



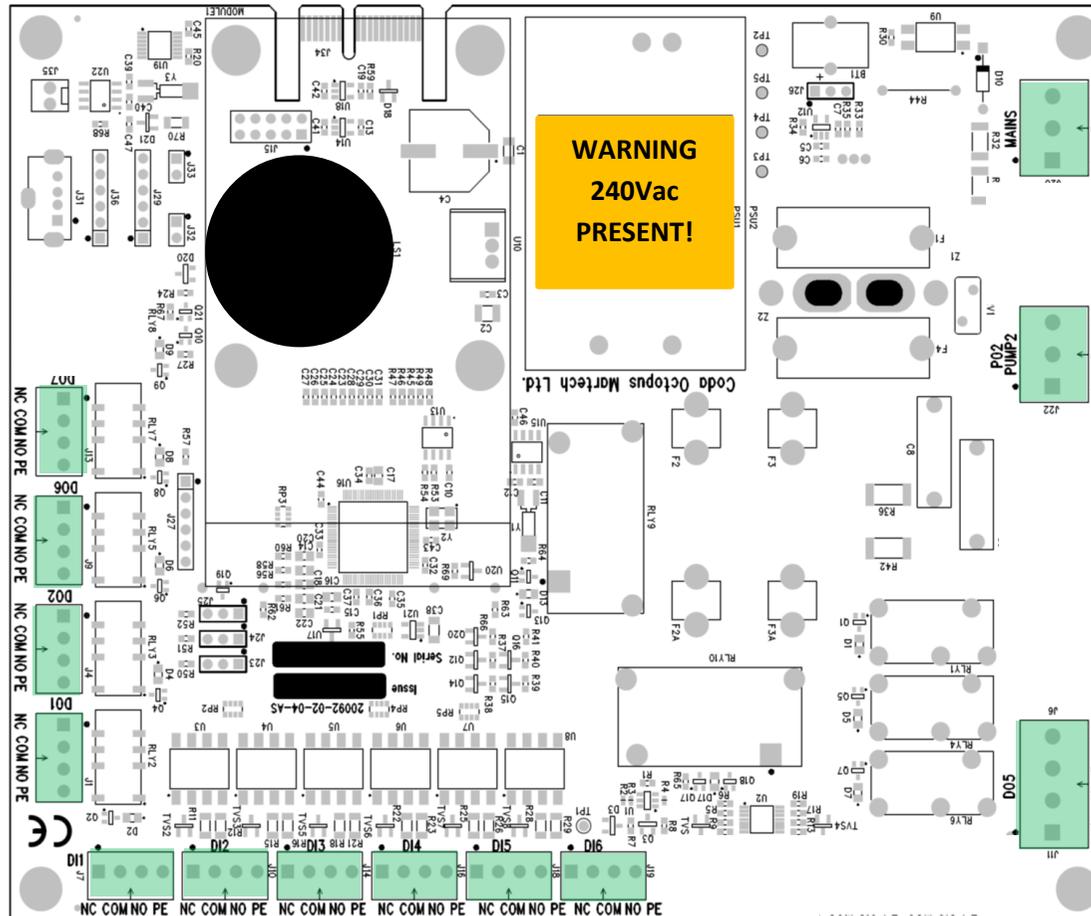
Test, Measurement and Control Solutions for Demanding Applications

## FireSAFE+ Essentials - Residential Variants, Iss3.

This document covers the basic connection and configuration details for all Grundfos FireSAFE+ controllers manufactured by Martech and is intended to complement information provided by Grundfos. For detailed operating and installation details, please contact Grundfos.



