Fermilab
PPD/EET
Infrastructure Group

MINOS Low Voltage Power Supplies

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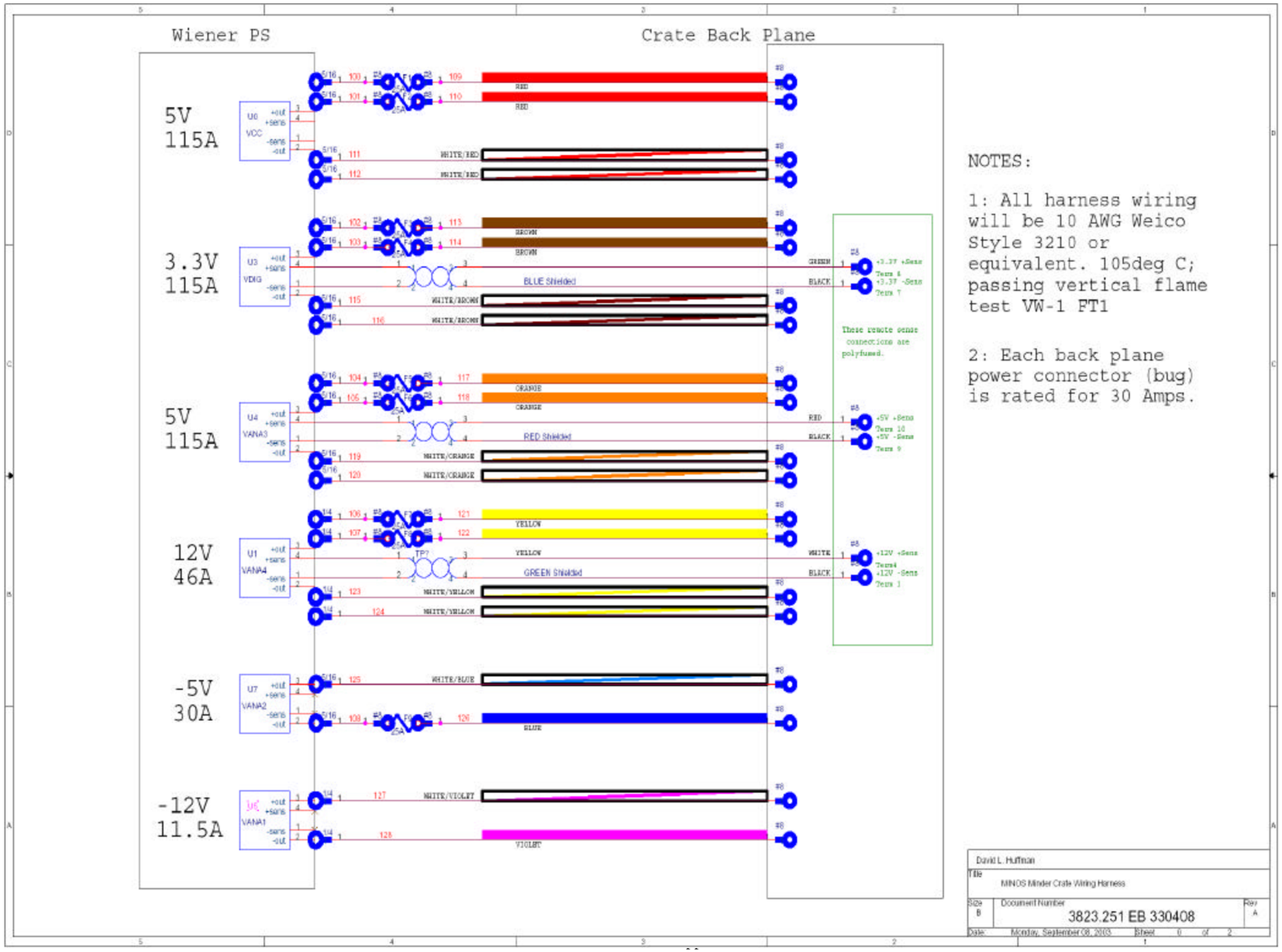
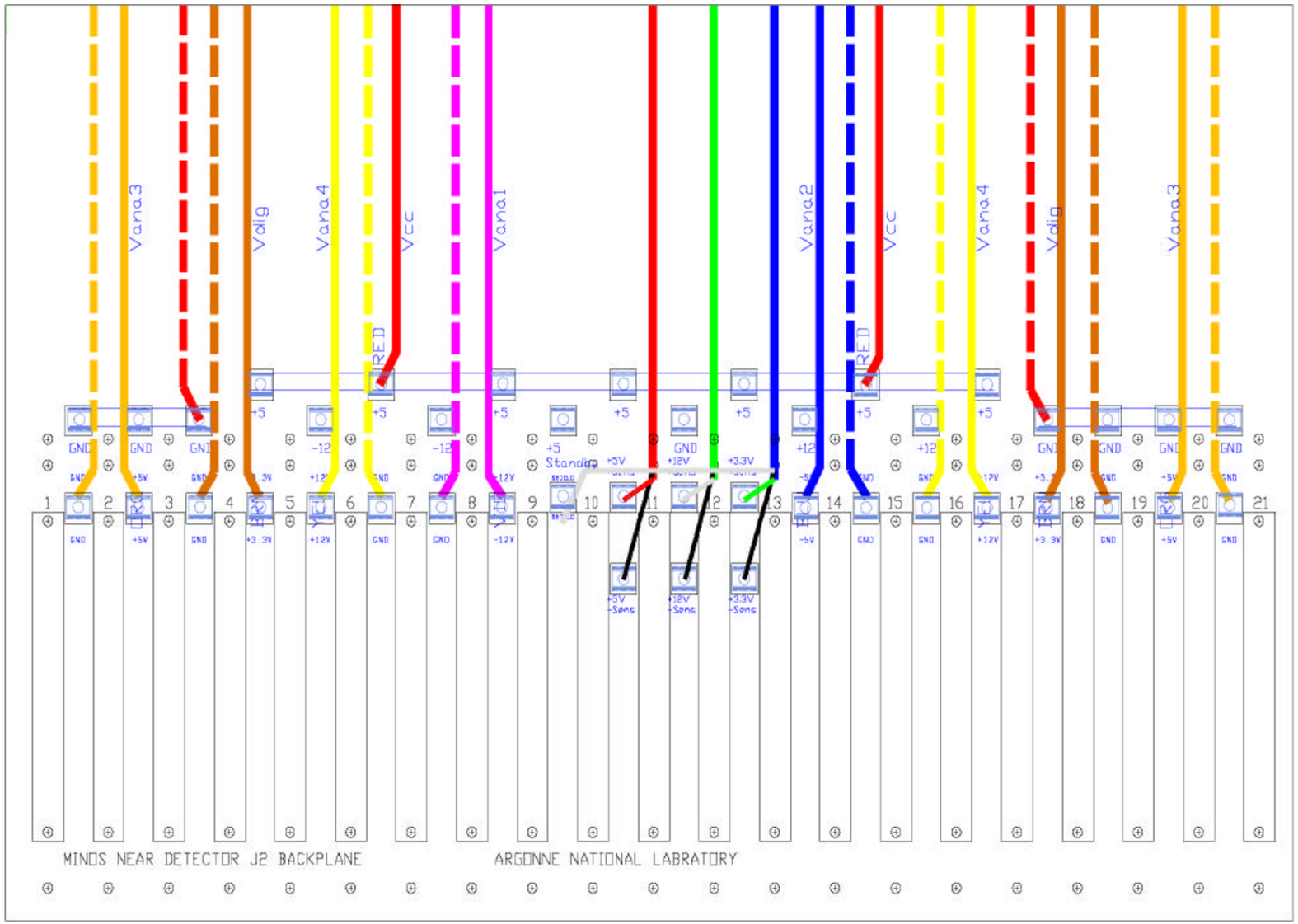
Construction notes

- All wiring is 10 AWG and fused accordingly.
- Each rail voltage has its own color-code. Returns are white with color stripes that match its source.
- Power supply leads enter from the top of the crate in order to stay away from the analog input connectors.
- The power supply leads are kept low across the top of the Minder Crate with the use of G-10 spacers.
- There will be right and left handed harnesses depending on the rack in which it is used.

