

Angled Consolelet

Submittal for Mobile Panel

Prepared by:

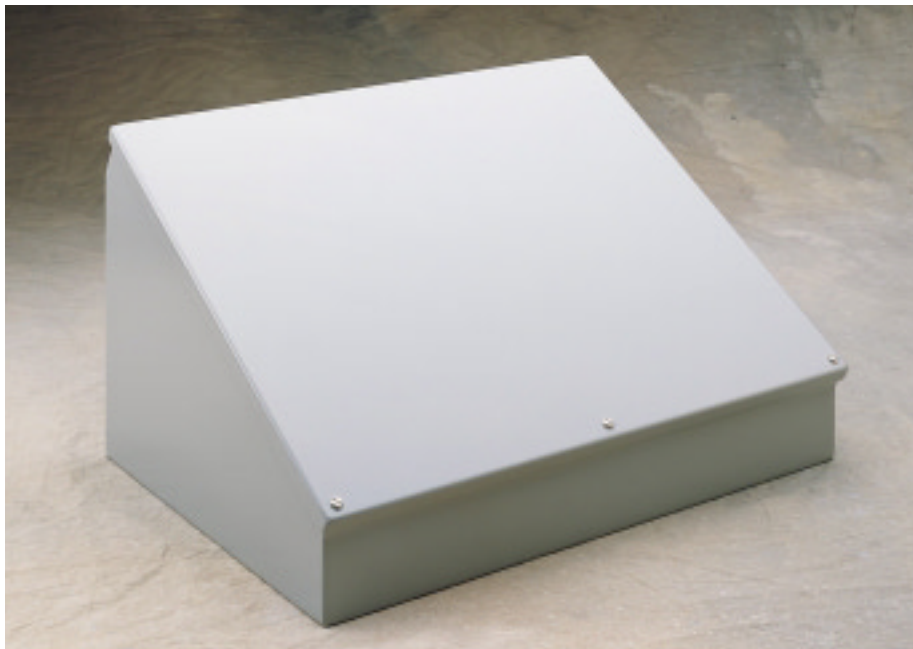
Your Company

Your Address

Panel Job: 2012-203

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- A. Datasheets - Enclosures / Accessories**
- B. Datasheets - Power / Control Components**
- C. Datasheets - Field Mounted Components**
- D. Drawings**
- E. Bill of Materials**



Finish

ANSI 61 gray polyester powder coating inside and out over phosphatized surfaces. Stainless steel enclosures are unpainted. Cover and sides of body have smooth brushed finish.

Industry Standards

UL 508, File Number E61997: Type 12 and Type 13
 NEMA/EEMAC Type 12
 CSA File Number LR42186: Type 12
 IEC 60529, IP65

Accessories

See General Accessories index

- Corrosion Inhibitors
- Latch Kits
- Mounting Foot Kit
- Pedestals
- Touch-Up Paint (A-TPPY61)
- Window Kit

Application

Designed to house a variety of electronic control or instrumentation devices. Consolets provide protection from dust, dirt, oil and water. Flexible design allows for mounting on either of two sides, creating control surfaces of 30 degrees or 60 degrees. Consolets can be mounted on desktops, pedestals, or other flat surfaces.

Construction

- 14 gauge steel or Type 304 stainless steel
- Seams continuously welded and ground smooth, no holes or knockouts
- Captivated cover screws thread into sealed wells
- Control panel attached with continuous hinge along bottom edge
- Oil-resistant gasket and adhesive

Standard Sizes

Pedestal Columns and Bases*

Catalog Number	Size	Description
A-44CCOL	4.00 x 4.00 (102 x 102)	Straight Pedestal Column
A-66CCOL	6.00 x 6.00 (152 x 152)	Straight Pedestal Column
A-18SBASE	18.00 x 18.00 (457 x 457)	Pedestal Base
A-24SBASE	24.00 x 24.00 (610 x 610)	Pedestal Base

Millimeter dimensions () are for reference only; do not convert metric dimensions to inch.

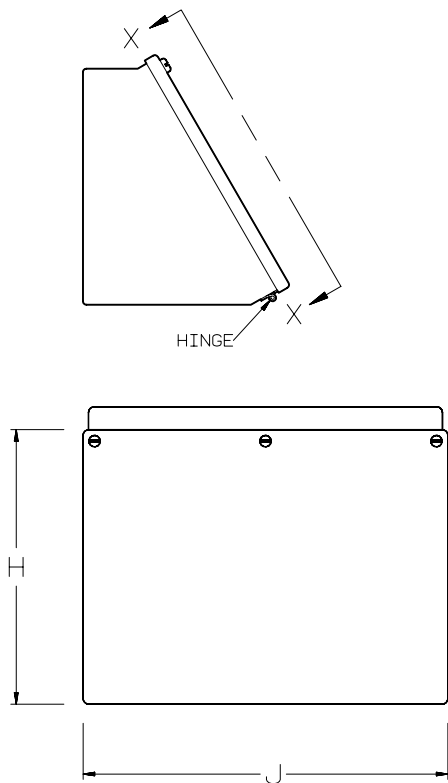
*See General Accessories for more information.

Standard Sizes Consolets

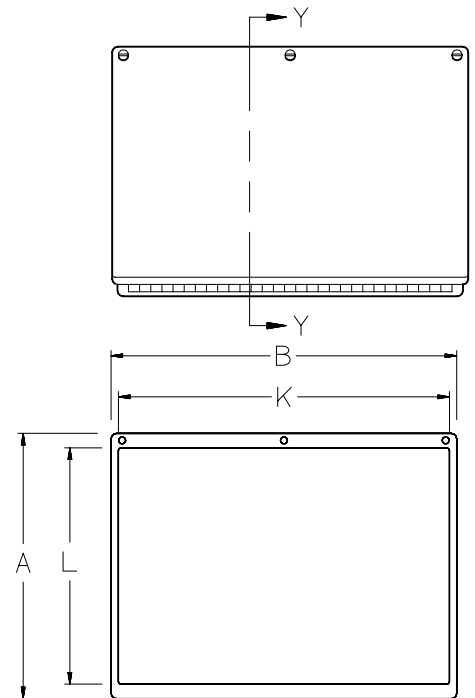
Catalog Number		Enclosure Size A x B x C		E	H	J	K	L	N
Steel	Stainless Steel	inch	(millimeter)						
C-8C8	◇ C-8C8SS	8.00 x 8.00 x 7.09	(203 x 203 x 180)	5.62 (143)	8.28 (210)	8.28 (210)	7.50 (191)	6.62 (168)	7.44 (189)
C-8C12	◇ C-8C12SS	8.00 x 12.00 x 7.09	(203 x 305 x 180)	5.62 (143)	8.28 (210)	12.28 (312)	11.50 (292)	6.62 (168)	7.44 (189)
C-8C16	◇ C-8C16SS	8.00 x 16.00 x 7.09	(203 x 406 x 180)	5.62 (143)	8.28 (210)	16.28 (414)	15.50 (394)	6.62 (168)	7.44 (189)
C-8C20	◇ C-8C20SS	8.00 x 20.00 x 7.09	(203 x 508 x 180)	5.62 (143)	8.28 (210)	20.28 (515)	19.50 (495)	6.62 (168)	7.44 (189)
C-12C12	◇ C-12C12SS	12.00 x 12.00 x 9.09	(305 x 305 x 231)	7.62 (194)	12.28 (312)	12.28 (312)	11.50 (292)	10.62 (270)	10.91 (277)
C-12C16	◇ C-12C16SS	12.00 x 16.00 x 9.09	(305 x 406 x 231)	7.62 (194)	12.28 (312)	16.28 (414)	15.50 (394)	10.62 (270)	10.91 (277)
C-12C20	◇ C-12C20SS	12.00 x 20.00 x 9.09	(305 x 508 x 231)	7.62 (194)	12.28 (312)	20.28 (515)	19.50 (495)	10.62 (270)	10.91 (277)
C-12C24	◇ C-12C24SS	12.00 x 24.00 x 9.09	(305 x 610 x 231)	7.62 (194)	12.28 (312)	24.28 (617)	23.50 (597)	10.62 (270)	10.91 (277)
C-16C16	◇ C-16C16SS	16.00 x 16.00 x 11.09	(406 x 406 x 282)	9.62 (244)	16.28 (414)	16.28 (414)	15.50 (394)	14.62 (371)	14.38 (365)
C-16C20	◇ C-16C20SS	16.00 x 20.00 x 11.09	(406 x 508 x 282)	9.62 (244)	16.28 (414)	20.28 (515)	19.50 (495)	14.62 (371)	14.38 (365)
C-16C24	◇ C-16C24SS	16.00 x 24.00 x 11.09	(406 x 610 x 282)	9.62 (244)	16.28 (414)	24.28 (617)	23.50 (597)	14.62 (371)	14.38 (365)
C-16C30	◇ C-16C30SS	16.00 x 30.00 x 11.09	(406 x 762 x 282)	9.62 (244)	16.28 (414)	30.28 (769)	29.50 (749)	14.62 (371)	14.38 (365)
C-16C36	◇ C-16C36SS	16.00 x 36.00 x 11.09	(406 x 914 x 282)	9.62 (244)	16.28 (414)	36.28 (922)	35.50 (902)	14.62 (371)	14.38 (365)
C-20C20	◇ C-20C20SS	20.00 x 20.00 x 13.09	(508 x 508 x 332)	11.62 (295)	20.28 (515)	20.28 (515)	18.62 (473)	18.62 (473)	17.84 (453)
C-20C24	◇ C-20C24SS	20.00 x 24.00 x 13.09	(508 x 610 x 332)	11.62 (295)	20.28 (515)	24.28 (617)	22.62 (575)	18.62 (473)	17.84 (453)
C-20C30	◇ C-20C30SS	20.00 x 30.00 x 13.09	(508 x 762 x 332)	11.62 (295)	20.28 (515)	30.28 (769)	28.62 (727)	18.62 (473)	17.84 (453)

Millimeter dimensions () are for reference only; do not convert metric dimensions to inch.

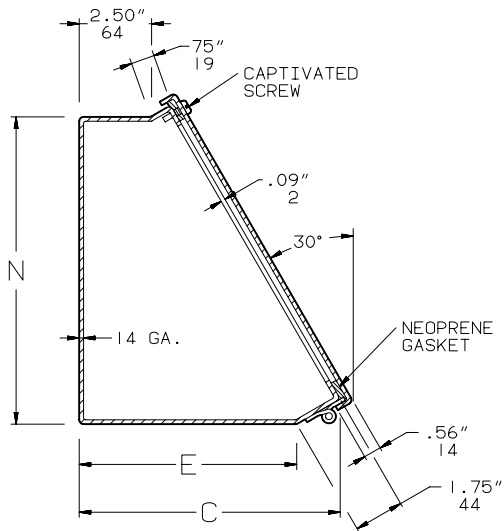
◇ Standard product available for shipment within 10 working days.



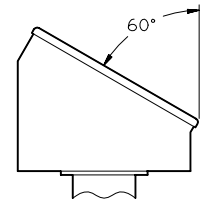
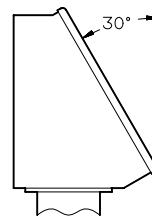
View X-X



**View X-X
with Cover Removed**



SECTION Y-Y



C2760

**Inch
Millimeter**

Phaseo switch mode power supplies are totally electronic and their output voltage is regulated. They offer:

- Very compact size
- Very wide input voltage range for the Universal range
- Diagnostics via LED indicators on the front panel
- Remote diagnostics via a relay contact for the Universal range

Table 23.1: ABL8MEM and ABL7RM24025 Regulated Switch Mode Single Phase, Modular

Ideally suited for use with small PLCs (such as Zelio® Logic Smart Relays and Twido™) or relays and starter circuits using low consumption coils.

Input Voltage (Vac)	Output Voltage (Vdc)	Nominal Current (I)	Protection Reset	Catalog Number	\$ Price
100-240	5	4	Auto	ABL8MEM05040	85.
	12	2		ABL8MEM12020	88.
	24	0.3		ABL8MEM24003	47.
		0.6		ABL8MEM24006	70.
		1.2		ABL8MEM24012	94.
		2.5		ABL7RM24025	120.



ABL8MEM12020

Table 23.2: ABL8REM/7RP, Regulated Switch Mode Single Phase, Optimum

These slim electronic switch mode power supplies provide a quality of output current that is suitable for the loads necessary for electrical equipment supplied and compatible with both the Twido range and the smallest Modicon M340 configurations, making them ideal partners.

Input Voltage (Vac)	Output Voltage (Vdc)	Nominal Current (I)	Protection Reset	Catalog Number	\$ Price
100-240	12	5	Auto	ABL7RP1205	240.
	24	3		ABL8REM24030	130.
		5		ABL8REM24050	200.
		2.5		ABL7RP4803	150.



ABL8REM24030

Table 23.3: ABL8RPS/RPM, Regulated Switch Mode Single Phase, Universal

Provided with an input filter (power factor correction) which allows these to be used in commercial environments and larger PLCs.

Input Voltage (Vac)	Output Voltage (Vdc)	Nominal Current (I)	Auto-Protection Reset	Catalog Number	\$ Price
100-120 / 200-500	24	3	Auto/Manual	ABL8RPS24030	180.
		5		ABL8RPS24050	240.
		10		ABL8RPS24100	350.
100-120 / 200-240	20	ABL8RPM24200		477.	



ABL8RPS24050

Table 23.4: ABL8WPS, Regulated Switch Mode Three Phase, Universal

These power supplies provide a quality of output current that is suitable for the loads supplied and compatible with the Modicon M340, Premium and Quantum ranges.

Input Voltage (Vac)	Output Voltage (Vdc)	Nominal Current (I)	Auto-Protection Reset	Catalog Number	\$ Price
380-500	24	20	Auto/Manual	ABL8WPS24200	490.
		40		ABL8WPS24400	782.



ABL8WPS24200

Table 23.5: ABL1, Regulated Switch Mode Single Phase, Dedicated

ABL1 regulated switch-mode power supplies are totally electronic and regulated, and provide the following benefits:

- A wide input range from 85 to 264 Vac and 120 to 370 Vdc (not indicated on the product)
- Output currents ranging from 2.5-10 A
- Products with anti-harmonic distortion input filter
- Built-in thermal overload protection
- Overload and short-circuit protection
- Identical mounting accessories for all models

Input Voltage (Vac)	Output Voltage (Vdc)	Nominal Current (I)	Protection Reset	Catalog Number	\$ Price
100-240▲	12	5	Auto	ABL1REM12050	75.
	24	2.5		ABL1REM24025	62.
4.2		ABL1REM24042		88.	
6.2		ABL1REM24062		95.	
10		ABL1REM24100		135.	
100-120 / 200-240■	12	8.3		Auto	ABL1RPM12083
	24	4.2	ABL1RPM24042		105.
6.2		ABL1PRM24062	115.		
10		ABL1RPM24100	180.		

▲ Compatible input voltage 120-370 Vdc not indicated on the product.

■ Compatible input voltage 180-370 Vdc not indicated on the product.