**WIRING DETAIL FOR  
FIRESAFE+ RESIDENTIAL  
VARIANTS**



**MAINS INPUT**  
240Vac, 15A

**PUMP VIA CONTACTOR**  
240Vac, 15A

**WARNING: DO NOT OVER-TIGHTEN!**  
Power terminals 0.5Nm max. Overtightening may result in damage to the terminal

**VALVE, 240Vac, 5A**  
N  
E  
LNO = Valve Open  
LNC = Valve Close

**OUTPUTS**, Volt free change-over contacts, max 5A ▼▼▼

**SPARE**  
Not used

**LOW WATER ALARM** Com-NO  
Contact closes when Low Water detected

**FAULT** Com-NC  
Contact open when no fault closes when fault detected or power failure

**FIRE ALARM** Com-NO  
Contact closes when in Fire Mode

**INPUTS**, 12Vdc on COM terminal ►►►

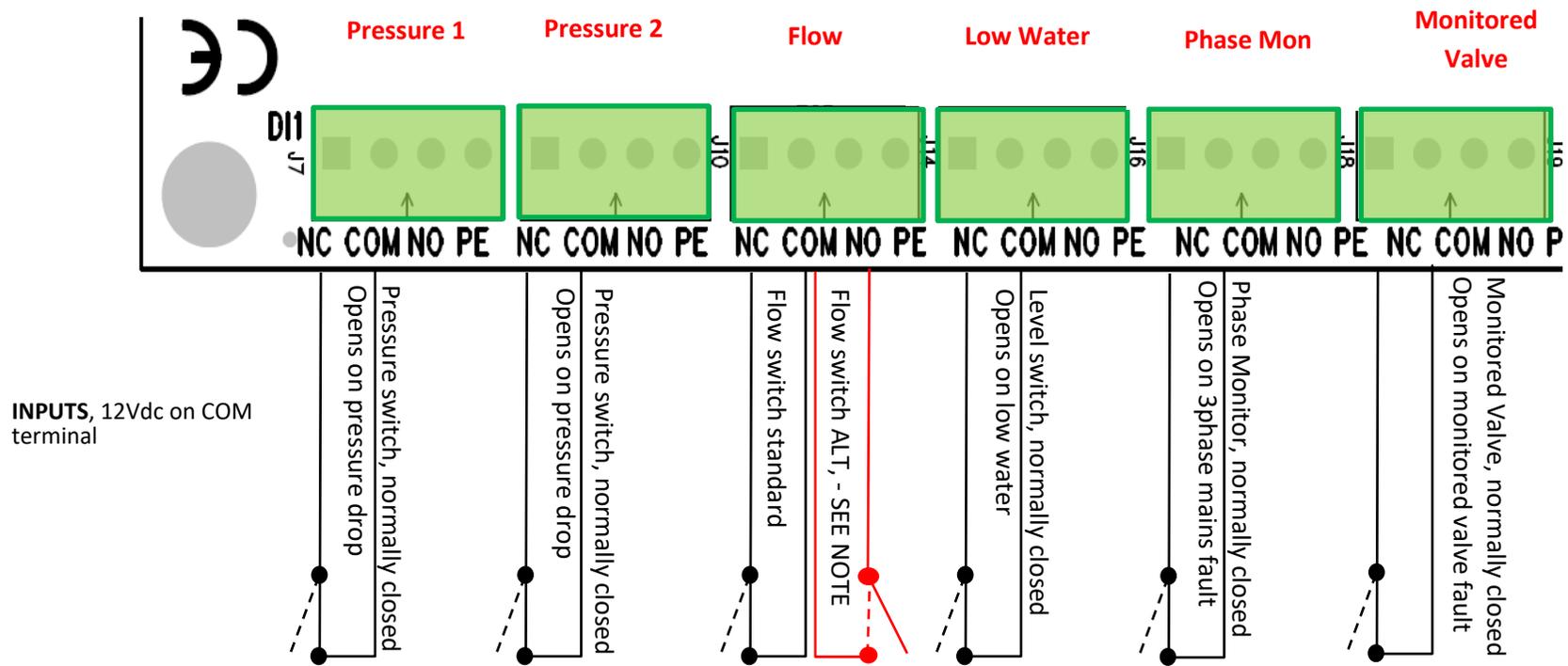
**WARNING: DO NOT OVER-TIGHTEN!**  
Signal terminals 0.25Nm max. Overtightening may result in damage to the terminal

- MONITORED VALVE**  
Com-NC contact opens on low water
- PHASE MONITOR**  
Com-NC contact opens on low water
- WATER LEVEL**  
Com-NC contact opens on low water
- FLOW SW, see note**
- PRESSURE SW2**  
As per P SW1
- PRESSURE SW1**  
Com-NC contact opens on low pressure

**PCB** viewed when lid folded downwards for installation. Some circuit boards (PCB) may have additional components or connectors fitted, which are not used.

**FLOW SWITCH** can be wired NC-COM where the flow switch opens on flow (closed when no flow is present).  
Flow Switch Can also be wired NO-COM where the flow switch closes on flow. In this configuration, the COM-NC contacts must also be linked.

**SENSOR WIRING DETAIL**



**NOTE**

For correct operation and compliance with BS9251-2021, dual pressure sensors and a flow switch must be fitted.

