

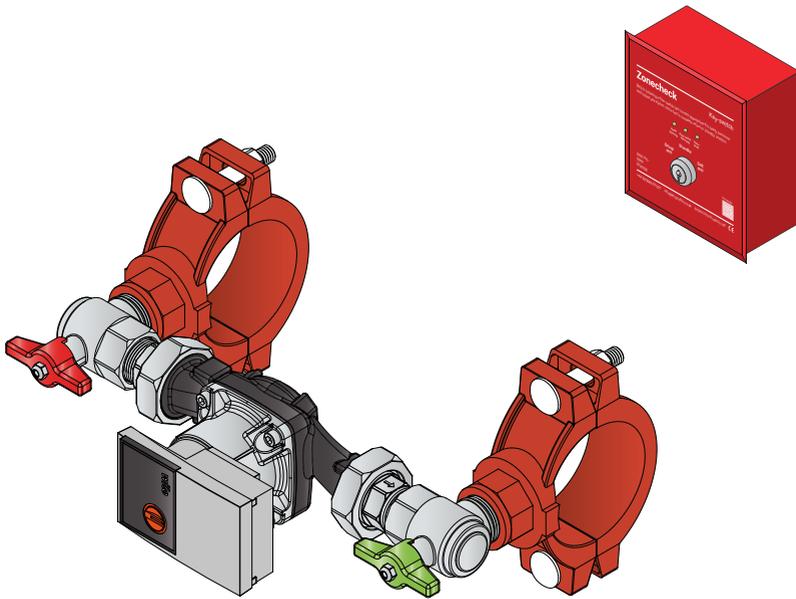
# Zonecheck®

ZC-RF-IB-04/21-08



## Retrofit

with key-switch (50-100mm)



Instruction Booklet

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**Information**

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Zonecheck is a registered product name of Project Fire Products Ltd. European patent No. 0907833.

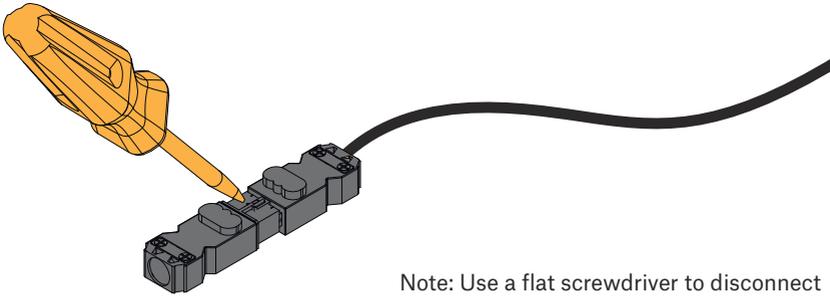
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# Pre-checks

## Before you install Zonecheck follow these simple steps.

- 1 Open the box and remove all packaging.
- 2 Check you have the correct sized mech tees.
- 3 Check that there is a key-switch and key in the box.
- 4 Please note that this version comes with a pair of Wieland connectors which come attached to the pump (see image below and refer to wiring instructions on page 07)
- 5 Inspect the product to make sure it hasn't been tampered with. If you have any queries please contact your supplier.



Note: Use a flat screwdriver to disconnect the Wieland connectors when completing wiring

# Installation

*Zonecheck should be installed by a competent fire sprinkler installer and a suitably qualified electrician.*

1. Contact building management to inform them of proposed works.
2. Isolate and drain down selected zone.
3. Marry the Zonecheck 450 Retro-fit up to the pipe around the flow-switch to make sure it will fit on facing the correct direction and in the correct orientation (page 05).
4. Measure the distance between the mech-tee outlets.
5. On the centre-line of the pipe mark two points equally spaced either side of the existing flow-switch using the measurement you have just taken (this should be around 313mm or 12 3/8" - see page 10 for details).
6. Cut two holes on the designated marks with a hole-saw:

2"-4" pipe ..... Ø38mm (1½" hole-saw)

6" pipe ..... Ø51mm (2" hole-saw)

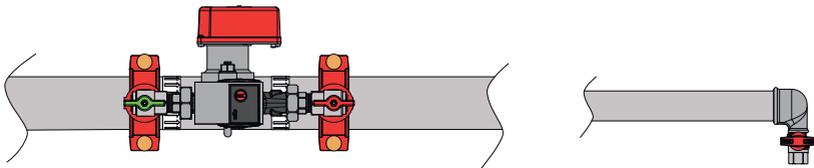
8" pipe..... Ø64mm (2½" hole-saw)