Approvals for relays:



ABL1RPM24042



ABL1RPM24100



File E164867
CNN NMTR, NMTR7



File E164867
CNN NMTR2, NMTR8



File 238438
Class 531187,
531107



RoHS
Compliant

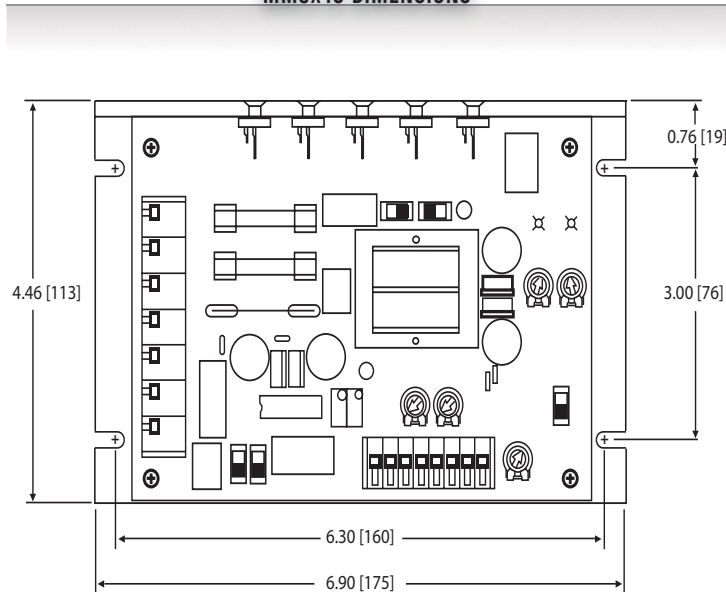
For additional information, refer to Catalog #8440CT0601

Drive	Input Voltage (VAC)	Output Voltage (VDC)	Max Current (ADC)	HP Rating @ 90 VDC Output	HP Rating @ 180 VDC Output	Enclosure	Reversing	Isolation	Field Supply (VDC) ****	Form Factor	UL	CUL	CE
MM311U	115/230	0-90 / 0-180	1.5	1/20 - 1/8	1/10 - 1/4	Chassis	*****	0-10 VDC / 4-20 mA	YES	1.37	YES	YES	YES
MM301U	115/230	0-90 / 0-180	10	1/4 - 1	1/2 - 2	Chassis	*****	0-10 VDC / 4-20 mA	YES	1.37	YES	YES	YES
MM501U	115/230	0-90 / 0-180	25	1 - 2 1/2	2 - 5	Chassis	*****	0-10 VDC / 4-20 mA	YES	1.37	YES	YES	-

**** The MM3x1U field supply is rated at 1 Amp DC while the MM501U field supply is rated at 3 Amp. A 50/100 VDC field is available with 115 VAC input, and a 100/200 VDC field is available with 230 VAC input.

***** See Regenerative Drives in Section C for drives that can reverse on-the-fly.

MM3x1U DIMENSIONS



Height: 1.90 [48]

All dimensions in inches [millimeters]

Dimensions of drives not shown above can be found on page 55.
Wiring diagrams of chassis drives can be found on pages 60 and 68.

FEATURES

- **Isolated inputs:** Accepts floating or grounded signals of 0-10VDC or 4-20mA for controlling the speed of the motor. Burr-Brown isolation provides .01% linearity.
- **Speed range and regulation:** 1% regulation over 60:1 speed range. 0.1% regulation over 80:1 speed range with the addition of a tachometer for feedback.
- **User adjustable calibration pots:** IR compensation, min speed (12 turn), max speed (12 turn), current limit, acceleration, deceleration and tachometer.
- **Diagnostic LEDs:** LEDs for power, run (MM501U only) and current limit status.
- **Stopping modes:** Start/stop circuitry for three wire remote pushbuttons or two wire maintained switches.
- **Cage clamp terminal block:** Quick and easy wire terminations reduce installation time!
- **Additional features:** Tachometer feedback mode and on board fusing.

The MM300 and MM500 Series of dual-voltage single quadrant SCR drives can control 90 or 180 VDC SCR brush-type motors ranging from 1/20 HP through 5 HP. The MM311U, MM301U, and the MM501U drives have integrated isolation allowing them to precisely follow analog current or voltage signals from external devices or a potentiometer as a reference for motor speed control. This results in significant labor and material cost reduction compared to other systems employing a separate drive and isolation card.

Use the MM300 or MM500 Series for a full featured, high end, great performing single quadrant DC drive.

See page 50 for an in-depth comparison of the different models of drives.



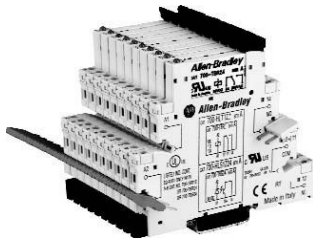
MM301U
MM311U



MM501U

Interposing/Isolation Relays

Overview/Product Selection



Bulletin 700-HL “Terminal Block Relay”

- Relay and Socket Assembled Interface Modules For High Density Interposing or Isolation Applications
- Screw Terminal and Spring Clamp Bases
- 6 A Relay, Choice of Silver or Gold Contacts
- 2 A Solid-State Relay
- SPDT (Relay), 1 N.O. (Solid-State)
- Built-in Retainer Clip and Snap-in Marker Lever
- Standard LED, Reverse Polarity Protection, and Surge Protection
- Externally Replaceable Relay Modules
- Unique Leakage Current Suppression Version to Address Industry Concerns of Nuisance Coil Turn-on or Contact Non-Drop Out when Connecting to PLCs with Leakage Current

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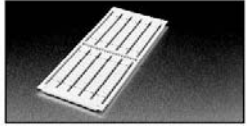
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- Specifications 9-52
- Approximate Dimensions 9-54
- Standards Compliance and Certifications**
- See Specification Table In This Section.

Product Selection

Standard built-in Features:				
	<ul style="list-style-type: none"> • LED • Reverse Polarity Protection for DC Inputs • Coil Surge Protection 			
Specifications				
Output Type	SPDT (1 C/O); $I_{th} = 6A\ddagger$		1 N.O. solid-state; $I_{th} = 2 A, 24V DC$	
Recommended Tightening Torque	0.5 Nm max. (4.4 lb.-in.)			
Wire Range	Screw Terminal: 0.14 mm ² ...2.5 mm ² (#26...#14 AWG), Spring Terminal: 0.2 mm ² ...2.5 mm ² (#24...#14 AWG)			
Approvals	cULus, cURus, ABS, CE			

Assembled Devices	Pkg. Quantity	Cat. No. (Screw Terminals)	Cat. No. (Spring Clamp Terminals)	Pkg. Quantity	Cat. No. (Screw Terminals)	Cat. No. (Spring Clamp Terminals)
Input Voltage						
12V DC	10	700-HLT1Z12†	700-HLT2Z12	—	—	—
24V DC	10	700-HLT1Z24†	700-HLT2Z24	10	700-HLS1Z24†	700-HLS2Z24
48V DC	10	700-HLT1Z48†	700-HLT2Z48	10	700-HLS1Z48†	700-HLS2Z48
12V AC/DC	10	700-HLT1U12	700-HLT2U12	—	—	—
24V AC/DC	10	700-HLT1U24	700-HLT2U24	—	—	—
48V AC/DC	10	700-HLT1U48	700-HLT2U48	—	—	—
110/125V AC/DC	10	700-HLT1U1	700-HLT2U1	10	700-HLS1U1†	700-HLS2U1
220...240V AC/DC	10	700-HLT1U2	700-HLT2U2	10	700-HLS1U2†	700-HLS2U2
Built-in LCSC (leakage current suppression circuit) 120V AC and 125V DC§	10	700-HLT1L1†	—	10	700-HLS1L1†	—
Built-in LCSC (leakage current suppression circuit) 240V AC§	10	700-HLT1L2†	—	10	700-HLS1L2†	—

* Reverse polarity on the output terminals of the solid-state relay will result in the output being “On” regardless of the state of the input voltage.
 † Electromechanical relay to solid-state relay interchangeability is possible.
 ‡ For Gold-plated contacts: Add the letter “X” at the end of the catalog number. For example: if Cat. No. 700-HLT1Z24 is required with gold plating, the new cat. no. is 700-HLT1Z24X.
 § Leakage current suppression up to 2.2 mA off state current.

	Description	Pkg. Quantity	Socket Input Voltage	Cat. No.
 Cat. No. 700-TBR24	Replacement Relays Order must be for 20 relays or multiples of 20.	20	12V	700-TBR12*
			24V	700-TBR24*
			48V	700-TBR48*
			110/125V 220...240V 120V...125V 240V	700-TBR60*
 Cat. No. 700-TBS24	Replacement SSR 4-blade miniature relay for use with 1 N.O. SSR output. Order must be for 20 relays or multiples of 20.	20	24V	700-TBS24
			48V 110/125V 220...240V 120V...125V 240V 120/125V	700-TBS60
 Cat. No. 700-TBJ20B	20-Way Jumper Can be cut to required length. <i>I</i> _{th} =36 A max per 20-way jumper.	1	Color	
			Red	700-TBJ20R
			Gray	700-TBJ20G
			Blue	700-TBJ20B
 Cat. No. 700HN177	End Barrier Used for visual inspection of groups, safe separation of neighboring 700-HL modules that end with jumpers. Order must be for 10 or multiples of 10.	10	Black	700-HN177
	Snap-in Marker These snap-in markers have a 6 x 10 mm surface and snap into the ejection lever for the relay.	100	Blank	1492-MC6X10
			Standard 1492-MC6X10	www.ab.com/catalogs for information
			Custom	†

* For gold-plated contacts: Add the letter "X" at the end of the catalog number. For example: if Cat. No. 700-TBR24 is required with gold plating, the new cat. no. is 700-TBR24X. Also add \$1 (US) to the price per relay.

† Go to <http://www.ab.com/software/termblock/index.html> and download software. Create custom text, save file, and e-mail to your local Allen-Bradley distributor.

Note: Terminal block relay bases are not sold separately.

Bulletin 700-HL
Interposing/Isolation Relays
Specifications*

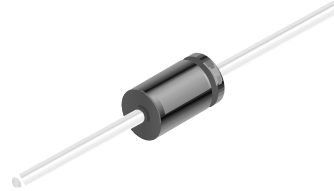
Cat. No. 700-HLT... (Relay Output)							
Electrical Ratings							
Pilot Duty Rating	6 A NEMA B 300, R 300						
Rated Thermal Current (I_{th})	1-Pole — 6 A						
Rated Insulation Voltage (U_i)	250V IEC, 300V UL/CSA						
Contacts	Inductive	1-Pole					
	24V AC, 1-phase	30 A	▶][◀	5 A	◀][▶		
	120V AC, 1-phase	30 A		3 A			
	240V AC, 1-phase	15 A		1.5 A			
	Make, Break & Continuous V DC	24V DC				1.0 A	
	120V DC				0.2 A		
	240V DC				0.1 A		
Min. Permissible Contact Ratings	12V, 6 mA (72 mW) for Silver Contacts, 8V, 2.5 mA (20 mW) for Gold Contacts						
Permissible Coil Voltage Variation	Pickup:	85...110% of Nominal Voltage at 50 Hz 85...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC				Must Dropout Voltage:	10% of Nominal Voltage at AC 5% of Nominal Voltage at DC
Power Consumption ±10%	AC	0.3 VA					
	DC	0.2 W					
Design Specification/Test Requirements							
Dielectric Withstand Voltage	Pole to Pole (VRMS)	1000V					
	Contact to Coil (VRMS)	4000V					
Input Voltage	12V AC/DC	24V AC/DC	48V AC/DC	120V AC/DC	240V AC/DC	120V LCSC	240V LCSC
Impedance (Ohms)	1 K	2 K	6 K	26 K	56 K	16 K	35 K
Mechanical							
Degree of Protection	IP20						
Mechanical Life Operations	1 x 10 ⁷						
Electrical Life Operations	6 A Resistive: 100,000 min. 24V DC, 1 A Inductive: 200,000 min. 120V AC 1 A Inductive: 300,000 min.						
Switching Frequency Operations (no-load)	10 cycles/sec						
Coil Voltages	See Overview/Product Selection						
Operating Time at Nominal Voltage at 20°C (ms)	Pickup	7 ms					
	Dropout	3 ms					
Maximum Operating Rate (full load = 6 A)	6 cycles/min.						
Coil Surge Protection	Per EN 61000-4-5; Surge Immunity (801-5) Class III: 2 kV common and 1 kV differential mode						
Environmental							
Temperature	Operating	-40...+55 °C					
	Storage	-40...100 °C					
Altitude	2000 m (6560 ft)						
Construction							
Insulating Material	Molded High Dielectric Material						
Enclosure	Relay IP67						
Contact Material	Silver Tin Ox., AgSnO or Silver with Gold Plating, AgSnO + Au						
Terminal Markings on Socket	In accordance with EN50 0005						
Certifications	cURus Recognized, File E3125, Guide NLDX 2, cULus Listed, with Allen-Bradley socket, CE Marked (per EU Low Voltage Directive 73/23 EEC 93/68 EEC), ABS (American Bureau of Shipping)						
Standards	EN60947-4-1, EN60947-5-1, IEC 947CSA 22.2, UL 508, NEMA IEE MAC Compliant, ICS-2 Compliant						

* Performance Data – See Important 2, publication A115.

1N4001 - 1N4007

Features

- Low forward voltage drop.
- High surge current capability.



DO-41
COLOR BAND DENOTES CATHODE

General Purpose Rectifiers

Absolute Maximum Ratings* T_A = 25°C unless otherwise noted

Symbol	Parameter	Value							Units
		4001	4002	4003	4004	4005	4006	4007	
V _{RRM}	Peak Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
I _{F(AV)}	Average Rectified Forward Current, .375" lead length @ T _A = 75°C	1.0							A
I _{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	30							A
T _{stg}	Storage Temperature Range	-55 to +175							°C
T _J	Operating Junction Temperature	-55 to +175							°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics

Symbol	Parameter	Value	Units
P _D	Power Dissipation	3.0	W
R _{θJA}	Thermal Resistance, Junction to Ambient	50	°C/W

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Device							Units
		4001	4002	4003	4004	4005	4006	4007	
V _F	Forward Voltage @ 1.0 A	1.1							V
I _{rr}	Maximum Full Load Reverse Current, Full Cycle T _A = 75°C	30							μA
I _R	Reverse Current @ rated V _R T _A = 25°C T _A = 100°C	5.0 500							μA
C _T	Total Capacitance V _R = 4.0 V, f = 1.0 MHz	15							pF

Emergency Stop Operators*
Non-Illuminated
Twist-to-Release, Push-Pull



60 mm Non-Illuminated Twist-to-Release
 Cat. No. 800FP-MT64



40 mm Non-Illuminated Push-Pull
 Cat. No. 800FP-MP44

Color	Size	Twist-to-Release (Trigger Action)		Push-Pull (Trigger Action)		Pkg. Quantity
		Plastic	Metal	Plastic	Metal	
		Cat. No.	Cat. No.	Cat. No.	Cat. No.	
Red	30 mm	800FP-MT34	800FM-MT34	–	–	1
	40 mm	800FP-MT44	800FM-MT44	800FM-MP44	800FM-MP44	
	60 mm	800FP-MT64	800FM-MT64	–	–	

Key Release



40 mm Non-Illuminated Key Release
 Cat. No. 800FP-MK44

Color	Size	Ronis Key Lock (Trigger Action)		Pkg. Quantity
		Plastic	Metal	
		Cat. No.	Cat. No.	
Red	40 mm	800FP-MK44	800FM-MK44	1

Illuminated — Twist-to-Release, Push-Pull†



40 mm Illuminated Twist-to-Release
 Cat. No. 800FP-LMT44

Color	Size	Twist-to-Release (Trigger Action)		Push-Pull (Trigger Action)		Pkg. Quantity
		Plastic	Metal	Plastic	Metal	
		Cat. No.	Cat. No.	Cat. No.	Cat. No.	
Red	30 mm	–	–	800FP-LMP34	800FM-LMP34	1
	40 mm	800FP-LMT44	800FM-LMT44	800FP-LMP44	800FM-LMP44	
	60 mm	800FP-LMT64	800FM-LMT64	800FP-LMP64	800FM-LMP64	

* All emergency stop operators are EN418 compliant with standard NC, NCLB, or self-monitoring contact blocks.
 † LED module required for illumination, can not use incandescent module.

Back-of-Panel — page 10-31
 Accessories — page 10-36
 Legend Plates — page 10-39
 Approximate Dimensions — page 10-45
 Specifications — page 10-5

Back-of-Panel Components

Contact Blocks with Latch*

800F – **P** **X** **0** **1** **S**
 a *b* *c* *d* *e*



a

Style	
Code	Description
P	Plastic latch
M	Metal latch

b

Contact Block(s) Termination Style	
Code	Description
X	Screw termination
Q	Spring-clamp termination†

c

N.O. (Normally Open) Circuits	
Code	Description
0	No contact
1	1 N.O.
2	2 N.O.
3	3 N.O.
4	4 N.O.
5	5 N.O.
6	6 N.O.

d

N.C. (Normally Closed) Circuits	
Code	Description
0	No contact
1	1 N.C.
2	2 N.C.
3	3 N.C.
4	4 N.C.
5	5 N.C.
6	6 N.C.

e

Specialty Contact Block(s)	
Code	Description
Blank	Standard blocks
V	Low voltage — QuadCONNECT™
E	N.O. early make
L	N.C. late break
S	N.C. self-monitoring

* Six circuits maximum allowable.
 † Spring-clamp terminations only available in N.O. and N.C. contact blocks. Specialty contact blocks not available.