If a Low Water sensor, Phase Monitor (3ph variants only) or Monitored Valve is not required, each input **MUST** be linked across to prevent alarms.

**FLOW SWITCH** input can be wired NC-COM where the flow switch opens on flow (closed when no flow is present).

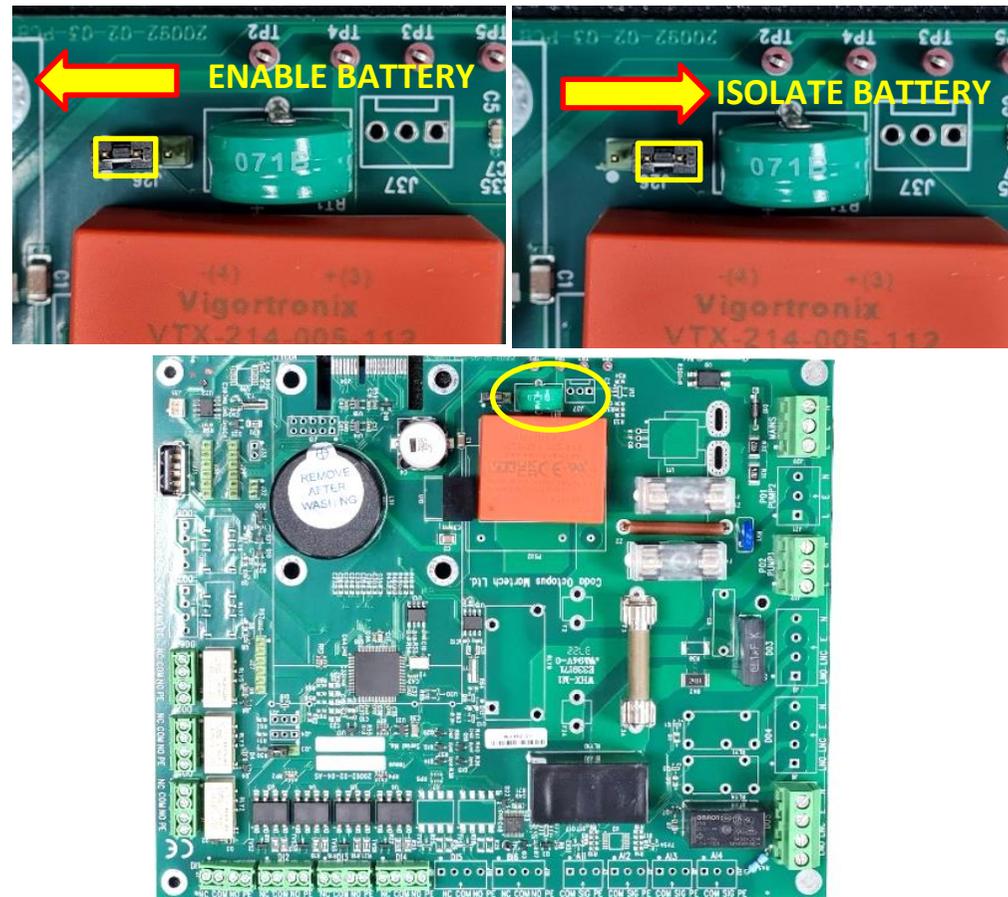
Flow Switch input can also be wired NO-COM where the flow switch closes on flow. In this configuration, the COM-NC contacts must also be linked.

## BACK-UP BATTERY ENABLING

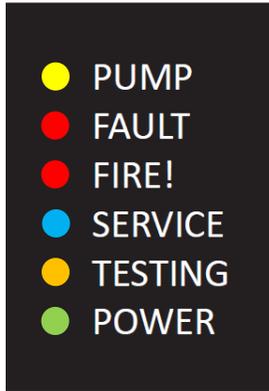
Battery Link (J26) has been fitted as shown, to isolate the battery and prevent the battery running down when in storage.

Before installing, move battery link (J26) as shown to the 2 pins furthest from the battery.