Wiring Schematic

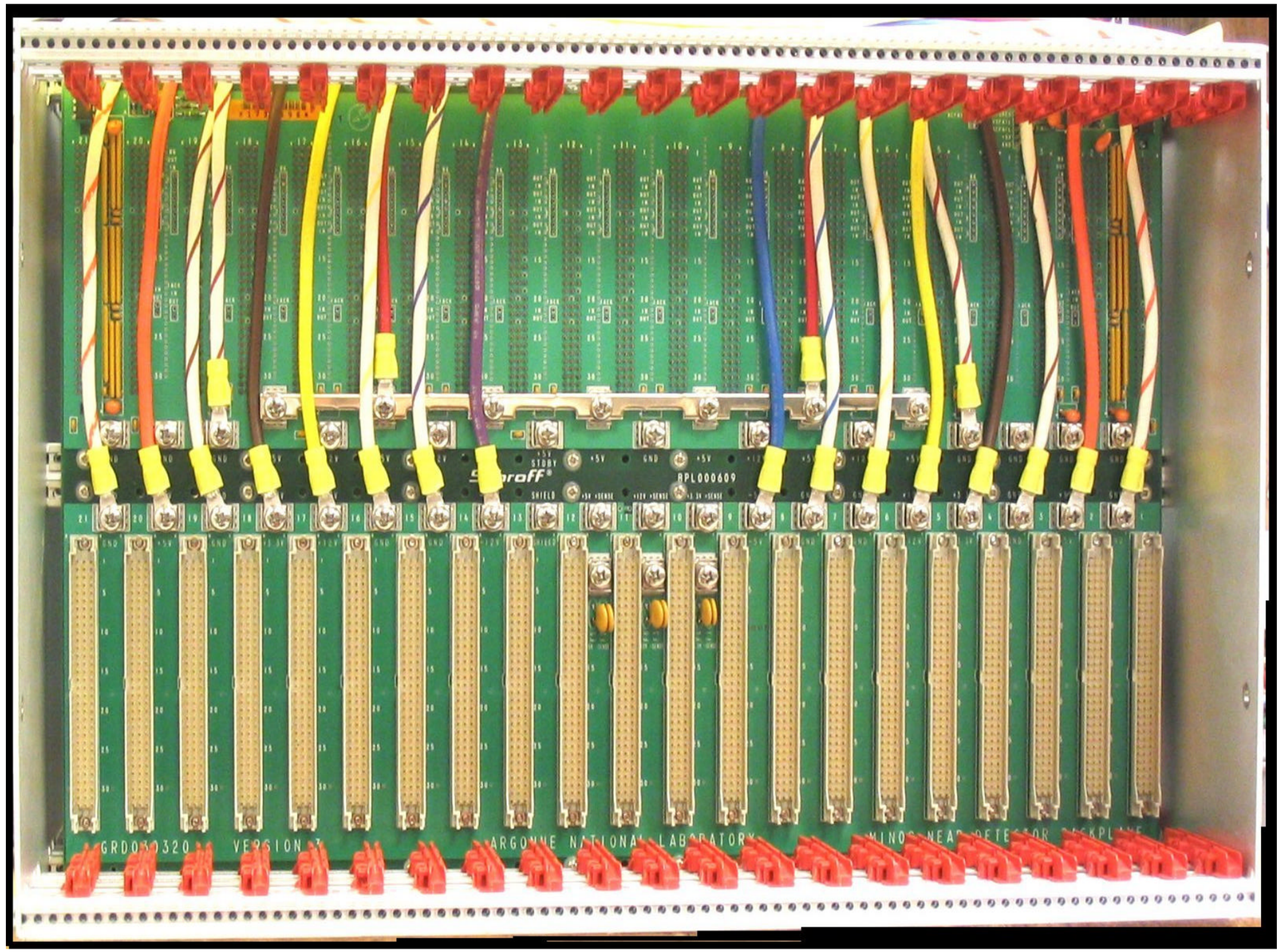


Minder Crate Wiring Pictorial

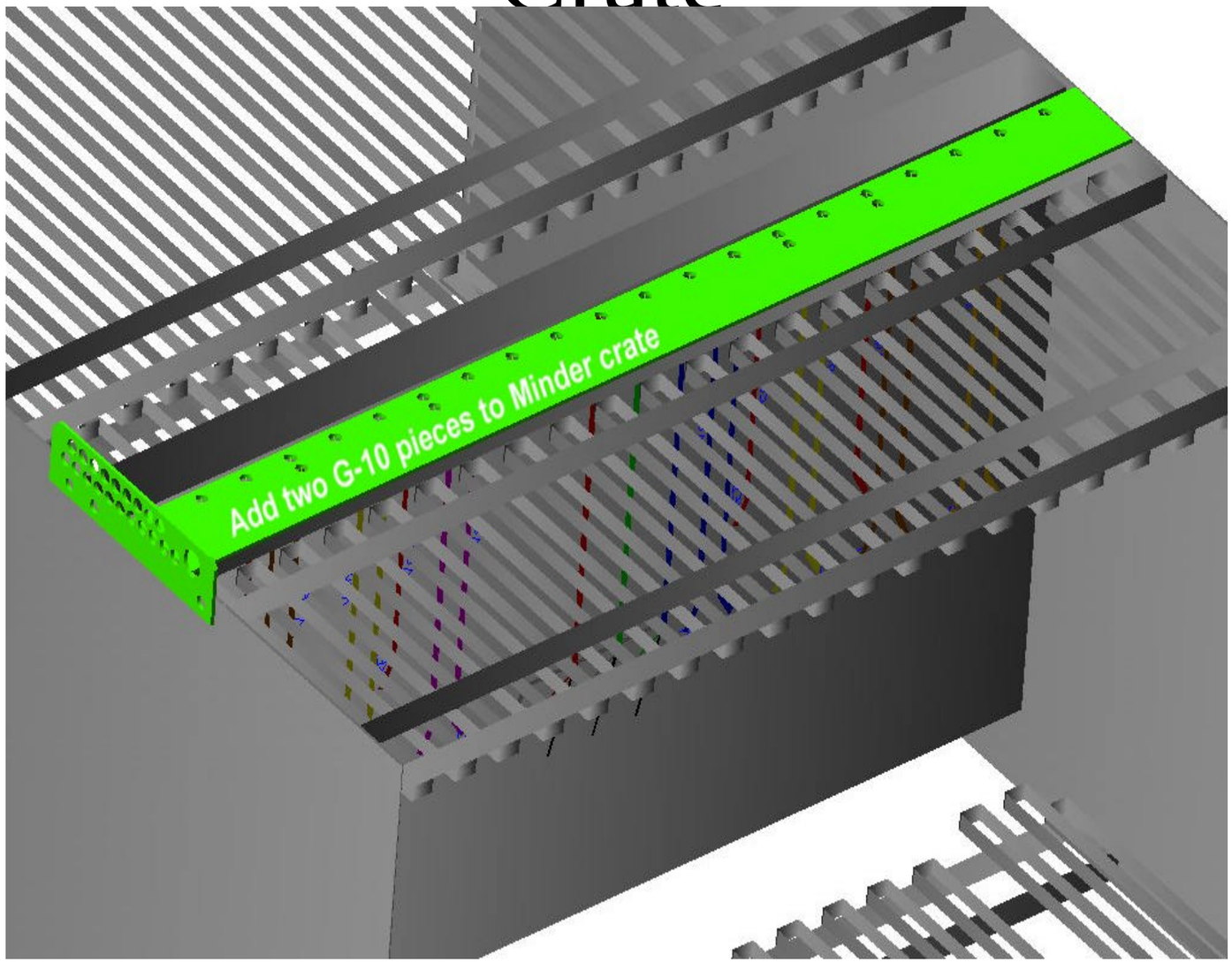


minder_wireharness.ppt

Picture Top-Back View

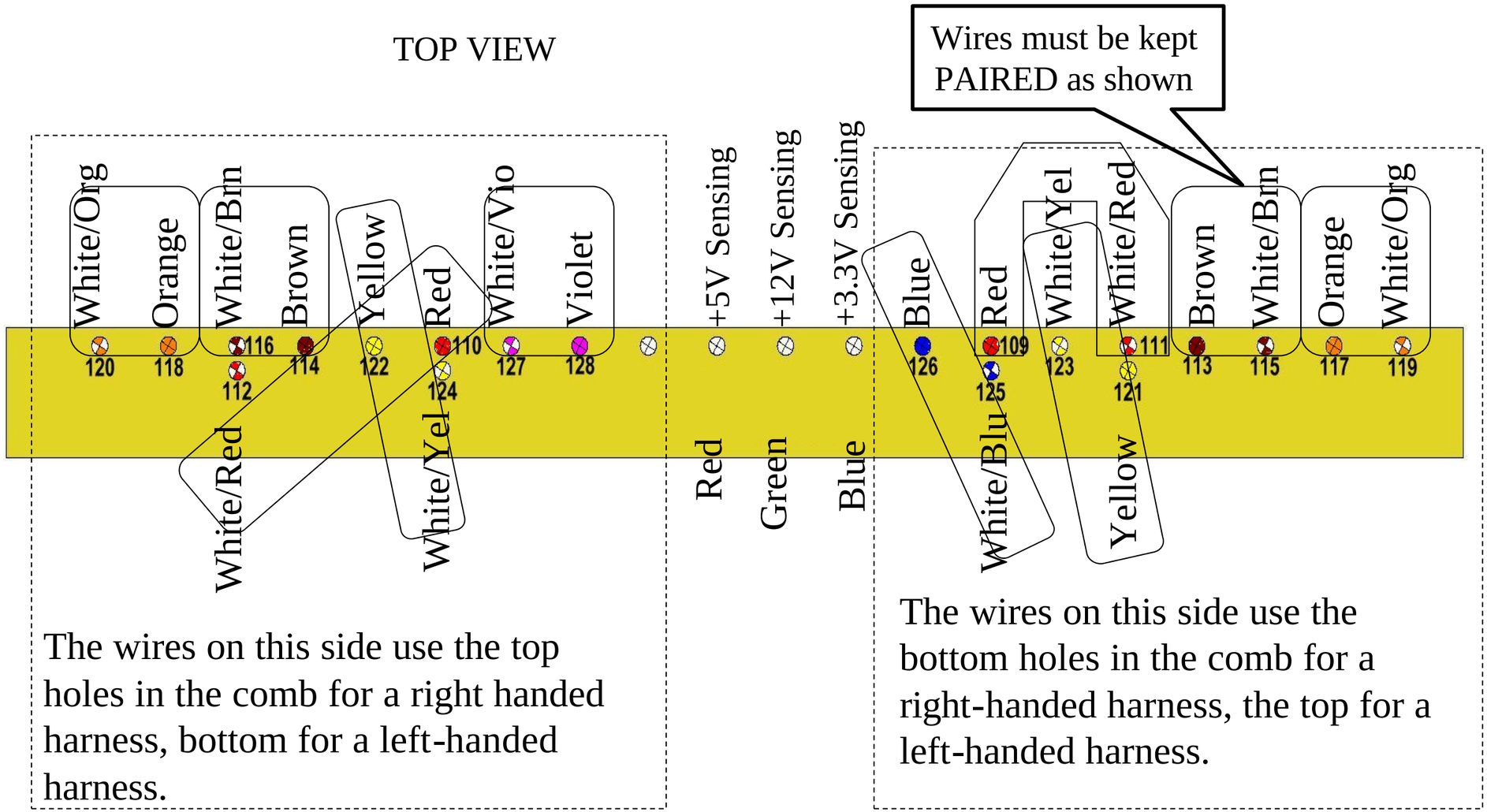


Added G-10 Pieces to Minder Crate

