



## USER'S GUIDE

Installation & Operation



**SV42 / MV42 / SVT42**

Vibration Transmitter

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## SV42 / MV42 / SVT42 Vibration Transmitter



The **SV42 / MV42** is a compact and robust vibration transmitter used to monitor and detect misalignment or imbalance of fans, centrifuges, compressors, generators and other machinery. Widely used in industrial applications, the vibrations transmitter is a key part of any plants preventive maintenance plan.

The sensor measures the mechanical vibration speed in a range of 10, 20, 30, 40 and 50 mm/s (RMS) on non-rotating surface and converts it to signal 4...20mA (2-wire) proportional with great precision and stability even when applied to large equipment .

An Exd explosion proof housing can be integrated for applications in a hazardous area.

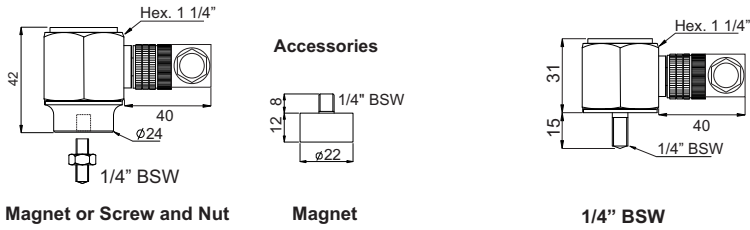
The SVT42 model provides an internal temperature sensor to monitor the heating of the rotary machine with output signal 4...20mA

Small and compact can be installed in a threaded base for a fixed installation or magnetic base recommended when it is necessary to remove or move the sensor with ease.

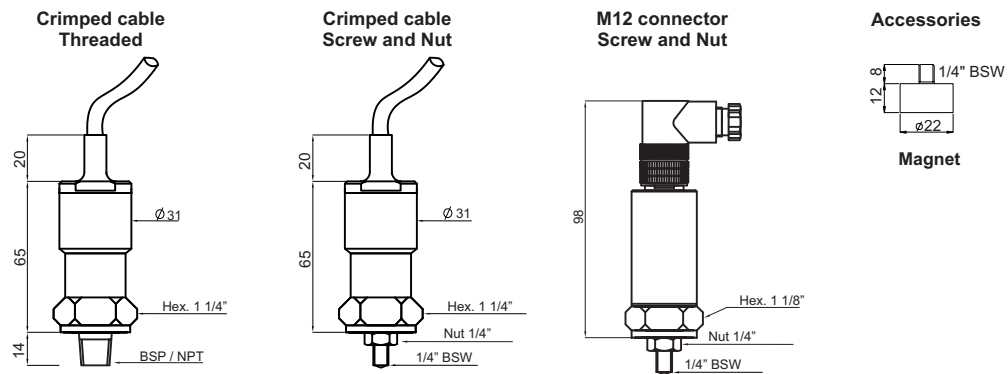
### **Applications**

- General applications
- Misalignment or Imbalance
- Industrial Machinery
- Hydraulic and Pneumatic systems

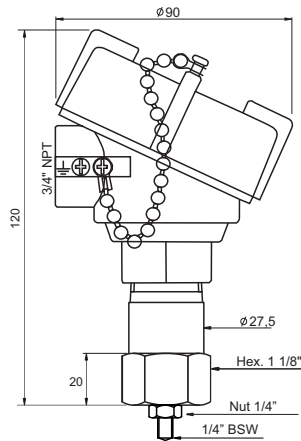
**MV42 - Mounting Options**



**SV42 - Mouting Options**

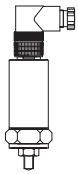


**SV42 EX d Housing**

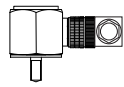


## Overview

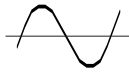
### SV42



### MV42



Vibration



### SVT42



Vibration



+

Temperature



#### SV42/MV42

This model has as a characteristic to monitor the vibration of the rotating machine that is given in mm / s RMS this signal is converted to an output 4 ~ 20mA proportional to the speed of vibration.