Power Modules with Latch

800F – **M** **N** **3** **G**
 a *b* *c* *d*

a

Style	
Code	Description
P	Plastic latch
M	Metal latch

b

Power Module Type‡	
Code	Description
D	Incandescent module, screw termination
N	Integrated LED module, screw termination
Q	Integrated LED module, spring-clamp termination

c

Voltage	
Code	Description
0	No bulb§
1	6V AC/DC§
2	12V AC/DC§
3	24V AC/DC
4	48V AC/DC§
5	120V AC
7	240V AC*

d

Lamp Color▶	
Code	Description
C	Incandescent
R	Red LED
G	Green LED
Y	Yellow LED
W	White LED
B	Blue LED

‡ LED modules for use with all illuminated operators. Incandescent module for use with pilot lights, push buttons, and momentary mushroom operators only.
 § Only available for incandescent module.
 * Only available for integrated LED module.
 ▶ For best illumination results, LED color should match lens color.

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22.5 mm Push Buttons

Product Selection, Continued

Back-of-Panel Components, Continued

Power Modules with Contact Blocks and Latch*

800F – **P** **N** **5** **R** **X** **1** **0** **E**
a *b* *c* *d* *e* *f* *g* *h*

a

Style	
Code	Description
P	Plastic latch
M	Metal latch

b

Power Module Type†	
Code	Description
D	Incandescent module, screw termination
N	Integrated LED module, screw termination
Q	Integrated LED module, spring-clamp termination

c

Voltage	
Code	Description
0	No bulb‡
1	6V AC/DC‡
2	12V AC/DC‡
3	24V AC/DC
4	48V AC/DC‡
5	120V AC
7	240V AC§

d

Lamp Color*	
Code	Description
C	Incandescent
R	Red LED
G	Green LED
Y	Yellow LED
W	White LED
B	Blue LED

e

Contact Block(s) Termination Style	
Code	Description
X	Screw termination
Q	Spring-clamp termination➤

f

N.O. (Normally Open) Circuits	
Code	Description
0	No contact
1	1 N.O.
2	2 N.O.
3	3 N.O.
4	4 N.O.

g

N.C. (Normally Closed) Circuits	
Code	Description
0	No contact
1	1 N.C.
2	2 N.C.
3	3 N.C.
4	4 N.C.

h

Specialty Contact Block(s)	
Code	Description
Blank	Standard blocks
V	Low voltage — QuadCONNECT™
E	N.O. early make
L	N.C. late break
S	N.C. self-monitoring

* Four circuits maximum allowable when power module is used. Do not stack contact block on power module.

† LED modules for use with all illuminated operators. Incandescent module for use with pilot lights, push buttons, and momentary mushroom operators only.

‡ Only available for incandescent module.

§ Only available for integrated LED module.

* For best illuminated results, LED should match lens color.

➤ Spring-clamp terminations only available in N.O. and N.C. contact blocks. Specialty contact blocks not available.

Accessories — page 10-36



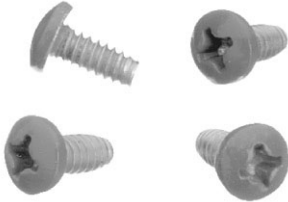
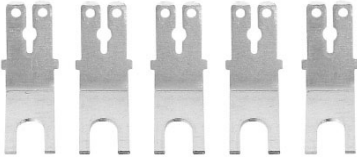

Legend Plates — page 10-39

Approximate Dimensions — page 10-45

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Back-of-Panel Components, Continued

Other





	Description	Cat. No.	Pkg. Quantity	
 Cat. No. 800F-ALM	Metal Mounting Latch These are zinc-plated, metal die cast mounting latches. Note: Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.	800F-ALM	10	
	Note: Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces.	800F-ALM-BP	100	
 Cat. No. 800F-ALP	Plastic Mounting Latch Note: Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.	800F-ALP	10	
	Note: Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces.	800F-ALP-BP	100	
 Cat. No. 800F-AGS1	Ground Screws These are self-tapping #6-32 (M3.5) ground screws for metal latches. Note: Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.	800F-AGS1	10	
 Cat. No. 800F-ATK2	Stab Terminals Can be used with all single circuit contact blocks. Minimum spacing requirements apply. See instruction sheet for details. Note: Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces.	800F-ATK2	100	
	Description	Contact Type	Cat. No.	Pkg. Quantity
 Cat. No. 800F-X10	Contact Block Note: Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces. Latch not included.	N.O.	800F-X10	10
		N.C.	800F-X01	
		N.O.E.M.	800F-X10E	
		N.C.L.B.	800F-X01L	
		Self-Monitoring	800F-X01S	
		N.O. low voltage — QuadCONNECT™	800F-X10V	
		N.C. low voltage — QuadCONNECT™	800F-X01V	
		Dual circuit of 2 N.O.	800F-X20D	
		Dual circuit of 2 N.C.	800F-X02D	
		Dual circuit of 1 N.O. - 1 N.C.	800F-X11D	
		N.O. with stab terminals	800F-X10T	
		N.C. with stab terminals	800F-X01T	
		N.O. spring-clamp	800F-Q10	
	N.C. spring-clamp	800F-Q01		
Note: Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces. Latch not included.	N.O.	800F-X10-BP	100	
	N.C.	800F-X01-BP		

22.5 mm Push Buttons

Product Selection, Continued

Back of Panel Components, Continued

Other

	Description	Volts	Cat. No.	Pkg. Quantity
 Cat. No. 800F-D3C	Incandescent Module For use with pilot lights, push buttons, and momentary mushroom operators. Note: Sold in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces. Latch not included.	No bulb	800F-D0C	10
		6V AC/DC	800F-D1C	
		12V AC/DC	800F-D2C	
		24V AC/DC	800F-D3C	
		48V AC/DC	800F-D4C	
		120V AC/DC	800F-D5C	
 Cat. No. 800F-N3G	Integrated LED Module For use with all illuminated devices. For best results, LED should match lens color. Note: Sold in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces. Latch not included.	24V AC/DC	800F-N3x*	10
		120V AC	800F-N5x*	
		240V AC	800F-N7x*	
		24V AC/DC spring-clamp	800F-Q3x*	
		120V AC spring-clamp	800F-Q5x*	
		240V AC spring-clamp	800F-Q7x	
 Cat. No. 800F-BX01	Base Mounted Contact Block Base mounted contact blocks can be used in plastic or metal enclosures. Note: Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.	N.O.	800F-BX10	10
		N.C.	800F-BX01	
		N.O.E.M.	800F-BX10E	
		N.C.L.B.	800F-BX01L	
		N.O. low voltage — QuadCONNECT™	800F-BX10V	
		N.C. low voltage — QuadCONNECT™	800F-BX01V	
		N.O. spring-clamp	800F-BQ10	
		N.C. spring-clamp	800F-BQ01	
 Cat. No. 800F-BN3R	Base Mounted Integrated LED Module Base mounted modules can be used in plastic or metal enclosures. For best illumination results, LED should match lens color. Note: Sold in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.	24V AC/DC	800F-BN3x*	10
		120V AC	800F-BN5x*	
		240V AC	800F-BN7x*	
		24V AC/DC spring-clamp	800F-BQ3x*	
		120V AC spring-clamp	800F-BQ5x*	
		240V AC spring-clamp	800F-BQ7x*	

* To complete the cat. no., replace the x with one of the following letters for the desired color: **Y** = Yellow, **R** = Red, **G** = Green, **B** = Blue, **W** = White.

22.5 mm Push Buttons

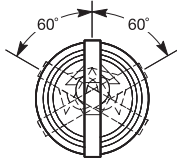
Product Selection, Continued

3-Position Selector Switch Operators, Illuminated*



Standard Knob
Cat. No. 800FP-LSM37

Switching Angle



Target Table and Operator Position (60° Switching Angle)

Contact Type	Position on Mounting Latch			
N.O.	Left	X	O	O
N.O.	Right	O	O	X
N.C.	Left	O	X	X
N.C.	Right	X	X	O

Note: X = Closed/O = Open

Operator Type	Green		Red		Yellow		Pkg. Quantity
	Plastic	Metal	Plastic	Metal	Plastic	Metal	
	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	1
	800FP-LSM33	800FM-LSM33	800FP-LSM34	800FM-LSM34	800FP-LSM35	800FM-LSM35	
	800FP-LSR33	800FM-LSR33	800FP-LSR34	800FM-LSR34	800FP-LSR35	800FM-LSR35	
	800FP-LSL33	800FM-LSL33	800FP-LSL34	800FM-LSL34	800FP-LSL35	800FM-LSL35	
	800FP-LSB33	800FM-LSB33	800FP-LSB34	800FM-LSB34	800FP-LSB35	800FM-LSB35	

800F **P** - **LS** **M3** **3** - - - - -

a b c d e f

a

Operator Construction	
Code	Description
P	Round plastic operator (IP66, Type 4/4X/13)
M	Round metal operator (IP66, Type 4/13)

b

Operator Type	
Code	Description
LS	Standard knob

c

Operator Function	
Code	Type
M3	Maintained
L3	Spring return from left
R3	Spring return from right
B3	Spring return from left and right

d

Knob/Insert Color		
Code	Knob Color	Insert Color
3	Green	White
4	Red	White
5	Yellow	Black
6	Blue	White
7	Clear	Black

e

Orientation	
Code	Description
Blank	Standard
N	90° offset†

f

Packaging	
Code	Description
Blank	1 per package
BP	10 per package

* LED module required for illumination, can not use incandescent module.

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- Accessories — page 10-36
- Legend Plates — page 10-39
- Approximate Dimensions — page 10-45
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22.5 mm Push Buttons

Product Selection

Single Turn Potentiometer Assembly*†§



Series B



Series A

Resistive Element	Series B Cat. No.	Series A Cat. No.*
None (Operator Only)*	800FP-POT	800FP-POTA
150 Ω	800FP-POT1	800FP-POT1A
500 Ω	800FP-POT2	800FP-POT2A
1000 Ω	800FP-POT3	800FP-POT3A
2500 Ω	800FP-POT4	800FP-POT4A
5000 Ω	800FP-POT5	800FP-POT5A
10000 Ω	800FP-POT6	800FP-POT6A

* The Cat. No. 800FP-POT is a complete operator assembly supplied without the resistive element, used with potentiometers having a shaft diameter of 6.0 mm (0.23 in.) and a shaft length of 50.0 mm (1.97 in.), or a shaft diameter of 6.4 mm (0.25 in.) and a shaft length of 22.5 mm (0.88 in.). This operator is used with Type "J" potentiometers only.

⊛ Rated 300V AC/DC, 2 W max.

† A latch is not needed.

§ Additional hole spacing required for potentiometers. See page 10-125 for panel hole spacing requirements.

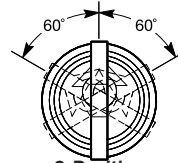
♣ Not stocked. Longer lead-time.

Key Operated Selector Switch - SensEject™

Patented Spring-Loaded Key Ejection System



2-Position
Switching Angle



3-Position
Switching Angle

Operator Construction	Operator Type	Key Eject Position	Key Option§	Spare Keys	Contact Blocks	Cat. No. >
Round Metal Operator — SensEject is IP6X (dust-tight) Type 1	2-Position Maintained		Zadi Key 06Z	800F-AKE006	None	800FM-KEM2106Z
					1 N.O.; 1 N.C.	800FM-KEM2106ZMX11
	3-Position Spring Return from Both		Zadi Key 01Z	800F-AKE001	None	800FM-KEB3401Z
					2 N.O.; 3 N.C.	800FM-KEB3401ZMX23

§ Not intended for high security applications. Interoperability is possible with certain key/cylinder lock combinations. Consult your local Rockwell Automation sales office or Allen-Bradley distributor for interoperability information.

> Includes latch and spacer block.



MODEL CUB5P - MINIATURE ELECTRONIC 5-DIGIT PROCESS METER



- THREE SELECTABLE D.C. RANGES
0 to 10 V, 0(4) to 20 mA, 0 to 50 mA
- MINIMUM AND MAXIMUM DISPLAY CAPTURE
- LCD, REFLECTIVE OR RED/GREEN LED BACKLIGHTING
- 0.48" (12.2 mm) HIGH DIGITS
- OPTIONAL SETPOINT OUTPUT MODULES
- OPTIONAL SERIAL COMMUNICATIONS MODULES (RS232 or RS485)
- OPERATES FROM 9 TO 28 VDC POWER SOURCE
- FRONT PANEL OR CRIMSON PROGRAMMABLE
- DISPLAY COLOR CHANGE CAPABILITY AT SETPOINT OUTPUT
- NEMA 4X/IP65 SEALED FRONT BEZEL

GENERAL DESCRIPTION

The CUB5 Series provides the user the ultimate in flexibility, from its complete user programming to the optional setpoint control and communication capability. The CUB5 accepts a DC voltage or current input signal and provides a display in the desired unit of measure. The meter also features minimum and maximum display capture, display offset, units indicator, and programmable user input. The display can be toggled either manually or automatically between the selected displays.

The CUB5 display has 0.48" (12.2 mm) high digits. The LCD is available in two versions, reflective or red/green backlight. The backlight version is user selectable for the desired color and also has variable display intensity.

The capability of the CUB5 can be easily expanded with the addition of option modules. The setpoint output cards are field installable with programmable setpoints. Serial communications capability for RS232 or RS485 can be added with a serial option module.

The CUB5 can be powered from an optional Red Lion Micro-Line/Sensor Power Supply (MLPS1000), which attaches directly to the back of a CUB5. The MLPS1 is powered from 85 to 250 VAC and provides up to 400 mA to drive the unit and sensors.

INPUT

The CUB5P is a DC Process meter. It features voltage and current input ranges, that are selected by the user via a programming jumper and software input range selection. The ranges consist of the following: 0 to 10 V, 0(4) to 20 mA, or 0 to 50 mA. Users should select the appropriate voltage range that covers their maximum input.

SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in this literature or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not use this meter to directly command motors, valves, or other actuators not equipped with safeguards. To do so can be potentially harmful to persons or equipment in the event of a fault to the meter.



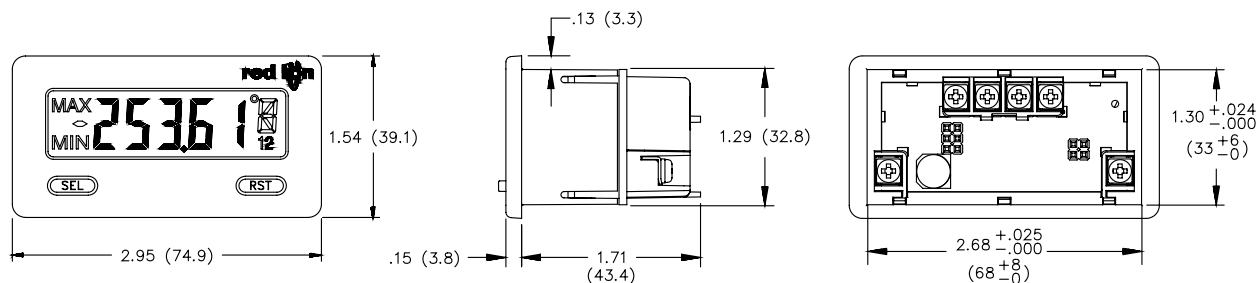
CAUTION: Risk of Danger.
 Read complete instructions prior to installation and operation of the unit.



CAUTION: Risk of electric shock.

DIMENSIONS In inches (mm)

Note: Recommended minimum clearance (behind the panel) for mounting clip installation is 2.15" (54.6) H x 3.00" (76.2) W.