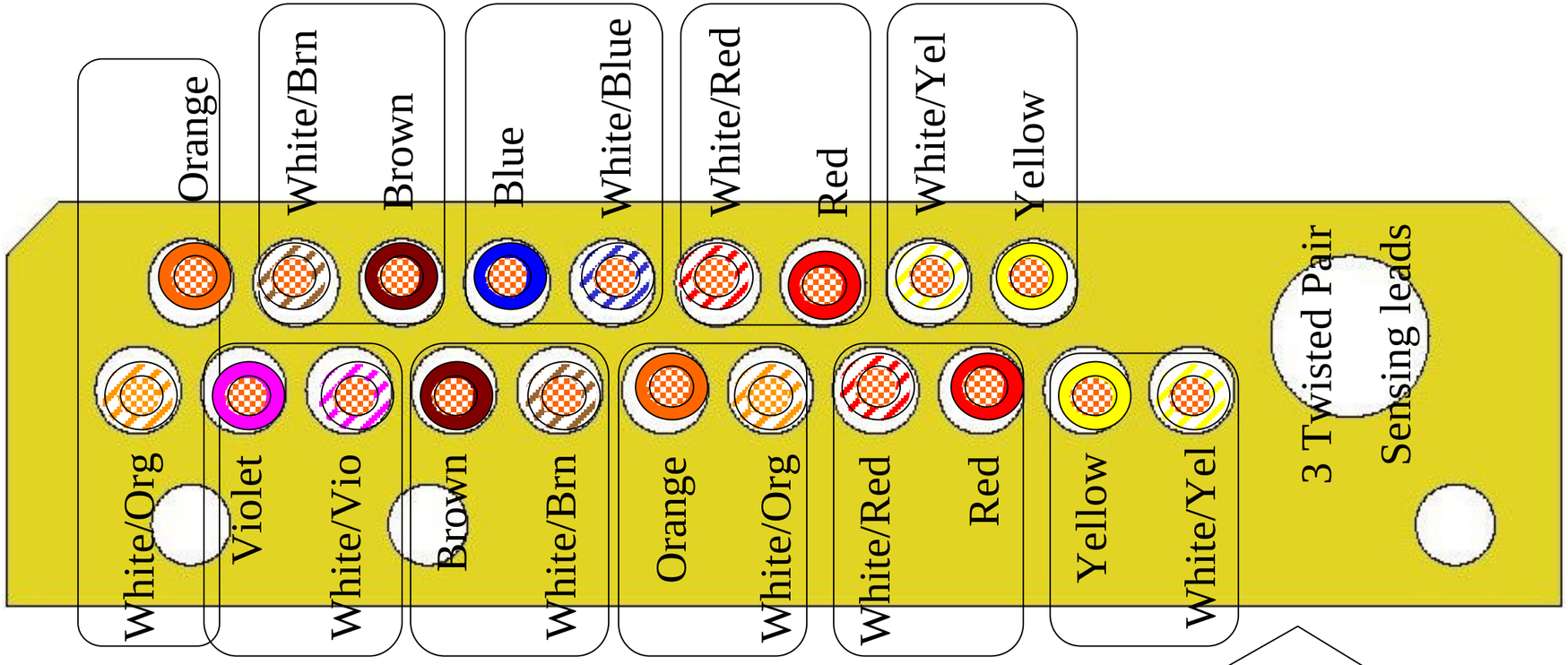


Top Spacer Wiring Order

TOP VIEW

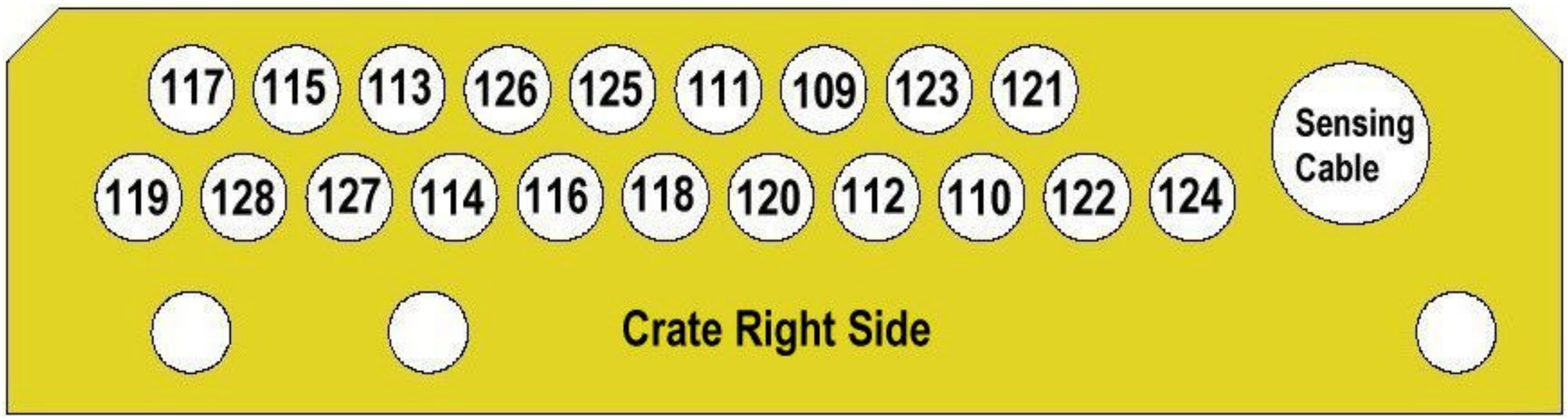


Wire Order of G-10 Comb Right Side

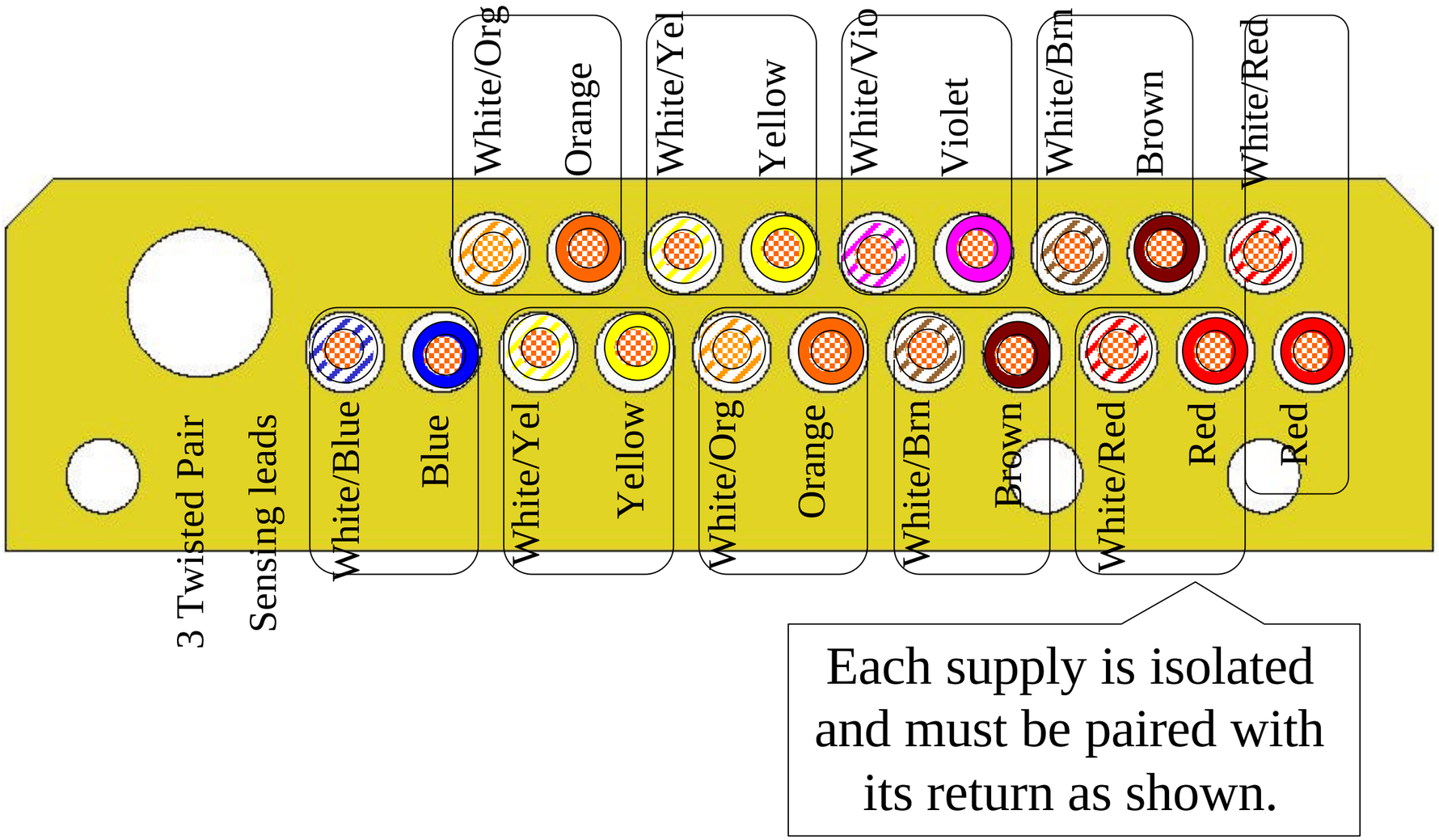


Each supply is isolated and must be paired with its return as shown.

