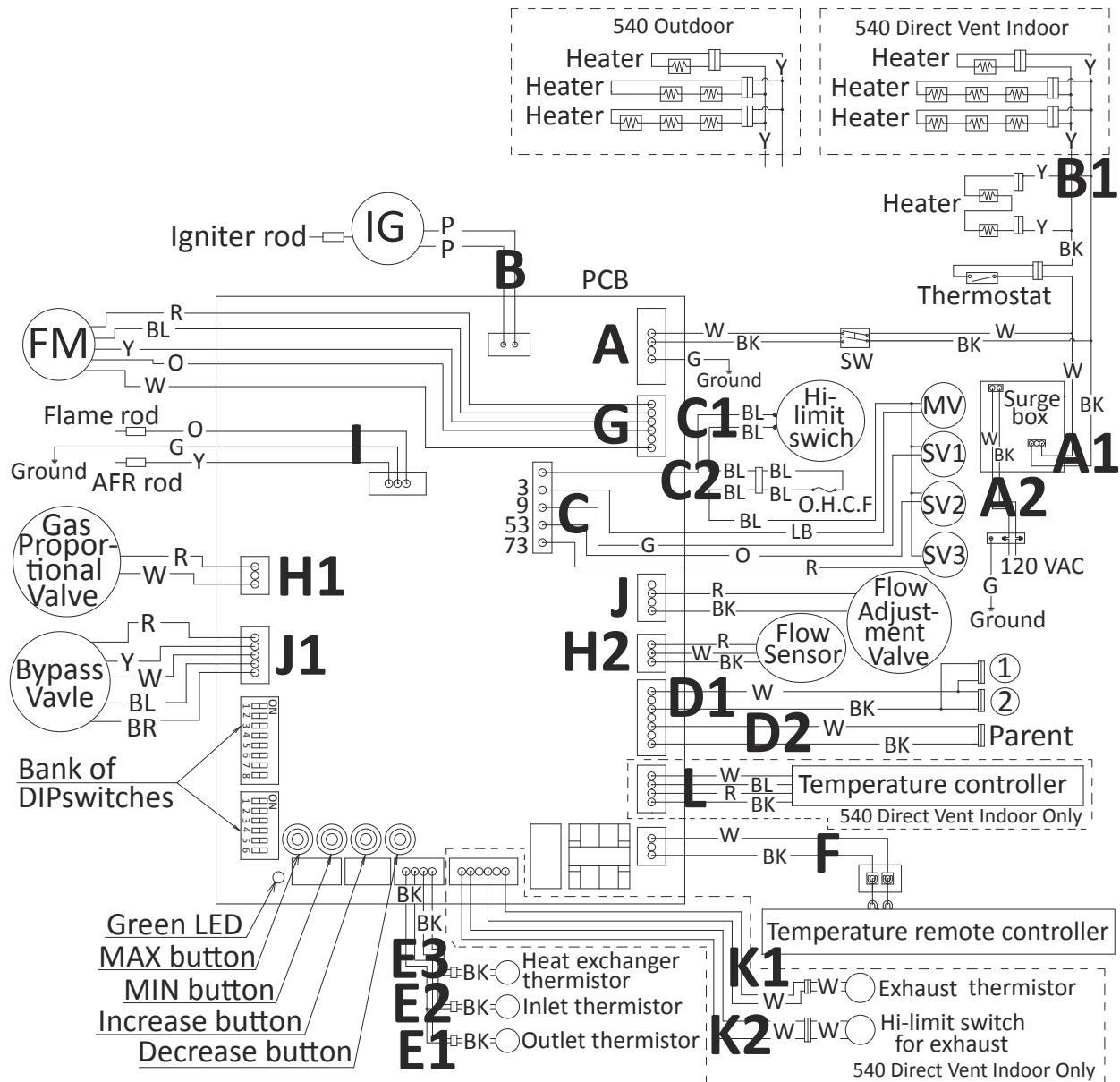


## 540 (T-H3) models

W: WHITE    BK: BLACK    LB: LIGHT BLUE  
 R: RED    BL: BLUE    Y: YELLOW  
 G: GREEN    O: ORANGE    BR: BROWN    P: PURPLE



