LVPS Crates-to-MuID Panels

- Maximum supply current determines sizing of conductors to RIS 13030 power distribution box.
  - +/- 12V: I_{max} = 100W/12V*1.25 = 10.4A.
- Power brought from supply to distribution boxes (near MUID panels).
  - Lug connections at supply.
  - Alpha # ? (12 AWG, passes UL vertical flame tray test, 1000 feet total).
  - Connector (?, rated UL 94V-0) at distribution box input.
- Power brought to internal distribution board.
  - Alpha #? (12 AWG, passes VW-1 vertical flame test) soldered to board.

Associated Data Sheets

I apologize - this page is incomplete. It was discovered at the last minute that input wire gauge originally chosen, while satisfying ampacity requirements for wire heating, gave an unacceptable voltage drop over its 70’ distance. A new wire gauge and input connector are being specced and data will be provided next Tuesday.

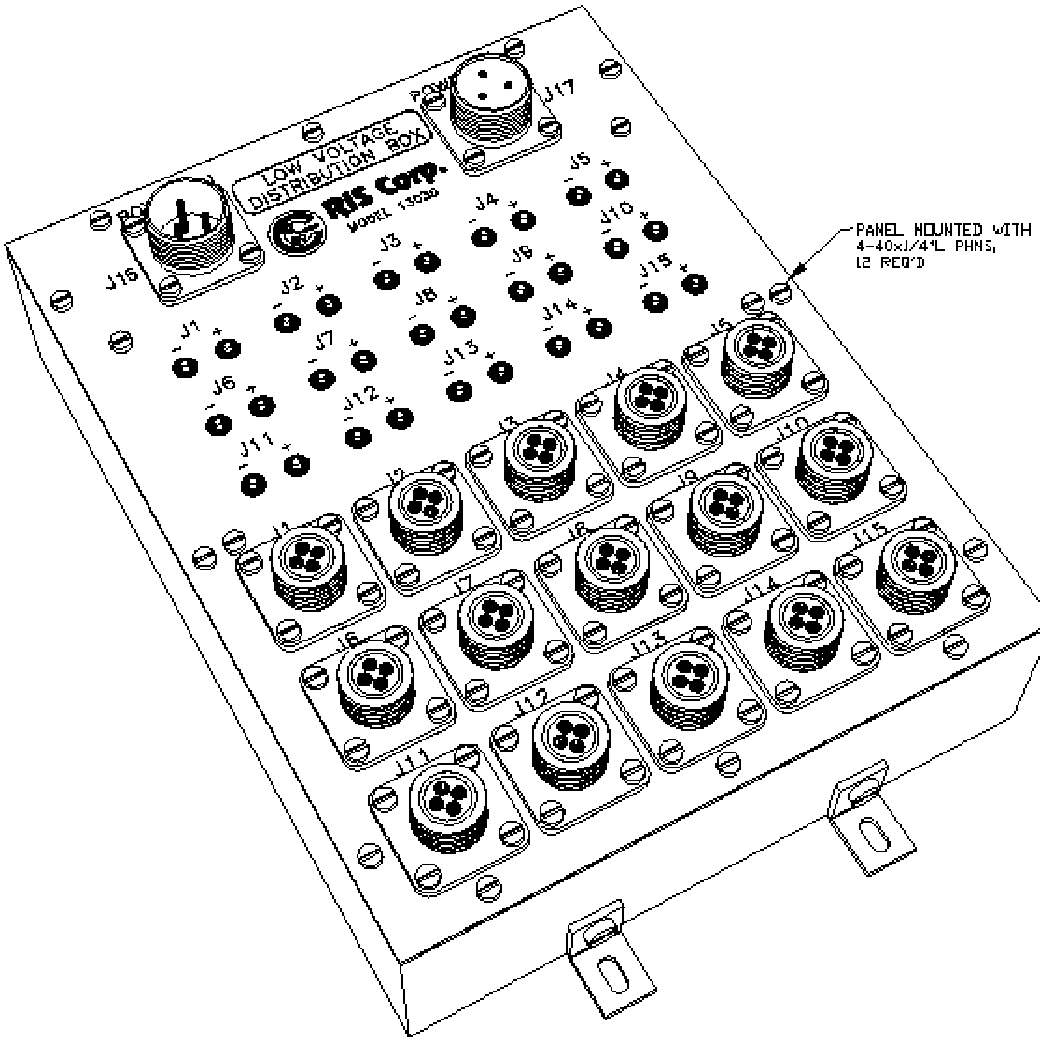


Figure 8.1: Low-voltage distribution box - external.