7. Remove burrs and clean pipe surface around the hole.
8. Fit the Zonecheck to the pipe. Double check it is facing the correct direction & in the correct orientation (see pages 04 & 05) before tightening the mech-tee bolts.
9. Note the direction of *sprinkler* system flow and apply the two flow-arrow labels (provided) to the pipe either side of flow-switch.
10. Fit the key-switch to the wall in a suitable location that is easy to reach from floor level.
11. Wire the Zonecheck & flow-switch in accordance with the instructions on pages 07-09.
12. Re-charge the zone with water (*on completion, proceed to commissioning - page 03*).

**DO NOT ATTEMPT TO MODIFY ZONECHECK,  
TAMPERING WILL VOID THE WARRANTY.**

# Commissioning

- 1 Contact the responsible person to authorise a flow-switch test.
- 2 Ensure the Zonecheck red and green valves are both open.
- 3 Ensure pipework is fully vented using suitable vent valve
- 4 Connect a hosepipe to the test-valve at the furthest point on the zone.
- 5 Contract building management to authorise a flow-switch test.
- 6 Discharge water through the hose (this is a once only commissioning test).
- 7 Check that the WATER FLOW green LED is illuminated on the key-switch.
- 8 Close the test valve.
- 9 Turn the Zonecheck Key-switch to SELF TEST and check the PUMP RUNNING and FLOW-SWITCH ACTIVATED LEDs are illuminated (this could take up to 30 seconds).
- 10 Confirm with the responsible person that they have received their test signal.
- 11 Turn the Key-switch key to STANDBY.
- 12 If zone valve is wired to key-switch, check function of VALVE FAULT LED on the key-switch, which should illuminate when valve is not in the fully open position.
- 13 Fix operating instructions to wall, preferably next to the key-switch. Also place the Zonecheck Isolation valve location sticker in a suitable position to let others know where the unit is.
- 14 Ensure that the end user is instructed on how to carry out a routine test and explain procedure for when VALVE FAULT LED is illuminated.
- 15 Fill in & hand over a completion certificate. Make sure that the responsible person has been made aware that the system is back online.



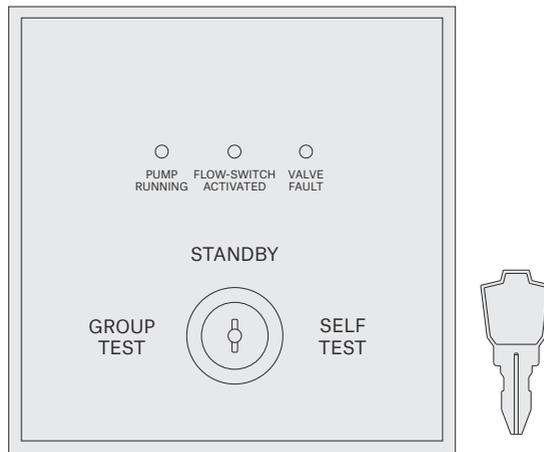
# Testing

## Test one Zonecheck

- 1 Insert the key into the key-switch and turn to SELF TEST (the pump light will activate).
- 2 When the flow-switch operates, the WATER FLOW light will activate (please wait for up to 30 seconds for the flow-switch to operate).
- 3 Return to STANDBY position and remove the key.

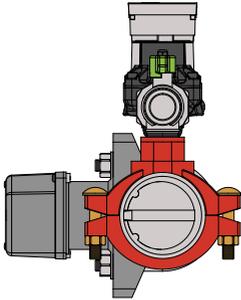
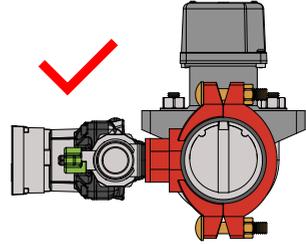
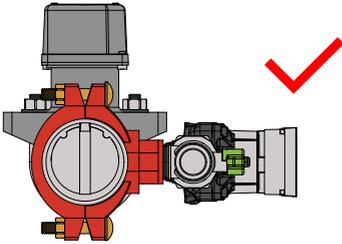
## Test a group of Zonechecks

- 1 To test all the Zonechecks in the group, insert the key into the key-switch and turn to GROUP TEST.
- 2 Look at the central fire control panel to confirm simultaneous activation of all the flow-switches within the group.
- 3 Return to STANDBY position and remove the key.