**This is essential to ensure that the clock is maintained when power is lost.**



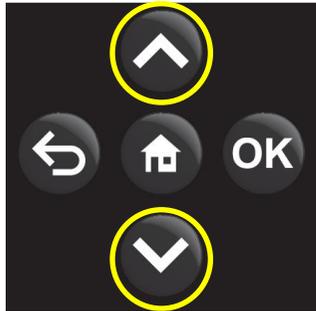
**LED FUNCTIONS**



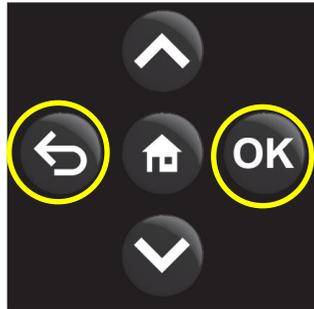
LED	Function
PUMP (yellow)	ON = pump running
FAULT (red)	<p>The LED stays on for 10 seconds then flashes according to the fault. At the last flash the LED stays on for 10 seconds before the sequence is repeated (see below example for 3 flashes).</p> <p>2 flashes - Auto_Test_Failure            3 flashes - Low_Water            4 flashes - Pressure_Switch1_Failure            5 flashes - Pressure_Switch2_Failure            6 flashes - Excessive_Operation            7 flashes - Phase_Failure            8 flashes - Maximum_Run_time            9 flashes - Solenoid_Valve_Failure            10 flashes - Possible Fire (no flow detected)</p> <p>The diagram illustrates a sequence of LED states. It starts with a solid red bar labeled 'ON 10 secs'. This is followed by three vertical red bars labeled 'Flash 1', '2', and '3'. This sequence is repeated: another solid red bar labeled 'ON 10 secs', followed by three vertical red bars labeled 'Flash 1', '2', and '3', and finally a third solid red bar labeled 'ON 10 secs'.</p>
FIRE! (red)	Flash 2Hz (0.5 secs) = Fire mode
SERVICE (blue)	Flash 1Hz (1 sec) = Service required
TESTING (orange)	<p>Flash every 2 seconds = Dump Valve open            ON = Remainder of auto test in progress OR            ON = Wait period after operation (e.g., after jockey mode)            Also            ON when a USB stick is inserted and read/write is in progress (sounder sounds when read/write is complete)</p>
POWER (green)	Mains power available

**FireSAFE+ Residential Controls & LEDs**

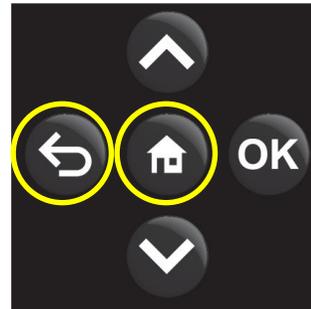
From the main screen, press and hold the following key combinations (simultaneous key press same colour) to initiate basic functions:



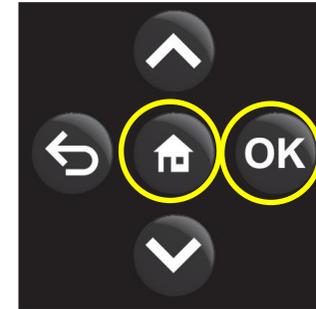
**STOP!** Clear Fire Mode



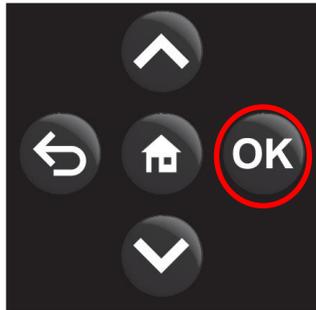
**START** - Put in FIRE mode



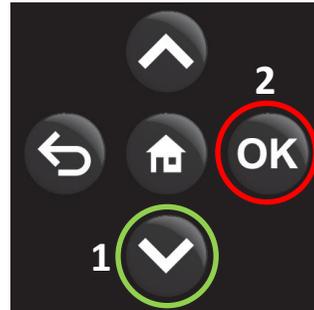
**TEST** – Start 'weekly test'



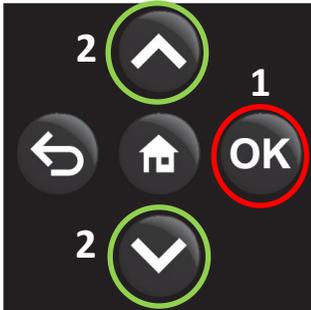
**RUN PUMP** for 10secs  
(Press & hold for 5 secs)



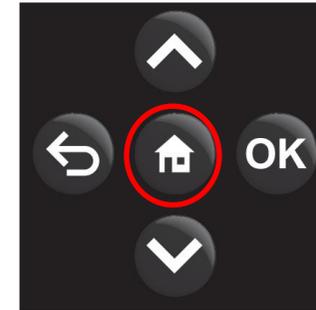
**SILENCE SOUNDER**  
Press OK for 2 secs



**FAULT** - 1, Arrows to scroll,  
2, OK to clear selected fault.



**SETUP** - 1, Press & hold OK 5 secs  
2, use arrows to navigate



**NEXT SERVICE & S/W Ver**  
Press and hold HOME

**To access the configuration menus:**

Press and hold OK button until the screen shows a request for a PIN No.