ORDERING INFORMATION

TYPE	MODEL NO.	DESCRIPTION	PART NUMBER
CUB5	CUB5P	Process Meter with reflective display	CUB5PR00
		Process Meter with backlight display	CUB5PB00
Optional Plug-in Cards	CUB5RLY	Single Relay Output Card	CUB5RLY0
	CUB5SNK	Dual Sinking Open Collector Output card	CUB5SNK0
	CUB5COM	RS485 Serial Communications Card	CUB5COM1
		RS232 Serial Communications Card	CUB5COM2
Accessories	MLPS1	Micro-Line Power Supply, 85 to 250 VAC	MLPS1000
	CBLPROG	RS232 Programming Cable (DB9-RJ11)	CBLPROG0
	CBPRO	RS485 Programming Cable (DB9-RJ11)	CBPRO007
	SFCRD	Crimson 2 PC Configuration Software for Windows 98, ME, 2000, XP *	SFCRD200

*Crimson 2 software is a free download from <http://www.redlion.net/>

GENERAL METER SPECIFICATIONS

- DISPLAY:** 5 digit LCD 0.48" (12.2 mm) high digits
CUB5PR00: Reflective LCD with full viewing angle
CUB5PB00: Transmissive LCD with selectable red or green LED backlight, viewing angle optimized. Display color change capability with output state when using an output module.
- POWER:** Input voltage range is +9 to +28 VDC with short circuit and input polarity protection. Must use an RLC model MLPS1 or a Class 2 or SELV rated power supply.

MODEL NO.	DISPLAY COLOR	INPUT CURRENT @ 9 VDC WITHOUT CUB5RLY0	INPUT CURRENT @ 9 VDC WITH CUB5RLY0
CUB5PR00	---	10 mA	40 mA
CUB5PB00	Red (max intensity)	85 mA	115 mA
CUB5PB00	Green (max intensity)	95 mA	125 mA

- INPUT RANGES:** Jumper Selectable
0 to 10 V, 0(4) to 20 mA, 0 to 50 mA
- SENSOR INPUTS:**

INPUT RANGE	ACCURACY @23 °C, less than 85% RH	INPUT IMPEDANCE	MAX INPUT SIGNAL	RESOLUTION	TEMP. COEFFICIENT
20 / 50 mA	0.1% of span	10 Ω	150 mA	1 μA	70 ppm / °C
10 VDC	0.1% of span	538 KΩ	30 V	1 mV	70 ppm / °C

- OVERRANGE RATINGS, PROTECTION & INDICATION:**
9 to 28 VDC power circuit is not isolated from the signal circuit.
Input Overrange Indication: "OL OL".
Input Underrange Indication: "UL UL".
Display Overrange/Underrange Indication: "....."/"-----"
- DISPLAY RESPONSE TIME:** 500 msec min.
- NORMAL MODE REJECTION:** 60 dB 50/60 Hz
- USER INPUT (USR):** Programmable input. Connect USR terminal to USR COMM to activate function. Internal 10KΩ pull-up resistor to +9 to 28 VDC.
Threshold Levels: $V_{IL} = 1.0$ V max; $V_{IH} = 2.4$ V min; $V_{MAX} = 28$ VDC
Response Time: 5 msec typ.; 50 msec debounce (activation and release)
- CONNECTIONS:** Wire clamping screw terminals
Wire Strip Length: 0.3" (7.5 mm)
Wire Gauge: 30-14 AWG copper wire
Torque: 5 inch-lbs (0.565 N-m) max.
- MEMORY:** Nonvolatile E²PROM memory retains all programming parameters and max/min values when power is removed.
- CONSTRUCTION:** This unit is rated for NEMA 4X/IP65 requirements for indoor use. Installation Category I, Pollution Degree 2. High impact plastic case with clear viewing window. Panel gasket and mounting clip included.
- ENVIRONMENTAL CONDITIONS:**
Operating Temperature Range for CUB5PR00: -35 to 75°C
Operating Temperature Range for CUB5PB00 depends on display color and intensity level as per below:

	INTENSITY LEVEL	TEMPERATURE
Red Display	1 & 2	-35 to 75°C
	3	-35 to 70°C
	4	-35 to 60°C
	5	-35 to 50°C
	Green Display	1 & 2
	3	-35 to 65°C
	4	-35 to 50°C
	5	-35 to 35°C

- Storage Temperature:** -35 to 85°C
Operating and Storage Humidity: 0 to 85% max. relative humidity (non-condensing)
Vibration According to IEC 68-2-6: Operational 5 to 500 Hz, in X, Y, Z direction for 1.5 hours, 5 g's.
Shock According to IEC 68-2-27: Operational 30 g, 11 msec in 3 directions.
Altitude: Up to 2000 meters

13. CERTIFICATIONS AND COMPLIANCES:

SAFETY

UL Recognized Component, File #E179259, UL61010A-1, CSA 22.2 No. 61010-1
 Recognized to U.S. and Canadian requirements under the Component Recognition Program of Underwriters Laboratories, Inc.
 UL Listed, File # E137808, UL508, CSA C22.2 No. 14-M95
 LISTED by Und. Lab. Inc. to U.S. and Canadian safety standards
 Type 4X Indoor Enclosure rating (Face only), UL50
 IECCE CB Scheme Test Certificate #US/9257C/UL
 CB Scheme Test Report #E179259-V01-S02
 Issued by Underwriters Laboratories, Inc.
 IEC 61010-1, EN 61010-1: Safety requirements for electrical equipment for measurement, control, and laboratory use, Part 1.

ELECTROMAGNETIC COMPATIBILITY

Emissions and Immunity to EN 61326: Electrical Equipment for Measurement, Control and Laboratory use.

Immunity to Industrial Locations:

Electrostatic discharge	EN 61000-4-2	Criterion A
		4 kV contact discharge
		8 kV air discharge
Electromagnetic RF fields	EN 61000-4-3	Criterion A
		10 V/m
Fast transients (burst)	EN 61000-4-4	Criterion A
		2 kV power
		1 kV signal
Surge	EN 61000-4-5	Criterion A
		1 kV L-L,
		2 kV L&N-E power
RF conducted interference	EN 61000-4-6	Criterion A
		3 V/rms
Power frequency magnetic fields	EN 61000-4-8	Criterion A
		30 A/m

Emissions:

Emissions EN 55011 Class A

Notes:

1. *Criterion A: Normal operation within specified limits. Refer to EMC Installation Guidelines for additional information.*

- WEIGHT:** 3.2 oz (100 g)

SERIES: M12

CIRCULAR CONNECTORS M8/M12

M12 circular connector (IEC 60947-5-2) with PUR/PUR \varnothing 0,25 mm² moulded cable

Overmoulding	Polyurethane		
Housing:	Nylon 6 + 30% Glass fibre		
Contacts:	Female: Phosphorous bronze Male: Pin in brass		
Type of treatment:	Nickel + 0,45 μ m AU gold plated		
Number of poles:	3, 4	5	8
Operating voltage:	250V AC/DC	60V AC/DC	30V AC/DC
Operating current:	4A	4A	1,5A
Contact resistance:	≤ 6 m Ω		
Dimensions of Pin:	1 mm		
Operating temperature:	-25°C \div +70°C		
Protection class:	IP 67		
Cable:	PUR/PUR		
Conductors:	0,25 mm ² (AWG22)		

M12 CONNECTOR WITH CABLE PUR/PUR \varnothing 0,25 mm²

Description	Type	Model	Poles	Conductors	Length of cable	CODE	
M12	Female	90°	3	3 x 0,25 mm ²	1 m	12FA3C1Z	
M12	Female	90°	4	4 x 0,25 mm ²	1 m	12FA4C1Z	
M12	Female	90°	5	5 x 0,25 mm ²	1 m	12FA5C1Z	
M12	Female	90°	8	8 x 0,25 mm ²	1 m	12FA8C1Z	
M12	Female	Straight	3	3 x 0,25 mm ²	1 m	12FD3C1Z	
M12	Female	Straight	4	4 x 0,25 mm ²	1 m	12FD4C1Z	
M12	Female	Straight	5	5 x 0,25 mm ²	1 m	12FD5C1Z	
M12	Female	Straight	8	8 x 0,25 mm ²	1 m	12FD8C1Z	
M12	Male	90°	3	3 x 0,25 mm ²	1 m	12MA3C1Z	
M12	Male	90°	4	4 x 0,25 mm ²	1 m	12MA4C1Z	
M12	Male	90°	5	5 x 0,25 mm ²	1 m	12MA5C1Z	
M12	Male	90°	8	8 x 0,25 mm ²	1 m	12MA8C1Z	
M12	Male	Straight	3	3 x 0,25 mm ²	1 m	12MD3C1Z	
M12	Male	Straight	4	4 x 0,25 mm ²	1 m	12MD4C1Z	
M12	Male	Straight	5	5 x 0,25 mm ²	1 m	12MD5C1Z	
M12	Male	Straight	8	8 x 0,25 mm ²	1 m	12MD8C1Z	

CABLE PUR/PUR \varnothing 0,25 mm²

Poles	Conductors	Length of cable	
3	3 x 0,25 mm ²	1 m	
4	4 x 0,25 mm ²	1 m	
5	5 x 0,25 mm ²	1 m	
8	8 x 0,25 mm ²	1 m	

HTP

M12

NEW!
See
reverse

Low-Profile Strain-Relief Cord Connector

Lowest Cost in the Industry • Widest Cable Ranges

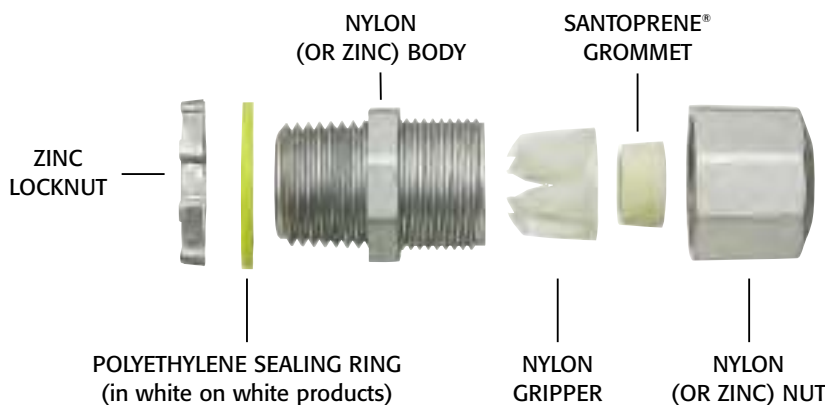


Put the squeeze on cable with Arlington's non-metallic, low-profile, strain-relief cord grips! They have the widest cord ranges in the industry at the lowest cost, so there are fewer items to stock.

They deliver superior pullout resistance. The nylon gripper squeezes down on the cable or cord as the nut is tightened, locking it firmly in place. Plus, the unique internal grommet assures a liquid-tight and oil-tight seal.

- Available with nylon body and nut, or zinc body and nut
- Available in white with sealing ring in white to match
- Non-metallic or zinc
- Includes sealing ring and locknut

Low-Profile Connector Assembly



Arlington
1 Stauffer Industrial Park
Scranton, PA 18517
800/233.4717
Fax 570/562.0646
www.aifittings.com

Low-Profile Strain-Relief Cord Connector

Liquid-Tight • Oil-Tight

Low-Profile Strain-Relief Cord Connectors

Non-metallic. Liquid-tight • Oil-tight.
Furnished with sealing ring and locknut.



LPCG50

LPCG50W

CATALOG NUMBER	UPC/DCI/NAED MFG #01 8997	TRADE SIZE	CORD RANGE	UNIT PKG	STD PKG
LPCG503	50350	1/2	.100 - .300	25	100
LPCG50W (wht)	32875	1/2	.200 - .472	25	100
LPCG50	80086	1/2	.200 - .472	25	100
LPCG507	50354	1/2	.385 - .750	25	100
LPCG753	50760	3/4	.100 - .300	10	50
LPCG754	50762	3/4	.200 - .472	10	50
LPCG757	36100	3/4	.385 - .750	10	50
50LPCGBAG†	55080	1/2	.100 - .472	-	500
75LPCGBAG†	55082	3/4	.100 - .472	-	100

LPCG503 and **LPCG753**: UL not applicable for .100 - .240 wire diameter – wire strength will not meet UL's 35 lb. pullout test requirement for the fitting.

LPCG50: UL not applicable for .200 to .240 wire diameter – wire strength will not meet UL's 35 lb. test requirement for the fitting.

†Includes UF grommet 14/2 to 12/2. Bags not available in black.

When ordering in black, add suffix "BL" to catalog #.

When ordering in white, add suffix "W" to catalog # (ie. LPCG50W).

Patented.

Low-Profile Strain-Relief Cord Connectors

Zinc die-cast. Liquid-tight • Oil-tight.
Furnished with sealing ring and locknut.



LPCG50Z

CATALOG NUMBER	UPC/DCI/NAED MFG #01 8997	TRADE SIZE	CORD RANGE	UNIT PKG	STD PKG
LPCG503Z	50352	1/2	.100-.300	25	100
LPCG50Z	36110	1/2	.200-.472	25	100
LPCG507Z	50356	1/2	.385-.750	25	100
LPCG753Z	36105	3/4	.100-.300	10	50
LPCG754Z	50764	3/4	.200-.472	10	50
LPCG757Z	50766	3/4	.385-.750	10	50

LPCG503Z and **LPCG753Z**: UL not applicable for .100 - .240 wire diameter – wire strength will not meet UL's 35 lb. pullout test requirement for the fitting.

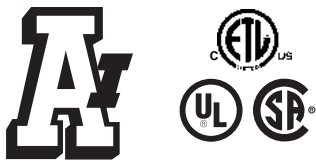
LPCG50Z: UL not applicable for .200 to .240 wire diameter – wire strength will not meet UL's 35 lb. test requirement for the fitting.

Patented.

Cable Chart for Arlington Cord Grip Fittings

Check outside wire diameter or manufacturer's specifications for dimensions.

CABLE RANGE	COMMUNICATION & CONTROL WIRE	SJ & SJO	S & SO	SJTO	STO
.100 to .200	22-2 to 14-1				
	14-1				
	12-1				
.200 to .300	22-2	18-2	18-2	18-2	18-2
	20-2 to 20-4	18-3	18-3	18-3	18-3
	18-2	16-2		16-2	16-2
	18-3	16-4		16-4	
.300 to .385		16-3		16-3	
				14-2	
.385 to .472		16-4	16-2 to 16-4	16-4	18-4
		14-2 to 14-4	14-2	14-3	16-3
		12-2		14-4	14-2
		12-3		12-3	
				12-4	
.472 to .625	12-4	14-3	10-2 to 10-4	14-3	
	10-2 to 10-4	14-4		14-4	
		12-2 to 12-4		12-2 to 12-4	
		10-3		10-2	
		8-2		10-3	
.625 to .750	10-4	12-4	10-4	12-4	
		10-2 to 10-4		10-2 to 10-4	
		8-2			
		8-3			
.750 to .875		8-4			
		8-5			
		6-2			
.875 to 1.000		6-3			
		6-4		6-4	
		4-2		4-3	
		4-3			



Arlington

1 Stauffer Industrial Park
Scranton, PA 18517

800/233.4717

Fax 570/562.0646

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Patented. Other patents pending
Rev 0510

Distributed by



Model: 485USBTB-2W & 485USB9F-4W

USB to RS-485 Mini-Converter



Features

- ✓ Connects an RS-485 2-Wire or 4-Wire device to your USB Port
- ✓ High Retention USB Connector
- ✓ Terminal Block for RS-485 Connection
- ✓ USB Port Powered
- ✓ USB 2.0 Compatible
- ✓ RS-485 Data Rates up to 921.6 kbps
- ✓ Automatic Configuration on Windows 98, ME, 2000, XP, and Vista

Functional Description

Universal Serial Bus (USB) has become the connectivity workhorse of today's PCs, replacing the familiar serial ports. However, many commercial and industrial devices still use the RS-485 interface. To connect these devices to modern PCs, you need a simple and reliable conversion solution. The 485USBTB-2W and 485USBTB-4W offer this solution in a space saving, USB Port powered package. Simply plug the converter into an available USB port on your computer or USB hub and install the drivers supplied on CD ROM. The device will show up as an additional COM port in the Windows Device Manager which is fully compatible with your Windows applications. A one meter USB cable is included.