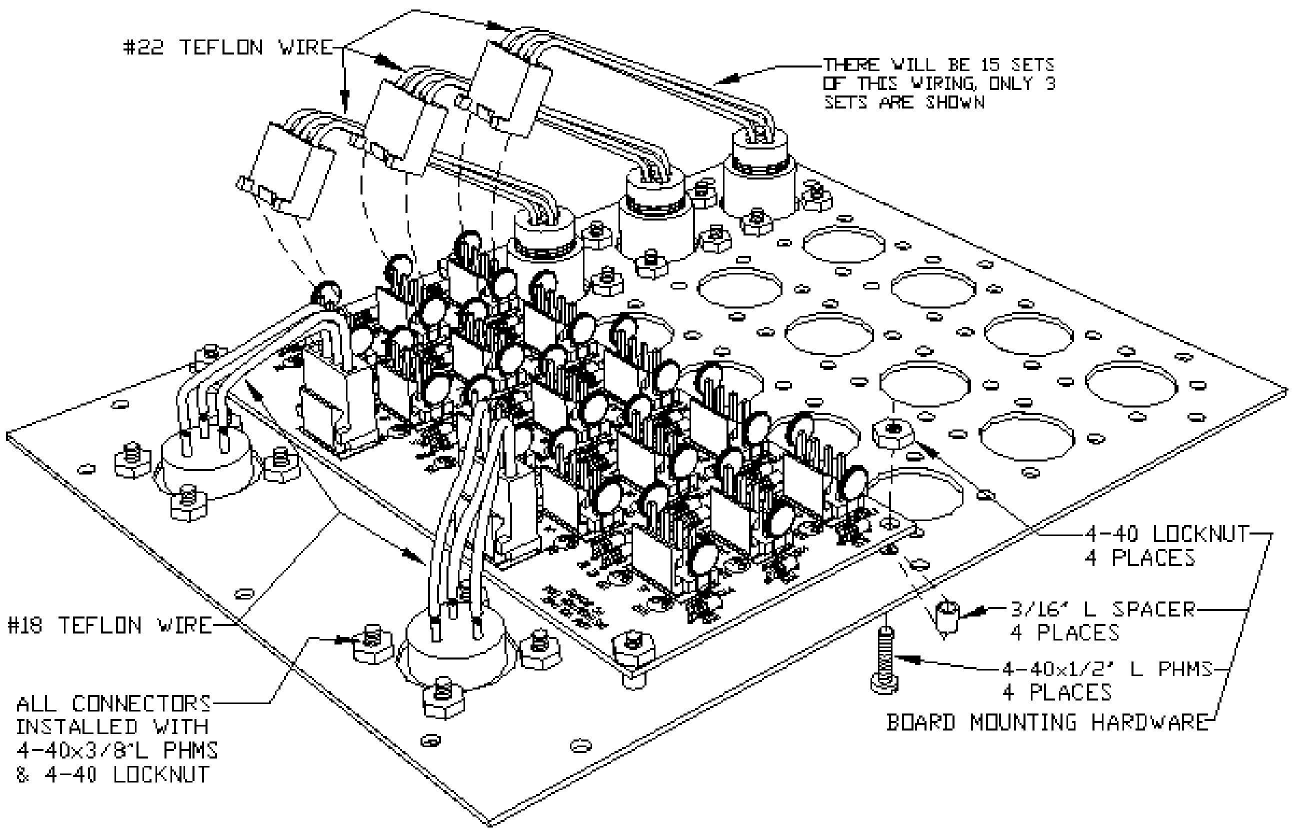


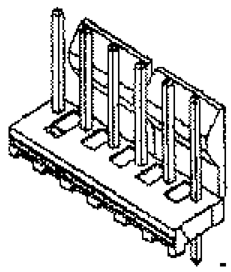
Figure 8.2: Low-voltage distribution box - internal.

Figure 8.3: Low-voltage distribution box - schematic (will be supplied before the review).

Figure 8.4: External power cable data sheet (will be supplied before the review).

3.96mm (.156") Pitch KK® Solid Header - Vertical Friction Lock, 41791 WM4622

Features and Benefits



- Sizes 2 to 18 circuits
- Provides left to right polarization when mated with 41695 or 43061 .156" crimp housing with the optional polarizing ribs
- Various pin lengths available (contact factory)
- Voided circuits available (contact factory)
- Passive locking feature is used to maintain interconnection, ideal for high vibration applications
- End to End stackable

Reference Information

- Product Specification: **PS-08-50**
- Packaging: **Bag**
- UL File No.: **E29179**
- CSA File No.: **LR19980** TUV File No.:**R75108**
- Mates With:

Wire-to-Board	Crimp Terminal Housing	2139
		KK® 3069
		Use with Trifurcon Terminals 6442
		41695
	IDT Connector	3 Point Trifurcon Contact 7674
		Double Cantilever Contact 7675
Board-to-Board	PC Board Connector	Side Entry Type A 2145/3215
		Bottom Entry Type B 2145/3215
		Top Entry Type C 2145/3215
		Right Angle Mount Type A 41815
		Bottom Entry Type B 41815
		Top Entry Type C 41815

- Designed In: **Inches**

Electrical

- Voltage: **250V**
- Current: **7.0A**
- Contact Resistance. **6mΩ max.**
- Dielectric Withstanding Voltage: **1500V**
- Insulation Resistance: **50K MΩ min.**

Physical

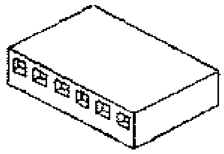
- Housing: **Polyester, UL 94V-0**
- Contact: **Brass 1.14mm (.045") pins**
- Plating: **See Table**

Figure 8.5: Molex WM4622 data sheet.

