



Product Catalog

Electro-Mechanical Industries, Inc.

13300 6th Avenue North
Plymouth, Minnesota

www.e-m-i.com

EMI takes pride in our ability to service our customers. We work closely with engineers, electrical contractors, electrical wholesalers and facility managers to insure a complete electrical installation.



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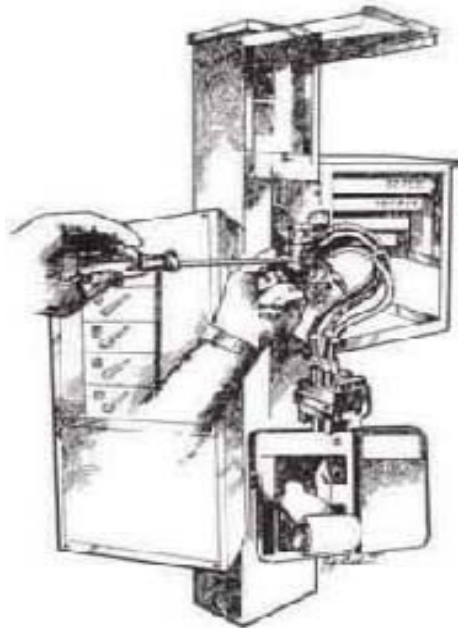


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About Us

Electro-Mechanical Industries, Inc. (EMI), is a manufacturer of standard and custom electrical distribution equipment serving the needs of the electrical industry in the national and international marketplaces. The company was established in 1981 and has continued to increase its products and service offerings. We have been manufacturing **QUALITY** electrical distribution equipment for over 32 years. From sales and engineering, to our manufacturing and shipping personnel, we have the knowledge, experience and dedication to assist you with all your electrical power distribution needs.

We are committed to delivering the best value to our clients by providing quality products and service for electrical distribution equipment. It is our goal to meet the technical needs and deadlines of our customers and to ensure their full satisfaction.

Plymouth, Minnesota is the home of our 63,000 square foot facility where our products are engineered and manufactured.



What EMI's Certifications can do for you

- Meet your company's Diversity Supplier initiatives
- Opportunity to gain extra consideration for state and federal government projects
- Provide added value to your company's strategic initiatives



CENTRAL CERTIFICATION

Product Line

UL Low Voltage Switchgear

- UL 891 up to 6000A
- UL 1558 up to 3000A
- Service Entrance Rated Equipment
- Enclosed fusible switches/breakers
- Residential apartment metering
- Commercial metering

Medium Voltage Switchgear

- 5kV & 15kv Metal Clad—UL Listed
- 5kV & 15kV Metal Enclosed—UL Listed
- 25kV & 35kV Metal Enclosed

CT Cabinets

- Xcel Energy Service Area
- Alliant Energy Service Area
- Wisconsin Public Service Area
- Mid American Energy Service Area

Cable Termination Cabinets

- UL Listed w/o current transformers
- UL Listed with current transformer provisions

Panelboards

- Power Distribution Type
- Lighting
- Retrofit interiors and trims

Transformers

- Dry Type & Oil Transformers
- Energy Efficient Transformers
- Current Transformers
- Potential Transformers

Control & Switchgear Houses & Generator Enclosures

- Skin Tight / Walk-in
- Sound Attenuated
- IBC where required
- Custom colors
- Fire suppression
- Heated/Air Conditioned

Retro Fit Packages for Existing Buildings

- Sound Attenuation
- Dampers
- Fixed Louvers
- Exhaust Systems
- Radiator to Wall Discharge Adapter
- Exterior fuel fill boxes with containment and fill alarms

Paralleling Switchgear

- Utility to Generator
- Utility to Utility
- Generator to Generator
- Design and upgrade of systems
- Transfer Breaker Pairs

Unit Substations

- Dry Type
- Oil Filled

UL 508 Control Panels/Enclosures

- Custom Designed utilizing relays & PLC's
- Smoke Evac panels

Bus Duct

- Short Run Service Entrance Bus Duct
- Plug-in / Feeder Duct

Wireways and Enclosures

- Screw / Hinge Pull boxes
- Wall and Floor Duct
- Custom control cabinets
- Custom / retrofit trims

Capacitors

- Fixed
- Automatic
- Filtered

Component Parts

- Metering SWBD Disconnect Kits
- Fusible Switches
- Circuit Breakers
- Pullout & Connecting Hardware
- Fuses
- Bus Bars
- Electrical Insulators
- PLC's
- Operator Interface Terminals
- Variable Frequency Drives (VFD's)
- Protective Relays
- Lugs
- Customer Metering Devices
- Push Buttons
- Selector Switches
- Panel Indicators
- Snake Skin Edging
- Ground Bar Assemblies

QSP Panels

Product Features

- Indoor/Outdoor Galvanized Wall Mount Enclosure
- 800 amp maximum
- 240/120, 208Y/120 or 480Y/277 Single Phase or Three Phase Applications
- CT Provisions and main disconnect or six disconnect rule
- Single cabinet, pad lockable two-door design on outdoor enclosures. Single CT door on indoor enclosures
- Aluminum bus standard, copper bus available
- Hard Bus Construction—**No Internal Cabling!**
- Bussed Interior Type Chassis
 - 100, 200 or 400 amp fusible pullouts
 - Siemens VacuBreak Switches
 - Siemens Circuit Breakers
- Bottom Feed
- Internal Wireway for Load Exit Top or Bottom
- 65,000kA Bus Bracing



