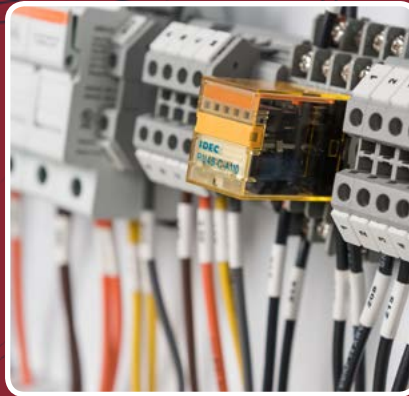
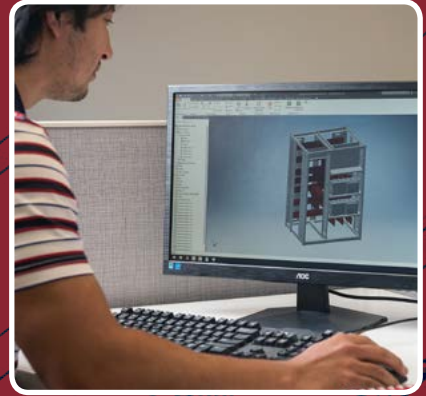


CREATIVE SOLUTIONS FOR POWER DISTRIBUTION



2020 CATALOG

REV 1/10/2020



ELECTRO-MECHANICAL INDUSTRIES, INC.

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 39 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 66,000 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



CONTACT US

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PRODUCT LINE

UL Low Voltage Switchgear

- UL 891 up to 6000A
- 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
- Mid American Energy Service Area

Cable Termination Cabinets

- With Utility Metering
- Without Utility Metering

Panelboards

- Power Distribution Type
- Lighting
- Retrofit interiors and trims

Transformers

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

Control & Switchgear Enclosures

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

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, Enclosures & Sheet metal

- Screw / Hinge Pull boxes
- Wall and Floor Duct
- Custom control cabinets
- Power Pedestals
- Custom metal plates
- Enclosed fusible switches/breakers

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
- Snake Skin Edging
- Ground Bar Assemblies

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CURRENT TRANSFORMER 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 1200 amps.

PRODUCT FEATURES

- 400 through 800 amp applications designed for bar type CT's
- 1000 through 1200 amp applications designed for window type CT's, supplied with link and CT support
- Rated at 600V, 3PH, 4W, with full size isolated neutral
- Interrupting rating 65,000 amp short circuit rating standard
- ETL Listed / Type 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.

OPTIONS:

- Copper Bus
- 85,000A Short circuit bracing (800-1200A)



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



Alliant Service Area CT Cabinet:
800A Dimensions: 60"H x 38"W x 16"D



Current Transformer Cabinets – Xcel Energy Service Area

SPECIFICATIONS - MINNESOTA, NORTH DAKOTA & SOUTH DAKOTA SERVICE AREA

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions
CTB346M	400-600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 10"D
CTB380M	800	3 Phase/4 Wire	3-Line & Load*	60"H x 34"W x 12"D
CTB312MX	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 12"D
CTB146M	400-600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 10"D
CTB180M	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 12"D

SPECIFICATIONS - MINNESOTA POWER SERVICE AREA

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions
CTB346M-MNP	400-600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 10"D
CTB380M-MNP	800	3 Phase/4 Wire	3-Line & Load*	60"H x 34"W x 12"D
CTB312MX-MNP	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 12"D
CTB146M-MNP	400-600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 10"D
CTB180M-MNP	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 12"D

SPECIFICATIONS - WISCONSIN / UPPER MICHIGAN SERVICE AREA

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

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

Current Transformer Cabinets — Xcel Energy Service Area (Continued)

SPECIFICATIONS - COLORADO SERVICE AREA

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions
CTB346M-CO	400-600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 10"D
CTB380M-CO	800	3 Phase/4 Wire	3-Line & Load*	60"H x 34"W x 12"D
CTB312MX-CO	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 12"D
CTB146M-CO	400-600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 10"D
CTB180M-CO	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 12"D

