T: +44 (0)1825 764737
F: +44 (0)1825 768330
E: info@appeng.co.uk
www.appeng.co.uk

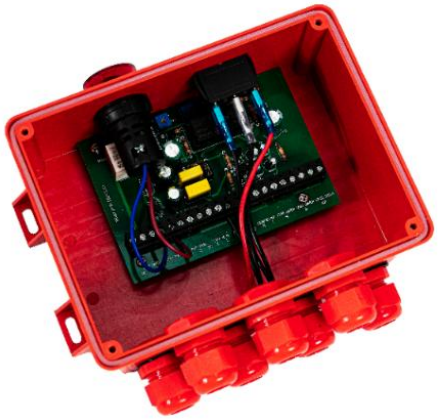
AE-PDV21-2 Priority Demand Valve ½” - 2”

Key Features:

- Flow & level switch Input to activate PDV
- Failsafe will close PDV in event of power cut
- Manual reset button to ensure system checked after activation
- If the system fault remains unresolved after manual reset then the PDV will activate again to prevent reset when not safe
- Time delay function to prevent false activation without the need for expensive time delay flow switch
- Internal sounder beacon to alert on activation
- Volt free contact can be used as a fire output with activation solely by signal from the flow switch.

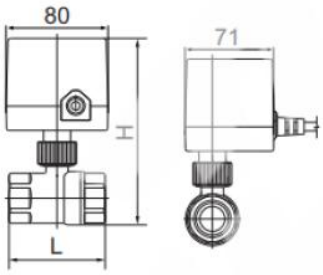
Application Engineering’s BS 9251:2021 compliant priority demand valve assembly is for use upon activation of a flow or level switch, whereupon the valve will automatically close the domestic water supply allowing all water to divert to the sprinkler system.

The priority demand valve is available in various sizes and comes with either an actuated ball valve (sizes ½” - 2”) or butterfly valve with an electric actuator (sizes 2 ½” - 8”) along with a 230v Relay box.



Actuated Ball Valve:

- Screwed BSP Parallel
- PTFE Seals
- Full Bore
- Remove actuator for manual override
- Suitable for potable water



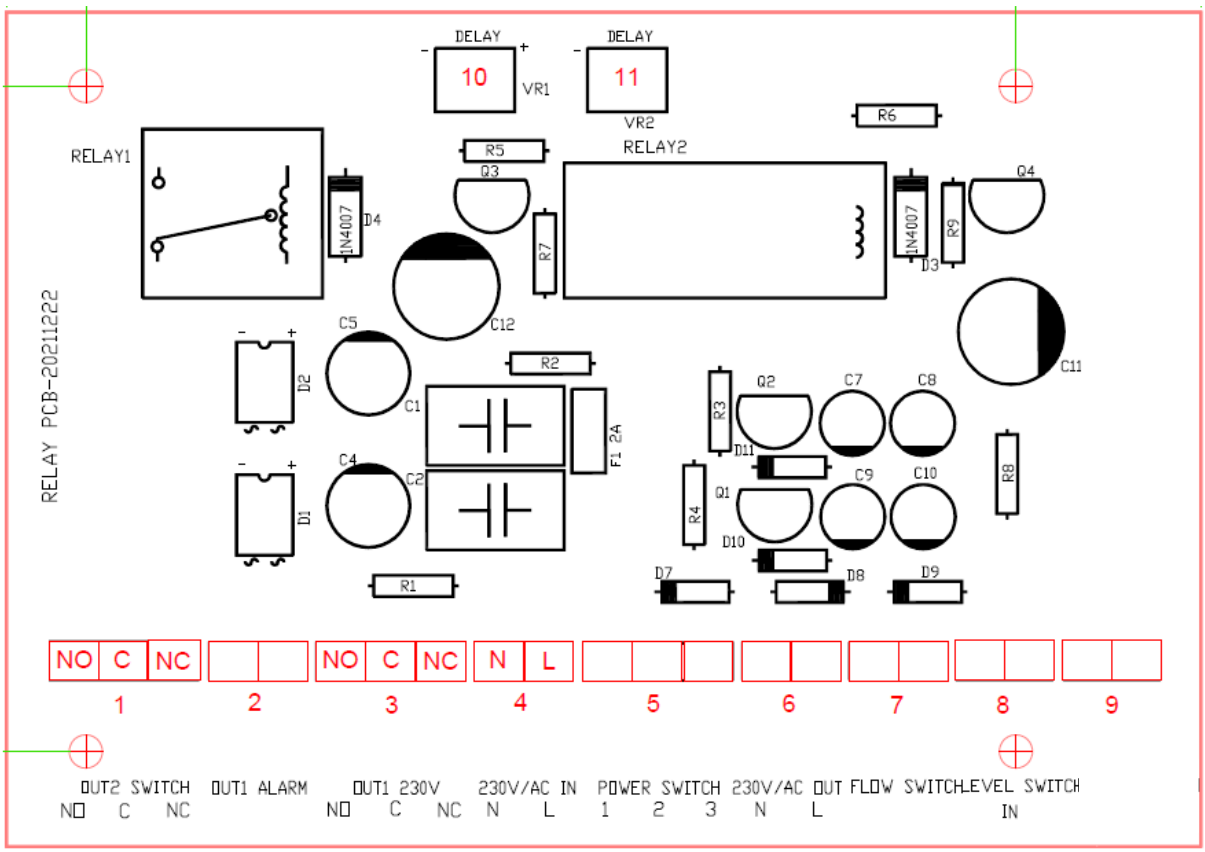
DN	L	H	Kv
½”	55	124	10
¾”	62	130	15
1”	71	135	23
1 ¼”	75	142	31
1 ½”	89	152	38
2”	101	164	38

