

## Multi-purpose wiring centre

ORC-WC-8 V1.0



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## Description of use

### Brief overview

ORC-WC-8 is designed to operate up to 8 No. zones (Solid state relay/s) triggered by 8x digital inputs (0-10V).

The ORC-WC-8 allows the use of different voltage inputs for the 8 No. SOLID STATE Relays. The COMMON input allows 12, 24 and 230V common voltage.

### Underfloor Heating Control

ORC-WC-8 can be used to operate the options below:

Option 1	6No. zone Solid State relay outputs	1No. HIU	1 No. Pump
Option 2	7No. zone Solid State relay outputs	1No. HIU	**
Option 3	7No. zone Solid State relay outputs	*	1 No. Pump
Option 4	8No. zone Solid State relay outputs	*	**

\* HIU will be triggered by other means or products

\*\* Pump will be triggered by other means or products

### ORC-WC-8 item list

1x GW44208 Enclosure      ORC-GW44208-UNF



3x Wago 5-way connector      ORC-WAGO-5WAY-UNF



2x Mounting DIN bracket      ORC-BR-RELAY



1x 12V Relay Board 8 channel      ORC-8SS-RELAY-12V-HL

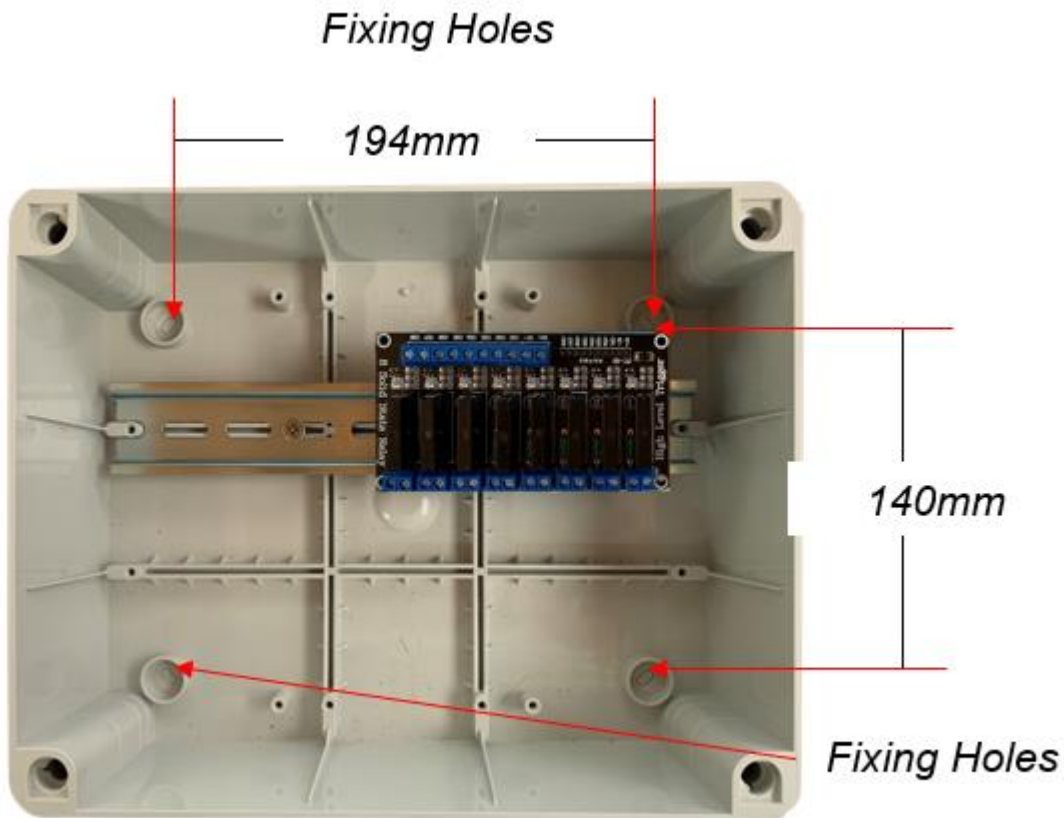


1x Din rail (300mm)

4x M3 Screws

1x Manual

## Mounting



## Cable entry

Depending on site installation please ensure cables are installed into the IP65 enclosure correctly. For example Cable glands can be used to keep water tight installation.