SPECIFICATIONS - ENCLOSURE ONLY WITH BACK PAN

Catalog Number	Dimensions
ENC3048	48"H x 30"W x 10"D Enclosure
ENC3460	60"H x 34"W x 12"D Enclosure

SPECIFICATIONS - CT CABINET OPTIONS

Catalog Number	Description
Suffix "-C"	Copper Bus
Suffix "-H"	85,000A Short circuit bracing (800-1200A)

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

Current Transformer Cabinets — Alliant Energy Service Area

SPECIFICATIONS - WALL MOUNT 250V, BOTTOM IN/TOP OUT

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions
ALICT140	400	1 Phase/3 Wire	1-Line & Load*	48"H x 30"W x 16"D
ALICT160	600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 16"D
ALICT180	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 16"D
ALICT340	400	3 Phase/4 Wire	1-Line & Load*	48"H x 30"W x 16"D
ALICT360	600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 16"D
ALICT380	800	3 Phase/4 Wire	3-Line & Load*	60"H x 34"W x 16"D
ALICT312	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 16"D

SPECIFICATIONS - CT CABINET OPTIONS

Catalog Number	Description
Suffix "-PTB"	PT box to convert 250V wall mount to 600V

SPECIFICATIONS - WALL MOUNT 250/600V, BOTTOM IN/BOTTOM OUT WITH PT PAN

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions
ALICT140P	400	1 Phase/3 Wire	1-Line & Load*	48"H x 30"W x 16"D
ALICT160P	600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 16"D
ALICT180P	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 16"D
ALICT340P	400	3 Phase/4 Wire	1-Line & Load*	48"H x 38"W x 16"D
ALICT360P	600	3 Phase/4 Wire	2-Line & Load*	48"H x 38"W x 16"D
ALICT380P	800	3 Phase/4 Wire	3-Line & Load*	60"H x 38"W x 16"D
ALICT312P	1200	3 Phase/4 Wire	4-Line & Load*	60"H x 42"W x 16"D

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

Current Transformer Cabinets – Mid American Energy

SPECIFICATIONS - MID AMERICAN ENERGY (IOWA)

Catalog Number	Amperes	Service	Lugs Per PH&N	Dimensions
CTB146M	400-600	1 Phase/3 Wire	2-Line & Load*	48"H x 30"W x 10"D
CTB180M	800	1 Phase/3 Wire	3-Line & Load*	60"H x 34"W x 12"D
CTB346M	400-600	3 Phase/4 Wire	2-Line & Load*	48"H x 30"W x 10"D
CTB380M	800	3 Phase/4 Wire	3-Line & Load*	60"H x 34"W x 12"D
CTB312MX	1000-1200	3 Phase/4 Wire	4-Line & Load*	60"H x 34"W x 12"D

SPECIFICATIONS - MID AMERICAN ENERGY CT CABINET OPTIONS

Catalog Number	Dimensions
PTCAB	PT Cabinet 24"H x 24"W x 10"D
CTW48	48" Side Wireway 47"H x 10-1/4"W x 10-1/4"D
CTW60	60" Side Wireway 59"H x 12-3/4"W x 12-1/4"D

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

CABLE TERMINATION CABINETS

EMI manufactures Cable Termination cabinets to connect building loads to utility conductors. These cabinets can be built with or without utility metering provisions, they are rated up to 600V and are available from 800A-4000A. Cabinets with provisions can be built in single or dual configurations. EMI standard paint color is utility green, other options available upon request.

