CB0002-00

SPECIAL BATTERY CHARGER WIRING
Switchboard Insulation System (SIS) Type to Replace Standard PVC

WIRE TYPE

A) Wire is flame-retardant switchboard insulated system (SIS) type. Insulation consists of:
　　1) chlorosulfonated polyethylene (Hypalon) rated 600V, 105° C
　　　　or
　　2) cross-linked polyethylene (XL-DUR) rated 600V, 125° C
B) All wire meets **NEMA WC-5** cold bend to -40° C.
　　1) Hypalon wire meets **UL-62 (VW-1)** vertical flame resistance
　　2) XL-DUR wire meets **UL-44** horizontal flame resistance.

GAUGE	STRANDING	UL STYLE	MANUFACTURER OR EQUIVALENT
18	16 x 30	3173	Belden XL-DUR
18	16 x 30	3191	Belden Hypalon
16	26 x 30	3191	Belden Hypalon
14	41 x 30	3191	Belden Hypalon
12	65 x 30	3191	Belden Hypalon
10	65 x 28	3191	Belden Hypalon
8	84 x 27	3192	Belden Hypalon
6	84 x 25	3192	Belden Hypalon
4	105 x 24	3192	Belden Hypalon
2	163 x 24	3192	Belden Hypalon
1	210 x 24	3193	Belden Hypalon
1/0	266 x 24	3193	Belden Hypalon
2/0	266 x 23	3192	Belden Hypalon
3/0	266 x 22	3192	Belden Hypalon
4/0	266 x 21	3192	Belden Hypalon

C) All power wire is Hypalon #14 AWG or larger, as required by **Section 310** of the **National Electrical Code**. All control wire is Hypalon (#18 AWG minimum), except as noted. Control wire to pc board connectors, which require small OD, is XL-DUR #18 AWG.
D) All power and control wire insulation is **black** in color. All ground wire insulation is **green** with **yellow** stripe.

WIRE MARKERS

All power, control, signal, and ground wires are identified on each end with white number-coded markers. Standard markers are vinyl self-laminating wrap-around type (**PC0010-03**). Optional two-sided military grade heat shrink labels (**PD5002-##**) may also be provided using manufacturing standard (**CA5005-00**). All markers are thermal transfer printed at the Engraver / Wire Marker computer station using the *Easy-Mark* wire marker labeling software.

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CB0002-00

WIRE SIZING

All power, control, and ground wires are sized per standard (**CB0009-00**).

TERMINAL LUGS

A) Power wire terminal lugs are solderless, un-insulated ring tongue type as standard. If insulation is required by design, nylon insulation supports or polyolefin heat shrink insulation is used.

B) Control wire terminal lugs are solderless ring tongue type with nylon insulation supports as standard.

C) Nylon insulated "quick-connect" terminals are used on all indicating lights, timers, and relays.

CONNECTIONS

One (1) wire per terminal lug is followed where possible. A maximum of two (2) wires per terminal lug is used only when necessary in less than 10% of the total connections made. Two (2) lugs or less per terminal screw is followed where possible. A maximum of three (3) lugs per terminal screw is used only when necessary in less than 10% of the total connections made.

TERMINAL BLOCKS

A) Input and Output **power** terminal blocks are as follows:

RATING	MANUFACTURER OR EQUIVALENT	TYPE	TERMINAL
600V-30A (Style-1A enclosure only)	*HindlePower* p/n **RC0006-##** (TRW 142 Series)	molded phenolic barrier design block	#8-32 binder head screw for lugs which accept #14-#12 AWG wire
600V-50A	*HindlePower* p/n **RC0012-##** (Buchanan 724 Series)	medium-duty nylon sectional block	tubular compression screw cable connector for #18-#8 AWG wire
600V-90A	*HindlePower* p/n **RC0014-##** (Buchanan 242 Series)	heavy-duty nylon sectional block	tubular compression screw cable connector for #18-#4 AWG wire
600V-100A	*HindlePower* assembly p/n **FB0314-##**, or similar on standard I/O panel	fabricated phenolic strip or I/O panel	1/4-20 ZPS stud hardware for similar ring-lugged wire
600V-300A	*HindlePower* assembly p/n **FB0316-##**, or similar on standard I/O panel	fabricated phenolic strip or I/O panel	3/8-16 ZPS hardware for similar ring-lugged wire
600V-600A	*HindlePower* assembly p/n **FB0317-##**, or similar on standard I/O panel	fabricated phenolic strip or I/O panel	1/2-13 ZPS hardware for similar ring-lugged wire

B) Alarm / control terminal blocks are barrier type (HindlePower p/n **RC0005-##**) with molded phenolic base (TRW 141 Series or equivalent). Control terminal blocks are rated 600V - 20A with #6-32 binder head screw terminals for lugs, which accept #16-#14 AWG wire.