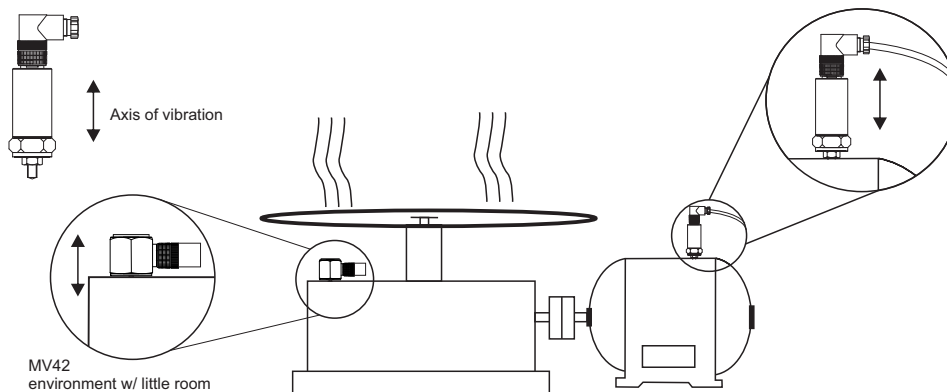
#### SVT42

This model includes a temperature sensor with independent 4 ..20mA and monitors the internal temperature of the vibration transmitter that is close to the temperature where it is installed.

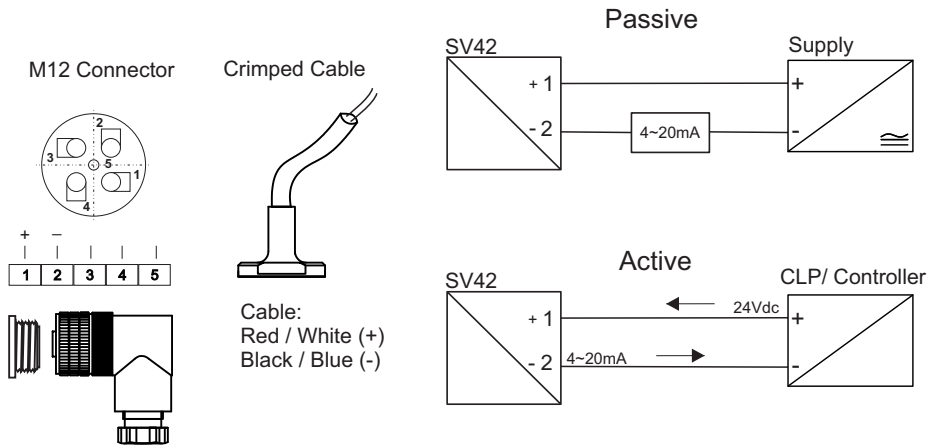
### Installation

The fixation is done directly on the equipment monitored by fuse 1/4 "BSW or magnetic base.

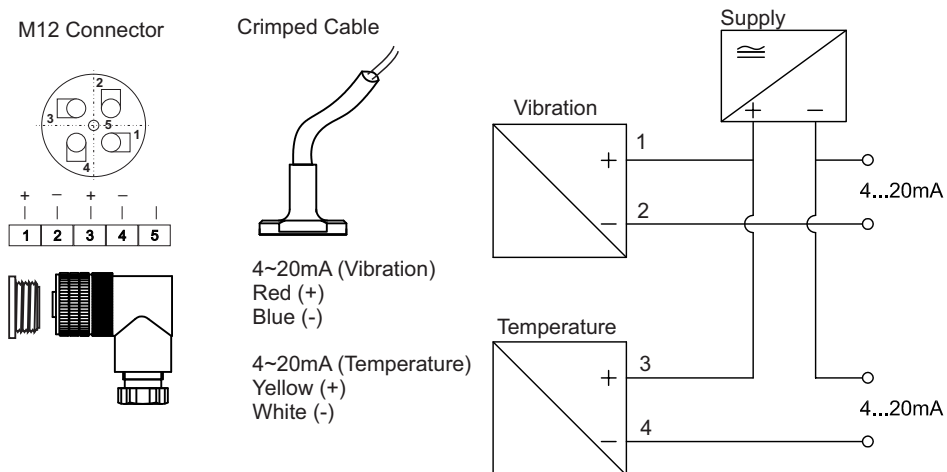
Vibration propagates throughout the equipment and to avoid interference, it is recommended that it be installed as close as possible to the origin of the vibration or directly on the part of the equipment to be monitored, such as motor, fan and etc. Be aware that the characteristics of the vibration transmitter must be respected, such as, Range of vibration in speed (mm/s, Pol/s RMS) and frequency range (Hz). Check machine specifications (permissible vibration speed and frequency) and whether the vibration transmitter / sensor meets the request for efficient operation.