*Not supplied*

*Cable glands are recommended to ensure cables are tight on entry*

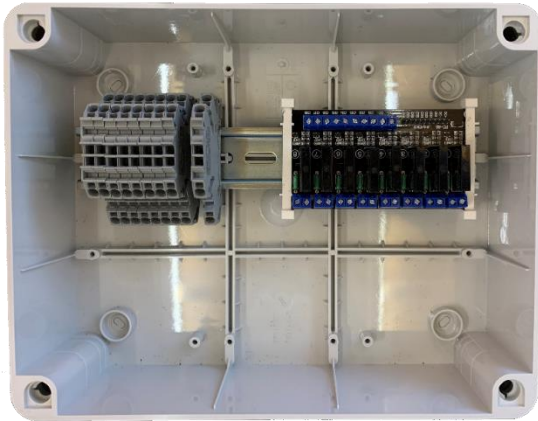
*Available in different sizes and design*



## Optional Extras

Optional Din Rail terminal connectors to assist in termination if installation required.

The DIN rail installed is 300m x 35mm x 7.5mm



8-way example



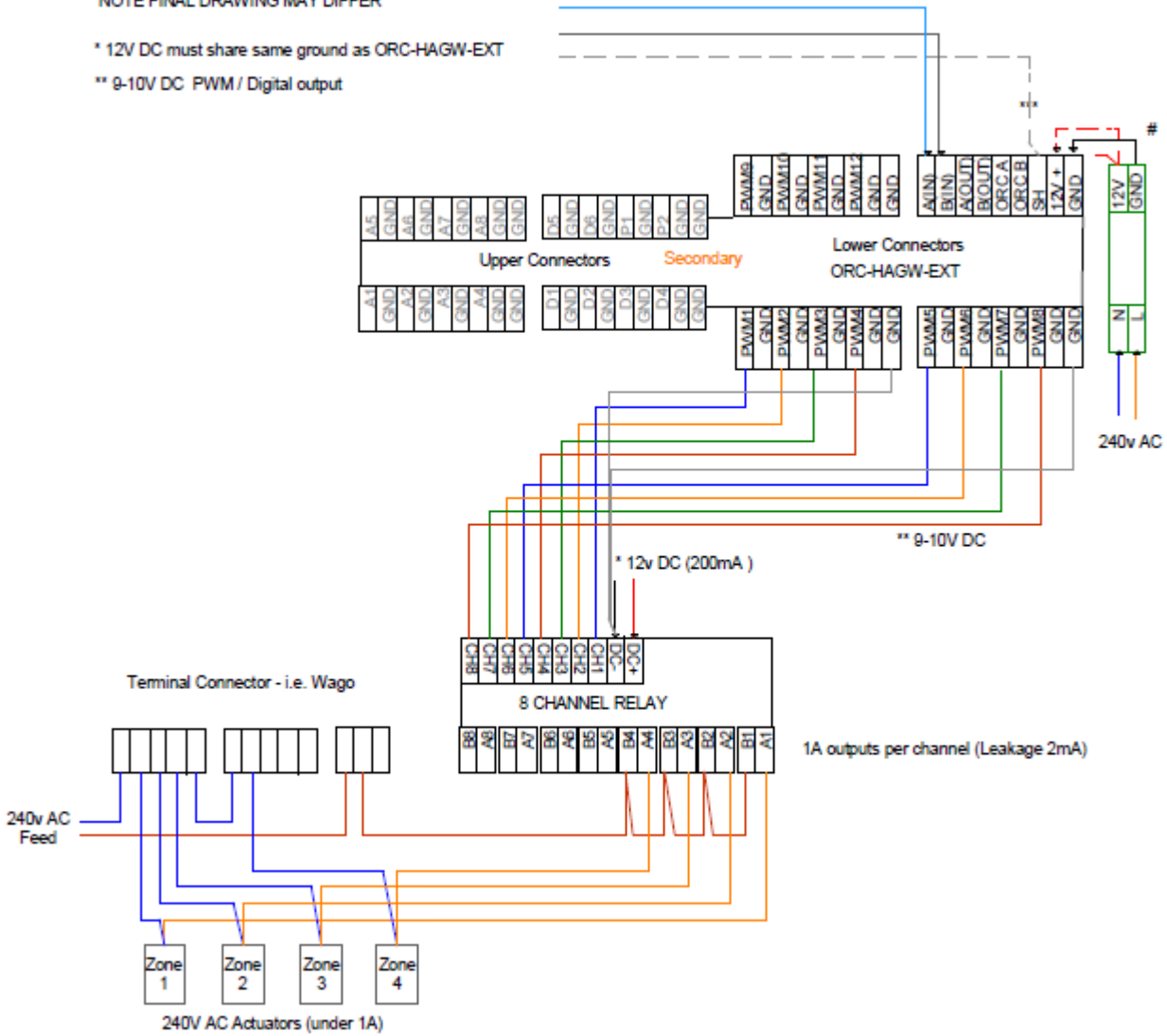
12-way example

## Connections

Drawing represent a quick overview of connections using terminal connections and 240V AC actuators

DRAWING IS FOR ORC-WC-8 CONNECTIONS  
NOTE FINAL DRAWING MAY DIFFER

- \* 12V DC must share same ground as ORC-HAGW-EXT
- \*\* 9-10V DC PWM / Digital output



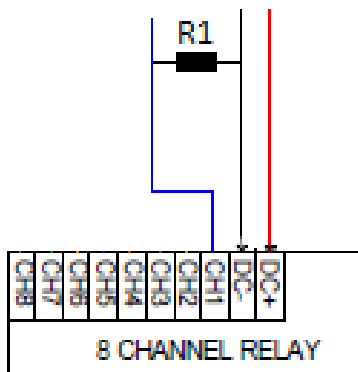
**NOTE:**

ORC-HAGW-EXT has multiple variations.

Example If using ORC-HAW-EXT-C then a resistor will be required across each Channel input used and GND to ensure the voltage exceeds minimum requirement for triggering.

The relay / output may be constantly active if the resistor is not installed correctly.

R1 typically 800 ohms 1/5W using cat5 between HAGW-EXT and ORC-WC-8



The resistor installed can be changed to suit installation, including variable distances between the ORC-HAGW-EXT and ORC-WC-8.

## Troubleshooting / FAQ

### **Q: None of the outputs will activate.**

Is there a load/actuator connected to output, without the load the solid state relay will not operate correctly.

Is there 12V DC constantly at the input to allow system to work.

If you put a temporary link across 12V DC + and CH1 – does the solid state relay activate. If YES, then the GND might be missing

from PSU to ORC-HAGW-EXT. If No then the unit does not have 12V DC available with current. Check cables and double

connections to assist in more power for Main board

### **Q: Zone 1 on the system is triggering Zone 8**

Note: the CH inputs may read from right to left. On the board is indication of Output Channel as well as Input channel. Make sure

these correspond to your requirements.

### **Q: The actuator does not operate.**

Note some actuators take time i.e. 2 minutes before fully open.

Check the power feed is correct for actuator, if YES check actuator works correctly, bypass board by connecting feed directly to

actuator

### **Q: What is the leakage from the output**

(2mA @ 200VAC) is typical with output voltage drop of RMS 1.6V Max

### **Q: Can we install 24V AC actuators**

Yes – please ensure there are no links between 240V and 24 V

### **Q: Can you install more than 1 actuator to a zone.**

Yes – ensure the load does not exceed the relay board (typically 1 or 2A)