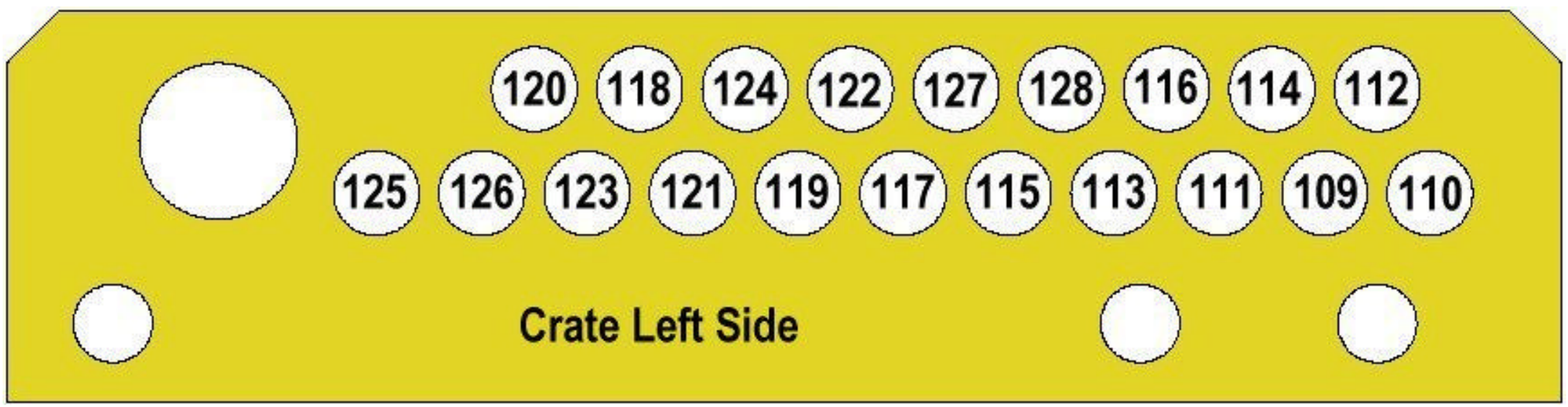
Wire Numbers, G-10 Comb Right Side



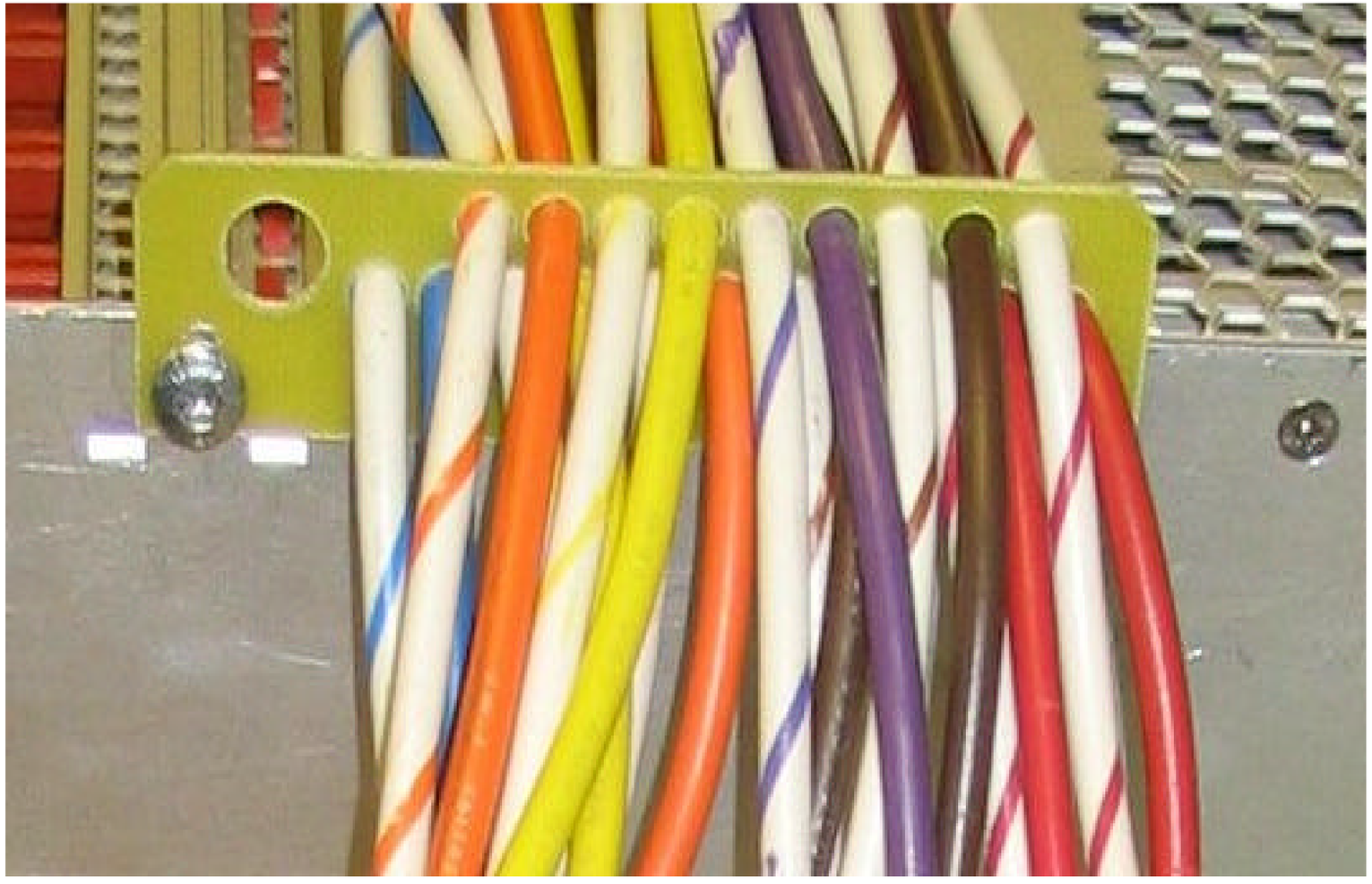
Wire Order of G-10 Comb Left Side



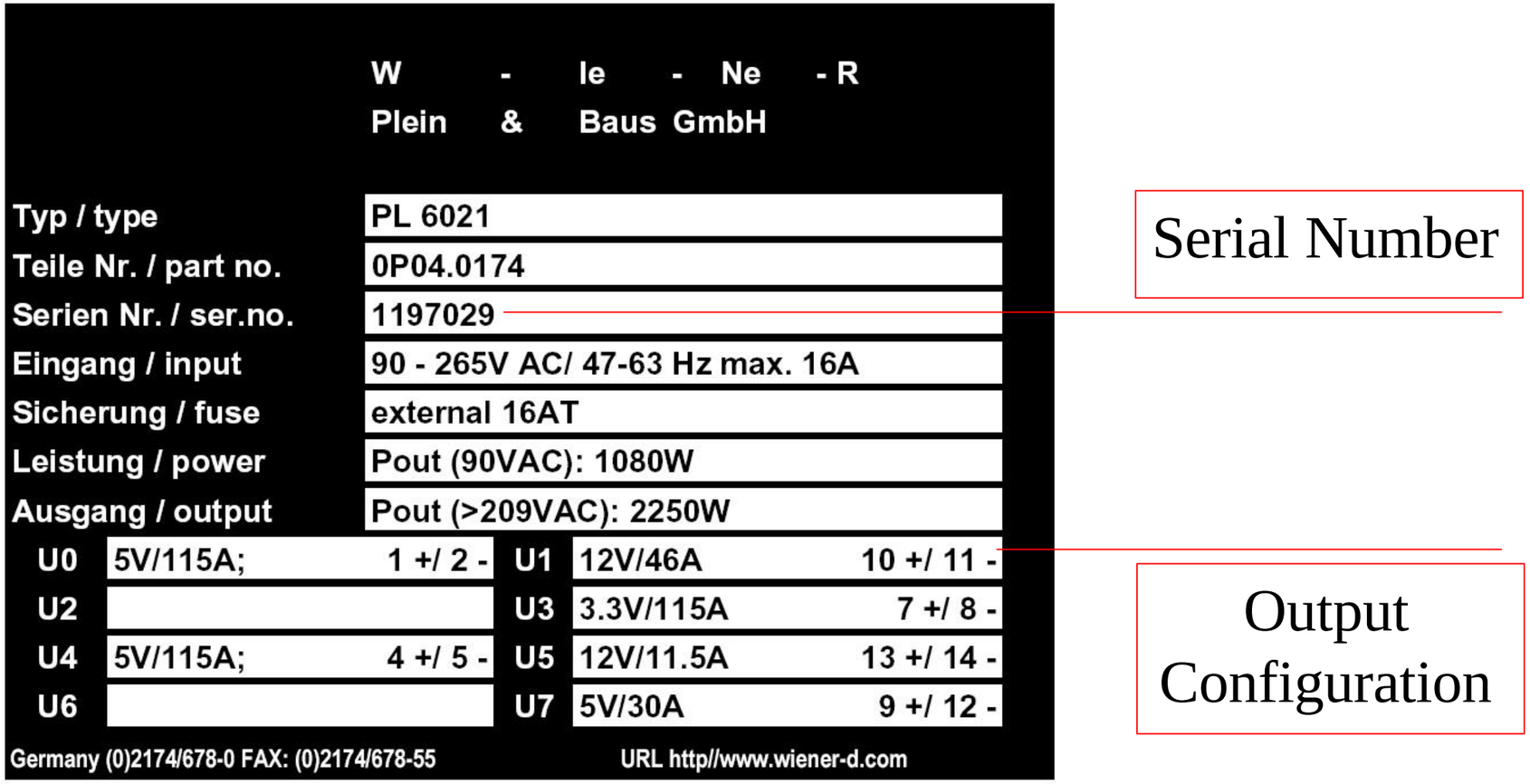
Wire Numbers, G-10 Comb Left Side



Picture Wire Comb



Supply Configuration Label

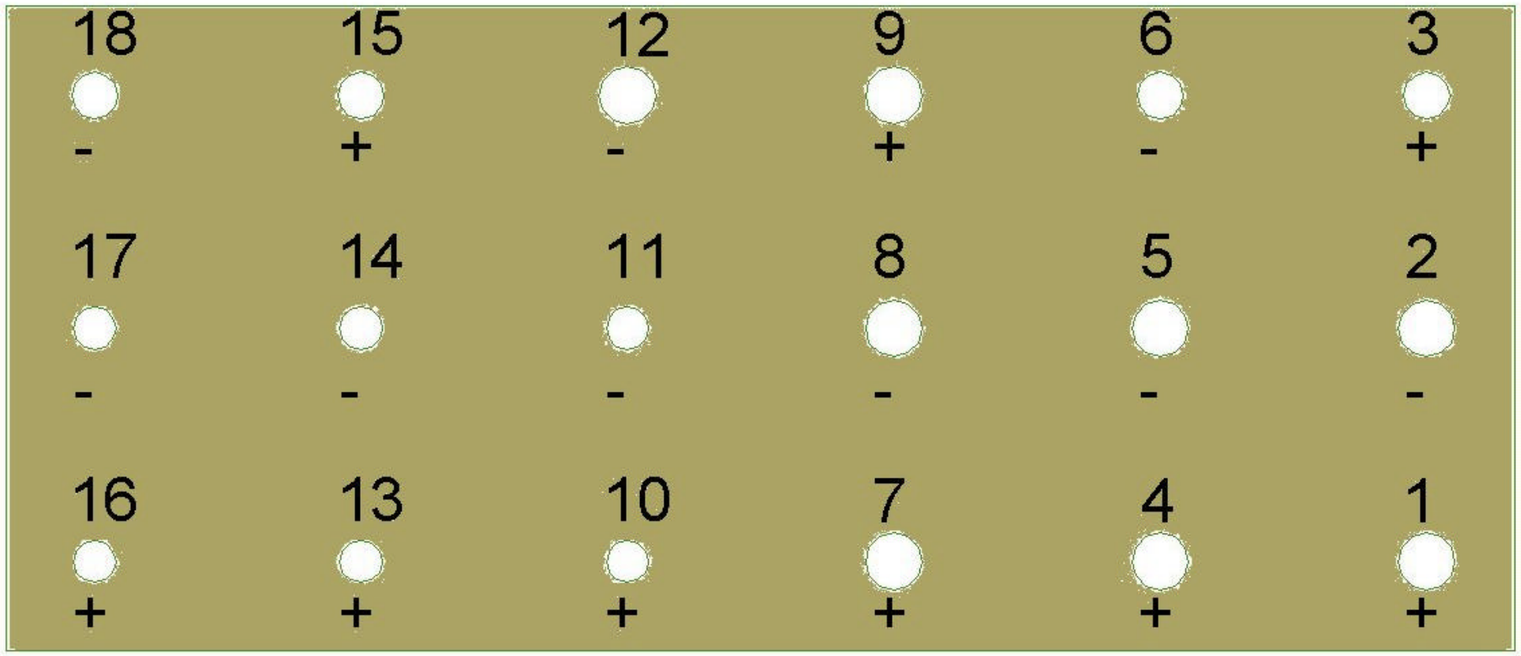


This label describes the output terminal assignments. For example referencing the power connection numbering on the next page, U0 output is on pins 1 (+) & 2 (-).