## SV42/MV42 - 4~20mA (2 wires) to vibration

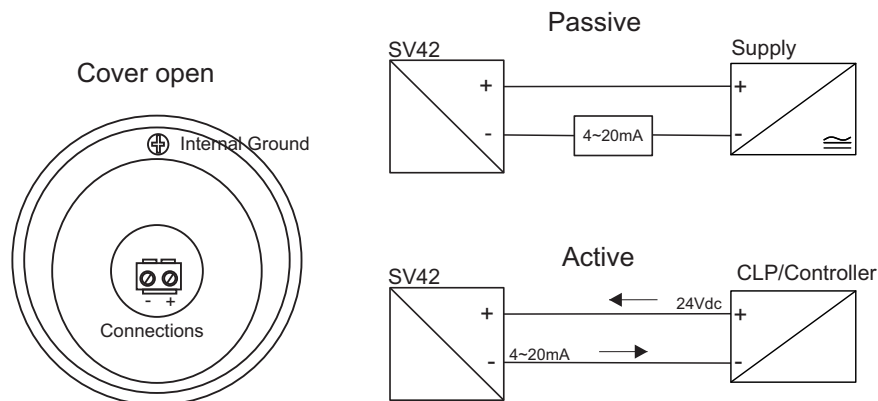


## SVT42 - 4~20mA to vibration 4~20mA to temperature



## Conexões elétricas

### SV42 EX d - Ex proof Housing



**Care at this point is needed. Qualified personnel are required to follow all appropriate electrical standards.**

When mounting the instrument in a classified area, use only certified cables and cable glands.

1. Make sure power is off!
2. Remove the cover from the housing.
3. In the installation of the wiring through the cable entries, certified cable glands must be used according to the type of protection of the equipment. When necessary the use of conduit sealing fittings, these must also be certified according to the type of protection of the equipment. In this case, if necessary the use of adapters these should also be certified.
4. Connect the power supply wires to the appropriate terminals (+ and -) according to power requirements or identified on the nameplate.
5. Avoid moisture infiltration into the enclosure by installing a certified conduit sealing fittings in the conduit leading to the instrument.
6. After all connections have been made, make a check / review and then insert the cover.

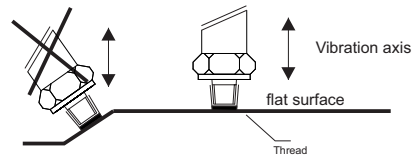
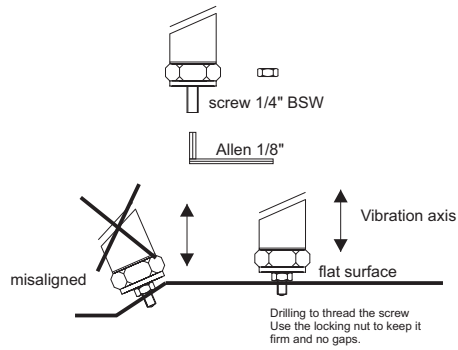
In hazardous areas, do not power the instrument until the conduit is sealed and the housing cover is securely threaded. All cable ducts and conduits must be suitable for rated area and must be protected at least IP66

The enclosure must be grounded through the protective earth screw at the bottom of the enclosure or internally.

# Installation

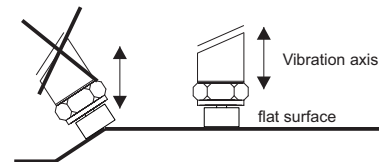
### SV42/MV42 Screw and Nut (1/4" BSW)

Stud bolt for permanent and safe installation. Do not attempt to mount on curved, rough or uneven surfaces as the misalignment potential and the limited contact surface can significantly reduce the operating frequency range of the sensor. Attach the screw to the base of the transmitter with a 1/8" allen wrench. Prepare the surface and leave the surface smooth and then drill with 1/4" BSW male drill bit to use the nut for tightening and fastening without gap. For threaded connections keep the same procedures.



