Data Sheet 7.18
Issue A

Monitored Ball Valve
Model 120

Product Description

Rapidrop Model 120 full bore lockable isolation ball valve designed to meet requirements of BS 9251:2021. The Contactless tamper switch is monitoring the fully open position of the valve and will send a signal to FloWatch or any other alarm device if the valve is being tampered with.

Commonly used in residential systems as a zone or control valve. The full bore design allows minimal flow restriction and pressure loss.

Maximum Working Pressure

68 bar (1000 psi)

Temperature Range

0° - 80°C

Connections

Female BSP Threads

IP rating

IP54 - tested as per BS EN 60529:1992 + A2:2013

Material specifications

Stainless steel 304 Ball Valve

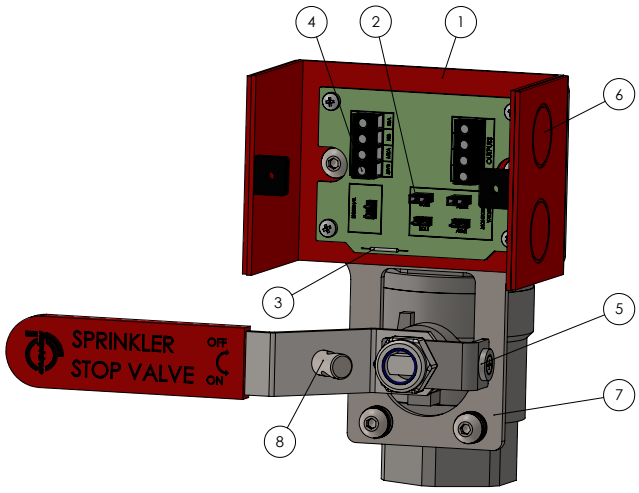
ABS Switch Enclosure

Switch specification

24V VAC/DC

1 VA Switching Capacity

Normally closed switch (with valve in the open position)



Features

- IP54 rated (certified) open style enclosure (1) providing easy access for wiring whilst obtaining the maximum IP rating
- Push in resistor connectors for custom rating resistors (2)
- Normally Closed contactless switch for fail-safe operation (Valve in fully open position) (3)
- External switch connection (4) allows an additional input to be connected onto the same zone, commonly found when installed on a combined BCWS (boosted cold water supply)
- Contactless switch activation (5), no mechanical parts, eliminating the possibility of being tampered with
- Knock out connectors for M20 cable glands - (6) enabling the wiring connection from either side of the enclosure
- Direct/fixed switch mounting plate (7) preventing false alarms as seen with other style retro-fit brackets. The monitoring device can also be removed/ replaced in situ
- Lockable handle with padlock locking pin - allows using any size leather strap/padlock up to 5.5mm (8)
- Factory fitted 100kΩ EOL & Series resistors specific to FloWatch monitoring panel
- Supplied with Key-alike padlock
- Supplied with 1x cable gland for connecting to Flowatch or other alarm device
- QR code printed on the enclosure linked to product datasheet for ease of wiring details

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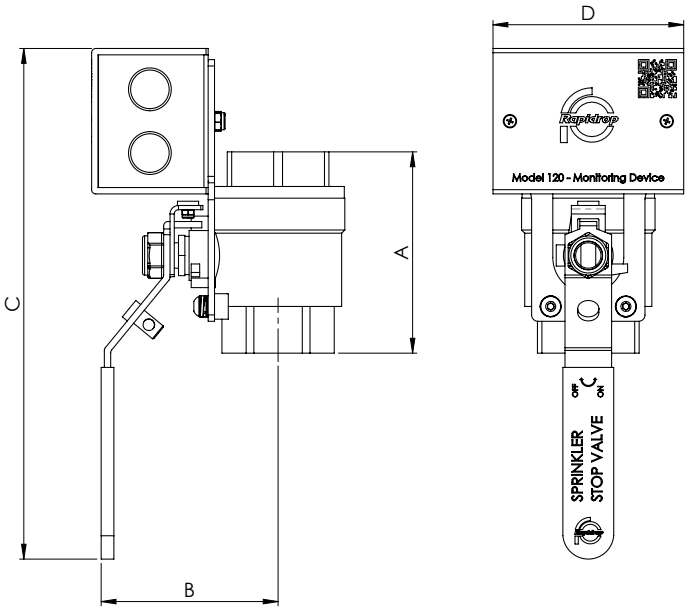
Installation Guides

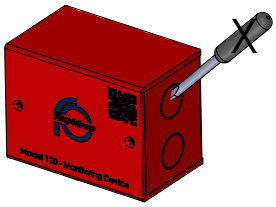
The following notes are intended as a basic guide to assist installation and form part of the manufacturers warranty.