Wiener Back Picture

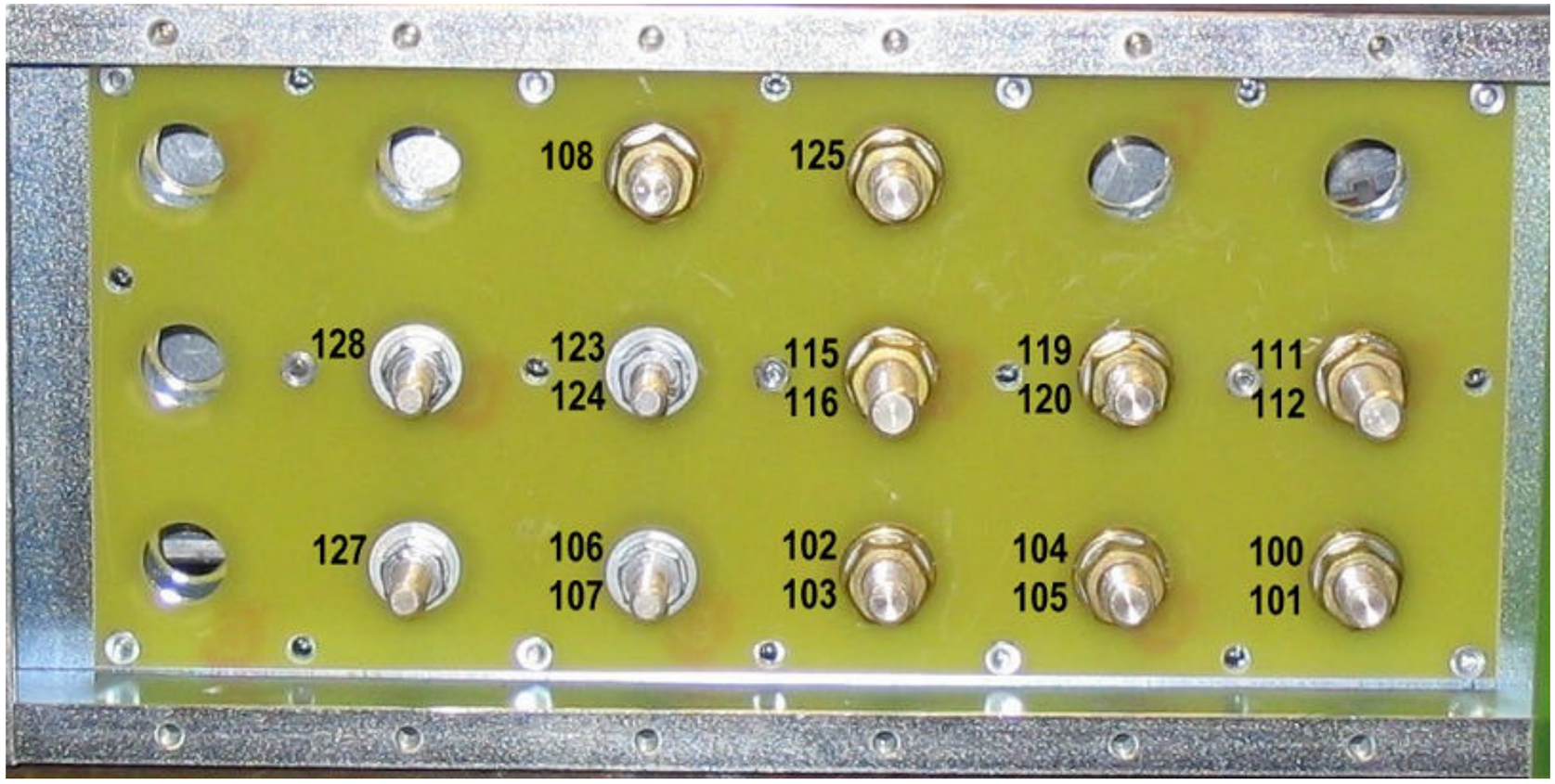
Power Connection Numbering

Back Panel PL6021

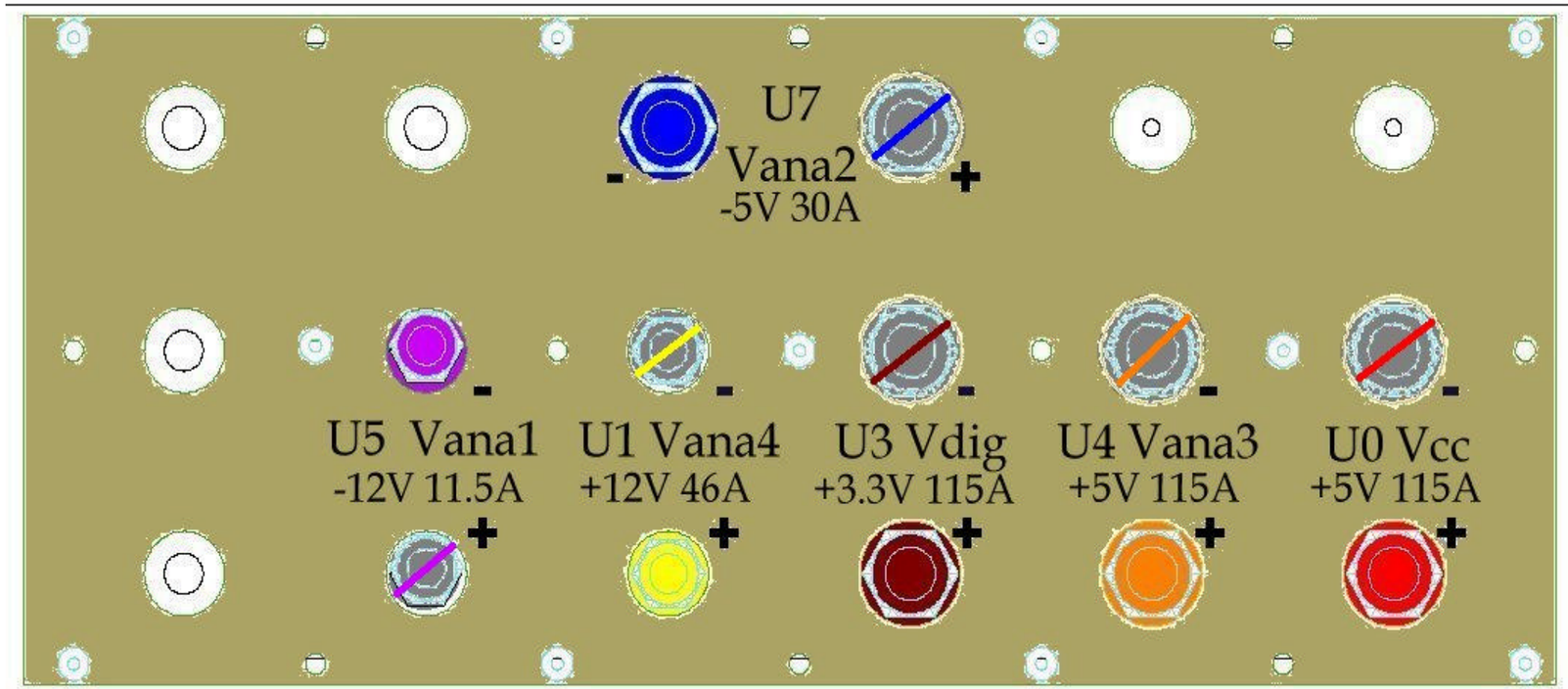


Viewed from the back