Ordering Information

Model Number	Description
485USBTB-2W	USB to RS-485 2-Wire Converter with Terminal Block
485USB9F-4W	USB to RS-485 4-Wire Converter with Terminal Block
Accessory Items	
USBAMBM-3F (One Included)	1 m (3ft) USB Cable
USBAMBM-6F	2 m (6ft) USB Cable



International Headquarters: 707 Dayton Road PO Box 1040 Ottawa, IL 61350 USA
 815-433-5100 Fax 433-5104 www.bb-elec.com orders@bb-elec.com support@bb-elec.com

European Headquarters: Westlink Commercial Park Oranmore Co. Galway Ireland
 +353 91 792444 Fax +353 91 792445 www.bb-europe.com orders@bb-europe.com support@bb-europe.com

Operation

- Drivers are included on the Compact Disk included with the converter. Simply connect the converter to an available USB port and insert the CD into the drive. The “Found New Hardware Wizard” will guide you through the installation process. The drivers are not available via Microsoft Windows Updates. When prompted to connect to Windows Updates to search for drivers, select “No, not at this time” and follow the instructions for installing from the CD.
- When the driver software is installed, the converter will show up in Windows Device Manager as the next available COM port labeled “RS-485 Port.” Configure the COM port for your application. The default setup is 9600 baud, 8 data bits, no parity, 1 stop bit, no flow control. The converter will also be listed under USB Controllers.
- To uninstall the drivers, follow the instructions contained in the uninstall “read me” file.
- Use the 485USBTB-2W for RS-485 2-Wire systems. In the 2-Wire configuration, the receiver toggles with the transmit data. Bias is provided by 4.7 KΩ pull-up and pull-down resistors.
- Use the 485USBTB-4W for RS-485 4-Wire systems. In the 4-Wire configuration, the receiver is always active. Bias is provided by 4.7 KΩ pull-up and pull-down resistors on the receive pair. Bias should be provided on the transmit pair by the end of line slave device.
- In most applications, termination is not required. If your application does require termination, it must be installed external to the converter.
- Refer to B&B’s RS-422/485 Application Note for more information regarding biasing and termination.

Table 1
485USBTB-2W Terminal Block Layout

Label	Use
A(-)	Data A (-)
B(+)	Data B (+)
A(-)	Data A (-)
B(+)	Data B (+)
GND	Ground


Table 2
485USBTB-4W Terminal Block Layout

Label	Use
TDA(-)	Transmit Data A (-)
TDB(+)	Transmit Data B (+)
RDA(-)	Receive Data A (-)
RDB(+)	Receive Data B (+)
GND	Ground

General Specifications

Input Power	5VDC from USB Port
Current Draw	Low Power Device (<100 mA)
Operating Temperature	-40 to 176 °F (-40 to 80 °C)
Operating Humidity	0 to 95% Non-condensing
USB Connector	USB type B Female
RS-485 Connector	Terminal Block
USB Data Rate	12 Mbps
RS-485 Data Rate	921.6 kbps
USB Standard	2.0 (Backward Compatible)
Dimensions	2.6 x 1.3 x .6 in (6.5 x 3.2 x 1.6 cm)
MTBF (485USB9F-2W)	2130833 hours
MTBF (485USB9F-4W)	1869313 hours
Approvals	CE, FCC

CE Declaration of Conformity

Manufacturer's Name:	B&B Electronics Manufacturing Company
Manufacturer's Address:	PO Box 1040 707 Dayton Road Ottawa, IL 61350 USA
Model Number:	485USBTB-2W and 485USBTB-4W
Description:	USB to RS-485 Converter
Type:	Light Industrial ITE Equipment
Application of Council Directive:	89/336/EEC
Standards:	EN55022 EN 61000-6-1 EN 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11)
 Michael J. Fahrion, Director of Engineering	



International Headquarters: 707 Dayton Road PO Box 1040 Ottawa, IL 61350 USA
 815-433-5100 Fax 433-5104 www.bb-elec.com orders@bb-elec.com support@bb-elec.com

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 +353 91 792444 Fax +353 91 792445 www.bb-europe.com orders@bb-europe.com support@bb-europe.com

Panel Interface Connectors (PIC)

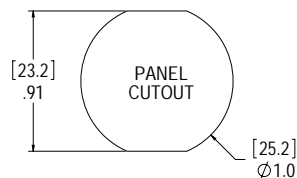
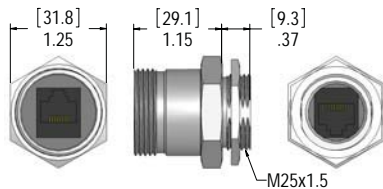
Port Adapters

Our smallest Panel Interface Connectors are ideal for tight spaces. The anodized aluminum housing has a connector port inside and can easily be mounted to a cabinet through a 1" diameter hole. The M25 mounting thread has an O-Ring and Lock Nut (not shown below). A cap is supplied with each unit to make them suitable for wash down. Stainless Steel versions are available, please consult the factory.

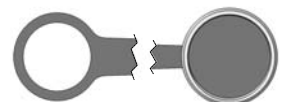
Single Port Shell with M25 Thread

Anodized aluminum standard. Stainless steel available upon request.

Part Number	Description	Front	Side	Back	Part Number	Description	Front	Side	Back
RJ45-M25	RJ45 Jack to RJ45 Jack				D-USB-AFAF-M25	USB Female TYPE A to USB Female TYPE A			
RJ11-M25	RJ11 Jack to RJ11 Jack				D-USB-AFBF-M25	USB Female TYPE A to USB Female TYPE B			
RJ22-M25	RJ22 Jack to RJ22 Jack				D-USB-BFAF-M25	USB Female TYPE B to Female TYPE A			
DM6-M25	6 PIN Female MINI-DIN to 6 PIN Female MINI-DIN				D-USB-BFBF-M25	USB Female TYPE B to Female TYPE B			
DM8-M25	8 PIN Female MINI-DIN to 8 PIN Female MINI-DIN				BNC-M25	BNC Jack to BNC Jack			
					D-FOPT-2-M25	2 Agilent HFBR Fiber Optic Adaptors			


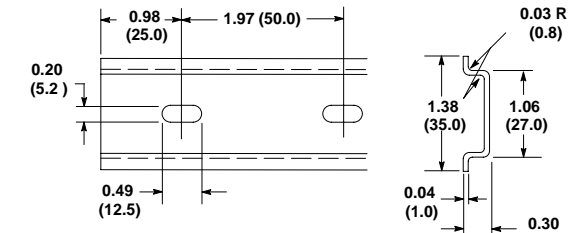

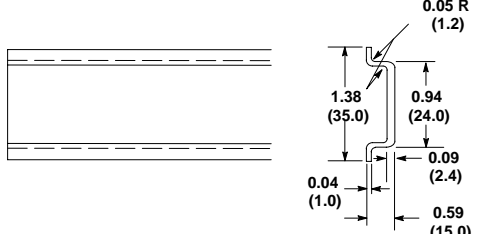

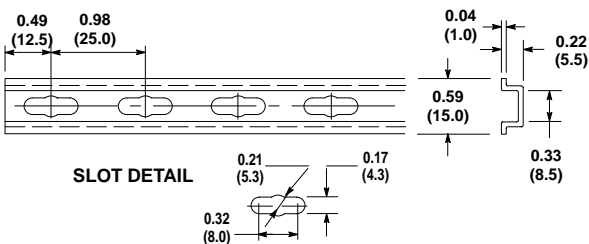

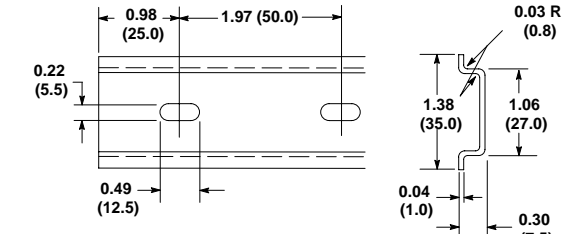
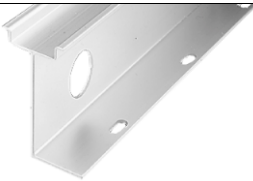
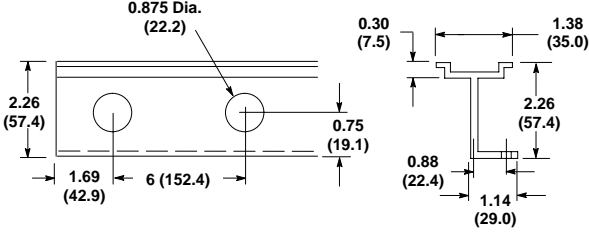

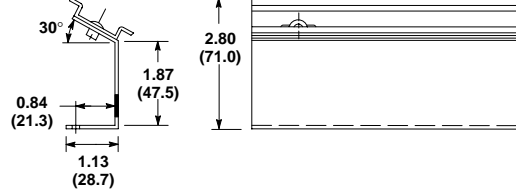


Sealing cap with tether supplied with each unit.



Panel Interface Connectors

DIN Mounting Rails

Item	Description	Pcs./Pkg.	Dimensions ①
<p>199-DR1</p> 	<p>Symmetrical Rail 35 mm x 7.5 mm 3.28' (1 m) long Zinc-Plated, Yellow Chromated Steel EN50022</p> <p>DIN #3</p>	<p>10</p>	 <p>#10–32 or M5 Recommended Maximum Mounting Screw Size</p>
<p>199-DR4</p> 	<p>Heavy Duty Symmetrical Rail 35 mm x 15 mm 3.28' (1 m) long Zinc-Plated, Yellow Chromated Steel EN50022</p> <p>DIN #3</p>	<p>5</p>	
<p>1492-DR3</p> 	<p>Mini 15 mm x 5.5 mm Rail 3.28' (1 m) long Zinc-Plated, Yellow Chromated Steel EN50045</p> <p>DIN #2</p>	<p>5</p>	 <p>#8–32 or M4 Recommended Maximum Mounting Screw Size</p>
<p>1492-DR5</p> 	<p>Symmetrical Rail 35 mm x 7.5 mm 3.28' (1 m) long Copper-Free Aluminum EN50022</p> <p>For 1492 Terminal Blocks Only</p> <p>DIN #3</p>	<p>10</p>	 <p>#12–24 or M5 Recommended Maximum Mounting Screw Size</p>
<p>1492-DR6 ②</p> 	<p>Symmetrical Rail 35 mm x 7.5 mm 2.26" (57.4 mm) high 3.28' (1 m) long Copper-Free Aluminum</p> <p>For 1492 Terminal Blocks Only</p> <p>DIN #3</p>	<p>2</p>	 <p>Wire insulator plug for wire access through rail — use Heyco</p>
<p>1492-DR7 ②</p> 	<p>Symmetrical Rail 35 mm x 7.5 mm 2.80" (71.0 mm) high 3.28' (1 m) long Angled 30° Zinc-Plated, Chromated Steel</p> <p>DIN #3</p>	<p>2</p>	 <p>For mounting rail details, see Cat. No. 199-DR1</p>

① Dimensions shown in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.
 ② 0.218" (5.5 mm) x 0.50" (12.7 mm) slotted mounting holes every 3" (76.2 mm) starting 1.69" (42.9 mm) from end.

Screw Connection Terminal Blocks

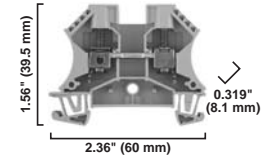
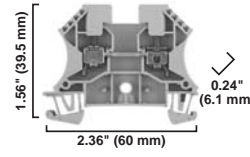
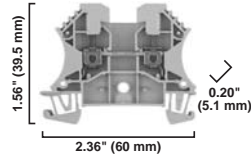
Standard Feed-Through Blocks

1492-J3

1492-J4

1492-J6

Dimensions are not intended to be used for manufacturing purposes.
Note: Height dimension is measured from top of rail to top of terminal block.



Specifications	Feed-Through Terminal Block				Feed-Through Terminal Block				Feed-Through Terminal Block			
Certifications												
Voltage Rating	600V AC/DC				600V AC/DC				600V AC/DC			
Maximum Current	65 A	50 A	24 A	21 A	35 A	25 A	32 A	28 A	50 A	41 A	36 A	
Wire Range (Rated Cross Section)	#22... 12 AWG	#26... 12 AWG	2.5 mm ²	2.5 mm ² (#20... 14 AWG)	#22... 10 AWG	#26... 10 AWG	4 mm ²	4 mm ² (#20... 12 AWG)	#22...8 AWG	6 mm ²	6 mm ² (#20... 10 AWG)	
Wire Strip Length	0.39 in. (10 mm)				0.39 in. (10 mm)				0.47 in (12 mm)			
Recommended Tightening Torque	4.5...7.1 lb•in. (0.5...0.8 N•m)				9.0 lb•in. (1.0 N•m)				14.2 lb•in (1.6 N•m)			
Density	59 pcs/ft (196 pcs/m)				49 pcs/ft (163 pcs/m)				37 pcs/ft (123 pcs/m)			
Housing Temperature Range	-58...+248 °F (-50...+120 °C)				-58...+248 °F (-50...+120 °C)				-58...+248 °F (-50...+120 °C)			
Short-Circuit Current Rating	See page 12-43											

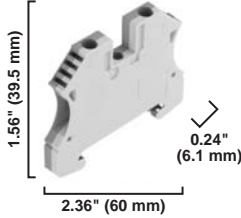
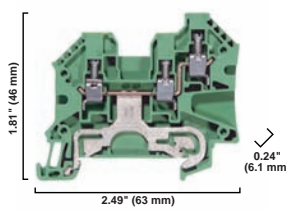
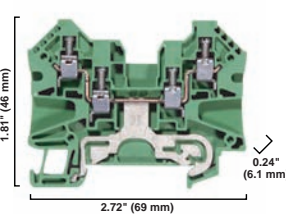
Terminal Blocks	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.
Color:	Grey	1492-J3	100	1492-J4	100	1492-J6
	Red	1492-J3-RE	100	1492-J4-RE	100	1492-J6-RE
	Blue	1492-J3-B	100	1492-J4-B	100	1492-J6-B
	Black	1492-J3-BL	100	1492-J4-BL	100	1492-J6-BL
	Green	1492-J3-G	100	1492-J4-G	100	1492-J6-G
	Yellow	1492-J3-Y	100	1492-J4-Y	100	1492-J6-Y
	Orange	1492-J3-OR	100	1492-J4-OR	100	1492-J6-OR
	Brown	1492-J3-BR	100	1492-J4-BR	100	1492-J6-BR
	White	1492-J3-W	100	1492-J4-W	100	1492-J6-W

Accessories	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.
Mounting Rails:						
1 m Symmetrical DIN (Steel)	199-DR1	10	199-DR1	10	199-DR1	10
1 m Symmetrical DIN (Aluminum)	1492-DR5	10	1492-DR5	10	1492-DR5	10
1 m Hi-Rise Sym. DIN (Aluminum)	1492-DR6	2	1492-DR6	2	1492-DR6	2
1 m Angled Hi-Rise Sym. DIN (Steel)	1492-DR7	2	1492-DR7	2	1492-DR7	2
End Barriers						
Grey	1492-EBJ3	50	1492-EBJ3	50	1492-EBJ3	50
Blue	1492-EBJ3-B	50	1492-EBJ3-B	50	1492-EBJ3-B	50
Yellow	1492-EBJ3-Y	50	1492-EBJ3-Y	50	1492-EBJ3-Y	50
End Anchors and Retainers:						
Screwless End Retainer	1492-ERL35	20	1492-ERL35	20	1492-ERL35	20
DIN Rail — Normal Duty	1492-EAJ35	100	1492-EAJ35	100	1492-EAJ35	100
DIN Rail — Heavy Duty	1492-EAHJ35	50	1492-EAHJ35	50	1492-EAHJ35	50
Jumpers:*						
Screw Center Jumper — 10-pole	1492-CJJ5-10	20	1492-CJJ6-10	20	1492-CJJ8-10	20
Screw Center Jumper — 4-pole	1492-CJJ5-4	50	1492-CJJ6-4	50	1492-CJJ8-4	50
Screw Center Jumper — 3-pole	1492-CJJ5-3	50	1492-CJJ6-3	50	1492-CJJ8-3	50
Screw Center Jumper — 2-pole	1492-CJJ5-2	50	1492-CJJ6-2	50	1492-CJJ8-2	50
Plug-in Center Jumper — 50-Pole	1492-CJLJ5-50	10	1492-CJLJ6-41 (41-pole)	10	—	—
Plug-in Center Jumper — 10-Pole	1492-CJLJ5-10	20	1492-CJLJ6-10	20	—	—
Plug-in Center Jumper — 9-Pole	1492-CJLJ5-9	20	—	—	—	—
Plug-in Center Jumper — 8-Pole	1492-CJLJ5-8	20	—	—	—	—
Plug-in Center Jumper — 7-Pole	1492-CJLJ5-7	20	—	—	—	—
Plug-in Center Jumper — 6-Pole	1492-CJLJ5-6	20	—	—	—	—
Plug-in Center Jumper — 5-Pole	1492-CJLJ5-5	20	—	—	—	—
Plug-in Center Jumper — 4-Pole	1492-CJLJ5-4	60	1492-CJLJ6-4	60	—	—
Plug-in Center Jumper — 3-Pole	1492-CJLJ5-3	60	1492-CJLJ6-3	60	—	—
Plug-in Center Jumper — 2-Pole	1492-CJLJ5-2	60	1492-CJLJ6-2	60	—	—
Insulated Side Jumper — 24-Pole	1492-SJ5B-24	50	—	—	—	—
Insulated Side Jumper — 10-Pole	1492-SJ5B-10	50	—	—	—	—
Screw Type Jumper Notching Tool	1492-T1	1	1492-T1	1	1492-T1	1
Other Accessories:						
Partition Plate	1492-EBJ16	20	1492-EBJ16	20	1492-EBJ16	20
Test Plug Socket	1492-TPS23	20	1492-TPS23L	50	1492-TPS23L	50
Test Plug	1492-TP23	20	1492-TP23	20	1492-TP23	20
Test Plug (Stackable)	1492-TPJ5	25	1492-TPJ6	25	—	—
Electrical Warning Plate	1492-EWPJ5	25	1492-EWPJ5	25	1492-EWPJ8	50
Group Marking Carrier	1492-GM35	25	1492-GM35	25	1492-GM35	25
Marking Systems:						
Snap-in Marker Cards	1492-M5X12 (144/card)	5	1492-M6X12 (120/card)	5	1492-MR8X12 (84/card)	5
	1492-M5X5 (200/card)	5	1492-M6X5 (200/card)	5	1492-M8X5 (160/card)	5

* Use of center jumpers may affect spacings, requiring derating of terminal blocks. See page 12-78 for details.