- Model 120 Isolation ball valve can be installed in any orientation
- Ensure correct tools are used for installation, never use grip type tools on the ball valve
- Always use pipe sealant compatible with all system components. If in doubts please consult manufacturer's product manual.
- Do not over tighten connecting fittings/components
- Assemble/Restrain the ball valve near to the joint being connected too
- Installation should always be carried out by a suitably qualified person



Knock out removal

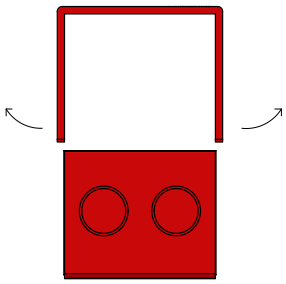
- Always remove knock outs with the lid in place
- Push the knock out through by hand or alternatively cut using a knife
- Never use tools to force knock out through - This may cause potential damage of the internal PCB



Opening Enclosure Lid

- Undo 2 x lid screws
- Prize the lid away at the bottom. Lift outwards to clear the grooves.
- To install the lid, line the grooves and slide it down, until it engages at the bottom.

Note: Do not over bend the enclosure lid when lifting outwards

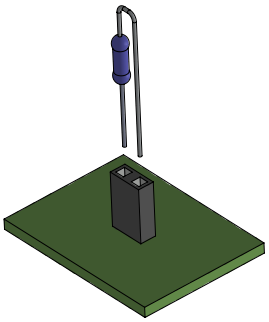


Installation of resistors

- Refer to the wiring diagram 'resistor table' for resistor position
- Ensure resistor wire engages into resistor terminal block

Note: The design of the connection block allows for removal of resistor in situ if required.

Use Resistor wire SWG 22 or SWG 24



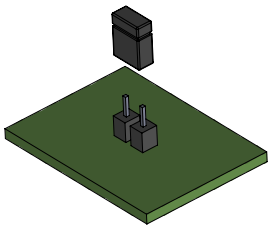
Dimensions

Sizes		Dimensions (mm)				Ordering Codes
mm	inch	A	B	C	D	
DN25	1"	82	72	220	90	RD120MBV025
DN32	1 1/4"	95	85	242	90	RD120MBV032
DN40	1 1/2"	105	95	265	90	RD120MBV040
DN50	2"	118	103	275	90	RD120MBV050
DN65	2 1/2"	160	130	310	90	RD120MBV065

Connecting to alarm panel

The circuit board is factory fitted with 100kΩ resistors specific to FloWatch alarm device.

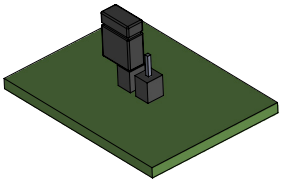
To install any different rating resistors remove the appropriate PCB jumper and connect the resistor to corresponding pins on the PCB.



Removal of Jumper

Lift female connector off male connector.

PCB Jumper can be placed onto single pin without affecting the circuit in case of future use.