### Magnetic Base Installation

Screw the magnetic base (magnet) into the transmitter if you want a non-fixed installation. The magnetic base allows you to place or remove the transmitter from the installation site with ease. Magnetic mounting provides a convenient means for applications in portable machines. Avoid mounting on curved surfaces as the misalignment potential and the limited contact surface can significantly reduce the frequency range of the sensor.





**Power Supply:** 12...30 Vdc

**Consumption:** 22mA

**Output:** SV42/MV42: 4...20mA (2 wires) (to vibration)

SVT42: 4...20mA - 2 wires (to vibration)

4...20mA - 2 wires (to temperature)

**SVT42 Temperature Range:** 0...150°C (extended neck above 70°C)

**Load max:**  $(V_{in} - 7,6) / 25\text{mA}$

**Isolation:** 500Vrms, between circuit and enclosure

**Accuracy:**  $\pm 0,5\%$  F.S.

**Range:** 10, 20, 30, 40, 50mm/s RMS

**Frequency Range:** 40...1000Hz

**Sensor Type:** 1 axis accelerometer

**Electrical Connection:** M12 connector / Polyethylene cable

**Body Material:** 316 SS

**Environment Temp.:** -10 to 70°C

**Process Temperature:** -10 to 70°C ( Extended neck above 70°C )

**Protection:** IP66

**Housing Characteristics:**

**Approvals: FM:** Class I Div I Groups B,C,D Class II,III Div I E, F,G

**IECEX:** II2 G Exd II C Gb II 2 D Ex tb IIIC Db

**Material:** Aluminum painted (Blue)

**Electrical Connection:** 3/4" NPT

**Protection:** IP66

## Order Code

MODELS	
SV42	Vibration Transmitter
MV42	Compact Vibration Transmitter
SVT42	Vibration Transmitter + Temperature sensor

SIZE OF CONNECTION CONNECTION	
1	1/4" BSW
2	3/8"
3	1/2"
X	Other

TYPE OF PROCESS CONNECTION	
B	BSP
N	NPT
W	20 wires
F	Female (option for magnetic base)

HOUSING	
SC	None
GCX	Aluminum EX d (Ex proof)

ELECTRICAL CONNECTION	
M	M12 Connector (model without Housing)
S	Crimped cable 2 meters (model without Housing)
F	3/4" NPT (Only Housing GCX)

VIBRATION RANGE	
R10	10 mm/s RMS
R20	20mm/s RMS
R30	30mm/s RMS
R40	40 mm/s RMS
R50	50 mm/s RMS

TEMPERATURE RANGE (Only SVT42)	
R	Eg. R100 (0...100°C)

OPTIONS	
0	None
M	Magnetic
MT	Extended neck to medium temperature up to (70...120°C)
AT	High temperature extended neck up to (120...150°C)

SV42	1	W	SC	M	R10		0
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Example:

SV42-1-W-SC-M-R-0: Vibration transmitter / 1/4" / withworth (BSW) / no housing / M12 connector / range 10mm/s / none options

SVT42-1-W-SC-M-R10-R100-MT: Vibration transmitter +Temperature / 1/4" / withworth (BSW) / no housing / M12 connector / Range 10mm/s (RMS) / temp. range 0~100°C / extended neck medium temperature

- 1/4" 20 Wire threaded peg is standard.
- Order code 1-F- is used for the 1/4" 20 Wire threaded peg which is attached to the Magnet. The magnet screws into the body of the unit.
- The SVT42 offers 2X 4...20mA outputs. One for the vibration range and the second for the temperature range. We do not recommend the magnet mount for this model.



## Terms & Conditions

### Sitron's TERMS & CONDITIONS

**Design:** Sitron reserves the right to make any alterations or changes necessary to improve the Products, correct defects or to make the Products safer, without prior notice or consent by Buyer.

**Pricing:** All stipulated amounts shall be in US dollars and all prices quoted are valid for thirty (30) days from date of offer, unless otherwise stated.

**Safety and Instructions:** The Buyer ensures that it and all its representatives and agents will observe all safety and technical instructions in Sitron's operating manuals, catalogs or other directions or instructions (either written or verbal).