Wiener Back Wire Numbers



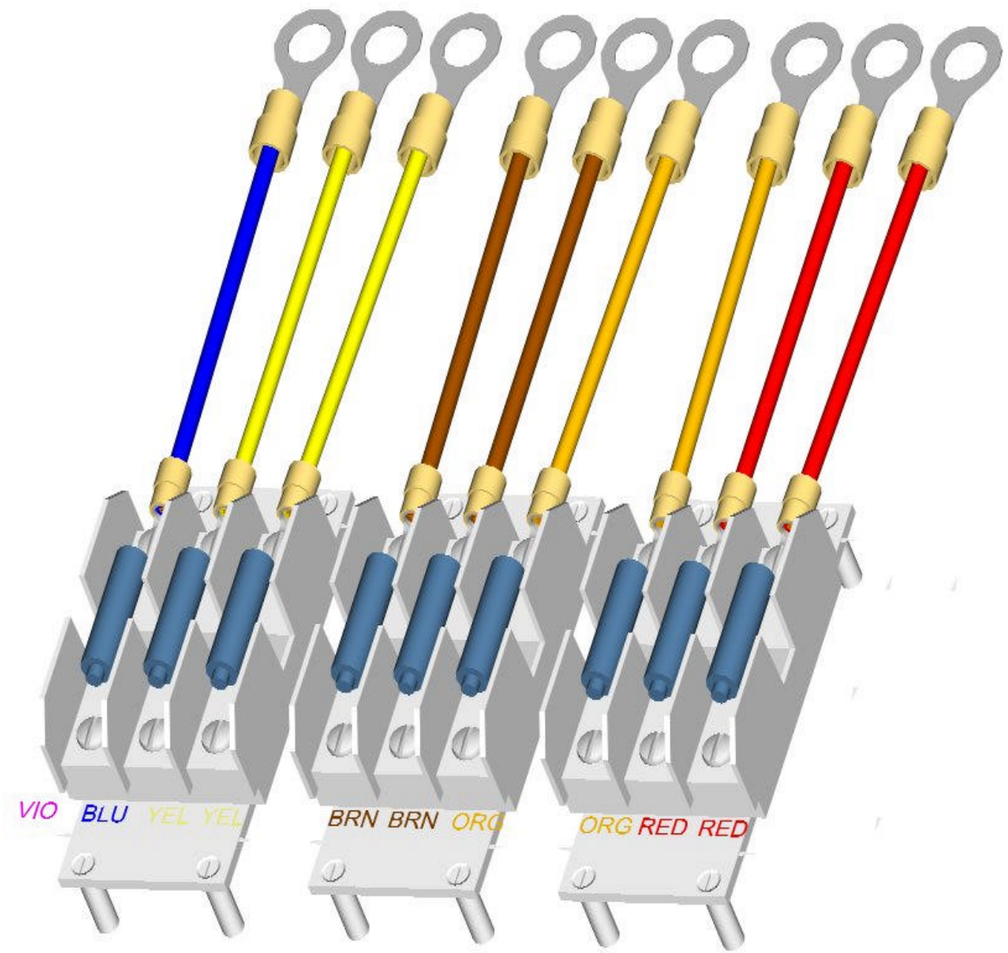
Rear Terminal Output Map



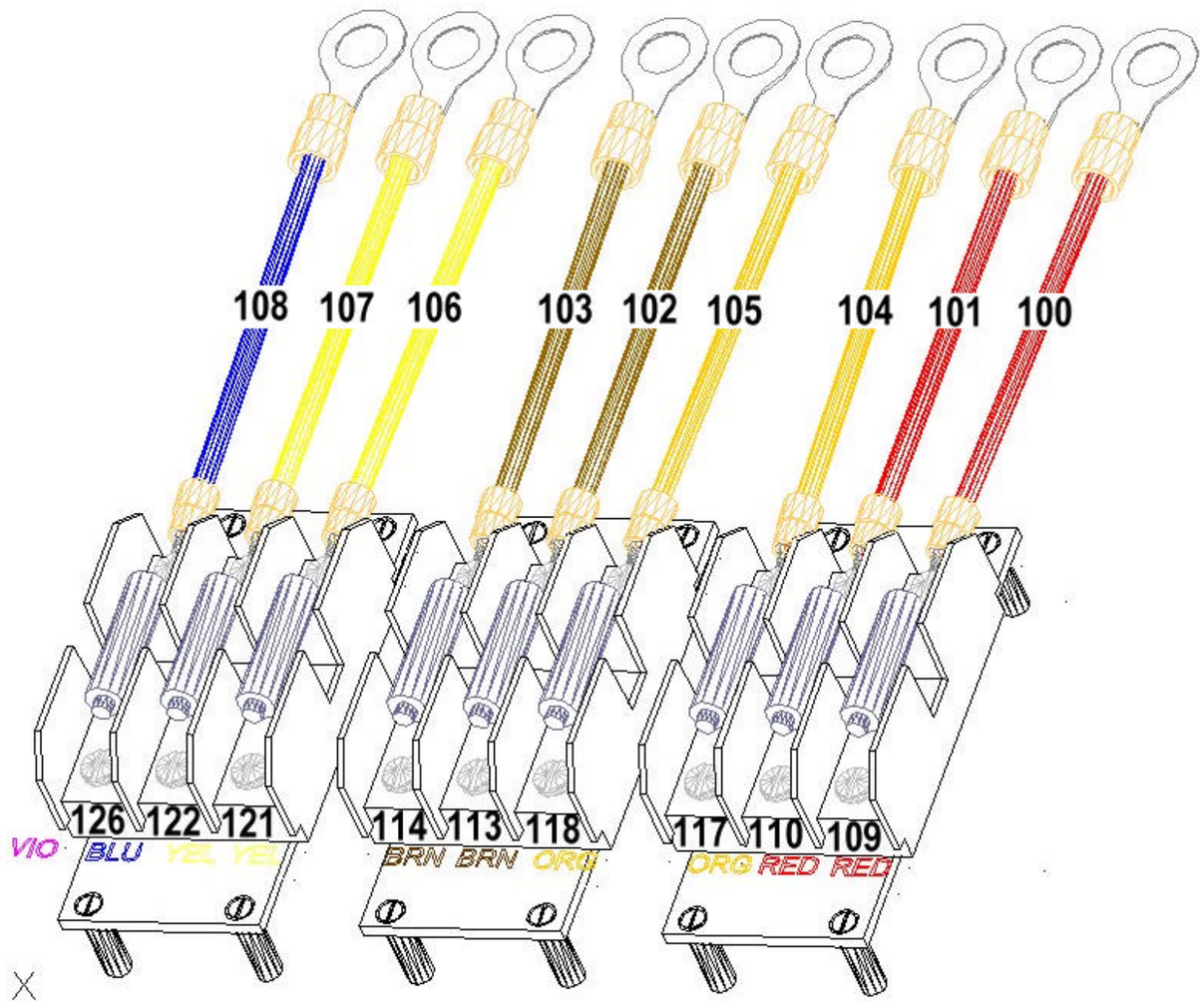
Viewing from the back.