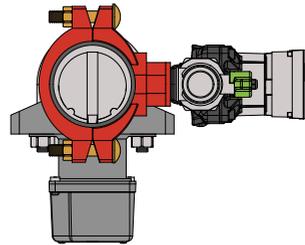


# Orientation

- The pump direction-of-flow arrow faces the opposite direction to the system flow.
- The pump cartridge is always horizontal.



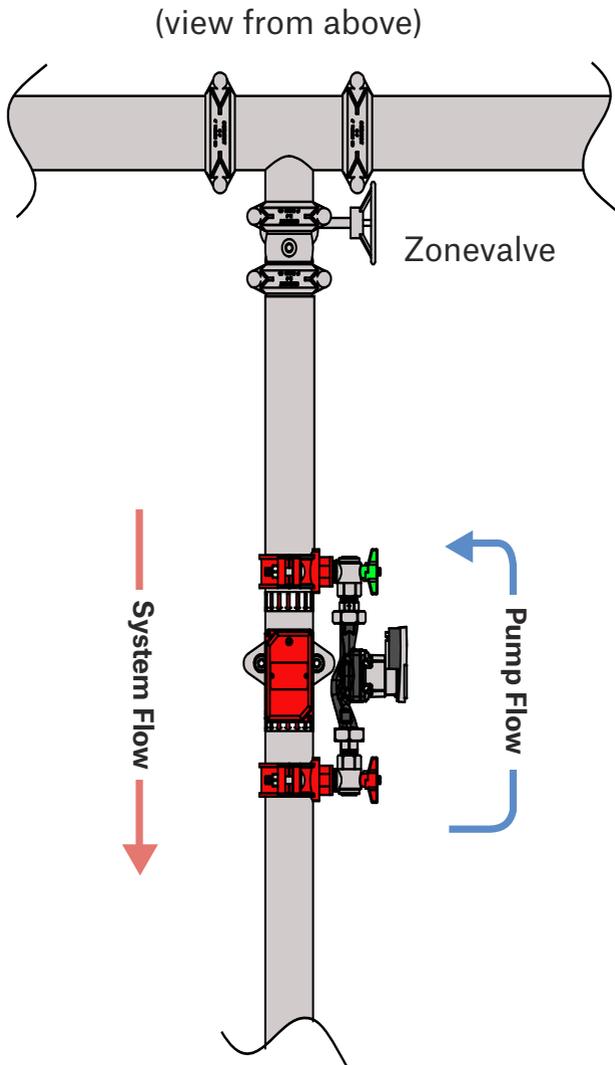
PUMP NOT HORIZONTAL



FLOW-SWITCH ON UNDERSIDE OF PIPE

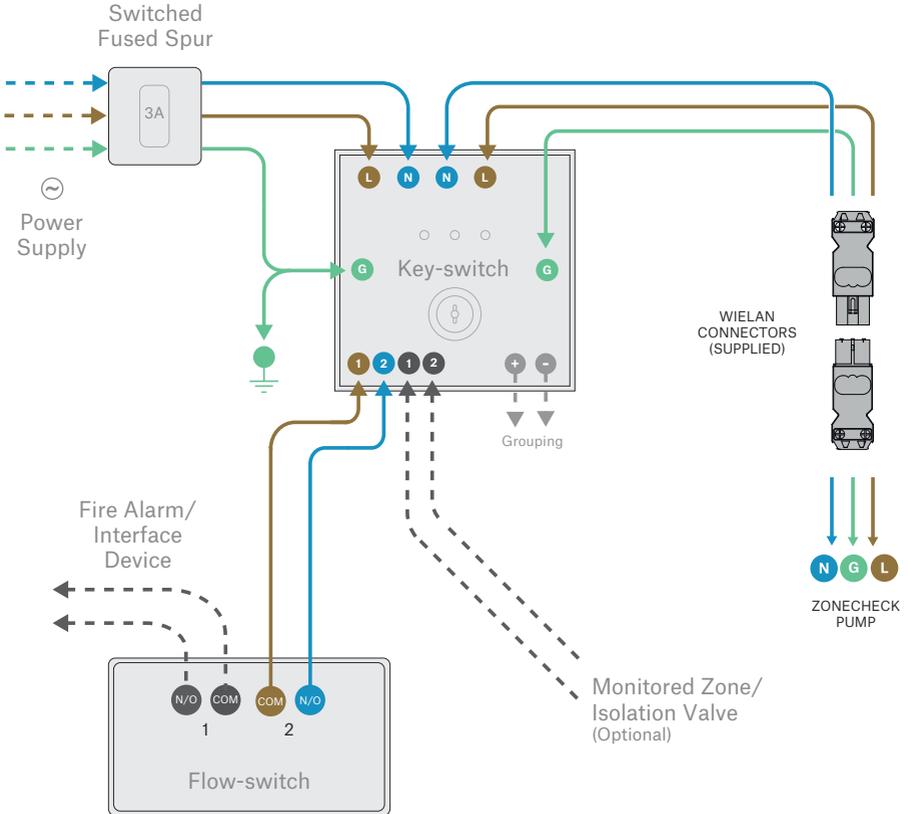