Materials	
Outer Body	Brass
Inner Ball	Stainless 304
Seals	PTFE
Technical Data	
Medium Temperature	0ºC to 130ºC
Ambient Pressure	0ºC to 65ºC
Max. Pressure	16 Bar
Medium	Water
Drive Voltage	220 VAC
Protection Class	IP54

How to Order

Port Size (G)	Part Number
1/2”	AE-PDV21-2-50
3/4”	AE-PDV21-2-75
1”	AE-PDV21-2-100
1 1/4”	AE-PDV21-2-125
1 1/2”	AE-PDV21-2-150
2”	AE-PDV21-2-200

Wiring



1 - Volt free contact (for external alarm)
2 - Pre-wired Output to sounder beacon
3 - Output to Actuator, use ‘C’ & ‘NC’ connections
4 - 230v Mains Power in
5 - Pre-wired output to Reset Button
6 - Do not use for this application
7 - Flow Switch Input - Not Polarity Sensitive (NPS)
8 - Level Switch Input (for low level) - NPS
9 - Do not use for this application
10 - Adjustable Time Delay 1
11 - Adjustable Time Delay 2

*Turn clockwise to increase time delay, each delay controls a separate relay so both need adjusting

The actuator comes pre-wired with a 2 core cable, there is no need to go inside the actuator, this 2 core cable just needs to be wired into OUT1 230V in the relay, ‘C’ & ‘NC’ connections.

Wiring Notes

- OUT1 230V is a powered output, so for use as a 2021 PDV all that is needed is to take the two wires from the actuator, one to the “C” and one to the “NC” in relay box OUT1 230V, which is not polarity sensitive
- The FLOW SWITCH & LEVEL SWITCH inputs are volt free normally open inputs, all they are looking for is a closed signal on activation of the switches

Installation Notes

- We advise that that a small bore bypass valve is fitted in parallel to the PDV so that if power should fail, a small amount of water can be provided to the building for drinking/ toilet flushing, this valve should be closed during normal operation
- On activation of either the flow or level switch the sounder beacon will activate and the valve will close. A manual reset is required to turn off the sounder beacon and reopen the valve, this is carried out by turning the power switch off and on again. If the fault has not been fixed then the alarm will sound again and another manual reset will be required
- The OUT1 SWITCH is a volt free output that will only activate in the result of a signal from the flow switch and can therefore be used as a fire output. This output will stop alarming once the flow switch stops activating, however, a manual reset is still required to return the PDV to a working state