QSP Price List

Description		Space (Inches)	List Each	Qty	Total
Base Price: Xcel MN Service Area (72"H x 34"W x 14"D)					
	3 Phase	27.5	\$3,300.00		
	1 Phase	27.5	\$3,100.00		
Base Price: Xcel WI Service Area (80"H x 34"W x 14"D)					
	3 Phase	27.5	\$3,610.00		
	1 Phase	27.5	\$3,410.00		
240 Volt Fusible Device Adders*					
	100A/2P Fusible Pullout (Class T Fuses)*	7.5	\$690.00		
	100A/3P Fusible Pullout (Class T Fuses)*	7.5	\$750.00		
	200A/2P Fusible Pullout (Class T Fuses)*	7.5	\$825.00		
	200A/3P Fusible Pullout (Class T Fuses)*	7.5	\$965.00		
	400A/2P Fusible Pullout (Class T Fuses)	7.5	\$1,790.00		
	400A/3P Fusible Pullout (Class T Fuses)	7.5	\$2,045.00		
	30-30A/3P Twin VB Switch (RK5 Fuses)	5.0	\$1,000.00		
	60-60A/3P Twin VB Switch (RK5 Fuses)	5.0	\$1,015.00		
	100-100A/3P Twin VB Switch (RK5 Fuses)	7.5	\$1,295.00		
	200A/3P Single VB Switch (RK5 Fuses)	10.0	\$1,390.00		
	200A-200A/3P Twin VB Switch (RK5 Fuses)	10.0	\$2,790.00		
	400A/3P Single VB Switch (RK5 Fuses)-INDOOR ONLY	15.0	\$2,880.00		
	600A/3P Single VB Switch (RK5 Fuses)-INDOOR ONLY	15.0	\$3,820.00		
	*Adder for Top Feed Version of Panel		\$1,000.00		

QSP Price List (Continued)

Description	Space (Inches)	List Each	Qty	Total
480 Volt Fusible Device Adders				
100A/3P Fusible Pullout (Class T Fuses)*	7.5	\$870.00		
200A/3P Fusible Pullout (Class T Fuses)*	7.5	\$1,170.00		
400A/3P Fusible Pullout (Class T Fuses)	8.75	\$2,335.00		
30A-30A/3P Twin VB Switch (RK5 Fuses)	7.5	\$1,300.00		
60A-60A/3P Twin VB Switch (RK5 Fuses)	7.5	\$1,325.00		
100A-100A/3P Twin VB Switch (RK5 Fuses)	7.5	\$1,850.00		
200A-200A/3P Twin VB Switch (Class J Fuses)	10.0	\$3,230.00		
200A/3P Single VB Switch (RK5 Fuses)	10.0	\$1,800.00		
400A/3P Single VB Switch (RK5 Fuses)-INDOOR ONLY	15.0	\$3,615.00		
600A/3P Single VB Switch (RK5 Fuses)-INDOOR ONLY	15.0	\$3,980.00		
3 Pole Circuit Breakers	240V AIC	480V AIC		
70A-100A/3P ED4 Frame*	65K	18K	3.75	\$780.00
110A-125A/3P ED4 Frame*	65K	18K	3.75	\$1,380.00
70A-100A/3P HED4 Frame*	100K	42K	3.75	\$1,120.00
110A-125A/3P HED4 Frame*	100K	42K	3.75	\$2,040.00
100A-225A/3P QJ2 Frame*	10K	-	5.0	\$1,230.00
100A-225A/3P QJH2 Frame*	22K	-	5.0	\$1,545.00
100A-225A/3P QJ2H Frame*	42K	-	5.0	\$1,915.00
60-225A/2P QJ2 Frame*	10K	-	5.0	\$1,110.00
60A-225A/2P QJH2 Frame*	22K	-	5.0	\$1,395.00
60A-225A/2P QJ2H Frame*	42K	-	5.0	\$1,730.00
100A-225A/3P FXD6 Frame*	65K	35K	5.0	\$2,230.00
250A/3P FXD6 Frame*	65K	35K	5.0	\$3,340.00
100A-225A/3P HFXD6 Frame*	100K	65K	5.0	\$3,905.00
250A/3P HFXD6 Frame*	100K	65K	5.0	\$4,890.00
200A-400A/3P JXD2 Frame	65K	-	8.75	\$2,875.00
200A-400A/3P JXD6 Frame	65K	35K	8.75	\$3,340.00
200A-400A/3P HJXD6 Frame	100K	65K	8.75	\$4,900.00
400A-600A/3P LXD6 Frame	65K	35K	8.75	\$4,740.00
400A-600A/3P HLXD6 Frame	100K	65K	8.75	\$6,000.00

* Devices may be tandem mounted.

Ordering Information

- Panel has 27.5" vertical device space
- Fusible devices include fuses
- Devices must be ordered with the panel
- Freight not included

Current Transformer Cabinets



Xcel Energy Service Area CT Cabinet:
400-600A Dimensions: 30"W x 48"H x 10"D



Alliant Service Area CT Cabinet:
800A Dimensions: 30"W x 60"H x 16"D

About Our Cabinets

EMI, Inc. manufactures current transformer cabinets that meet the specific requirements of many utilities. Wall mount current transformer cabinets are available in several sizes and configurations ranging from 400 amps to 1600 amps. Pad mount cabinets are available up to 4000 amps.

