

# Installation Manual Valve Monitoring Device

Part Number 31102

Revision Number	Revision Date	Approved by	Signed off by	Comments
Rev 0	4 <sup>th</sup> May 2016	JMA	MAS	
Rev 1	15 <sup>th</sup> Sept 2016	JMA	MAS	Changed part number and header and footer



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## 1.0 Packing list

### 1.1 Packing list of the box;

- 1 x Valve Monitoring device (referred to as monitor in the following document)
- 2 x Red fitting brackets
- 1 x Plastic bag containing; two screws, 1 x magnet with brass collar and 1 x cylindrical magnet



## 2.0 Installation instruction for OS&Y valve

### 2.2 Checking the spindle movement (Slack)

- 2.2.1 Open the valve completely
- 2.2.2 Close valve slightly, less than a  $\frac{1}{4}$  of a turn
- 2.2.3 Mark the centre of the valve spindle with a pen

- 2.2.4 Grasp the end of the spindle with a pair of multi-grips, then with your other hand hold the valve handle tight and turn the spindle with the multi-grips in one direction.
- 2.2.5 Again mark the centre of the valve spindle with a pen.
- 2.2.6 Repeat step 2.2.3, but now turn the spindle in the opposite direction and again mark the centre of the valve spindle.
- 2.2.7 There should now be three marks on the valve spindle.

### 2.3 Install magnet into the valve spindle.

- 2.3.1 Centre punch in the middle of the three marks you made on the valve spindle.
- 2.3.2 Drill a 6.23mm (¼ ") diameter hole into the spindle to the magnet depth.
- 2.3.3 Insert magnet (**White dot facing out**), check if magnet is flush with spindle surface. **If the magnet must be flush with spindle surface.**
- 2.3.4 Using Super Glue fit the magnet into the spindle (white dot facing out) clean off excess glue.

### 2.4 Installing monitor device to valve.

- 2.4.1 It is extremely important to insure the valve monitor is located centrally over the magnet in the spindle.
- 2.4.2 Using a Multi-meter set to Ohms. Connect the white (+NO) wire from the monitor to the positive connection of the multi-meter and the red (C) wire from the monitor to the negative connection of the multi-meter. Your multi-meter should read full scale.
- 2.4.3 With the right brackets attached to the monitor, position it over the magnet in the valve spindle. Ensure the bottom of the monitor is touching the valve spindle and your multi-meter reads half scale.  
Note – It may be necessary to loosen the side bracket screws to slide the monitor body until it touches the spindle. Retighten the side bracket screws.

- 2.4.4 Firmly hold the monitor in position, with the multi-meter still reading half scale. Drill a 3.1mm hole through the side bracket and into the valve yoke. Secure monitor by hammering in the drive pin.
- 2.4.5 Test the monitor is operating correctly by closing and then reopening the valve. The multi-meter should move from half scale to full scale as the valve closes and the back to half scale again as you open the valve.  
If the monitor has any irregular readings you may need to readjust the position of the monitor over the magnet. If the problem continues please contact us.
- 2.4.6 If there are no issues with the testing in 2.4.4. Secure the other side of the monitor with another drive pin.
- 2.4.7 Retest the monitor as per 2.4.4. Installation complete.

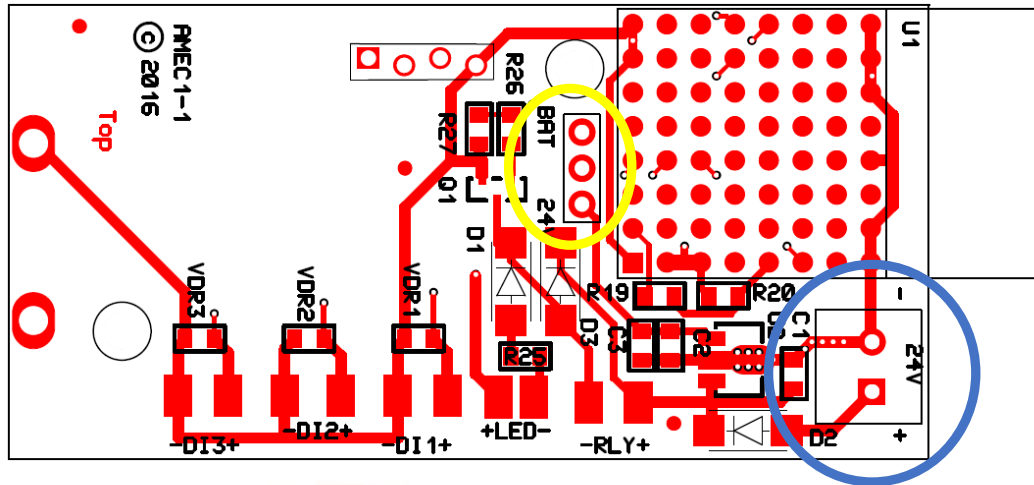
## 2.5 Special application – magnetic stainless steel spindles.

