INSTALLATION INSTRUCTION

Raypak P0131 Pool & Spa Gas Heaters – Fenwal Module 35-65 HSI 24VAC Kit

This document outlines procedures to replace a RAM H4M7-01 24VAC HSI ignition control module with a Fenwal 35-655200-001 24VAC HSI ignition control module on Raypak Pool & Spa Gas Heater P0131NCO/OD <u>ONLY</u>

Use of the Fenwal module in P0131PCO/OD (Propane) models is <u>not AGA approved</u>.

⚠ **Warning**: The following instruction must be carried out by a qualified technician.

⚠ Switch off the GPO and unplug the supply power lead to the heater.

⚠ Isolate the pool or spa water supply to the heater.

⚠ Isolate the gas supply to the heater.

Kit Content:

The following items are supplied with the Raypak P0131 Fenwal module 35-65 HSI 24VAC kit (Part Number: AS2415028):

- AQ0200128   Fenwal ignition control module 35-655200-001
- AQ0260123   Gas valve natural, 36G24-216B1 WR
- AQ0220331   Wire Loom suitable for Raypak P0131 with Fenwal module 35-65
- AQ94200229   Mounting bracket for the Fenwal module
- AQ0200308   Wiring diagram label showing the Fenwal module
- AQ0200358   Clear plastic cover label
- AQ0901137   This instruction document

Procedure:

1. **Ensure power supply is isolated by disconnecting the heater plug & lead from GPO.**

2. **Ensure gas supply is isolated from the appliance.**

3. Remove front and rear access panels as per Figures 1 to 4.

| Figure 1 | Figure 2 | Figure 3 | Figure 4 |

4. Remove internal panels to gain access to the j-box, the water inlet & outlet header and the gas valve. Refer Figures 5 and 6.

Figure 5   Figure 6

5. Using a multimeter set on the AC volts scale, measure between the A and N terminals located inside the j-box and ensure a reading of zero volts is obtained.

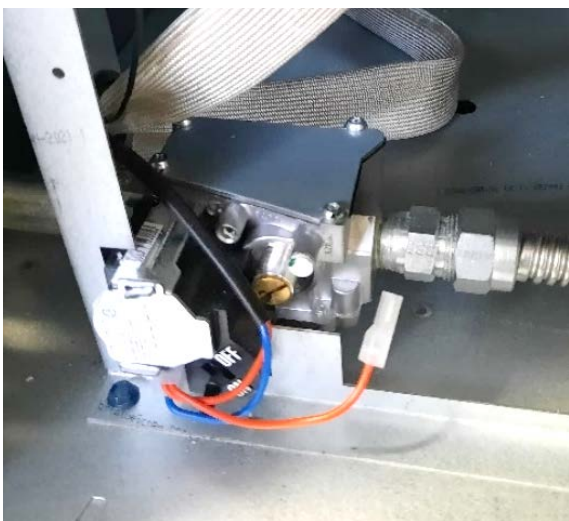6. Remove the gas valve cover. Disconnect the wiring terminals, then disconnect the inlet and outlet gas valve connections and remove the gas valve. Refer Figure 7.

Figure 7

7. Disconnect the connector from the RAM ignition module and remove the module. Remove the module mounting bracket from the j-box. Refer Figures 8 and 9.
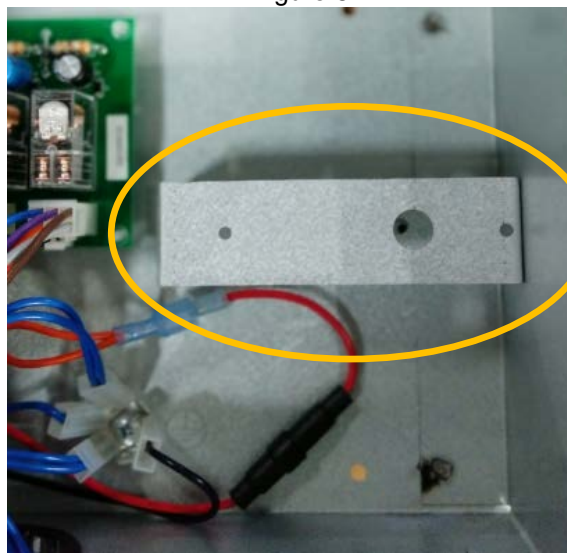