# Typical Connection

A typical multi-occupancy Zonecheck Installation. For an example of a typical riser installation visit our website at [www.projectfire.co.uk](http://www.projectfire.co.uk).



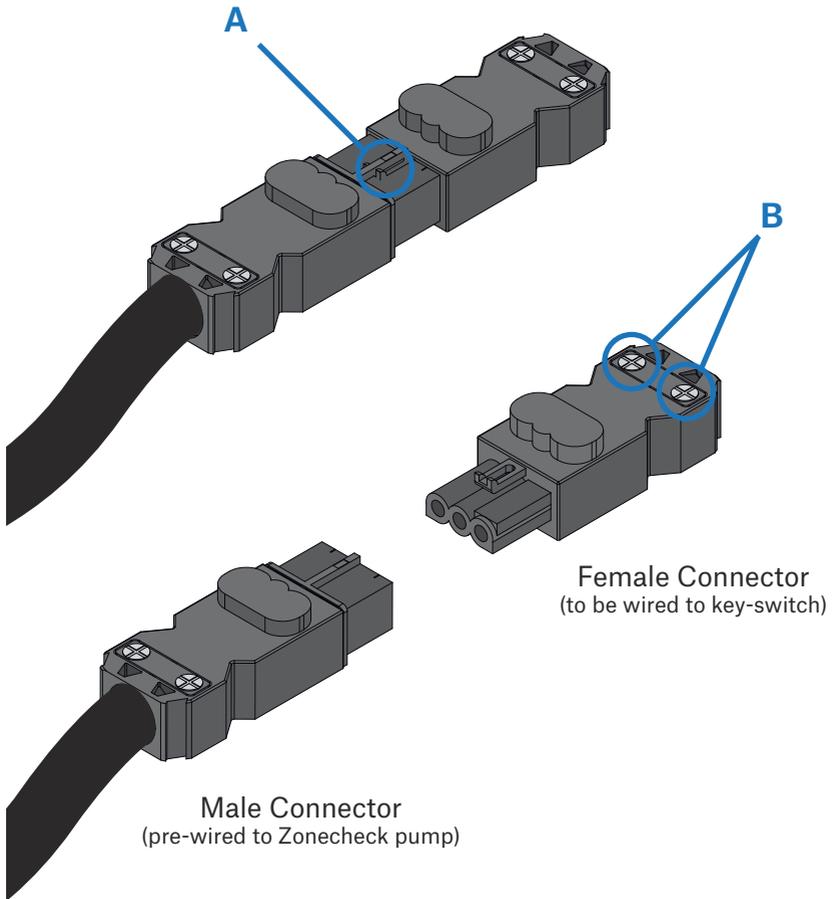
# Stand Alone Wiring

Please note Zonecheck should be installed by a competent fire sprinkler installer and wired up by a qualified electrician.