Screw Connection Terminal Blocks

Grounding Blocks, Continued

	1492-JG4				1492-JG4TW			1492-JG4Q		
<p>Dimensions are not intended to be used for manufacturing purposes. Note: Height dimension is measured from top of rail to top of terminal block.</p> 										
Specifications	<i>Feed-Through Ground Block</i>				<i>Single-level ground block with twin connection points on one side</i>			<i>Single-level ground block with twin connection points on both sides</i>		
Certifications	UL	CSA	IEC	ATEX	UL	CSA	IEC	UL	CSA	IEC
Voltage Rating	—	—	—	—	—	—	—	—	—	—
Maximum Current	Grounding				Grounding			Grounding		
Wire Range (Rated Cross Section)	#22...10 AWG		4 mm ²	4 mm ² (#20...12 AWG)	#30...10 AWG		0.5...4 mm ²	#30...10 AWG		0.5...4 mm ²
Wire Strip Length	0.39 in. (10 mm)				0.394 in. (10 mm)			0.394 in. (10 mm)		
Recommended Tightening Torque	9 lb•in. (1.0 N•m)				6.2 lb•in. (0.7 N•m)			6.2 lb•in. (0.7 N•m)		
Mounting Torque - Center Screw	4.4...7.1 lb•in. (0.5...0.8 N•m)				—			—		
Density	49 pcs/ft (163 pcs/m)				49 pcs/ft (163 pcs/m)			49 pcs/ft (163 pcs/m)		
Housing Temperature Range	-58...+248 °F (-50...+120 °C)				-58...+248 °F (-50...+120 °C)			-58...+248 °F (-50...+120 °C)		
Short-Circuit Current Rating	See page 12-43									
Terminal Blocks	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.
Color: Green/Yellow	1492-JG4	100	1492-JG4TW	50	1492-JG4Q	50				
Accessories	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.	Cat. No.	Pkg Qty.
Mounting Rails:										
1 m Symmetrical DIN (Steel)	199-DR1	10	199-DR1	10	199-DR1	10				
1 m Symmetrical DIN (Aluminum)	1492-DR5	10	1492-DR5	10	1492-DR5	10				
1 m Hi-Rise Sym. DIN (Aluminum)	1492-DR6	2	1492-DR6	2	1492-DR6	2				
1 m Angled Hi-Rise Sym. DIN (Steel)	1492-DR7	2	1492-DR7	2	1492-DR7	2				
End Barrier Yellow	Not Required	—	1492-EBJ4TW-Y	50	1492-EBJ4Q-Y	50				
End Anchors:										
Screwless End Retainer	1492-ERL35	20	1492-ERL35	20	1492-ERL35	20				
DIN Rail - Normal Duty	1492-EAJ35	100	1492-EAJ35	100	1492-EAJ35	100				
DIN Rail - Heavy Duty	1492-EAHJ35	50	1492-EAHJ35	50	1492-EAHJ35	50				
Group Marking Rail Mount Group Marking Carrier	1492-GM35	25	1492-GM35	25	1492-GM35	25				
End Anchor Top Marker Carrier*	—	—	1492-GMC	50	1492-GMC	50				
Cat. No. 1492-GMC Top Marker Tag	—	—	1492-M5X30 (20/card)	5	1492-M5X30 (20/card)	5				
Marking Systems:										
Snap-in marker cards	1492-M6X12 (120/card)	5	1492-MR6X12 (120/card)	5	1492-MR6X12 (120/card)	5				
Snap-in marker cards	1492-M6X5 (200/card)	5	1492-M6X12 (120/card)	5	1492-M6X12 (120/card)	5				

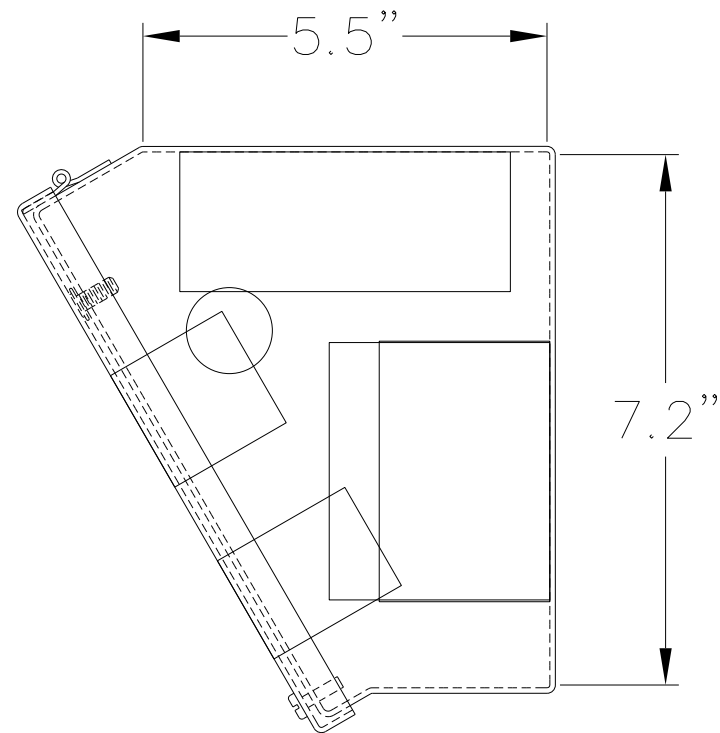
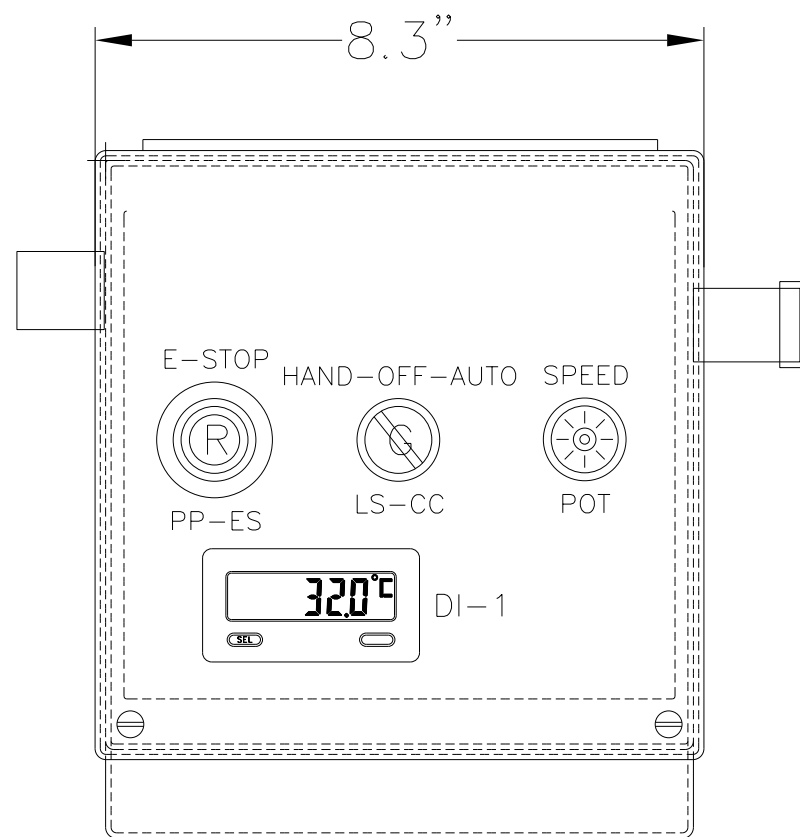
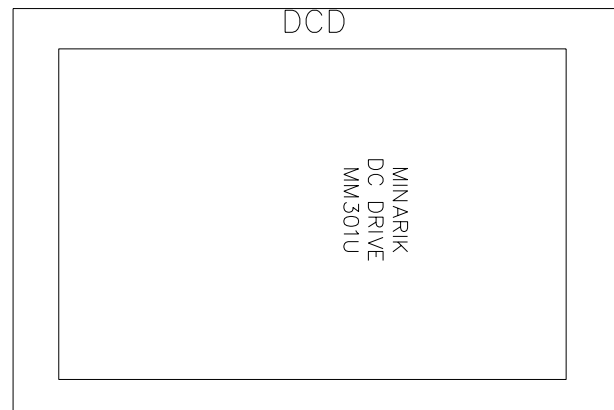
* The Bulletin 1492-GMC marker carrier installs directly on the top of a 1492-EAJ35 end anchor or a 1492-ERL35 end retainer for group marking purposes.

Screw Connection Terminal Blocks

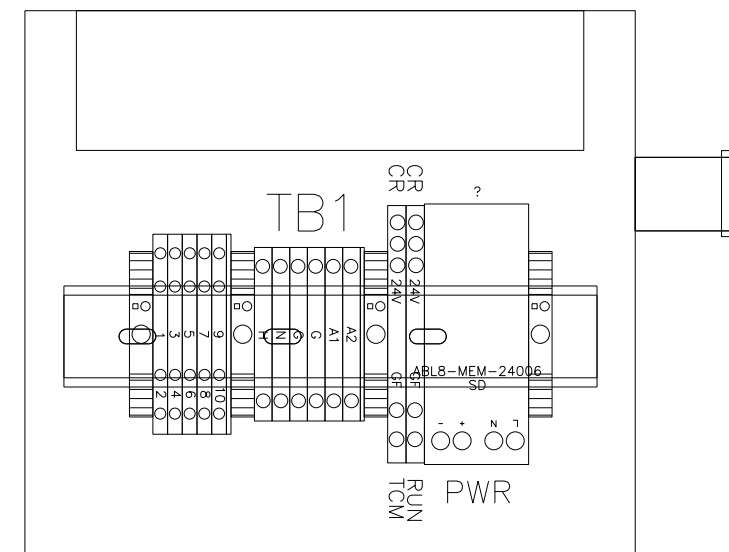
Multi-Circuit Feed-Through Blocks

	1492-JD3				1492-JD4				1492-JT3M		
Dimensions are not intended to be used for manufacturing purposes. Note: Height dimension is measured from top of rail to top of terminal block.											
	<i>Two-Level Feed-Through Terminal Block</i>				<i>Two-Level, two-circuit feed-through terminal block</i>				<i>Three-level, three-circuit terminal block with ground point</i>		
Specifications											
Certifications		CSA	IEC	ATEX		CSA	IEC	ATEX		CSA	IEC
Voltage Rating	600V AC/DC	300V AC/DC	400V AC/DC	275V AC/DC	600V AC/DC	300V AC/DC	800V AC/DC	550V AC/DC	300V AC/DC		400V AC/DC
Maximum Current	20 A	10 A	24 A	21 A	35 A	30 A	32 A	28 A	10 A		24 A
Wire Range (Rated Cross Section)	#22...12 AWG	26...12 AWG	2.5 mm ²	2.5 mm ² (20...14 AWG)	#26...10 AWG		0.5...4 mm ²	4 mm ² (20...12 AWG)	#22...12 AWG	#26...10 AWG	0.5...2.5 mm ²
Wire Strip Length	0.39 in. (10 mm)				0.315 in. (8 mm)				0.28 in. (7 mm)		
Recommended Tightening Torque	4.5...7.1 lb•in. (0.5...0.8 N•m)				4.5 lb•in. (0.5 N•m)				4.4 lb•in. (0.5 N•m)		
Density	59 pcs/ft (196 pcs/m)				49 pcs/ft (163 pcs/m)				49 pcs/ft (163 pcs/m)		
Housing Temperature Range	-58...+248 °F (-50...+120 °C)				-58...+248 °F (-50...+120 °C)				-58...+248 °F (-50...+120 °C)		
Short-Circuit Current Rating	See page 12-43										
Terminal Blocks		Cat. No.	Pkg Qty.		Cat. No.	Pkg Qty.		Cat. No.	Pkg Qty.		Pkg Qty.
Color:	Grey	1492-JD3	100		1492-JD4	100		1492-JT3M	50		
	Red	1492-JD3-RE	100		1492-JD4-RE	100		—	—		
	Blue	1492-JD3-B	100		1492-JD4-B	100		—	—		
	Black	1492-JD3-BL	100		1492-JD4-BL	100		—	—		
	Green	1492-JD3-G	100		1492-JD4-G	100		—	—		
	Yellow	1492-JD3-Y	100		1492-JD4-Y	100		—	—		
	Orange	1492-JD3-OR	100		1492-JD4-O	100		—	—		
	Brown	1492-JD3-BR	100		1492-JD4-BR	100		—	—		
	White	1492-JD3-W	100		1492-JD4-W	100		—	—		
Accessories		Cat. No.	Pkg Qty.		Cat. No.	Pkg Qty.		Cat. No.	Pkg Qty.		Pkg Qty.
Mounting Rails:											
1 m Symmetrical DIN (Steel)		199-DR1	10		199-DR1	10		199-DR1	10		
1 m Symmetrical DIN (Aluminum)		1492-DR5	10		1492-DR5	10		1492-DR5	10		
1 m Hi-Rise Sym. DIN (Aluminum)		1492-DR6	2		1492-DR6	2		1492-DR6	2		
1 m Angled Hi-Rise Sym. DIN (Steel)		1492-DR7	2		1492-DR7	2		1492-DR7	2		
End Barrier	Grey	1492-EBJD3	20		1492-EBJD4	20		1492-EBJ3TM	20		
	Blue	1492-EBJD3-B	20		1492-EBJD4-B	20		—	—		
	Yellow	1492-EBJD3-Y	20		—	—		—	—		
End Anchor and Retainers:											
Screwless End Retainer		1492-ERL35	20		—	—		—	—		
DIN Rail — Normal Duty		1492-EAJ35	100		—	—		—	—		
DIN Rail — Heavy Duty		1492-EAHJ35	50		1492-EAHJ35	50		1492-EAHJ35	50		
Jumpers:											
Screw Center Jumper — 10-pole		—	—		1492-CJLJ6-41	10		—	—		
Screw Center Jumper — 10-pole		1492-CJJ5-10	20		1492-CJLJ6-10	20		—	—		
Screw Center Jumper — 4-pole		1492-CJJ5-4	50		1492-CJLJ6-4	60		—	—		
Screw Center Jumper — 3-pole		1492-CJJ5-3	50		1492-CJLJ6-3	60		—	—		
Screw Center Jumper — 2-pole		1492-CJJ5-2	50		1492-CJLJ6-2	60		—	—		
Insulated Side Jumper — 50-Pole		—	—		—	—		1492-SJ6A-50	5		
Insulated Side Jumper — 24-Pole		1492-SJ5A-24	50		—	—		—	—		
Insulated Side Jumper — 10-Pole		1492-SJ5A-10	50		—	—		—	—		
Screw Type Jumper Notching Tool		1492-T1	1		—	—		—	—		
Other Accessories:											
Partition Plate		1492-PPJD3	20		1492-PPJD3	20		1492-PPJD3	20		
Test Plug Socket		1492-TPS23	20		—	—		—	—		
Test Plug		1492-TP23	20		—	—		—	—		
Group Marking Carrier		1492-GM35	25		1492-GM35	25		1492-GM35	25		
Marking Systems:											
Snap-in marker cards		1492-M5X8 (144/card)	5		1492-MR6X8 (120/card)	5		1492-MR6X8 (120/card)	5		
Snap-in marker cards		1492-M5X5 (200/card)	5		1492-M6X5 (200/card)	5		1492-M6X5 (200/card)	5		