The colored posts match the wires that attach to the top of the fuse holders.
The only exception is the Violet wire which goes directly to the Minder crate.

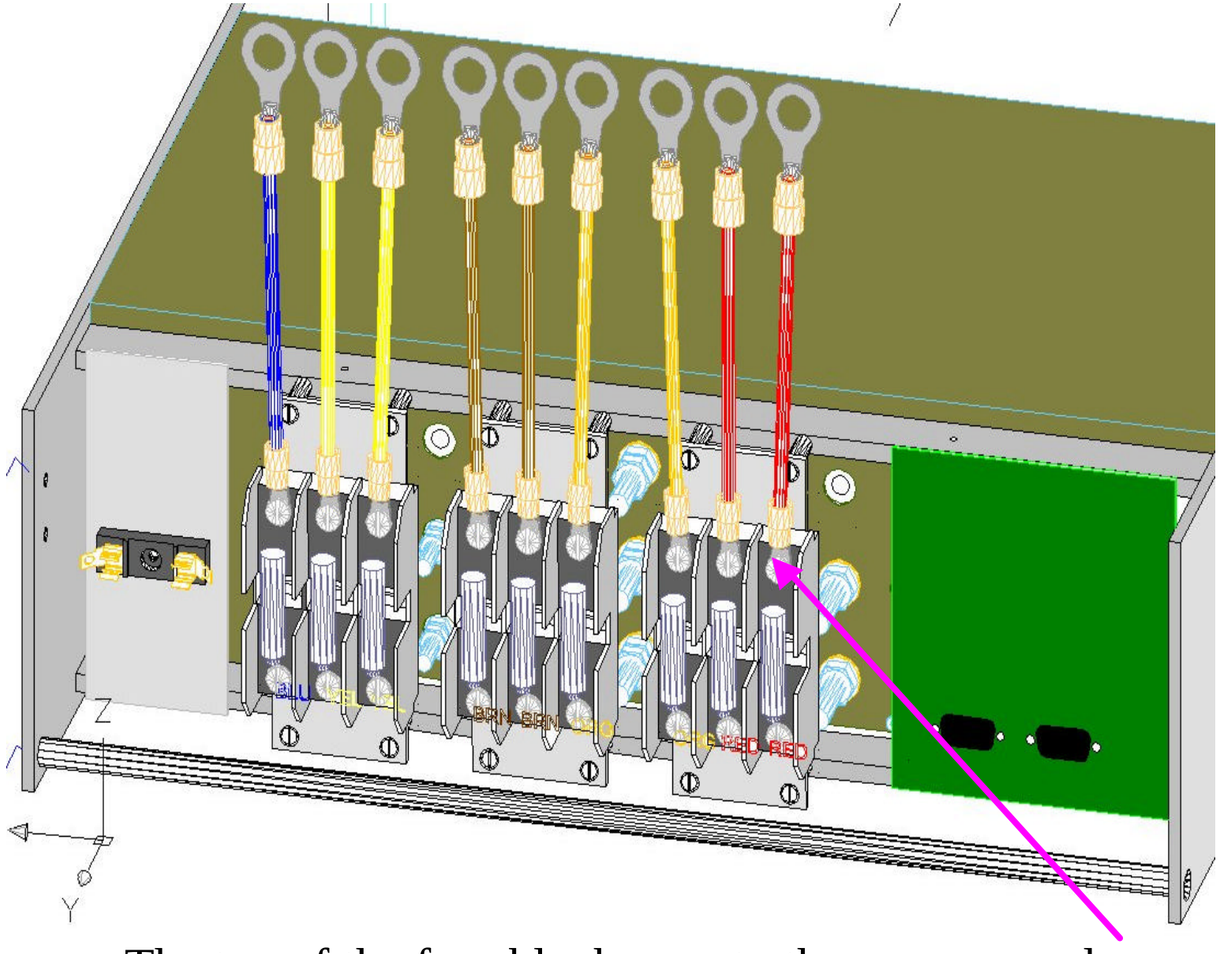
Added Fuse Assemblies



Fuse Assembly Wire Numbers



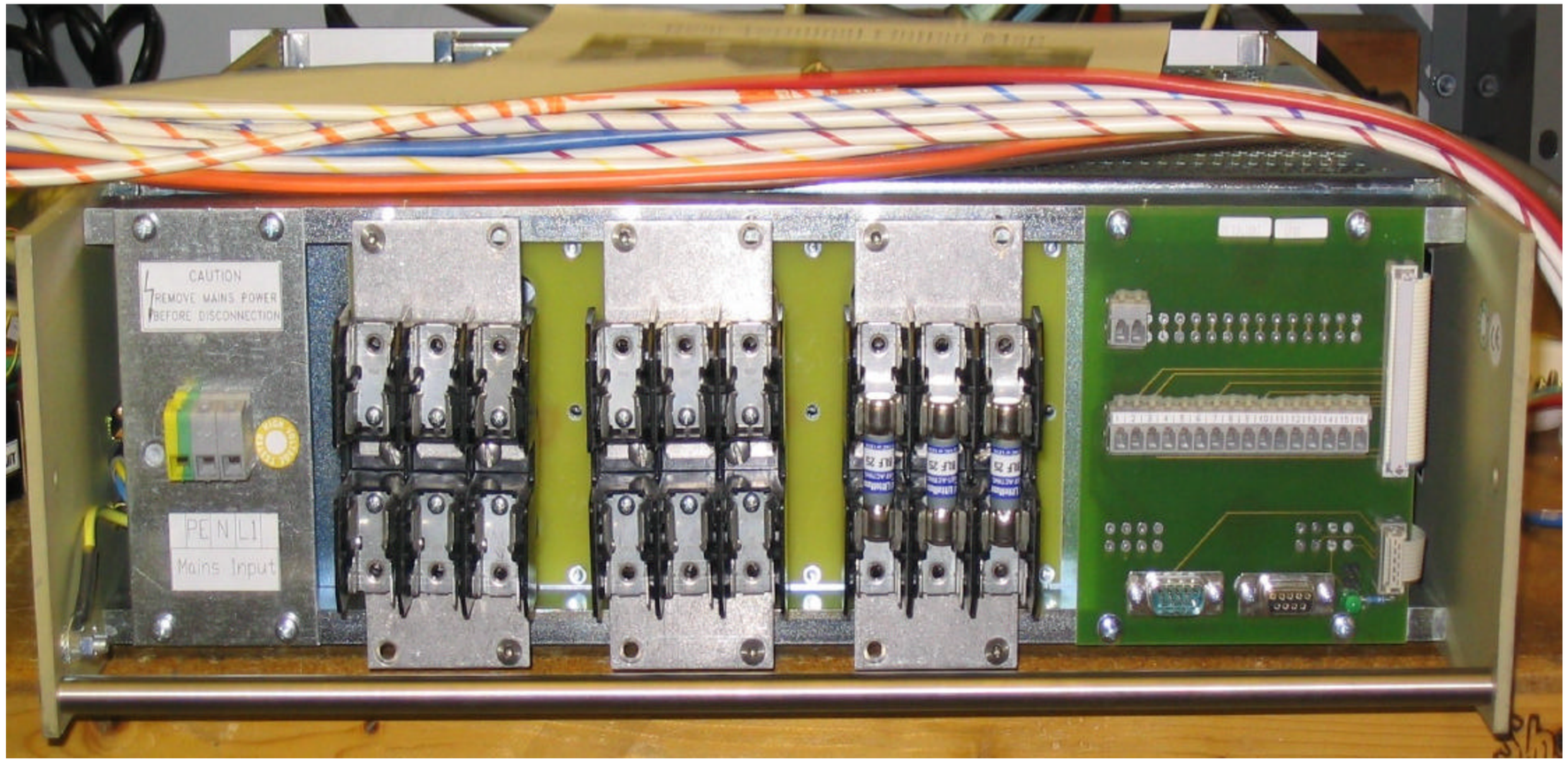
Wiener Back with Added Fusing



The top of the fuse block goes to the power supply.