**Delivery and Freight:** All goods are sold FOB point of shipment, Brasil. Transportation to the destination is the Buyer's responsibility and Buyer alone shall bear the cost of freight, optional or other shipping requirements, and or insurance. Sitron shall not be liable for loss or damage to the Products after said Products are delivered to or received by the shipper/carrier, and all risk of damage or loss shall immediately pass to Buyer.

Receiving, unloading and storing of Products will be the responsibility of the Buyer.

Buyer also accepts that courier may choose to return Products to Sitron if any local taxes or duties are not paid by Buyer at point of delivery. Buyer must make any and all claims for corrections or deductions within ten days of the delivery of the Products.

**Shipment Delays:** Sitron has no control over the length of time shipments may be held at customs, etc. For this reason, Sitron commits only to a "shipment date", not a "delivery date". Buyer shall not hold Sitron liable for claims resulting from delay in shipment except in cases where these terms are accepted in writing by Sitron. Acceptance of delivery of Products by Buyer shall constitute a waiver of all claims for delay.

**Partial Deliveries:** While Sitron strives to deliver all orders on time and complete, Sitron reserves the right to make partial deliveries when necessary.

**Changes:** Any changes initiated by the Buyer which affects the products specifications; quantities ordered; delivery schedule; method of shipment or packing; or delivery location, must be made in writing and signed by both parties.

In this case, Sitron reserves the right to adjust the pricing and or delivery of the order, which will be agreed to by both parties before further work is performed on the order. Any such requests will be priced according to the scope of changes and the status of the current order. Customer must sign and return or acknowledge approval of drawings along with any Purchase Order. If approval drawings are not returned with order, the delivery date may be held or pushed back until Customer has acknowledged approval.

**Cancellation:** Any cancellation of the Contract by the Buyer shall be effective only if made in writing and accepted, in writing by the Sitron. In such a case, Sitron is entitled to reasonable cancellation charges including but not limited to labor, material and other related expenses.

**Termination Fee Schedule:**

Order entered but not released for manufacturing	10%
Order in any stage of production	75%
Order complete and ready for shipment	100%

**Warranty:** Sitron warrants its product against manufacturing defects in material and workmanship, when installed in applications approved by Sitron, for a period of one year from the date of original shipment, unless otherwise stated in writing by Sitron.

Sitron is not responsible for damage to Sitron's Products or other equipment or products because of improper installation or misapplication of the Products by Buyer. Installation or startup of Sitron's equipment must be performed under the guidelines set forth in Sitron's instruction manuals, wiring diagrams, etc., or performed under the direct supervision of Sitron's field technicians or Sitron's authorized Sales Representatives, in order to be covered by Sitron's warranty.

Sitron shall be under no liability in respect to any defect from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow Sitron's instructions (whether written or verbal), misuse, modification or alteration or attempted repair of the Goods without Sitron's approval.

Sitron shall not be liable under the above warranty (or any other warranty, condition or guarantee) if the total price for the Products or the payment of Services rendered has not been paid by the due date for payment.

The Buyer must make all tools, resources or personnel available to help Sitron to diagnose the defect without any back charge. In absence of Buyer's cooperation in this regard, there shall be no liability under the above Warranty.

Sitron's liability under this warranty shall be limited to repair or replacement at Sitron's option of such defective Products, FOB factory, upon proof of defect satisfactory to Sitron. Warranty does not include transport.

**Return Goods:** No goods may be returned without Sitron's permission and an RMA number. Sitron assumes no responsibility for return shipments made without permission. In issuing credit for such shipments, Sitron reserves the right to charge a restocking fee dependent on Sitron's ability to recondition and resell the returned equipment.

Insurance: The responsibility for insuring the Goods after the risk in them has passed to the Buyer shall be that of the Buyer.

**Confidential Information:** All drawings, specifications, and technical information provided by either Buyer or Sitron shall be treated as confidential and shall not be disclosed to anyone other than those who require it as part of the fulfillment of the order. Buyer agrees that the designs and/or any other related material provided are and remain Sitron's exclusive property and that the Buyer acquires no right, title or interest to this intellectual property, whether in whole or in part.

**Errors:** Sitron reserves the right to correct all typographical or clerical errors or omissions, in its prices or specifications.



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