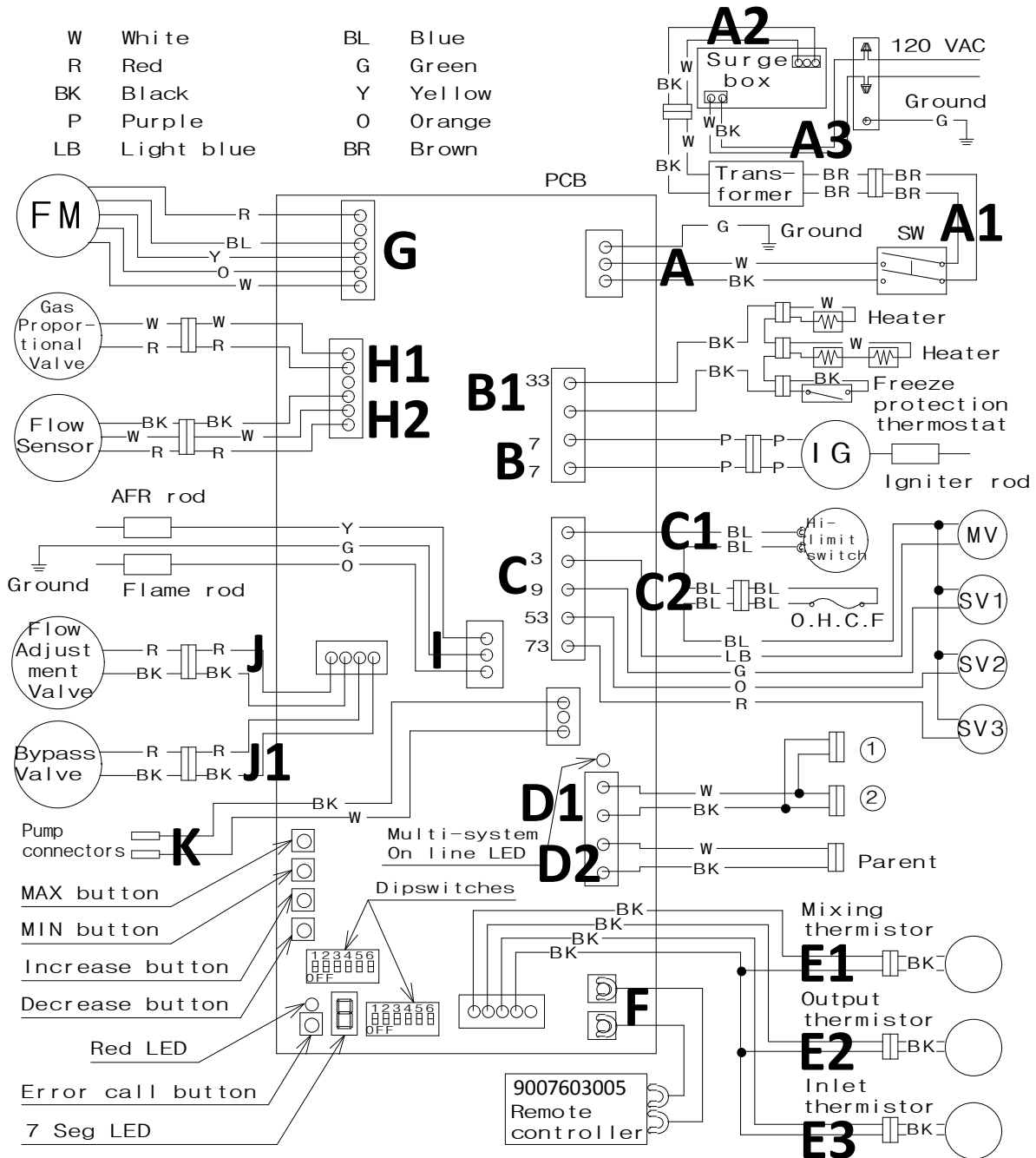


6. Wiring diagram

The diagram below refers to both the 510 Indoor and 510 Outdoor.



7. Wiring diagram check points for diagnosis

The table below applies to both the 510 Indoor and 510 Outdoor.

Check-point	Part and Description	Color of wires	Normal range
A, A1	100V Power supply	White – Black (A) Brown – Brown (A1)	90 to 110 VAC
A2, A3	120V Power supply	Black - White	108 to 132 VAC
B	Igniter	Purple - Purple	90 to 110 VAC
B1	Heater	Black - Black	90 to 110 VAC
C	Gas valves	Light blue - blue at COM (MV)	78 to 100 VDC (during operation) / 0.9 to 1.3 kΩ
		Green - blue at COM (SV1)	78 to 100 VDC (during operation) / 1.3 to 1.9 kΩ
		Orange - blue at COM (SV2)	78 to 100 VDC (during operation) / 1.3 to 1.9 kΩ
		Red - blue at COM (SV3)	78 to 100 VDC (during operation) / 0.9 to 1.7 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	Black - White	15 VDC (during Easy-link operation)
E1	Mixing thermistor	Black - Black	See table on p. 11
E2	Output thermistor	Black - Black	
E3	Inlet thermistor	Black - Black	
F	Remote controller	*	11 to 25 VDC
G	Fan motor	Red - Blue	110 to 160 VDC
		Yellow - Blue	13 to 17 VDC
		Orange - Blue	2 to 6.5 VDC

Check-point	Part and Description	Color of wires	Normal range
H1	Gas proportional valve	White - red	1 to 15 VDC (during operation) and 20 to 40 Ω
H2	Flow sensor	Red - Black	4 to 5.5 VDC
		White - Black	1 to 4 VDC (pulse) 1,080 pulse / min (more than 18 Hz)
I	Air-fuel ratio rod	Yellow - AFR rod (Between AFR rod and the computer board)	More than 0.5 μA (during operation)
	Flame rod	Orange - Flame rod (Between flame rod and the computer board)	More than 1 μA (during operation)
J	Flow adjustment valve	Red - Black	7 to 16 VDC and 0.09 to 0.2 kΩ
J1	Bypass valve	Red - Black	7 to 16 VDC and 0.09 to 0.2 kΩ
K	Pump connector port	White - Black	Less than 1.3 Ω