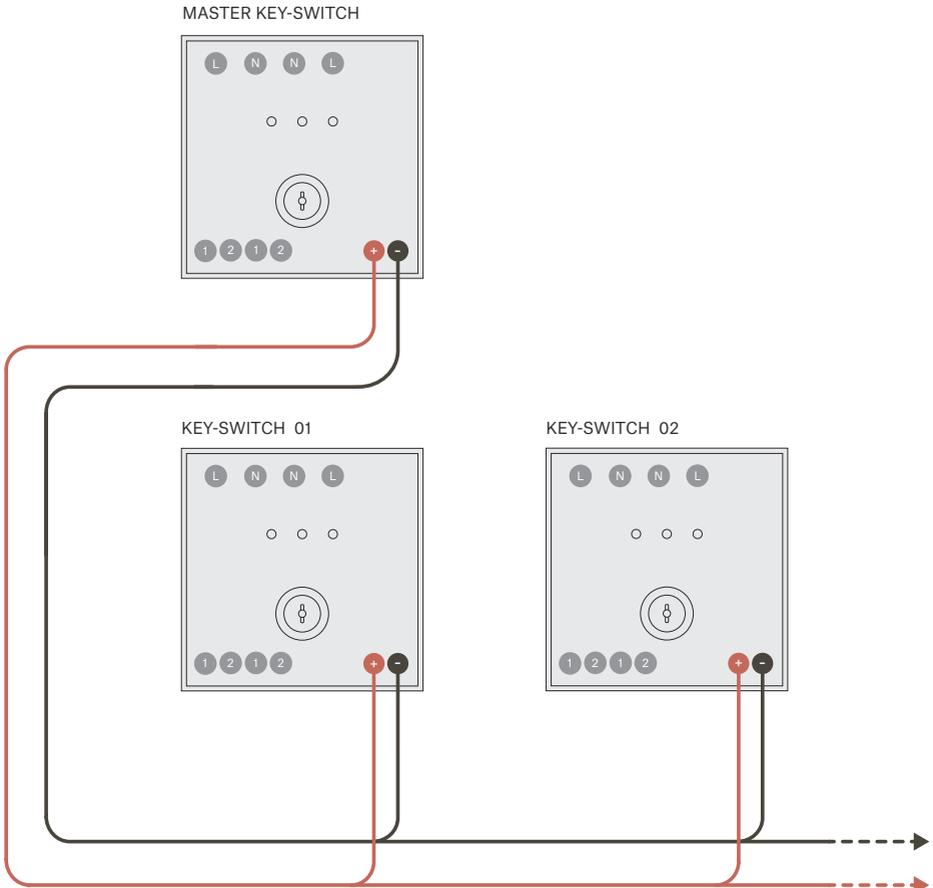
## Additional Wiring Guidance

Your Zonecheck will come with male/female connectors which are connected to the pump. Simply remove the free (female) side of the connector by using a terminal screwdriver (A). Remove the cover from the connector using a PH1 screwdriver to expose the terminals (B). Then wire from the key-switch to the connector ensuring that the wiring matches the symbols on the connector. Finally, press the two connectors together again until they click/lock together.



# Group Wiring

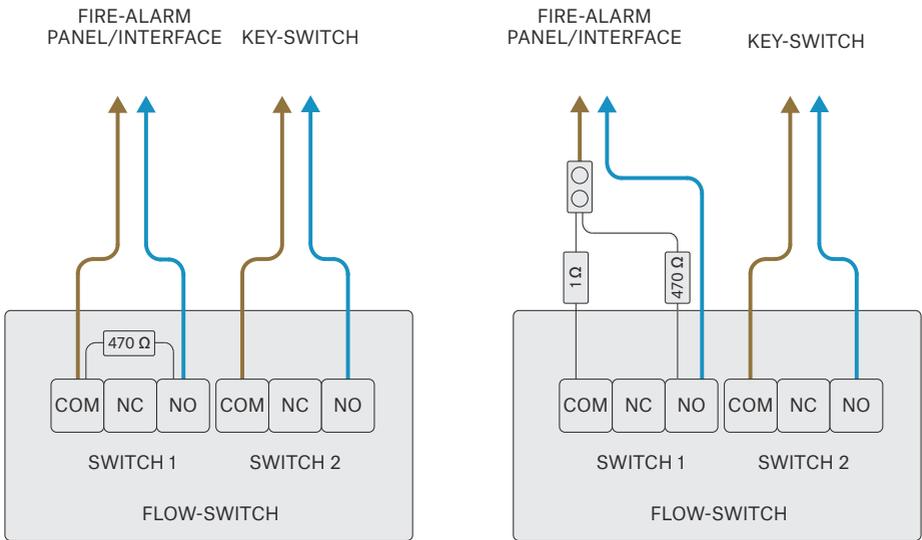
Upto 25 Zonechecks can be tested simultaneously when the Zonecheck units are wired in parallel via interconnect by turning the master key-switch to GROUP TEST. The maximum cable distance of 300m should not be exceeded when grouping key-switches.



