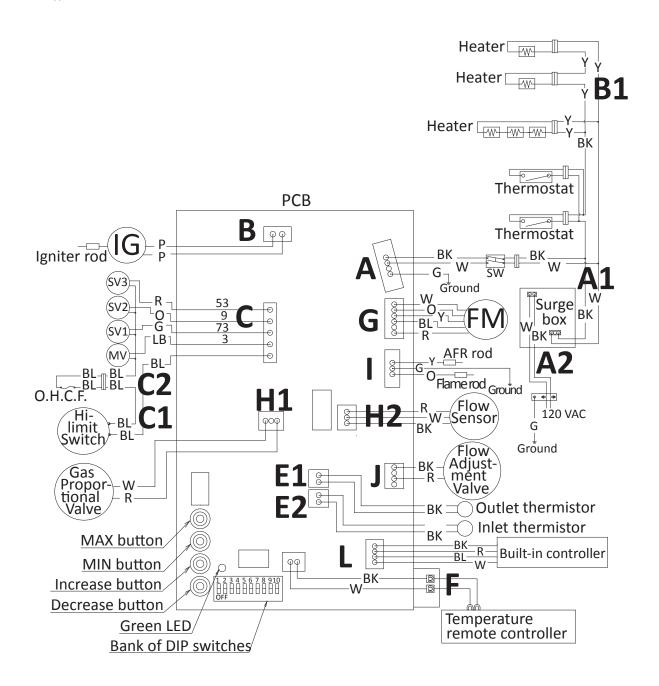# 6. Wiring diagram

110C / 310C 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

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) / 2.07 to 2.53 kΩ
		Orange - blue at COM (SV2)	93 to 120 VDC (during operation) / 2.07 to 2.53 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 510C (AT-D3U-CV) only	Black - White	15 VDC (during Easy-Link operation)
E1	Outlet thermistor	Black - Black	See table on p. 14
E2	Inlet thermistor	Black - Black	See table on p. 14
E3	Heat exchanger thermistor 510C (AT-D3U-CV) only	Black - Black	See table on p. 14
F	Remote controller	White – Black	12 to 18 VDC
G	Fan motor	Red - Blue	132 to 192 VDC
		Yellow - Blue	13 to 17 VDC
		Orange - Blue	2.0 to 6.5 VDC

Check-point	Part and Description	Color of wires	Normal range
H1	Gas proportional valve	White - red	1.0 to 15 VDC (during operation) and 20 to 40 Ω
H2	Flow sensor	Red - Black	4.0 to 5.5 VDC
		White - Black	1.0 to 4.0 VDC (pulse) 1,080 pulse / min (more than 18 Hz)
I	Flame rod with Air-fuel ratio rod	Yellow - Flame rod (Between the flame rod and the computer board)	More than 10 μA (during operation)
J	Flow adjustment valve	Red - Black	7.0 to 16 VDC and 0.09 to 0.2 kΩ
J1	Bypass valve 510C (AT-D3U-CV) only	Brown - Red	3.0 to 11 VDC and 50 to 85 Ω
L	Built-in controller	White – Black	12 to 18 VDC