Figure 8

Figure 9

8. As per Figure 10 and 11, disconnect the two connectors from the auto-reset PCB. Disconnect connectors from the j-box earth dish (**do not disconnect black cable**).
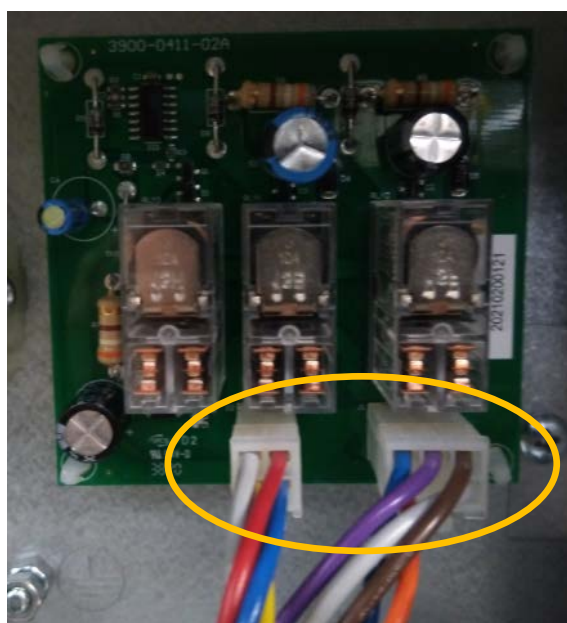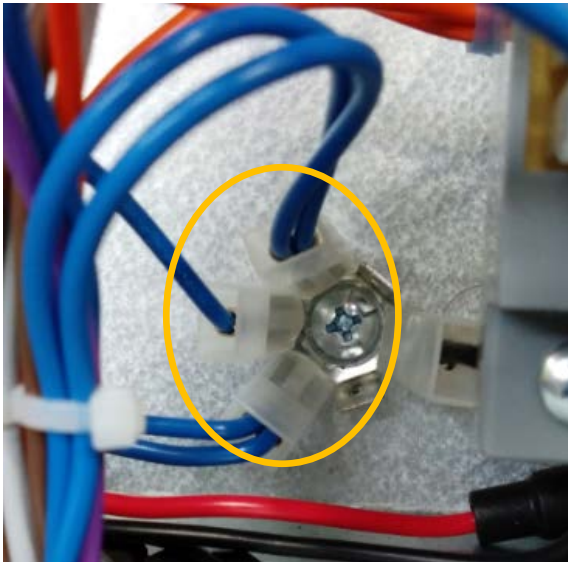

Figure 10

Figure 11

9. Disconnect the connector from the 3A fuse. Remove the wires out from the j-box housing through the panel bush. Refer Figure 12.
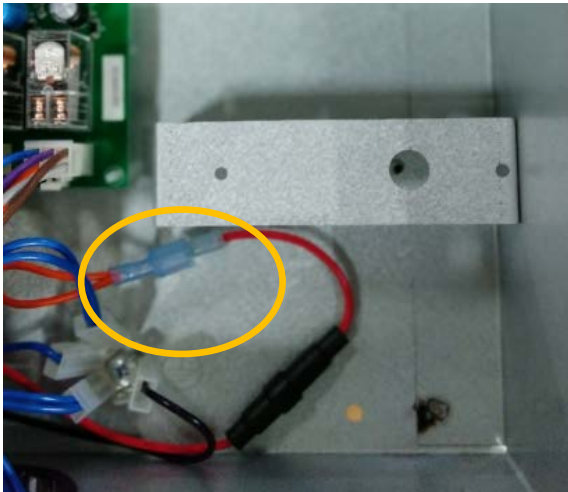

Figure 12

10. Disconnect the connector from the flame sensor as per Figure 13. Disconnect the connectors from the HSI igniter. Refer Figure 14.
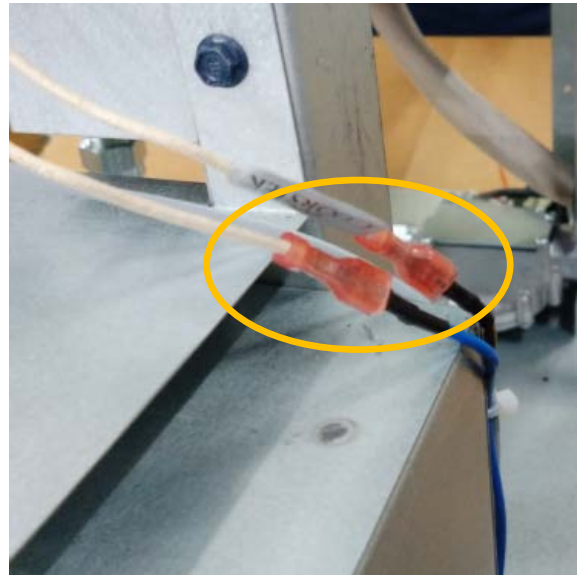