Different PIN Nos. provide access to different levels of user menus – please refer to Grundfos for PIN numbers.

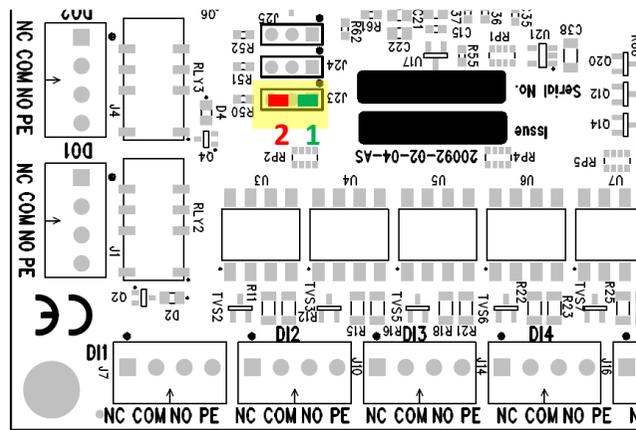
**PERIODIC AUTOMATIC TEST SEQUENCE (ALSO KNOW AS WEEKLY SELF-TEST)**

<p>Periodic Automatic Test</p> <p>Refer to Button Functions above to reset the time of day to run the test</p>	<p>Runs periodic test according to time period in settings file.</p> <p>e.g., weekly. (default = 7 days)</p>	<ol style="list-style-type: none"> <li>1. Open dump valve, FLASH TESTING LED</li> <li>2. Wait for pressure drop</li> <li>3. Confirm both pressure sensors detect pressure drop (times out after defined autotest period ► fault)</li> <li>4. Close dump valve as soon as pressures switches activated</li> <li>5. Run pump (PUMP LED ON)</li> <li>6. TESTING LED to ON</li> <li>7. Confirm both pressure sensors reinstated/closed</li> <li>8. Run on for X secs after pressure reinstated (jockey run period)</li> <li>9. If any faults, set fault o/p</li> <li>10. TESTING LED OFF</li> </ol>
--	--	---

**DIAGNOSTIC MODE**

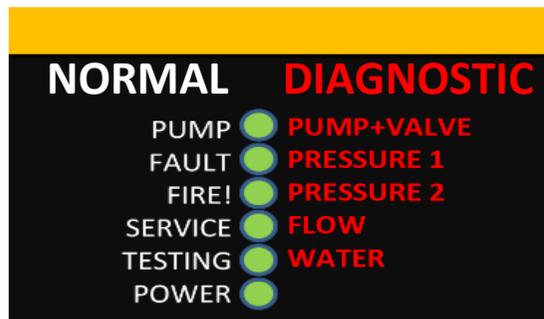
With the unit powered OFF, move link J23 in the position 2 (viewed with the front panel folded down) as shown, the system will power up into an engineering diagnostics mode. In this mode it

**WILL NOT operate as a fire sprinkler controller**, but will illuminate LEDs only in response to certain inputs. will allow manual operation of the pump and valve. This is intended to assist the engineer to manually check inputs during installation.



**NOTE it is critical that J23 is reverted to the normal operating position (position 1) after diagnostics, to ensure correct Fire Sprinkler operation.**

Test mode LED functions are shown in red:



TEST MODE	Test Mode Function
TEST Button	Press and hold to run pump, release to stop pump
RESET Button	Press and hold to open valve, release to close valve - pressure will drop.
PUMP LED (yellow)	ON, Valve opening Flashing 1 per second, Pump running Flashing 5 per second, Valve opening and pump running
FAULT LED (red)	Pressure switch 1 (D11), on when active/low pressure/ open circuit
FIRE! LED (red)	Pressure switch 2 (D12), on when active/ low pressure/ open circuit
SERVICE LED (blue)	Flow switch (D13), on when active/ flow detected/ closed circuit
TESTING LED (orange)	Water level (D14), on when active/water low/closed circuit
POWER LED (green)	Mains power available