CONSOLE BACK



CONSOLE BOTTOM



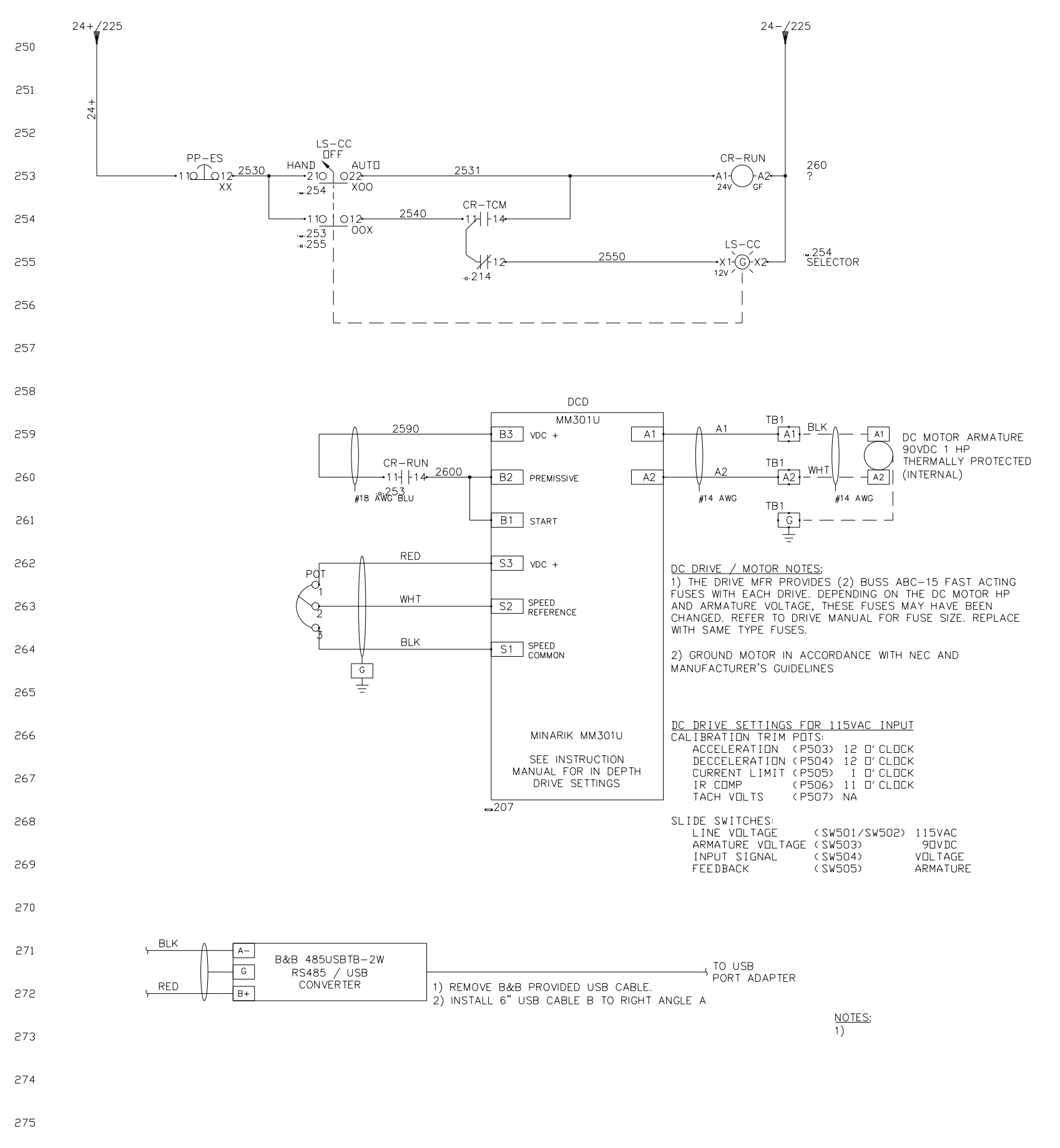
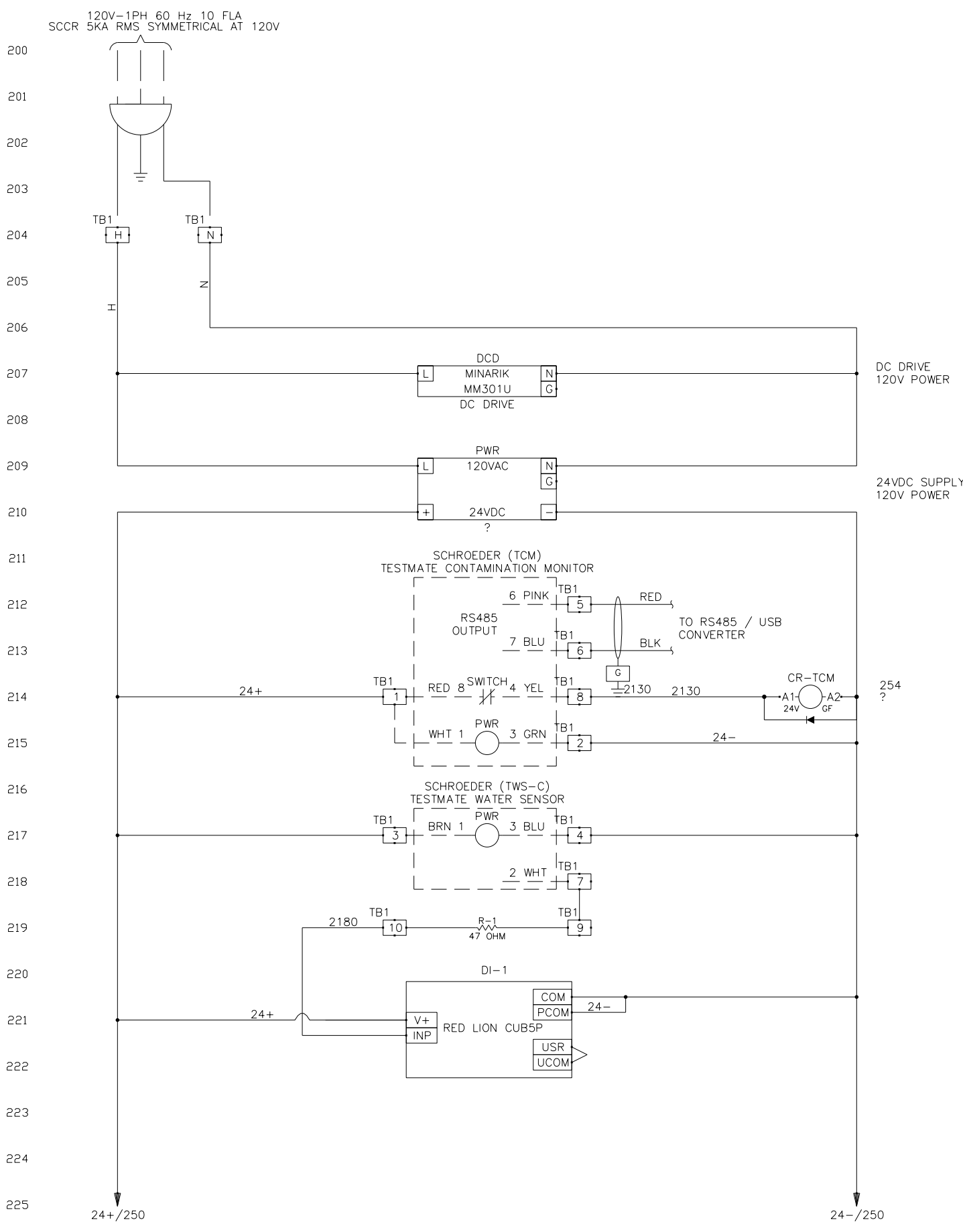
REV	DATE	PURPOSE:	BY	CHKD

YOUR COMPANY
 YOUR ADDRESS
 YOUR PHONE NO.
 YOUR WEBSITE

DESIGNED	DATE	FOR:
BL	12/12	YOUR CUSTOMER
DRAWN	DATE	
BL	12/13	
CHECKED	DATE	

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PANEL LAYOUT	DRAWING SET:
MOBILE PANEL	
ANGLED CONSOLE	2012-203 MOBILE PANEL



DC DRIVE / MOTOR NOTES:
 1) THE DRIVE MFR PROVIDES (2) BUSS ABC-15 FAST ACTING FUSES WITH EACH DRIVE. DEPENDING ON THE DC MOTOR HP AND ARMATURE VOLTAGE, THESE FUSES MAY HAVE BEEN CHANGED. REFER TO DRIVE MANUAL FOR FUSE SIZE. REPLACE WITH SAME TYPE FUSES.
 2) GROUND MOTOR IN ACCORDANCE WITH NEC AND MANUFACTURER'S GUIDELINES

DC DRIVE SETTINGS FOR 115VAC INPUT
 CALIBRATION TRIM POTS:
 ACCELERATION (P503) 12 O' CLOCK
 DECELERATION (P504) 12 O' CLOCK
 CURRENT LIMIT (P505) 1 O' CLOCK
 IR COMP (P506) 11 O' CLOCK
 TACH VOLTS (P507) NA

SLIDE SWITCHES:
 LINE VOLTAGE (SW501/SW502) 115VAC
 ARMATURE VOLTAGE (SW503) 90VDC
 INPUT SIGNAL (SW504) VOLTAGE
 FEEDBACK (SW505) ARMATURE

1) REMOVE B&B PROVIDED USB CABLE.
 2) INSTALL 6" USB CABLE B TO RIGHT ANGLE A

NOTES:
 1)

REV	DATE	PURPOSE:	BY	CHKD

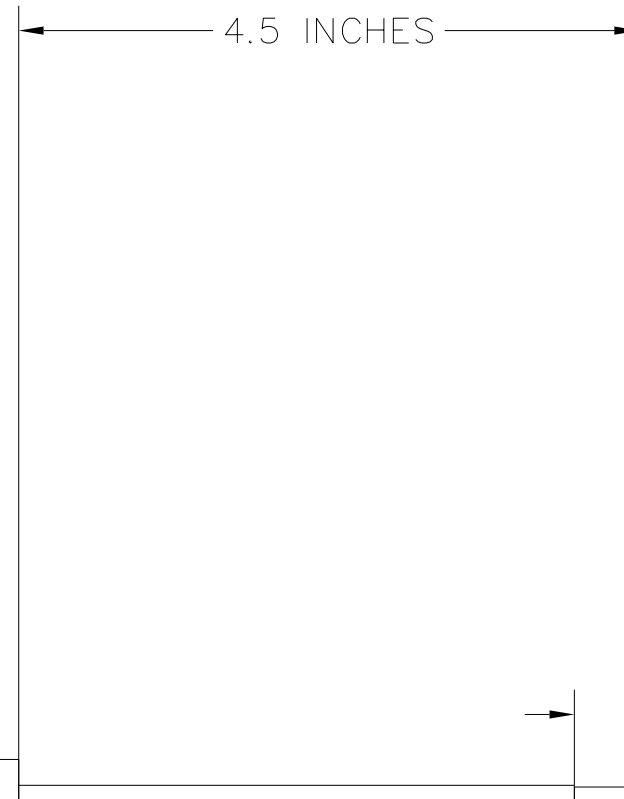
YOUR COMPANY
 YOUR ADDRESS
 YOUR PHONE NO.
 YOUR WEBSITE

DESIGNED	DATE	FOR:
BL	12/13	YOUR CUSTOMER
DRAWN	DATE	
BL	12/13	
CHECKED	DATE	

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CONTROL SCHEMATIC MOBILE PANEL ANGLED CONSOLEIT	DRAWING SET: 2012-203 MOBILE PANEL	SHEET: 2 OF 6
---	---------------------------------------	------------------

STANDARD M12 ANGLED CONNECTOR CABLES WITH
 CABLE JACKET STRIPPED BACK TO 4.5 INCHES
 AND EACH CONDUCTOR STRIPPED BACK TO 0.47
 INCHES



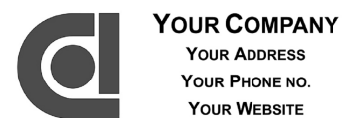
ALL CONDUCTORS TO BE
 STRIPPED AND TINNED WITH
 SOLDER)

0.47 INCHES



NORSTAT P/N	DESCRIPTION
12-FA8-C1Z	M12 CONNECTOR, ANGLED, 8 POLE, 1M PUR CABLE - TCM CONTROLLER
12-FA5-C1Z	M12 CONNECTOR, ANGLED, 5 POLE, 1M PUR CABLE - TWS SENSOR