Figure 13

Figure 14

11. Remove the controller from the heater by removing the 4 mounting screws. Refer Figure 15.

Figure 15

12. Detach the controller rear cover from the controller panel by gently squeezing the cover. Refer Figure 16.
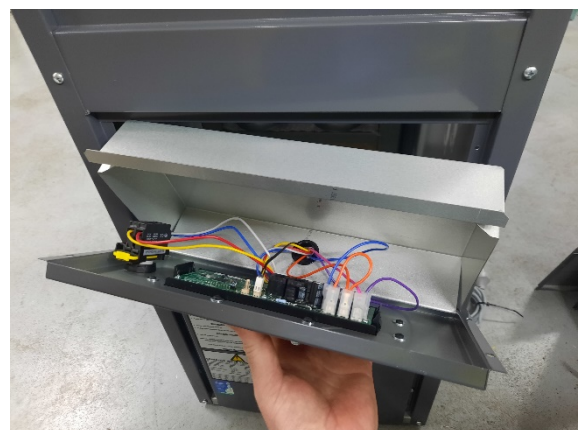

Figure 16

13. As per Figure 17, disconnect the connectors including the temperature sensor connector.

   Disconnect the reset switch wires. Remove the wires out from the housing. Refer Figure 18.
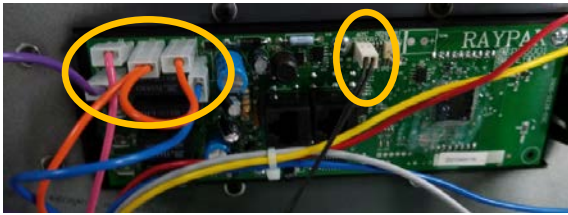

Figure 17

Figure 18

14. Disconnect the connectors from the 45°C over-temperature switch and the pressure switch. Refer Figure 19.
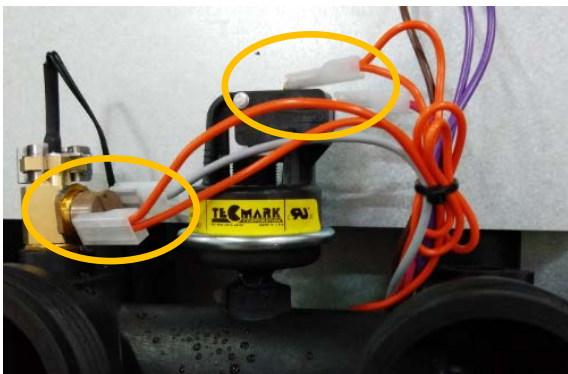

Figure 19

15. Disconnect the connectors from the 55°C over-temperature switch. Remove the wires out from the heat exchanger cover through the panel bush. Refer Figure 20.
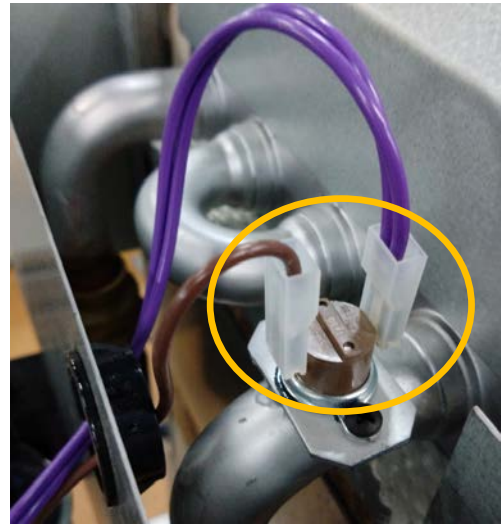

Figure 20

16. Fit replacement gas valve part number: *AQ0260123*. White Rodgers model *36G24-216B1.* Refer Figures 21 and 22. Ensure gas valve switch is in the "ON" position.
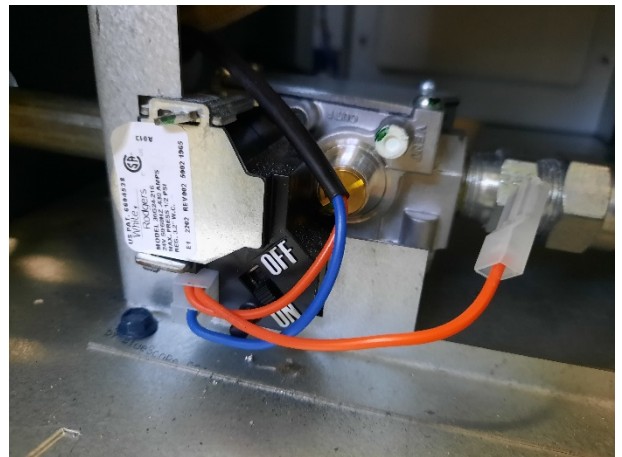

Figure 21

Figure 22

17. Fit the wire loom (Figure 23) provided with this kit by following step 6 to 15 in reverse. Refer Figure 27 on Page 6 (Wiring Diagram).