The bottom of the fuse block goes to the crate

Wiener Back Picture with Fusing

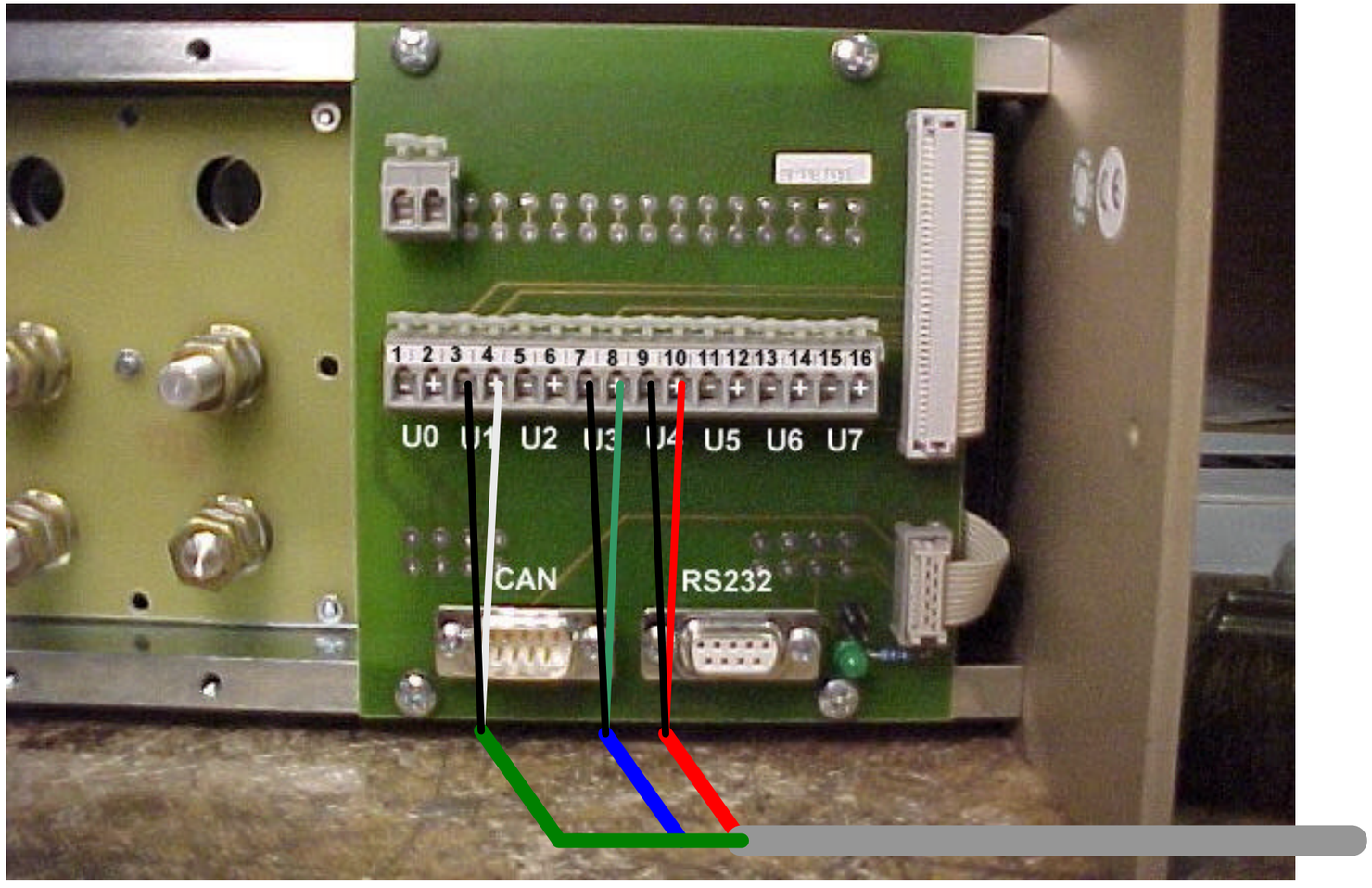


AC Fusing

CAUTION
REMOVE MAINS POWER
BEFORE DISCONNECTION
HIGH VOLTAGE TESTED
PE N L1
Mains Input

Sensing Lead Crate Connections

Sensing Lead PS Connections



Wire Definitions Left

Wire Number	Length (in)	Termination 1	Termination 2	Color	
100	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Red	
101	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Red	
102	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Brown	
103	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Brown	
104	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Orange	
105	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Orange	
106	6 3/4	1/4" Ring Tongue	#8 Ring Tongue	Yellow	
107	6 3/4	1/4" Ring Tongue	#8 Ring Tongue	Yellow	
108	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Blue	
Wires below this line must pass through G-10 comb and spacer before terminations are crimped on.					
109	71 1/4	#8 Ring Tongue	#8 Ring Tongue	Red	
110	78 5/16	#8 Ring Tongue	#8 Ring Tongue	Red	
111	73	5/16" Ring Tongue	#8 Ring Tongue	White/Red	
112	83 3/8	5/16" Ring Tongue	#8 Ring Tongue	White/Red	
113	74	#8 Ring Tongue	#8 Ring Tongue	Brown	
114	86	#8 Ring Tongue	#8 Ring Tongue	Brown	
115	74	5/16" Ring Tongue	#8 Ring Tongue	White/Brown	
116	85 1/8	5/16" Ring Tongue	#8 Ring Tongue	White/Brown	
117	69 5/8	#8 Ring Tongue	#8 Ring Tongue	Orange	
118	85 3/16	#8 Ring Tongue	#8 Ring Tongue	Orange	
119	72 1/4	5/16" Ring Tongue	#8 Ring Tongue	White/Orange	
120	87 1/2	5/16" Ring Tongue	#8 Ring Tongue	White/Orange	
121	77	#8 Ring Tongue	#8 Ring Tongue	Yellow	
122	86 1/2	#8 Ring Tongue	#8 Ring Tongue	Yellow	
123	78 13/16	1/4" Ring Tongue	#8 Ring Tongue	White/Yellow	
124	86 1/2	1/4" Ring Tongue	#8 Ring Tongue	White/Yellow	
125	77 1/8	5/16" Ring Tongue	#8 Ring Tongue	White/Blue	
126	81	#8 Ring Tongue	#8 Ring Tongue	Blue	
127	86 11/16	1/4" Ring Tongue	#8 Ring Tongue	White/Violet	
128	87	1/4" Ring Tongue	#8 Ring Tongue	Violet	

Wire Definitions Right

Wire Number	Length (in)	Termination 1	Termination 2	Color	
100	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Red	
101	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Red	
102	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Brown	
103	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Brown	
104	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Orange	
105	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Orange	
106	6 3/4	1/4" Ring Tongue	#8 Ring Tongue	Yellow	
107	6 3/4	1/4" Ring Tongue	#8 Ring Tongue	Yellow	
108	6 3/4	5/16" Ring Tongue	#8 Ring Tongue	Blue	
Wires below this line must pass through G-10 comb and spacer before terminations are crimped on.					
109	82 3/8	#8 Ring Tongue	#8 Ring Tongue	Red	
110	75 2/8	#8 Ring Tongue	#8 Ring Tongue	Red	
111	89	5/16" Ring Tongue	#8 Ring Tongue	White/Red	
112	78 5/8	5/16" Ring Tongue	#8 Ring Tongue	White/Red	
113	81 3/8	#8 Ring Tongue	#8 Ring Tongue	Brown	
114	71 6/8	#8 Ring Tongue	#8 Ring Tongue	Brown	
115	87 2/8	5/16" Ring Tongue	#8 Ring Tongue	White/Brown	
116	75 3/8	5/16" Ring Tongue	#8 Ring Tongue	White/Brown	
117	86	#8 Ring Tongue	#8 Ring Tongue	Orange	
118	70 7/8	#8 Ring Tongue	#8 Ring Tongue	Orange	
119	88 7/8	5/16" Ring Tongue	#8 Ring Tongue	White/Orange	
120	73 5/8	5/16" Ring Tongue	#8 Ring Tongue	White/Orange	
121	79	#8 Ring Tongue	#8 Ring Tongue	Yellow	
122	69 4/8	#8 Ring Tongue	#8 Ring Tongue	Yellow	
123	82 1/8	1/4" Ring Tongue	#8 Ring Tongue	White/Yellow	
124	75	1/4" Ring Tongue	#8 Ring Tongue	White/Yellow	
125	84 1/8	5/16" Ring Tongue	#8 Ring Tongue	White/Blue	
126	75 1/8	#8 Ring Tongue	#8 Ring Tongue	Blue	
127	71 6/8	1/4" Ring Tongue	#8 Ring Tongue	White/Violet	
128	72 5/8	1/4" Ring Tongue	#8 Ring Tongue	Violet	