Product Features

- 400 through 800 amp applications designed for bar type transformers
- 1000 through 1600 amp applications designed for window type transformers, supplied with link and CT support
- Rated at 600V, 3PH, 4W, with full size insulated neutral
- Interrupting rating 65,000 amp short circuit rating standard
- UL Listed / Nema 3R rated for both indoor and outdoor applications
- Lug/CT landing pads are fabricated of EC grade aluminum rated at 750 amps per square inch. 1/2" CT mounting bolts are provided. Standard lug range (1) 750 MCM-1/0 AWG or (2) 300 MCM-1/0 AWG.

Available Features

- Copper Bus
- 85,000A Short circuit bracing (800-1600A)

Current Transformer Cabinets— Xcel Energy Service Area Price List

Minnesota, North Dakota & South Dakota Service Area

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions	List Price
CTB346M	400-600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 10"D	\$1,240.00
CTB380M	800	3 Phase/4 Wire	3-Line & Load*	60"H x 34"W x 12"D	\$1,480.00
CTB312MX	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 12"D	\$1,860.00
CTB31600	1600	3 Phase/4 Wire	5-Line & Load*	68"H x 38"W x 16"D	\$3,660.00
CTB146M	400-600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 10"D	\$1,170.00
CTB180M	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 12"D	\$1,410.00

Wisconsin/Upper Michigan Service Area

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions	List Price
CTB346W	400-600	3 Phase/4 Wire	2-Load*	48"H x 30"W x 10"D	\$1,220.00
CTB380W	800	3 Phase/4 Wire	3-Load*	60"H x 34"W x 12"D	\$1,475.00
CTB312WX	1200	3 Phase/4 Wire	4-Load*	60"H x 34"W x 12"D	\$1,860.00
CTB146W	400-600	1 Phase/3 Wire	2-Load*	48"H x 30"W x 10"D	\$1,160.00
CTB180W	800	1 Phase/3 Wire	3-Load*	60"H x 34"W x 12"D	\$1,380.00

Enclosure Only with Back Pan

Catalog Number	Description	List Price
ENC3048	48"H x 30"W x 10"D Enclosure	\$995.00
ENC3460	60"H x 34"W x 12"D Enclosure	\$1,300.00

CT Cabinet Accessories

Catalog Number	Description	List Price
Suffix "-H"	85,000A Short circuit bracing (800-1600A)	Add \$320.00

*Standard lug range (1) 750 MCM-1/0AWG or (2) 300 MCM-1/0 AWG

Current Transformer Cabinets— Xcel Energy Service Area Price List (Continued)

Colorado Service Area

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions	List Price
CTB346M-CO	400-600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 10"D	\$1,200.00
CTB380M-CO	800	3 Phase/4 Wire	3-Line & Load*	60"H x 34"W x 12"D	\$1,470.00
CTB312MX-CO	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 12"D	\$2,580.00
CTB31600-CO	1600	3 Phase/4 Wire	5-Line & Load*	68"H x 38"W x 16"D	\$3,490.00
CTB146M-CO	400-600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 10"D	\$1,130.00
CTB180M-CO	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 12"D	\$1,385.00

Enclosure Only with Back Pan

Catalog Number	Description	List Price
ENC3048	48"H x 30"W x 10"D Enclosure	\$995.00
ENC3460	60"H x 34"W x 12"D Enclosure	\$1,300.00

CT Cabinet Accessories

Catalog Number	Description	List Price
Suffix "-H"	85,000A Short circuit bracing (800-1600A)	Add \$320.00

*Standard lug range (1) 750 MCM-1/0AWG or (2) 300 MCM-1/0 AWG

Current Transformer Cabinets— Alliant Energy Service Area Price List

Wall mount 250V, Bottom In/Top Out

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions	List Price
ALICT140	400	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 16"D	\$1,740.00
ALICT160	600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 16"D	\$1,800.00
ALICT180	800	1 Phase/3 Wire	3-Line & Load*	60"H x 30"W x 16"D	\$1,955.00
ALICT340	400	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 16"D	\$1,785.00
ALICT360	600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 16"D	\$1,940.00
ALICT380	800	3 Phase/4 Wire	3-Line & Load*	60"H x 30"W x 16"D	\$2,060.00
ALICT312	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 16"D	\$3,310.00

Wall mount 250/600V, Bottom In/Bottom Out with PT Pan

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions	List Price
ALICT140P	400	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 16"D	\$1,925.00
ALICT160P	600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 16"D	\$2,065.00
ALICT180P	800	1 Phase/3 Wire	3-Line & Load*	60"H x 30"W x 16"D	\$2,210.00
ALICT340P	400	3 Phase/4 Wire	2-Line & Load*	48"H x 38"W x 16"D	\$2,060.00
ALICT360P	600	3 Phase/4 Wire	2-Line & Load*	48"H x 38"W x 16"D	\$2,150.00
ALICT380P	800	3 Phase/4 Wire	3-Line & Load*	60"H x 38"W x 16"D	\$2,450.00
ALICT312P	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 42"W x 16"D	\$4,150.00

Current Transformer Cabinets— Alliant Energy Service Area Price List (Continued)