J-box connectors
Igniter & sensor connectors
Fenwal Module connectors
Controller connectors
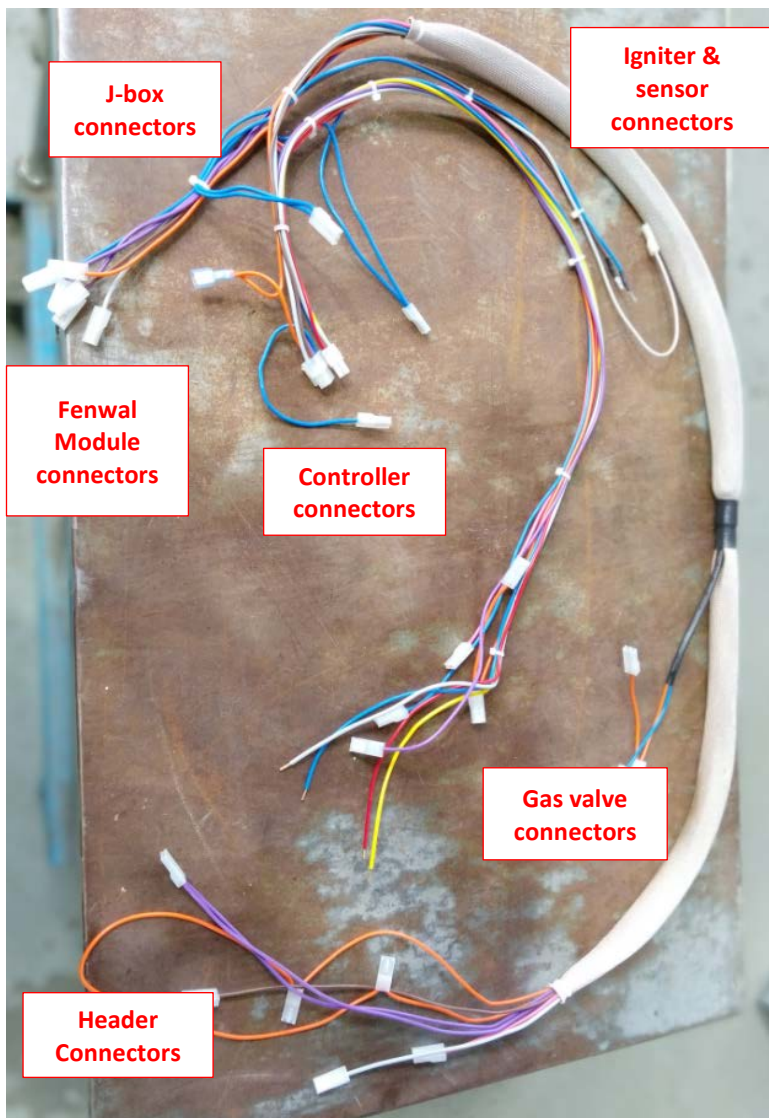**Gas valve connectors**
Header Connectors

Figure 23

18. Fit the mounting bracket, provided with the kit, inside the j-box (Fig. 24). Mount the Fenwal module onto the bracket and attach the connectors to the module header tabs (Fig. 25).
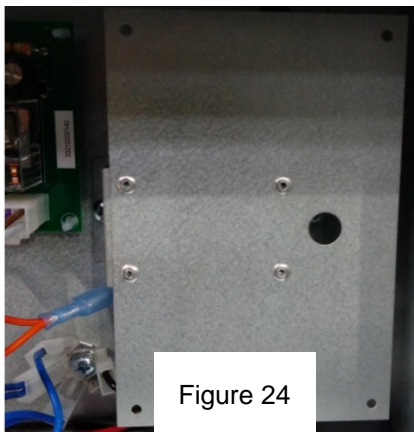

Figure 24

Note: L1 is 3/16" (4.8mm) QC tab and others are 1/4" (6.4mm) QC tabs.

IGNITOR: 24 VAC, 5.0 A MAX.
AMBIENT: -40° F TO +176° F
ANSI Z21.20 CAN/CSA-C22.2 No. 199-M89
EN298
C86CM1

S1   L1   S2 / FS   LED   W   MV1   GND

Figure 25

19. Replace the wiring diagram located on the inside of the front access panel with the wiring diagram label and the clear label provided with the kit. Refer Fig. 26.