REV	DATE	PURPOSE:	BY	CHKD



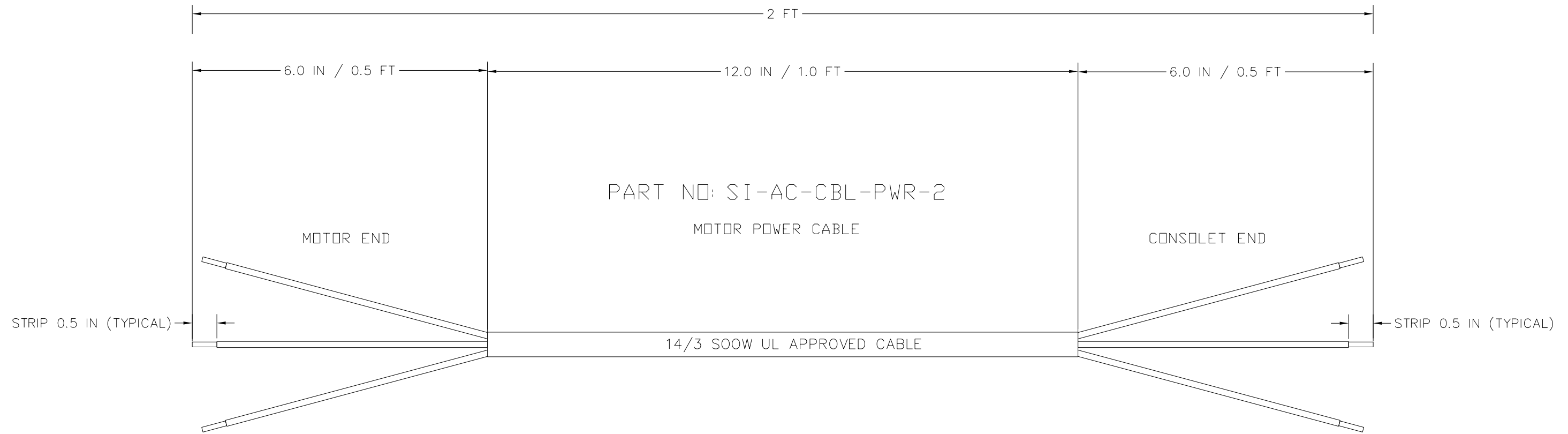
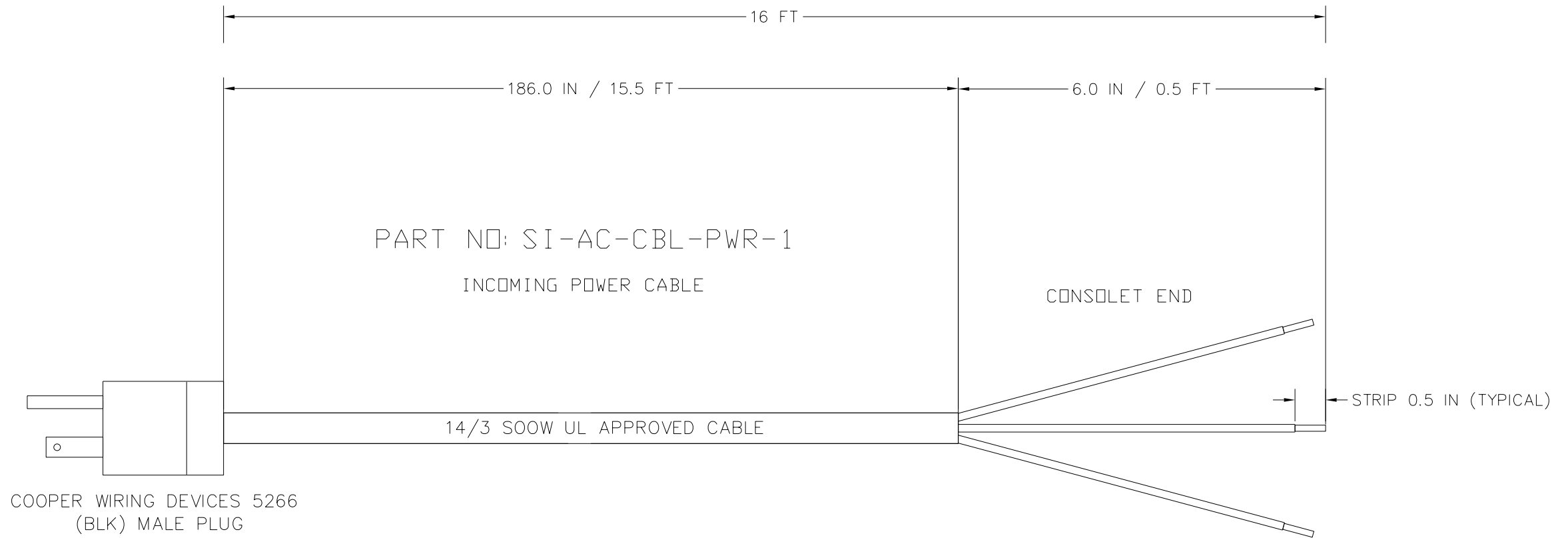
DESIGNED BL	DATE 12/13
DRAWN BL	DATE 12/13
CHECKED	DATE

FOR:
YOUR CUSTOMER

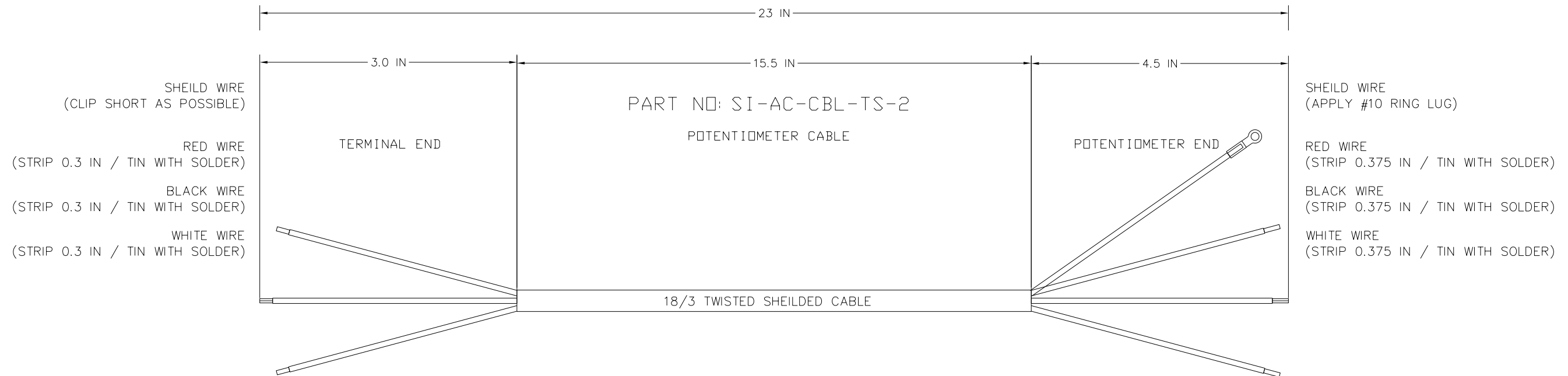
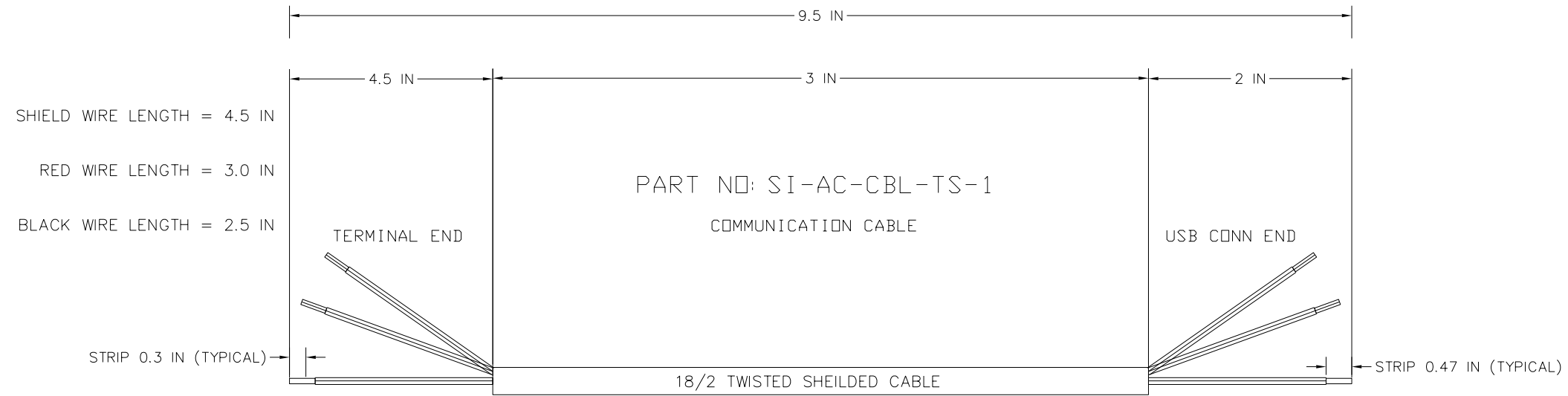
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ANGLED CONNECTOR
 MOBILE PANEL
 ANGLED CONSOLE

DRAWING SET:
 2012-203 MOBILE PANEL



REV	DATE	PURPOSE:	BY	CHKD	DESIGNED	DATE	FOR:	POWER CORDS MOBILE PANEL ANGLED CONSOLET
					BL	12/13	YOUR CUSTOMER	
					BL	12/13	THIS DRAWING, AND ALL REPRESENTED DATA, ARE THE PROPERTY OF THE NAMED COMPANY IN THE TITLE BLOCK. THIS DRAWING SHALL NOT BE REPRODUCED, COPIED, OR DISCLOSED EXCEPT FOR MAINTENANCE PURPOSES BY THE USING CUSTOMER.	
					CHECKED			
 YOUR COMPANY YOUR ADDRESS YOUR PHONE NO. YOUR WEBSITE					DRAWING SET:			SHEET:
					2012-203 MOBILE PANEL			4 OF 6



REV	DATE	PURPOSE:	BY	CHKD

YOUR COMPANY
 YOUR ADDRESS
 YOUR PHONE NO.
 YOUR WEBSITE

DESIGNED	BL	DATE	12/13
DRAWN	BL	DATE	12/13
CHECKED		DATE	

FOR: YOUR CUSTOMER

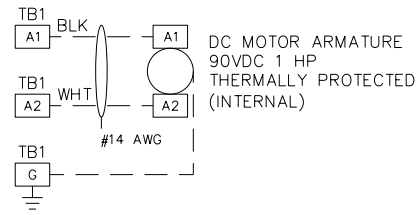
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SHIELDED CABLE
 MOBILE PANEL
 ANGLED CONSOLE

DRAWING SET:
 2012-203 MOBILE PANEL

FIELD CONNECTIONS

POWER CONNECTIONS



DC DRIVE / MOTOR NOTES:

1) THE DRIVE MFR PROVIDES (2) BUSS ABC-15 FAST ACTING FUSES WITH EACH DRIVE. DEPENDING ON THE DC MOTOR HP AND ARMATURE VOLTAGE, THESE FUSES MAY HAVE BEEN CHANGED. REFER TO DRIVE MANUAL FOR FUSE SIZE. REPLACE WITH SAME TYPE FUSES.

2) GROUND MOTOR IN ACCORDANCE WITH NEC AND MANUFACTURER'S GUIDELINES

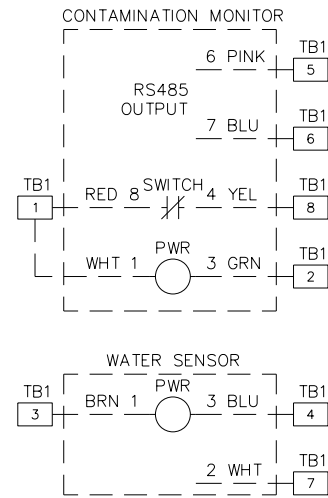
DC DRIVE SETTINGS FOR 115VAC INPUT

CALIBRATION TRIM POTS:
ACCELERATION (P503) 12 O' CLOCK
DECELERATION (P504) 12 O' CLOCK
CURRENT LIMIT (P505) 1 O' CLOCK
IR COMP (P506) 11 O' CLOCK
TACH VOLTS (P507) NA

SLIDE SWITCHES:

LINE VOLTAGE (SW501/SW502) 115VAC
ARMATURE VOLTAGE (SW503) 90VDC
INPUT SIGNAL (SW504) VOLTAGE
FEEDBACK (SW505) ARMATURE

DEVICE CONNECTIONS



REV	DATE	PURPOSE:	BY	CHKD



YOUR COMPANY
YOUR ADDRESS
YOUR PHONE NO.
YOUR WEBSITE

DESIGNED	DATE	FOR:
BL	12/13	YOUR CUSTOMER
DRAWN	DATE	THIS DRAWING, AND ALL REPRESENTED DATA, ARE THE PROPERTY OF THE NAMED COMPANY IN THE TITLE BLOCK. THIS DRAWING SHALL NOT BE REPRODUCED, COPIED, OR DISCLOSED EXCEPT FOR MAINTENANCE PURPOSES BY THE USING CUSTOMER.
BL	12/13	
CHECKED	DATE	

DESIGNED	DATE	FOR:
BL	12/13	YOUR CUSTOMER
DRAWN	DATE	THIS DRAWING, AND ALL REPRESENTED DATA, ARE THE PROPERTY OF THE NAMED COMPANY IN THE TITLE BLOCK. THIS DRAWING SHALL NOT BE REPRODUCED, COPIED, OR DISCLOSED EXCEPT FOR MAINTENANCE PURPOSES BY THE USING CUSTOMER.
BL	12/13	
CHECKED	DATE	

FIELD CONNECTIONS MOBILE PANEL ANGLED CONSOLET
DRAWING SET: 2012-203 MOBILE PANEL

SHEET:
6 OF 6

Your Company

Project Name: (5) Angled Consolet

Job No: 2012-203

Bill of Material

Panel Name: Mobile Panel

Typical of 5

Device ID	Qty	Mfg	Part No	Description
ENCL-1	1	HO	C-8C8 (229RV)	CONSOLE, SLOPED TOP, BLK, 08X08X07
PS-PS	1	SD	ABL8-MEM-24006	PWR SUPP, 120V TO 024VDC, SWITCHER, DIN MNT, 00.6A
DCD-DRV	1	MINARIK	MM301U	DC DRIVE, 120V-1/4 TO 1 HP, 230V-1/2 TO 2 HP
CR-TCM, CR-RUN	2	AB	700-HLT1-Z24-X	RELAY, 1PDT, SLIM LINE, 240V, 6A, 024VDC, GF, DIN MNT
JMP-REL	1	ACI	700-TBJ20G-2P	AB 700 SLIM LINE, JUMPER BAR, 2 POS
DOD-1, 2	2	FAIR	1N4007	DIODE, AXIAL MNT, 1000PIV, 1A
LS-CC	1	AB	800FP-X01	MNTG COLLAR, 1 NC
PP-ES	1	AB	800FP-MT44	PUSH PULL, OPER, 40MM, RED, TWIST REL
LS-CC	1	AB	800FP-N3Y	MNTG COLLAR, LT MOD, LED, AMB, 024V
LS-CC	1	AB	800FP-LSM35	SEL, OPER, 3 POS, MAINT, STD LEVER, ILLUM, AMB
LS-CC	2	AB	800F-X10	CONTACT, 1 NO
POT-SPD	1	AB	800FP-POT6	POTENTIOMETER, 10K
CBL-SDP	1	ACI	SI-AC-CBL-TS-2	CABLE, POT, 18/3, SHLD, 23IN, PER DWG SI-AC-CBL-TS
DI-DISP	1	RL	CUB5P-R00	METER, CUB5, DC CURR/VOLT, ZERO ADJ
FTG-PWR	3	ARL	LPCG50-7	CORD GRIP, NON-MET, 1/2 IN, .385-.750 CORD DIA
CBL-PWR	1	ACI	SI-AC-CBL-PWR-1	CABLE, INC PWR, 14/3, SOOW, 16FT, PER DWG SI-AC-CBL-PWR
FTG-TCM, FTG-TWS	2	ARL	LPCG50-3	CORD GRIP, NON-MET, 1/2 IN, .100-.300 CORD DIA
CON-TCM	1	NORSTAT	12-FA8-C1Z	M12 CBL, 8P, FEM, RT ANGLE, 1M PUR
CON-TWS	1	NORSTAT	12-FA5-C1Z	M12 CBL, 5P, FEM, RT ANGLE, 1M PUR
CBL-DRV	1	ACI	SI-AC-CBL-PWR-2	CABLE, MOT PWR, 14/3, SOOW, 02FT, PER DWG SI-AC-CBL-PWR
CBL-485/USB	1	ACI	SI-AC-CBL-TS-1	CABLE, COMM, 18/2, SHLD, 09.5 IN, PER DWG SI-AC-CBL-TS
USB-CONV	1	B&B	485USBTB-2W	CONVERTER, ISOL RS-485 TERMS TO USB
USB-485/USB	1	NTC	UH2-ABR01-06	USB CABLE, 6 IN, STRAIGHT B, ANGLED A
CON-USB	1	MENCOM	D-USB-BFAF-M25	COMM ADAPTER, USB TYPE A IN / USB TYPE B OUT
TB-	1	AB	199-DR1	ACC, DIN RAIL, 3FT
TB-	3	AB	1492-EAJ35	ACC, END ANCHOR
TB-	4	AB	1492-J4	J 1 TIER, TERMINAL, 0.24 IN
TB-	2	AB	1492-JG4	J 1 TIER, TERMINAL, 0.24 IN, GROUND
TB-	12	ACI	1492-M6X12-ACI	1 TIER, MARKER, BLANK, FOR 1492-J4
TB-	1	AB	1492-EBJ3	J 1 TIER, END BARRIER, FOR J3/J4/J10

Schroeder Industries

Project Name: (5) RFS-257 3 Knob Consolets

Job No: 2012-203

Bill of Material

TB-	5	AB	1492-JD3	J 2 TIER,TERMINAL,0.20 IN
TB-	20	ACI	1492-M5X8-ACI	2 TIER,MARKER,BLANK,FOR 1492-JD3
TB-	1	AB	1492-EBJD3	J 2 TIER,END BARRIER,FOR JD3
TB-	1	AB	1492-CJJ5-10	J ACC,JUMPER,CTR,10 POLE,FOR J3/JD3
Unassigned	1	ACI	S-4125	BOX,CORRUGATED,12 IN x 12 IN x 12 IN,200 LB TEST (QTY 25)