## 7. Wiring diagram check points for diagnosis

The table below applies to both the the Direct Vent Indoor models and Outdoor models.

| Check-point | Part and Description                                | Color of wires                | Normal range                                       |
|-------------|-----------------------------------------------------|-------------------------------|----------------------------------------------------|
| A           | 120V Power supply                                   | White – Black                 | 108 to 132 VAC                                     |
| A1, A2      | 120V Power supply                                   | Black - White                 | 108 to 132 VAC                                     |
| B           | Igniter                                             | Purple - Purple               | 108 to 132 VAC                                     |
| B1          | Heater                                              | Yellow - Yellow               | 108 to 132 VAC                                     |
| C           | Gas valves                                          | Light blue - blue at COM (MV) | 93 to 120 VDC (during operation) / 1.35 to 1.65 kΩ |
|             |                                                     | Green - blue at COM (SV1)     | 93 to 120 VDC (during operation) / 1.35 to 1.65 kΩ |
|             |                                                     | Orange - blue at COM (SV2)    | 93 to 120 VDC (during operation) / 1.35 to 1.65 kΩ |
|             |                                                     | Red - blue at COM (SV3)       | 93 to 120 VDC (during operation) / 2.07 to 2.53 kΩ |
| C1          | Hi-limit switch                                     | Blue - Blue                   | Less than 1 VDC and less than 1.0 Ω                |
| C2          | Overheat cutoff fuse                                | Blue - Blue                   | Less than 1 VDC and less than 1.0 Ω                |
| D1, D2      | Easy-link connectors<br>540 (T-H3) models only      | Black - White                 | 15 VDC<br>(during Easy-link operation)             |
| E1          | Outlet thermistor                                   | Black - Black                 | See table on p. 18                                 |
| E2          | Inlet thermistor                                    | Black - Black                 |                                                    |
| E3          | Heat exchanger thermistor<br>540 (T-H3) models only | Black - Black                 | See table on p. 19                                 |

| Check-point | Part and Description                   | Color of wires                                                          | Normal range                                                     |
|-------------|----------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------|
| <b>F</b>    | Remote controller                      | White – Black                                                           | 11 to 25 VDC                                                     |
| <b>G</b>    | Fan motor                              | Red - Blue                                                              | 132 to 192 VDC                                                   |
|             |                                        | Yellow - Blue                                                           | 13 to 17 VDC                                                     |
|             |                                        | Orange - Blue                                                           | 2.0 to 6.5 VDC                                                   |
| <b>H1</b>   | Gas proportional valve                 | White - red                                                             | 1.0 to 15 VDC<br>(during operation)<br>and<br>20 to 40 $\Omega$  |
| <b>H2</b>   | Flow sensor                            | Red - Black                                                             | 4.0 to 5.5 VDC                                                   |
|             |                                        | White - Black                                                           | 1.0 to 4.0 VDC (pulse)<br>1,080 pulse / min<br>(more than 18 Hz) |
| <b>I</b>    | Air-fuel ratio rod                     | Yellow - AFR rod<br>(Between the AFR rod and<br>the computer board)     | More than 1 $\mu$ A<br>(during operation)                        |
|             | Flame rod                              | Orange - Flame rod<br>(Between the flame rod and<br>the computer board) | More than 1 $\mu$ A<br>(during operation)                        |
| <b>J</b>    | Flow adjustment valve                  | Red - Black                                                             | 7.0 to 16 VDC and<br>0.09 to 0.2 k $\Omega$                      |
| <b>J1</b>   | Bypass valve<br>540 (T-H3) models only | Brown - Red                                                             | 3.0 to 11 VDC and<br>50 to 85 $\Omega$                           |
| <b>K1</b>   | Exhaust thermistor                     | White - White                                                           | See table on p. 19                                               |
| <b>K2</b>   | Hi-limit switch for exhaust            | White - White                                                           | Less than 1 VDC<br>and<br>less than 1.0 $\Omega$                 |
| <b>L</b>    | Temperature controller                 | White – Black                                                           | 11 to 25 VDC                                                     |