Figure 26

20. Re-fit all internal panels and access covers back on the heater.

21. Supply gas, water and power back to the heater. Observe for ignition when called for heat.

Note:
When the Fenwal module receives signal to W terminal, it performs initialisation sequences. Once complete, the module energises the HSI for 4 seconds then energises the gas valve for 4 seconds.

If flame is not detected by the flame sensor during this period, the module locks out and outputs red LED diagnostic indicator per shown on the module label. Otherwise, the gas valve remains energised until call for heat is removed. Refer Fenwal F-35-65 datasheet for further information.

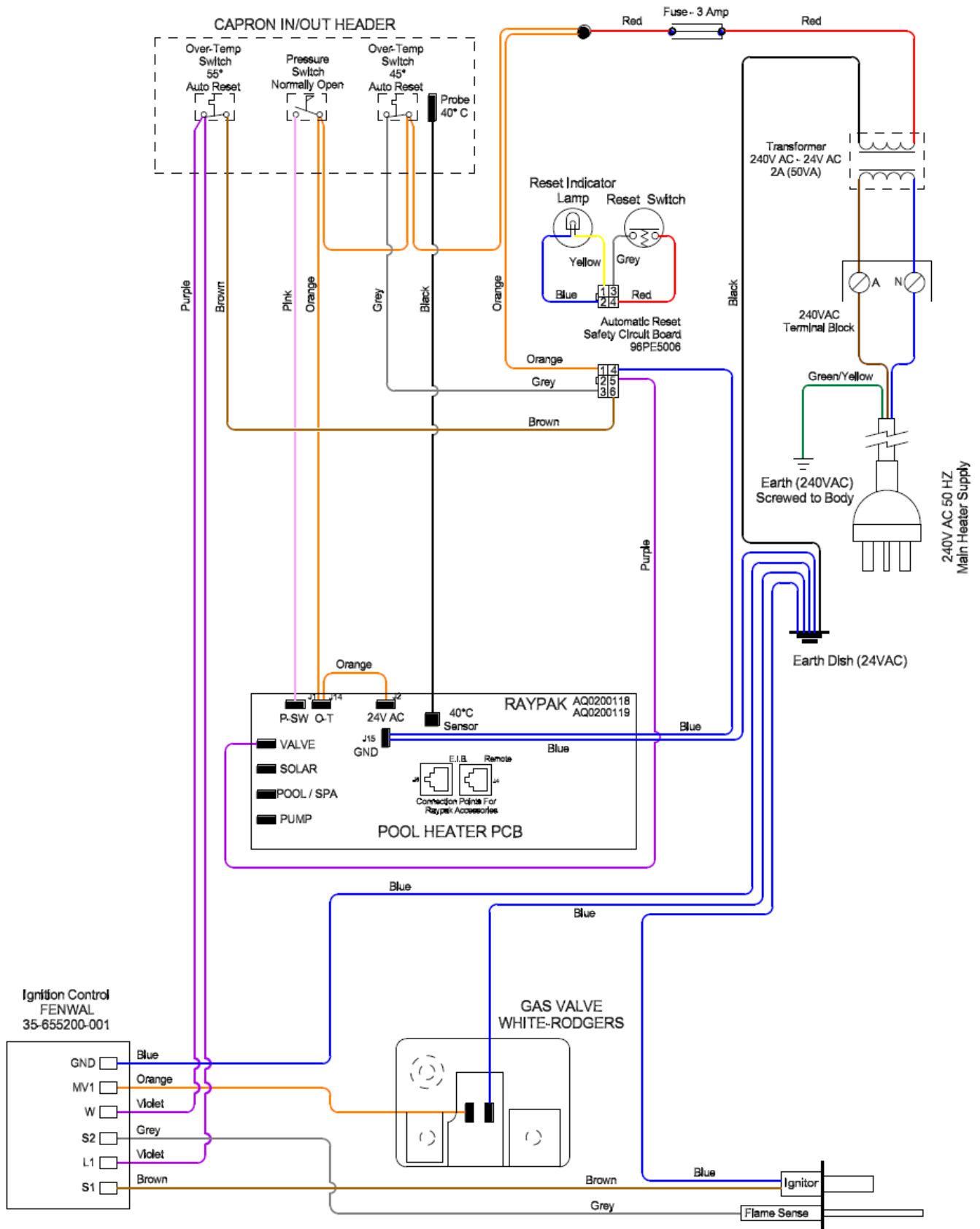**Wiring diagram – Raypak P0131 Pool & Spa Gas Heater with Fenwal 35-655200-001**

Figure 27

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