PRODUCT FEATURES

- Available from 800A through 4,000A, 3PH, 4W, with aluminum or copper bus
- Interrupting rating 85,000 amp short circuit rating standard
- Aluminum bus rated at 750 amps per square inch is standard. Copper bus rated at 1000 amps per square inch is available
- Pad mount cable termination cabinets
- ETL Listed for Type 3R outdoor applications
- 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
- Hinged door on CTC cabinets with and without provisions, per Xcel requirement
- No cable lashing required up to 85,000 amps
- Standard color is utility green

OPTIONS:

- 12" x 12" throat for side or rear mounting
- 100,000 amp short circuit rating
- Copper Bus
- Penta Head Bolt Provisions
- Special paint colors



Standard CTC Cabinet dimensions with provisions: 65"H x 54"W x 30"D

Cable Termination Cabinet

SPECIFICATIONS - CABINETS WITH CT PROVISIONS ALUMINUM BUS / 85,000 AIC BRACING)

Catalog Number	Amperes	Service	Lugs Per PH&N
CTC-WP3800P	800	3 Phase/4 Wire	3-Phase & Neutral*
CTC-WP31000P	1000	3 Phase/4 Wire	3-Phase & Neutral*
CTC-WP31200P	1200	3 Phase/4 Wire	4-Phase & Neutral*
CTC-WP31600P	1600	3 Phase/4 Wire	5-Phase & Neutral*
CTC-WP32000P	2000	3 Phase/4 Wire	6-Phase & Neutral*
CTC-WP32500P	2500	3 Phase/4 Wire	7-Phase & Neutral*
CTC-WP33000P	3000	3 Phase/4 Wire	8-Phase & Neutral*
CTC-WP34000P	4000	3 Phase/4 Wire	12-Phase & Neutral**

Cable Termination Cabinet

SPECIFICATIONS - CABINETS WITHOUT CT PROVISIONS ALUMINUM BUS / 85,000 AIC BRACING)

Catalog Number	Amperes	Service	Lugs Per PH&N
CTC-NP3800P	800	3 Phase/4 Wire	3-Phase & Neutral*
CTC-NP31000P	1000	3 Phase/4 Wire	3-Phase & Neutral*
CTC-NP31200P	1200	3 Phase/4 Wire	4-Phase & Neutral*
CTC-NP31600P	1600	3 Phase/4 Wire	5-Phase & Neutral*
CTC-NP32000P	2000	3 Phase/4 Wire	6-Phase & Neutral*
CTC-NP32500P	2500	3 Phase/4 Wire	7-Phase & Neutral*
CTC-NP33000P	3000	3 Phase/4 Wire	8-Phase & Neutral*
CTC-NP34000P	4000	3 Phase/4 Wire	12-Phase & Neutral**

SPECIFICATIONS - CTC OPTIONS

Catalog Number	Dimensions
Suffix "-H"	100,000 AIC Bracing
Suffix "-T"	12" x 12" x 12"-21" Telescoping Throat
Suffix "-LT"	12" x 12" x 30"-55" Telescoping Throat
Suffix "-CU"	Copper Bus

* 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

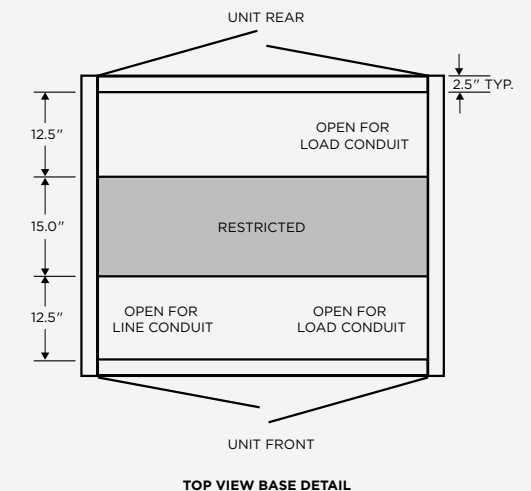
CABLE TERMINATION CABINET (WITH DUAL METERING)

PRODUCT FEATURES

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

OPTIONS:

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



QSP PANELS

FAST DELIVERY

PRODUCT FEATURES

- Indoor/Outdoor galvanized wall mount enclosure with painted doors
- 400A thru 1200A
- 208Y/120, 480Y/277 Volt Three Phase Applications, 120/240V Single Phase Applications
- CT Provisions with 1-6 main disconnects
- Single cabinet, pad lockable two-door design and side cover
- Hard Bus Construction—No Internal Cabling!
- Aluminum bus standard
- Bottom feed
- 65K AIC Bracing
- Dimensions: 84”H x 40”W x 16-1/4”D
- Bussed Interior Type Chassis
- 100, 200 or 400 amp fusible pullouts
- Siemens VacuBreak Switches
- Siemens Circuit Breakers



UL Listed File #E67452

OPTIONS

- Copper bus—See factory for pricing

SPECIFICATIONS

Description	Space (Inches)
Base Price: Xcel Energy Service Area	
3 Phase	30
1 Phase	30
240 Volt Fusible Device Adders*	
100A/2P Fusible Pullout (Class T Fuses)*	7.5
100A/3P Fusible Pullout (Class T Fuses)*	7.5
200A/2P Fusible Pullout (Class T Fuses)*	7.5
200A/3P Fusible Pullout (Class T Fuses)*	7.5
400A/2P Fusible Pullout (Class T Fuses)	7.5
400A/3P Fusible Pullout (Class T Fuses)	7.5
30-30A/3P Twin VB Switch (RK5 Fuses)	5.0
60-60A/3P Twin VB Switch (RK5 Fuses)	5.0
100-100A/3P Twin VB Switch (RK5 Fuses)	7.5
200A/3P Single VB Switch (RK5 Fuses)	10.0
200A-200A/3P Twin VB Switch (RK5 Fuses)	10.0
400A/3P Single VB Switch (RK5 Fuses)	15.0
600A/3P Single VB Switch (RK5 Fuses)	15.0
800A/3P Single HCP Switch (L Fuses)	18.75
1200A/3P Single HCP Switch (L Fuses) - No Ground Fault	18.75

SPECIFICATIONS (CONTINUED):

Description	Space (Inches)		
480 Volt Fusible Device Adders			
100A/3P Fusible Pullout (Class T Fuses)*			7.5
200A/3P Fusible Pullout (Class T Fuses)*			8.75
400A/3P Fusible Pullout (Class T Fuses)			7.5
30A-30A/3P Twin VB Switch (RK5 Fuses)			7.5
60A-60A/3P Twin VB Switch (RK5 Fuses)			7.5
100A-100A/3P Twin VB Switch (RK5 Fuses)			7.5
200A-200A/3P Twin VB Switch (Class J Fuses)			10.0
200A/3P Single VB Switch (RK5 Fuses)			10.0
400A/3P Single VB Switch (RK5 Fuses)			15.0
600A/3P Single VB Switch (RK5 Fuses)			15.0
800A/3P Single HCP Switch (L Fuses)			18.75
3 Pole Circuit Breakers			
	240V AIC	480V AIC	
15A-60A/3P LGB Frame*	65K	65K	3.75
70A-100A/3P LGB Frame*	65K	65K	3.75
110A-125A/3P LGB Frame*	65K	65K	5.0
100A-225A/3P QR2 Frame*	10K	—	5.0
100A-225A/3P QRH2 Frame*	22K	—	5.0
100A-225A/3P QR2H Frame*	42K	—	5.0
100A-225A/2P FXD Frame*	65K	35K	5.0
250A/2P FXD Frame*	65K	35K	5.0
100A-225A/3P FXD6 Frame*	65K	35K	5.0
250A/3P FXD6 Frame*	65K	35K	5.0
100A-225A/3P HFXD6 Frame*	65K	65K	5.0
250A/3P HFXD6 Frame*	65K	65K	5.0
200A-400A/3P JXD2 Frame	65K	—	8.75
200A-400A/3P JXD6 Frame	65K	35K	8.75
200A-400A/3P HJXD6 Frame	65K	65K	8.75
400A-600A/3P LX6 Frame	65K	35K	8.75
400A-600A/3P HLXD6 Frame	65K	65K	8.75
800A/3P MXD6 Frame	65K	50K	10.0
800A/3P HMXD6 Frame	65K	65K	10.0