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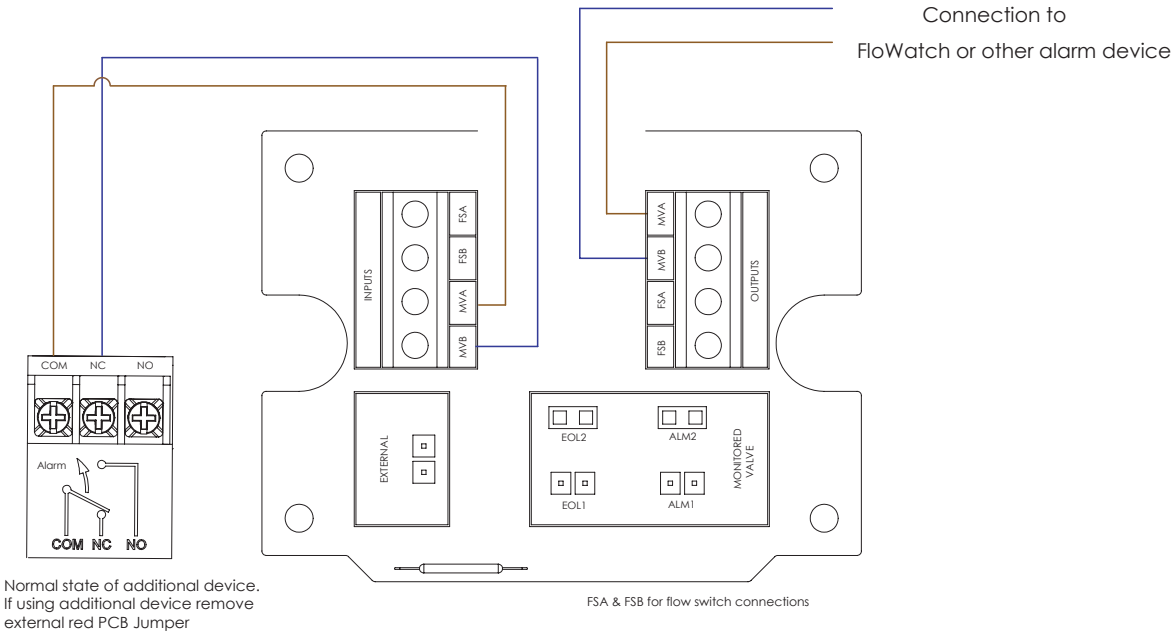
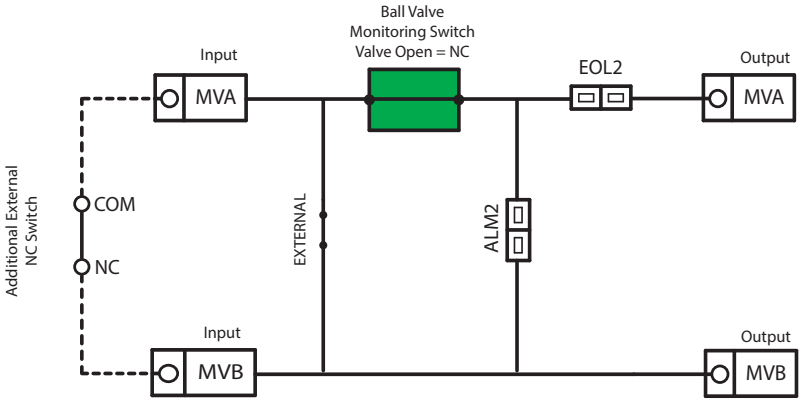
Wiring Diagram





Model 120 Isolation Valve Resistor Position Table			
FloWatch	EOL1	(100k Ω)	PCB Jumper in place
FloWatch	ALM1	(100k Ω)	PCB Jumper in place
Alternative alarm device	EOL2	.....	Remove Black PCB Jumper & Install Resistor
Alternative alarm device	ALM2	.....	Remove Black PCB Jumper & Install Resistor

Key

= Resistor quick connector

= PCB Circuit

MVB = Terminals

= PCB Jumper

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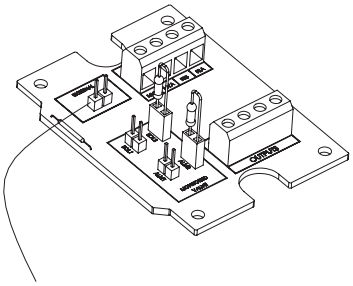
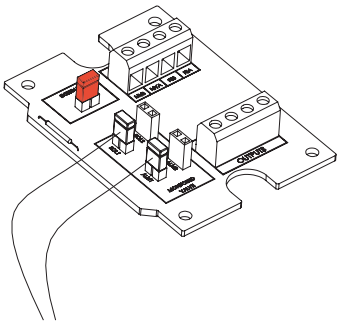
PCB Jumper Positioning



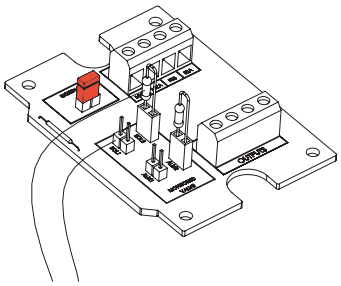
Additional External Switch

Remove red PCB jumper connection.
Wire as per above.



FloWatch

Female PCB jumper connections in situ.
Wire as per above.



Alternative alarm device

Remove PCB jumper connections.
Install relevent resistors into resistor block.
Wire as per above.

Note: All PCB Jumpers are pre-installed

Maintenance

Rapidrop Model 120 monitored ball valve requires no regular maintenance, however it is advisable to inspect and verify proper operation of the unit annually or in accordance with the authority having jurisdiction.

The inspection should include, but not limited too:

- Verify operation of the tamper switch
- Inspection of magnet (Clean with soapy water if contaminated with external debris)
- Ensure switch enclosure is secure

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