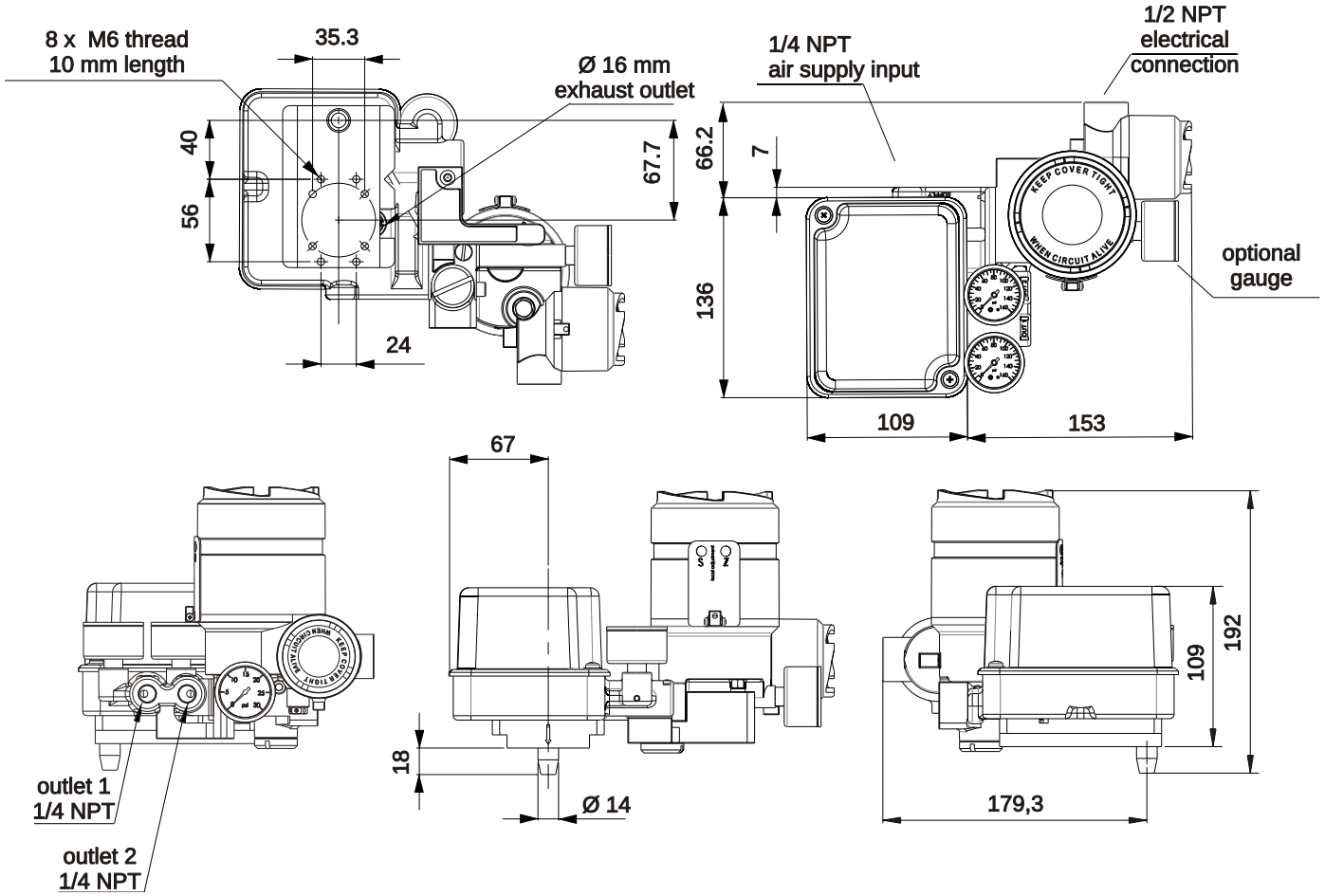


PFLEX Hart Digital Positioner

General Use - Dimensions



Explosion Proof-Dimensions



PFLEX Hart Digital Positioner

Positioner Selection

PD	EX	1	N	1	1	1	RD4	0

Product
PD digital positioner

Area Class
EP electromagnetic
EX explosion-proof

Communication
1 4 - 20 mA,HART communication.
Voltage 30 V DC. Circuit loop: up to
11 V DC / 20 mA equivalent to 550 Ω
(maximum drop in voltage)

Connection
N ½ NPT
M M20 x 1.5
P PG 13.5 DIN

MAGNET - Actuator type
0 no magnet
1 rotary
2 linear - travel range 30 mm
3 linear - travel range 50 mm
4 linear - travel range 100 mm

Material
1 Aluminum with black electrostatic paint
2 Nickel plated brass

Gauge
0 no gauge
1 stainless steel housing - brass connection

Assembly Bracket
0 sem suporte de montagem
LD1 linear carbon steel bracket - IEC534-6
LD2 linear carbon steel bracket - Hiter globe valve
LD3 linear carbon steel bracket - Fisher globe valve
LD4 linear carbon steel bracket - Valtek globe valve
LD5 linear carbon steel bracket - Lupateck LH globe valve
LD6 linear carbon steel bracket - Gemu valve
LD7 cylindrical carbon steel bracket - travel 255 to 425 mm
LD8 cylindrical carbon steel bracket - travel 427 to 712 mm
LD9 rotating carbon steel bracket - TRAVEL 712 a 1187 mm
RD1 rotating carbon steel bracket - VDI/VDE 3845 A80 B20
RD2 rotating carbon steel bracket - VDI/VDE 3845 A80 B30
RD3 rotating carbon steel bracket - VDI/VDE 3845 A130 B30
RD4 rotating carbon steel bracket - VDI/VDE 3845 A130 B50
RD5 rotating carbon steel bracket - Valtek rotary valve
RD6 rotating carbon steel bracket - Minitork Masoneilan valve
RD7 rotating carbon steel bracket - Camflex II Masoneilan valve
RD8 rotating carbon steel bracket - BC11 Metso valve
RD9 rotating carbon steel bracket - 79U003 Keystone valve
RD10 rotating carbon steel bracket - 79U006/12 Keystone valve
RD11 rotating carbon steel bracket - 79U024/36 Keystone valve
Rd12 rotating carbon steel bracket - 79U065/181 Keystone valve
RD13 rotating stainless steel bracket - 79U003 Keystone valve
RD14 rotating stainless steel bracket - 79U006/12 Keystone valve
RD15 rotating stainless steel bracket - 79U024/36 Keystone valve
RD16 rotating stainless steel bracket - 79U065/181 Keystone valve
RD17 rotating carbon steel bracket - 790-710 Keystone valve
RD18 rotating stainless steel bracket - 790-710 Keystone valve
RD19 rotating carbon steel bracket - BJ25 Metso valve
RD20 rotating carbon steel bracket - BC6 Metso valve
RD21 rotating carbon steel bracket - BC9 Metso valve

Option
0 no option
E no label
F high temperature construction for
pneumatic positioner, Viton ''O''ring
temperature range -10 a +120°C
J pressure regulator filter
M stainless steel identification plate

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