# Flow-switch Wiring

Zonecheck should be installed by a competent fire sprinkler installer and wired up by a qualified electrician.

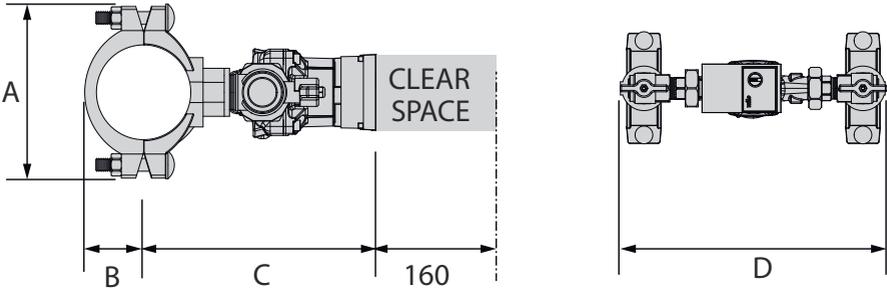
The following diagrams show typical fire-alarm/interface connections for flow-switch end-of-line resistors. The wiring setup depends on the make and model of the fire panel used. Always refer to your specific fire-alarm panel instructions for more information.



**DIAGRAMS SHOW TYPICAL APPLICATIONS ONLY.  
ALWAYS REFER TO FIRE-ALARM INSTRUCTIONS.**

# Dimensions

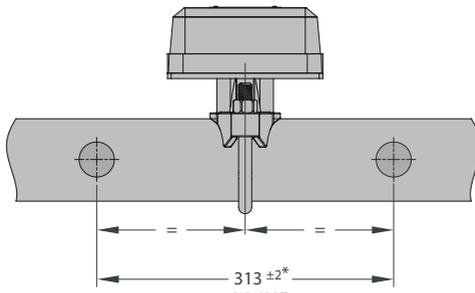
Please check your version of flow-switch (System Sensor or Potter) before referring to dimensions.



Model	Ø (nominal)	A	B	C	D
ZC450-R50	50 2"	130 5.2"	45 1.7"	210 8.3"	395 15.6"
ZC450-R65	65 2½"	150 5.9"	52 2"	128 5.0"	395 15.6"
ZC450-R80	80 3"	162 6.4"	56 2.2"	222 8.7"	395 15.6"
ZC450-R100	100 4"	195 7.5"	72 2.8"	232 9.1"	416 16.4"

\* Due to assembly with screwed threads, exact dimension will vary slightly. If in doubt, measure hole centres on product before drilling.

# Hole locations



# Specifications

<b>Zonecheck</b>	
Working Pressure Rating	Water, 12 bar (175 psi) maximum
Operating Temperature Range	0°C - 49°C (32°F - 120°F)
Pipe Diameter	50, 65, 80, 100, 150 & 200 mm (2, 2½ 3, 4, 6 & 8")
Approvals	LPCB, UL, FM and VdS

<b>Circulation Pump</b>	
Operating Voltage	1-230v 50Hz
Full Load Current	0.66 A
Power Rating	75 W maximum
IP Rating	IPX4D

<b>Key-switch</b>	
Mounting	Flush-mounting
Type	ZCKSE
Operating Voltage	Single-phase 220 V, 50 Hz
Internal consumption	7.5 W maximum
Operation Modes	Self test: Wired locally Group test: Interconnected
Standby (Ready State)	No LED
Test Initiation	'Pump' LED
Flow-switch Activation	'Water Flow' LED

# Troubleshooting

Zonecheck should be troubleshooted by a competent fire sprinkler installer and wiring checked by a qualified electrician.