Pad mount/Wall mount 250 & 600V, Bottom In/Bottom Out with PT Pan

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions	List Price
ALIPM380	800	3 Phase/4 Wire	3-Line & Load*	65"H x 54"W x 24"D	\$4,460.00
ALIPM312	1200	3 Phase/4 Wire	4-Line & Load*	65"H x 54"W x 24"D	\$5,030.00
ALIPM316	1600	3 Phase/4 Wire	5-1000 MCM Line 5-750 MCM Load	75"H x 62"W x 24"D	\$6,190.00
ALIPM320	2000	3 Phase/4 Wire	6-1000 MCM Line 6-750 MCM Load	75"H x 62"W x 24"D	\$6,660.00
ALIPM325	2500	3 Phase/4 Wire	7-1000 MCM Line 7-750 MCM Load	75"H x 62"W x 24"D	\$9,390.00
ALIPM330	3000	3 Phase/4 Wire	8-1000 MCM Line 8-750 MCM Load	75"H x 62"W x 24"D	\$10,230.00

CT Cabinet Accessories

Catalog Number	Description	List Price
PTB	PT box to convert 250V wall mount to 600V	\$450.00

Current Transformer Cabinets— Wisconsin Public Service Area Price List

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions	List Price
CTB146WPS	400-600	1 Phase/3 Wire	2-Load*	48"H x 30"W x 10"D	\$1,680.00
CTB180WPS	800	1 Phase/3 Wire	3-Load*	60"H x 34"W x 12"D	\$1,905.00
CTB346WPS	400-600	3 Phase/4 Wire	2-Load*	48"H x 30"W x 10"D	\$1,730.00
CTB380WPS	800	3 Phase/4 Wire	3-Load*	60"H x 34"W x 12"D	\$1,960.00
CTB312WPS	1200	3 Phase/4 Wire	4-Load*	66"H x 42"W x 16"D	Consult Factory

Current Transformer Cabinets Mid American Energy Price List (Iowa)

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions	List Price
CTB146M	400-600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 10"D	\$1,170.00
CTB180M	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 12"D	\$1,410.00
CTB346M	400-600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 10"D	\$1,240.00
CTB380M	800	3 Phase/4 Wire	3-Line & Load*	60"H x 34"W x 12"D	\$1,480.00
CTB312MX	1000-1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 12"D	\$1,860.00
CTB31600	1600	3 Phase/4 Wire	5-Line & Load*	68"H x 38"W x 16"D	\$3,660.00

Mid American Energy CT Cabinet Accessories

Catalog Number	Description	List Price
PTCAB	PT Cabinet 24"H x 24"W x 10"D	\$670.00
CTW48	48" Side Wireway 47"H x 10-1/4"W x 10-1/4"D	\$720.00
CTW60	60" Side Wireway 59"H x 12-3/4"W x 12-1/4"D	\$830.00

*Standard lug range (1) 750 MCM-1/0AWG or (2) 300 MCM-1/0 AWG

Cable Termination Cabinets



Cable Termination Cabinet without current transformer provisions.

Dimensions: 65"H x 42"W x 24"D*



Cable Termination Cabinet with current transformer provisions.

Dimensions: 65"H x 54"W x 30"D

Product Features

- Pad mount cable termination cabinets
- Available from 800A through 4,000A, 3PH, 4W, with aluminum or copper bus
- Interrupting rating 85,000 amp short circuit rating standard.
- UL Listed for Nema 3R outdoor applications
- Aluminum bus rated at 750 amps per square inch is standard. Copper bus rated at 1000 amps per square inch is available
- Mounting provisions for current transformers are supplied on cabinets with CT provisions
- Lugs are provided on the right side for customers connections, unless otherwise specified
- Standard color is utility green
- Hinged door on CTC without provisions, per Xcel requirement
- No cable lashing required up to 85,000 amps

Available Options

- 12" x 12" throat may be installed on the back or sides
- 100,000 amp short circuit rating
- Copper Bus
- Special paint colors

*Dimensions for a 4,000A CTC cabinet: 65"H x 42"W x 30"D

Cable Termination Cabinet Price List

Cable Termination Cabinets with CT Provisions Aluminum Bus / 85,000 AIC Bracing

Catalog Number	Amperes	Service	Lugs Per PH&N	List Price
CTC-WP3800P	800	3 Phase/4 Wire	3-Phase & Neutral*	\$5,295.00
CTC-WP31000P	1000	3 Phase/4 Wire	3-Phase & Neutral*	\$5,330.00
CTC-WP31200P	1200	3 Phase/4 Wire	4-Phase & Neutral*	\$5,375.00
CTC-WP31600P	1600	3 Phase/4 Wire	5-Phase & Neutral*	\$5,600.00
CTC-WP32000P	2000	3 Phase/4 Wire	6-Phase & Neutral*	\$5,930.00
CTC-WP32500P	2500	3 Phase/4 Wire	7-Phase & Neutral*	\$6,300.00
CTC-WP33000P	3000	3 Phase/4 Wire	8-Phase & Neutral*	\$6,450.00
CTC-WP34000P	4000	3 Phase/4 Wire	12-Phase & Neutral**	\$10,100.00

Cable Termination Cabinets Without CT Provisions Aluminum Bus / 85,000 AIC Bracing