3.96mm (.156") Pitch KK® Crimp Terminal Housing, 41695 WM 2113

molex

Features and Benefits



- Sizes 2 to 20 circuits
- Locking ramp feature available
- Polarizing rib feature available for side-to-side polarization
- Offset pin entry holes provide 180° polarization
- Accepts entire line of .156" contacts
- Optional voids available

Reference Information

- Product Specification: **PS-08-50**
- Packaging: **Bag**
- UL File No.: **E29179**
- CSA File No.: **LR19980**
- Mates With: **Molex KK 3.96mm (.156") Pitch headers or 1.14mm (.045") pins**
- Use With: **2478, 2578, 6438, 6838, 7258, and 8818 Terminals**
- Designed In: **Inches**

Electrical

- Voltage: **250V AC max.**
- Current: **Phosphor Bronze--7.0A max.**
  Brass--5.0A max.
- Contact Resistance: **6mΩ max.**
- Dielectric Withstanding Voltage: **1500V AC**
- Insulation Resistance: **500K MΩ min.**

Mechanical

- Contact Insertion Force: **1.8kg (4 lb) max.**
- Contact Retention to Housing: **3.6kg (8 lb) min.**
- Mating Force: **Square pin--2.25 lb max.**
- Round pin: **1.60 lb max.**
- Unmating Force: **Square pin--0.84 lb min.**
- Round pin: **0.60 lb min.**
- Normal Force: **0.75kg (1.65 lb)**
- Durability: **25 cycles max.**

Physical

- Housing: **Polyester, UL 94V-0**
- Temperature: **0 to +75°C**

DRAWING: Top, Front, Side View and PCB Layout

Figure 8.6: Molex WM2113 data sheet.

Figure 8.7: Distribution box input connector (will be supplied before the review).

RXE
Radial Leaded

RXE Product Data

Now that you have selected your RXE device, please review the device's characteristics in this section to verify that the device will perform as required.

Electrical characteristics (20°C)

Part Number	I_H (A)	I_T (A)	Max. time to trip (s) at 5x I_H	P_d (W)	Initial resistance R min. (Ω)	Initial resistance R max. (Ω)	Post-trip resistance R_1 max. (Ω)
RXE010	0.10	0.20	4.0	0.38	2.50	4.50	7.50
RXE017	0.17	0.34	3.0	0.48	3.30	5.21	8.00
RXE020	0.20	0.40	2.2	0.41	1.83	2.75	4.40
RXE025	0.25	0.50	2.5	0.45	1.25	1.95	3.00
RXE030	0.30	0.60	3.0	0.49	0.88	1.33	2.10
RXE040	0.40	0.80	3.8	0.56	0.55	0.86	1.29
RXE050	0.50	1.00	4.0	0.77	0.50	0.77	1.17
RXE065	0.65	1.30	5.3	0.88	0.31	0.48	0.72
RXE075	0.75	1.50	6.3	0.92	0.25	0.40	0.60
RXE090	0.90	1.80	7.2	0.99	0.20	0.31	0.47
RXE110	1.10	2.20	8.2	1.50	0.15	0.25	0.38
RXE135	1.35	2.70	9.6	1.70	0.12	0.19	0.30
RXE160	1.60	3.20	11.4	1.90	0.09	0.14	0.22
RXE185	1.85	3.70	12.6	2.10	0.08	0.12	0.19
RXE250	2.50	5.00	15.6	2.50	0.05	0.08	0.13
RXE300	3.00	6.00	19.8	2.80	0.04	0.06	0.10
RXE375	3.75	7.50	24.0	3.20	0.03	0.05	0.08

I_H = Hold current—maximum current at which the device will not trip at 20°C.
I_T = Trip current—minimum current at which the device will always trip at 20°C.
P_d = Typical power dissipation—typical amount of power dissipated by the device when in tripped state in 20°C still air.
R min. = Minimum device resistance at 20°C prior to tripping.
R max. = Maximum device resistance at 20°C prior to tripping.
R_1 max. = Maximum device resistance at 20°C measured 1 hour post trip.

4

Physical characteristics

Lead material	RXE010: Tin coated nickel-copper alloy, 24 AWG, Ø 0.51 mm/0.020 in
	RXE017–040: Tin/lead-plated copper-clad steel, 24 AWG, Ø 0.51 mm/0.020 in
	RXE050–090: Tin/lead-plated copper, 24 AWG, Ø 0.51 mm/0.020 in
	RXE110–375: Tin-plated copper, 20 AWG, Ø 0.81 mm/0.032 in
Soldering characteristics	Solderability per MIL-STD-202, Method 208E
	Solder heat withstand per MIL-STD-202, Method 210, Condition B
Insulating material	Cured, flame-retardant epoxy polymer; meets UL 94V-0 requirements
	Note: Devices are not designed to be placed through a reflow process.

Raychem Circuit Protection Devices

RXE Devices 171

Figure 8.8: RXE-series polyfuse data sheet.