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<b>No lights on key-switch</b>	Isolate the power then check the Key-switch wiring against the wiring diagram. Confirm the power supply has been connected properly.
<b>Only PUMP RUNNING LED illuminates.</b>	<p>Check the red &amp; green Zonecheck valves are open.</p> <ol style="list-style-type: none"><li>1 Check Zonecheck has been installed facing the correct way.</li><li>2 Remove the plastic lid from the flow-switch, push and hold the trigger with your finger for 30 seconds. If the Flow Switch Activated LED (on the key-switch) operates see below. If not check the wiring against the diagram.</li></ol>
<b>Pump runs hot &amp; does not operate the flow-switch.</b>	<p>Pump is airlocked.</p> <p>Vent air from pipework using appropriate vent/valve (not included) and repeat test.</p> <p>It may take some time to fully remove the air from the pump impeller.</p>
<b>Pump runs while in STANDBY.</b>	<p>Key-switch has been incorrectly wired. Isolate the power then check the wiring diagram and rewire.</p> <p>If there is still a problem, contact technical support at Project Fire.</p>

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# Important Information

- Zonecheck Retrofit should be installed by a competent fire sprinkler installer and wired up by a qualified electrician.
- Ensure Zonecheck Retrofit is installed both mechanically and electrically commissioned and tested prior to leaving site.
- Ensure protection to Zonecheck is employed whenever there is an extended period from installation to commissioning.
- If the Zonecheck Retrofit could be activated when the sprinkler system zone is drained down then it is vitally important that the Zonecheck red and green valves are left in the closed position. This is to ensure the motor is not accidentally run dry and damaged. (Please ensure the commissioning engineer is aware of the closed Zonecheck valve status).
- Always use a flat faced wrench for Zonecheck commissioning.
- The suggested location for the key-switch is at low level for visibility and access.
- The suggested location for Master key-switch (optional, see group testing) is adjacent to the fire alarm panel.
- Fix operating instructions to wall, preferably next to key-switch.
- Each Zonecheck Retrofit is factory assembled and tested. Do not attempt to reconfigure. Tampering will void the warranty.
- Maximum working pressure - 12 bar (175 psi), test pressure - 18 bar (260 psi).
- Use Zonecheck flow-switch testers in wet-pipe systems only. Do not use in dry pipe, deluge, or pre-action systems.
- Only activate the Zonecheck key-switch when the valves are opened and the sprinkler system is full.
- The pump direction-of-flow arrow faces the opposite direction to the system flow.
- A local monitored zone/isolation valve can be wired to the key-switch for added functionality. If connected, when the valve is not in the fully open position the key-switch 'VALVE FAULT' LED will illuminate.

## Standards & Approvals

In the majority of multi-occupancy sprinklered premises it is a requirement of BS EN 12845 that each tenant should carry out a functional test on a fitted flow-switch every quarter. All international fire code standards such as NFPA etc all make the flow-switch test mandatory. Zonecheck can carry out this test at the turn of a key. Zonecheck is approved by LPCB, UL, FM and VdS.

## Responsible Disposal

Project Fire recommend that the product needs to be disposed of correctly when the product reaches the end of its life cycle.

Disposal of business or commercial waste should be in compliance and accordance with government guidance and regulations.

Disposal of electrical waste should be in compliance and accordance with "Waste Electrical and Electronic Equipment recycling" (WEEE).

## One Year Warranty

Project Fire Products warrants its enclosed Zonecheck flow-switch tester to be free from defects in materials and workmanship under normal use and service for a period of one year from date of manufacture. Project Fire Products makes no other express warranty for this flow-switch tester. No agent, representative, dealer or employee of the Company has the authority to increase or alter the obligations or limitations of this warranty. The Company's obligation of this warranty shall be limited to the repair or replacement of any part of the flow switch tester, which is found to be defective in materials or workmanship under normal use and service during the one-year period commencing with the date of manufacture. After phoning Project Fire's number, 01889 271 271 for a Return Authorization number, send defective units postage prepaid to Project Fire, Pasturefields Industrial Estate, Pasturefields Lane, Hixon, Staffs, ST18 0PH. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to repair or replace units, which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault.

## End of Life Cycle

Project Fire recommend that at the end of the products life cycle the items need to be disposed of correctly:

Disposal of business or commercial waste should be in compliance and accordance with government guidance and regulations.

Disposal of electrical waste should be in compliance and accordance with "Waste Electrical and Electronic Equipment recycling" (WEEE)

# projectfire

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