Catalog Number	Amperes	Service	Lugs Per PH&N	List Price
CTC-NP3800P	800	3 Phase/4 Wire	3-Phase & Neutral*	\$3,620.00
CTC-NP31000P	1000	3 Phase/4 Wire	3-Phase & Neutral*	\$3,685.00
CTC-NP31200P	1200	3 Phase/4 Wire	4-Phase & Neutral*	\$3,750.00
CTC-NP31600P	1600	3 Phase/4 Wire	5-Phase & Neutral*	\$3,830.00
CTC-NP32000P	2000	3 Phase/4 Wire	6-Phase & Neutral*	\$4,005.00
CTC-NP32500P	2500	3 Phase/4 Wire	7-Phase & Neutral*	\$4,360.00
CTC-NP33000P	3000	3 Phase/4 Wire	8-Phase & Neutral*	\$4,650.00
CTC-NP34000P	4000	3 Phase/4 Wire	12-Phase & Neutral**	\$7,320.00

CTC Accessories

Catalog Number	Description	List Price
Suffix "-H"	100,000 AIC Bracing	Add \$660.00
Suffix "-T"	12" x 12" x 12"-21" Telescoping Throat	Add \$690.00
Suffix "-LT"	12" x 12" x 30"-55" Telescoping Throat	Add \$1,095.00
Suffix "-CU"	Copper Bus	Consult Factory

*Standard lug range (1) 750 MCM-1/0 AWG or (2) 300 MCM-1/0 AWG

**Standard lug range (1) 750 MCM-1/0 AWG

Cable Termination Cabinet (with Dual Metering)



Product Features

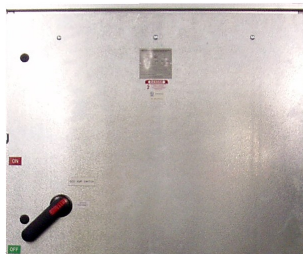
- Pad mount cable termination cabinets
- Available from 800A through 4,000A, 3PH, 4W, with aluminum or copper bus
- Interrupting rating 85,000 amp short circuit rating standard.
- ETL Listed for Nema 3R outdoor applications
- Aluminum bus rated at 750 amps per square inch is standard. Copper bus rated at 1000 amps per square inch is available
- Mounting provisions for dual current transformers are supplied
- Mechanical lugs are provided on the load side for customers connections, unless otherwise specified
- Supports connections for off peak metering
- Standard color is utility green
- Single cabinet dimensions: 65"H x 54"W x 45"D
- No cabling lashing required up to 85,000 amps

Available Options

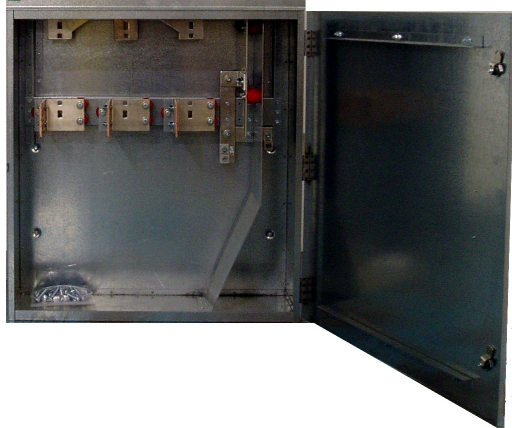
- 12" x 12" throat may be installed on the sides
- 100,000 amp short circuit rating
- Copper Bus
- Special paint colors

**CONTACT YOUR SALES
REPRESENTATIVE
FOR PRICING**

Current Transformer & Switch Cabinet (400-800A)



UL Listed File
#E67452C



Product Features

- Single cabinet, pad lockable 2-door design
- UL Listed & SUSE
- Hard bus construction—No internal cabling for **SIMPLIFIED INSTALLATION!**
- Nema 3R for Indoor and Outdoor Applications
- 400-800A, 600V, 3PH, 4W, Bar-type current transformer
- 65,000A Short Circuit Interrupt Rating
- No cable lashing required for 65,000A Rating
- 400A & 600A include Class J fuses
- 800A includes Class L fuses
- Xcel Service Area

Product Construction

- Code gauge steel (G-90 Galvanized)
- Internal wireway for load exit top or bottom
- Bottom feed design

Available Options

- 85,000A Short Circuit Interrupt Rating
- Painted front plates
- 400A & 600A Class T Fusing
- Wisconsin Service Area Cabinet

Catalog Number	Amps	Lugs	Dimensions	List Price
MSCT-4	400A	<u>Line Terminals</u> —One 750 MCM Dual rated AL/CU set screw lug—(1) 750 MCM-1/0 or (2) 300 MCM—1/0 <u>Load Terminals</u> — One (1) #2 through 600 kcmil AL/CU set screw lug	52"H x 30"W x 10"D	\$4,940.00
MSCT-6	600A	<u>Line Terminals</u> —Two 750 MCM Dual rated AL/CU set screw lugs—(2) 750 MCM-1/0 or (4) 300 MCM—1/0 <u>Load Terminals</u> — Two (2) #2 through 600 kcmil AL/CU set screw lugs	60"H x 34"W x 12"D	\$5,985.00
MSCT-8	800A	<u>Line Terminals</u> —Two 750 MCM Dual rated AL/CU set screw lugs—(2) 750 MCM-1/0 or (4) 300 MCM—1/0 <u>Load Terminals</u> — Two (2) #2 through 600 kcmil AL/CU set screw lugs	66"H x 34"W x 12"D	\$8,860.00

MSCT Accessories

Catalog Number	Description	List Price
Suffix "-H"	85,000A AIC Bracing	Add \$700.00
Suffix "-P"	Painted Front Plates	Add \$630.00

Switchboards

About Our Switchboards

At Electro-Mechanical Industries, Inc., our years of experience in switchboard design and manufacturing allow for an unprecedented flexibility in custom design to meet all your electrical distribution needs. We manufacture a complete line of service entrance, fusible distribution, circuit breaker distribution, utility metering for single or multiple tenants and special application switchboards.