- 2.5.1 Drill 3.2mm (1/8”) diameter hole into the valve spindle – to magnet depth
- 2.5.2 Enlarge hole to 9.5mm diameter – to magnet depth.
- 2.5.3 Insert a small amount of Super Glue into the hole and insert magnet.

## 2.3 Connecting the Nodes to the Valve Monitoring device

AMEREX Integrated provide a boards 30112 with a 24v d.c supply a FM Approved Fire power supply or a FM Approved FACP connection that fits into the body of the unit – see attached photograph.

### 2.3.1 3 digital inputs unit (P/N 30112)



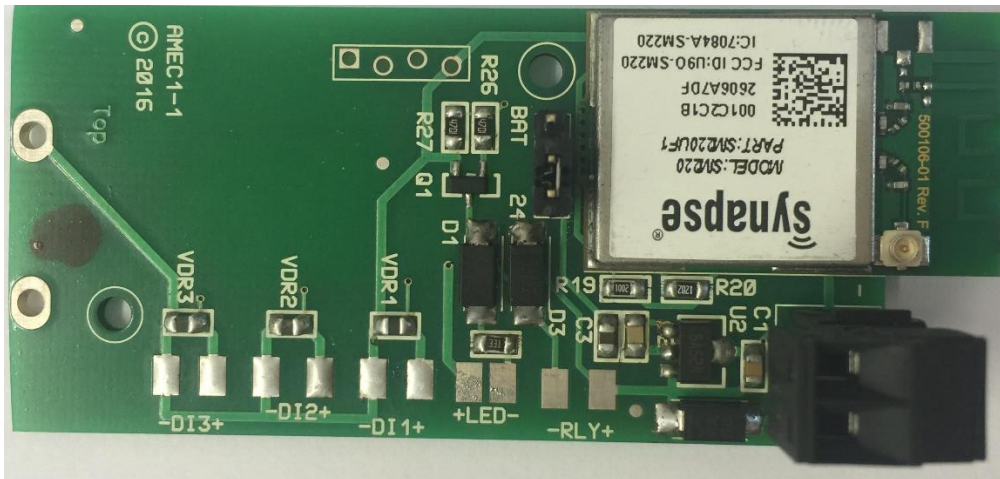
The 30112 the jumper should be set to 24v. Locate the 24v/Batt jumper in the middle of the board and select 24v, power supply requirements – as shown above in yellow circle.

The 24v connector is located on the right side of the board. Ensure the polarity is correct as the 30112 is polarity sensitive and the power jumper is set to 24v.

The ‘node’ has a set of 24v d.c. terminal connectors which are located at the bottom left hand side of the board – see above. They are marked +ive and –ive. See blue circle

The output terminals from the valve monitor unit can be seen in the photograph.

Depending on site requirements, the relay contact outputs can be connected to the 30112 unit. The input on the 30112 boards are shown on the photograph above DI1, DI2 and DI3.



Once the node has been connected to the required open/closed contacts, power up the unit and connect to the mesh network by using the Portal commissioning tool.

Replace the cover and test the unit by moving the valve handle, the data logging on Portal will show a change in state and the valve has moved. To test the tamper, remove the cover and again Portal shall show a change in state of the switch inside the valve monitoring unit.



### 3.0 Installation of the AMEREX Integrated node

- 3.1 The gland that is installed in the valve monitoring unit must comply with AHJ requirements.  
The power supply to the site controller must be a FM Approved Fire power supply or FM Approved Fire Alarm Control Panel (FACP).