Switchboards can incorporate transfer switches for emergency power as required. These switchboards are listed by **UNDERWRITERS LABORATORIES** when applicable and appropriate.

EMI, Inc. specializes in the design and fabrication of additional sections of switchgear to match and connect to the cross bus of existing switchgear **REGARDLESS OF THE MANUFACTURER**. Back-to-back, "L-shaped", and other special lineups can be provided as required.

Main Switchboard Standards

- TYPE 1 freestanding enclosures fabricated of code gauge steel and phosphatized, primed and painted as required.
- Standard construction is rail and panel design with internal structure components and rear cover plates fabricated of G90 galvanized steel, unless otherwise specified.
- All switchboards are built in accordance with ANSI standards, UL 891 and NEC.
- Standard dimensions are 38" or 42" wide x 90" high. The standard depth is 24 inches for switchboards through 2000 amps and 30 inches for switchboards from 2001 through 4000 amps. Special size switchboards are commonly supplied for space restricted and other special applications. TYPE 3R and TYPE 12 enclosures can be provided as required.
- Standard bus structure is fabricated of electrical grade tin plated aluminum rated at 750 amps per square inch current density. Silver plated copper bus rated at 1000 amps per square inch current density is available as required. Standard bus bracing is 50,000 amp short circuit rating. Bus bracing up to 100,000 amp short circuit rating is available as required.
- Solid state zero sequence ground fault protection is available when required. Phase loss, phase reversal and low line voltage protection with shunt trip or capacitive discharge shunt trip are also available. Transient Voltage Surge Suppression (TVSS) units may be utilized as specified.
- Instrumentation is available as follows; ammeter, voltmeter, watt meter, watt-hour meter(s), demand watt-hour meter(s), power factor meter, varmeter, frequency meter, digital meter, or metering systems, SCADA systems and control systems using PLC and data acquisition technology.
- Other instrumentation is available on request.



UL Listed
File
#E67452



Two (2) section switchboard with utility metering, Boltswitch main with GFI, and fusible distribution.

Fusible Distribution Switchboards

- 70 inches of mounting space is available in a standard interior. Under some circumstances using larger (400 amp and above) switches, additional space is available. Switchboards can be ordered in 38 inch or 42 inch widths. The following chart lists the vertical space requirements for the most commonly used SIEMENS-ITE VacuBreak switches.

Switch Description	Space Req.
30A-30A and 60A-60A Twin Switches; 240 VAC	5 inches
100A-100A Twin Switches; 240 VAC	7.5 inches
30A-30A through 100A-100A Twin Switches; 600 VAC	7.5 inches
200A-200A Twin Switch; 240 or 600 VAC	10 inches
200A Switch	10 inches
400A Switch	15 inches
600A Switch	15 inches
800A and 1200A Switches	20 inches
Utility Metering Provisions	30 inches

- Consult the factory for sizes not listed. The NATIONAL ELECTRIC CODE requires that the operator of the top switch cannot be more than 78 inches above the floor. If the housekeeping pad does not extend a minimum of 36 inches in front of the switchgear the height of the pad must be deducted from the 78 inches.



UL Listed File
 #E67452



Multiple Tenant Metering Switchboards

About Our Switchboards

EMI Inc. has been designing and manufacturing metering switchboards for many years. We have developed multiple tenant metering sections for commercial and residential apartment properties. Both commercial and residential sections are available with cross bus for multiple section lineups, main service disconnect or six disconnect design.

Commercial meter sections are 12 gauge frame and rail design, pan formed panels with internal support structure. The structures are constructed with G90 galvanized back panels and painted side and front plates. Standard dimensions are 38" wide x 90" high x 24" deep. All metering switchboards are built in accordance with ANSI standards, UL 891 and NEC.

Product Features

- UL Listed
- Up to ten (10) 200 amp meters & disconnects per section at 208Y/120 volts
- 208Y/120 volt commercial hot sequence up to 320 amps
- 480 volt commercial cold sequence up to 200 amps
- 400 amps and above for current transformer metering
- Secondary metering disconnects may be:
 - Fusible pullouts up to 400 amps
 - Circuit breakers
 - Siemens VacuBreak Switch (400 amps and above)
 - ABB fusible disconnect (400 amps and above)
- New modular design allows for flexible tenant fit-ups

Available Options

- Copper Bus
- Nema 3R structure
- Dim: 42"W x 90"H x 30"D



Six Disconnect, MLO Nema 3R Board.



Two (2) section commercial metering, 208Y/120 volt with main disconnect.

Residential/Apartment Metering

Product Features

- 12 Single Phase Meters per 32" Section
- Reduced Section Size
- Single or Multiple Sections
- 125A Maximum Tenant (2-Pole)
- 85,000A Maximum Short Circuit Interrupt Rating
- Competitive Pricing

Product Construction

- Code gauge steel (G-90 Galvanized)
- Painted front plates
- Load exit top or bottom
- Nema 1 Construction
- Metering Section Dimensions: 32"W x 90"H x 12"D (125A Tenants)

Available Options

- 200A Maximum Tenant (2-Pole), 10 Meters Per 36"W x 90"H x 12"D Section
- 1200A Maximum Cross Bus (Copper)
- Match up to Existing Switchgear:
 - Incoming Main Switchboards
 - Transition Pull Sections/ Incoming Lugs
 - Existing Panels & Switchboards
 - Multiple Section with through bus (1200A max.)



Service Disconnect, House Disconnects and Individual Apartment Metering

Main Section 1 Dimensions: 38"W x 90"H x 24"D

Metering Sections 2 & 3 Dimensions: 36"W x 90"H x 12"D

Ground Fault Protection

Since 1971, Section 230-95 of the **NATIONAL ELECTRIC CODE** has required that ground fault protection be provided for solidly grounded WYE electrical services of more than 150 volts to ground, but not exceeding 600 volts phase to phase for each service disconnection means rated 1000 amps or more. This makes ground fault protection mandatory on 480Y/277 volt services, but not on 208Y/120 volt services or 480 volt, 3 wire delta services. With a phase to ground voltage of 120 volts an arcing fault to ground will usually self-extinguish at current zero. However, with 277 volts to ground there is a much better chance of the arc restriking after current zero, doing severe and increasing damage until the fault is cleared by an over current protection device. Therefore, ground fault protection is designed to protect the service from low level ground faults. High level ground fault protection is that afforded by the circuit over current device.

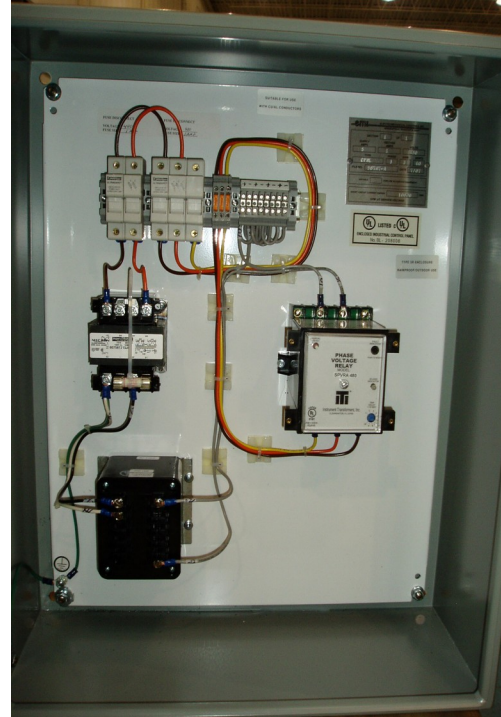
Ground fault protection is designed to protect equipment from low level ground faults. It is not “people” protection, and offers no protection from phase to phase, or phase to neutral faults.

EMI Inc. switchgear incorporates the zero sequence method of ground fault protection. This method utilizes a large rectangular current sensor that surrounds all the phase and neutral conductors. This sensing method is based on the fact that the vectorial sum of all phase and neutral currents in the system will equal zero unless a ground fault condition exists downstream of the sensing device. Should a fault exist, the fault current will flow outside the normal circuit conductors and cause the current sensor to trigger the ground fault relay.

The ground fault relay includes time and trip level settings. According to the **NATIONAL ELECTRIC CODE** the maximum trip level setting is 1200 amps and the maximum time delay is one second. However, considerable damage can be caused by a 1200 amp ground fault. Therefore, the proper setting of the trip and time delay should be as low as possible to afford maximum protection yet not cause “nuisance” tripping. These settings are specified by the project engineer after doing a coordination study considering the time-current curves of the over current protective device.

For additional information consult the **NATIONAL ELECTRIC CODE**.

Phase Loss Monitor



UL Listed

Product Features

- Phase Loss
- Low Voltage Protection
- Phase reversal
- Capacitor trip (Ensures that the main trips if control power is connected to the loss phase)
- If all phases are lost; unit does not trip
- Nema 1 or Nema 3R
- 208Y/120 or 480Y/277V
- UL Listed

Product Construction

- Code gauge steel (G-90 Galvanized)

Available Options

- Indication for line

5kV, 15kV, 25kV & 35kV Metal Enclosed Switchgear

About Our Switchgear

Our metal enclosed switchgear is designed and manufactured from heavy, code gauge steel. The cabinets are welded, cleaned, fully primed and painted ANSI 61 gray, unless otherwise specified. Contact our sales department to discuss your medium voltage requirements.

Product Features

- 5kV-15kV UL Listed, switchgear can be built up to 35kV
- Utility metering sections, main switch, branch switch and fuse distribution
- Tie switch sections, bus transition section
- Substation main with transformer transition section
- Multiple source and paralleling options available
- Nema 1 Indoor or Nema 3R Outdoor ratings available
- Various fuse manufacturers and fuse mounting options are available
- Copper bus standard
- Standard color is ANSI 61 gray, custom paint color as specified



The above 15kV sections controlled two utility services supplying a major hospital in Saint Paul, Minnesota. All switchgear sections, control panels and bus duct where designed and built by EMI. A PLC control system and a Touch Screen provided automatic transfer and system status.



UL Listed Metal
Enclosed
Switchgear
2S78



15kV Main Switch and fuse section.

Emergency Transfer & Paralleling Switchgear

About Our Switchgear

EMI, Inc. has designed, manufactured and commissioned utility to generator and utility to utility and generator to generator paralleling and back up systems throughout the United States. We have experience in manufacturing generator back up systems designed for multiple utility and multiple generator installations. Utility to utility paralleling systems have been designed and installed to provide power in critical health care facilities.

The end users of these systems include telephone companies, medical manufacturing companies, wastewater treatment plants, oil pumping stations, airports, schools, utilities, hospitals and governments.

The control systems for this equipment has utilized Programmable Logic Controllers (PLC), operator interfaces and a variety of instrumentation providing critical information for PLC use, system status monitoring, overall system control and data logging.

Product Features

- Open or Closed Transition Options
- Load Shedding / Peak Shaving
- Touch Screen
- Power Monitoring



The above system was designed and manufactured by EMI, Inc. PLC, Touch Screen, bus monitoring devices and generator synchronizing control were programmed by EMI, Inc. The system provided backup power to a major Minneapolis area shopping mall. Three (3) two megawatt generators and one (1) utility were controlled by the system providing soft closed transfers between utility and the generators. EXPORT and IMPORT operation were also part of the system. A remote control (SCADA) was used to monitor and control all functions of the system. Power Monitoring devices supplied information to the PLC and Touch Screen for bus information and soft transfer operations.

Generator Enclosures



About Our Enclosures

EMI, Inc. has a strong reputation for building **QUALITY** custom generator enclosure packages. We have **in-house ENGINEERING** knowledge to complete all your enclosure needs. Whether you are in need of retrofitting an existing installation, or a complete new enclosure package to meet stringent sound level requirements, we are the right fit for you! Your project will be engineered from the start to meet **YOUR** requirements.

Our thirty (30) plus years of generator knowledge is apparent in our **SERVICE** and **PRODUCT**. Our packages are found around the country in all types of applications including hospitals, health care facilities, utilities, water and waste water plants or pumping stations, data centers and office buildings.

EMI, Inc. can design and manufacture enclosure packages for **ALL** generator manufacturers.

Product Features

- Aesthetic painted steel construction, architectural cladding available upon request
- Built to IBC standards
- Skin-tight or walk-in style construction
- Drop-over, structural skid base or fuel tank skid base
- Thermal insulated and sound attenuation options
- Louver options for motorized or stationary dampers
- Silencer options for roof mount or inside mount
- Lighting, heating, cooling and ventilation options
- Package control, paralleling and transfer options
- Fire suppression FM200 or CO2 options



Terms of Sale and General Conditions

Quotations

Written quotations expire in forty-five (45) days or by written notice within that period. Verbal quotations expire in five (5) days. Prices quoted by EMI, Inc. for products to be purchased from EMI, Inc. distributors are subject to review and confirmation by the distributors. Please review all quotations carefully as EMI, Inc. will not be responsible for any required materials and/or products not stated in the quote.

Order Acceptance

All orders shall be subject to acceptance by EMI, Inc. and include only the materials and/or products stated on the order. Please review your order carefully as EMI, Inc. will not be responsible for any required materials and/or products not stated on the order.

Minimum Billing

A one hundred (100) dollar minimum billing is in effect.

Penalty Clause

Penalty clauses or liquidated damage clauses shall not be in effect unless approved in writing at the time of order.

Delivery

EMI, Inc. will not be liable for any delay in delivery that is beyond its control. Every effort will be made to meet required shipping dates. The customer shall not be relieved of any obligation to accept or pay for goods by reason of any delay in delivery. A charge of one-half percent per month may be charged if customer cannot accept delivery of goods for any reason. EMI reserves the right to deliver goods by installments and each installment shall be deemed to be sold under a separate contract. Failure to deliver any installment or deliver any installment on time shall not entitle the customer to repudiate the purchase order in whole or part.

Terms

Terms are net thirty (30) days from date of invoice to customers with approved credit. Past due accounts may be subject to a 1.5% finance charge per month.

Published Prices

Unless otherwise stated, published prices are FOB the factory. Prices and discount schedules are subject to change without notice.

Taxes

Published prices do not include any Federal, State, Local Use or Sales Tax.

Shipping

Unless otherwise specified, all orders will be shipped by the most expeditious and inexpensive means. Shipping charges will be prepaid and added to the invoice at cost unless otherwise stated.

Cancellation

Orders may be cancelled with written consent of EMI, Inc. and may be subject to reasonable and proper cancellations charges.

Returned Goods

No products will be accepted without a Return Material Authorization. Restocking fees will apply to returned material, contact EMI, Inc. for additional information.

Warranties

All products manufactured by EMI, Inc. are warranted to be free from defects of workmanship and material for a period of one (1) year from date of delivery. If any product fails to meet this warranty EMI, Inc. shall at its option, repair or replace at no charge any defective parts if a customer notifies us promptly and the equipment has not been altered or modified after shipment without specific factory authorization. If a failure can not be corrected by EMI, Inc.'s reasonable efforts, the parties concerned shall negotiate an equitable adjustment in price.

The preceding paragraph establishes the exclusive remedies for claims based on failure of the products to meet EMI, Inc.'s warranties and upon the expiration of the warranty all such liability shall terminate, THE WARRANTY CONTAINED HEREIN IS EXCLUSIVE AN IN LIEU OF ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE.

Limitations of Liability

In no event shall EMI Inc. be liable for any consequential damages. EMI Inc.'s liability on any claim of any kind (including negligence) for any loss or damage arising out of or resulting from this agreement, or from the performance or breach thereof, or from the products furnished hereunder, shall in no case exceed the price of the product which gives rise to the claim. To the extent that a purchaser transfers title or use of the products sold hereunder to any third party, the purchaser shall obtain from such third party a provision affording EMI, Inc. and its suppliers the protection of the preceding sentence.



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