ORDERING INFORMATION

- Panel has 30” vertical device space
- Fusible devices include fuses
- Devices must be ordered with the panel
- Freight not included

* Devices may be tandem mounted

MSCT—MAIN SWITCH & CURRENT TRANSFORMER CABINET

EMI manufactures a single enclosure which houses both utility company approved metering provisions and a fusible service entrance disconnect switch. Internal bus connections cut down on field cabling and simplify installation. Wall mounted current transformer & switch cabinets are rated for up to 600V, and are available in several sizes and configurations ranging from 400 amps to 800 amps.

PRODUCT FEATURES

- Single cabinet, pad lockable 2-door design with painted doors
- UL Listed & SUSE
- Hard bus construction—No internal cabling for SIMPLIFIED INSTALLATION!
- Type 3R for Indoor and Outdoor Applications
- 400-800A, 600V, 3PH, 4W, Bar-type current transformer (utility supplied)
- Aluminum bus
- 65,000A Short Circuit Interrupt Rating
- No cable lashing required for 65,000A Rating
- 400A & 600A Switch include Class J fuses
- 800A Switch includes Class L fuses
- MN/WI Service Areas

PRODUCT CONSTRUCTION

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

OPTIONS

- 85,000A Short Circuit Interrupt Rating



SPECIFICATIONS

Catalog Number	Amperes	Lugs	Dimensions
MSCT-4 (MN/WI Areas)	400A	Line Terminals—One 750 MCM Dual rated AL/CU set screw lug—(1) 750 MCM-1/0 or (2) 300 MCM-1/0 Load Terminals - One (1) #2 through 600 kcmil AL/CU set screw lug	66”H x 34”W x 14 D
MSCT-6 (MN/WI Areas)	600A	Line Terminals—Two 750 MCM Dual rated AL/CU set screw lug—(1) 750 MCM-1/0 or (2) 300 MCM-1/0 Load Terminals - Two (2) #2 through 600 kcmil AL/CU set screw lugs	66”H x 34”W x 14 D
MSCT-8 (MN Area)	800A	Line Terminals—Two 750 MCM Dual rated AL/CU set screw lug—(1) 750 MCM-1/0 or (2) 300 MCM-1/0 Load Terminals - Two (2) #2 through 600 kcmil AL/CU set screw lugs	66”H x 34”W x 14 D

SPECIFICATIONS - MSCT OPTIONS

Catalog Number	Description
Suffix “-H”	85,000A AIC Bracing

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 if 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 with 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 constraints and other special applications. TYPE 3R enclosure 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 if 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 Main CB with arms and branch CB's.

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.
- 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.

SPECIFICATIONS

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 V7H Switch	15 inches
400A V7F Switch	10 inches
600A Switch	15 inches
800A and 1200A Switches	18.75 inches
Utility Metering Provisions	30 inches



UL Listed File #E67452

Two (2) section fusible distribution switchboard.

SWITCHBOARDS WITH ATS

EMI switchboards can include an integral contactor type transfer switch. Designs are flexible to include transfer switches built by any major manufacturer. Integration of the ATS into the switchboard offers a compact design which saves valuable space inside of crowded electrical rooms. Transfer switches utilize internal switchboard bus connections cutting down on field connections and saving installation time.

PRODUCT FEATURES

- Up to 600V
- Up to 4000A
- Up to 100ka rated
- Type 1 or Type 3R construction
- Integrates with ATS manufacturers: ASCO, Cummins, Kohler, Generac and Zenith
- Open/closed transition
- Bus or cable connection
- UL891
- Integrated with bus duct
- Top or bottom feed

SOLAR

EMI offers UL-listed solar switchgear that's designed, built, and tested in the United States and installed across the nation. Manage energy distribution from multiple combiner panels through feeder connections to a single unit. Our switchgear is available in Type 1 and Type 3R for indoor or outdoor applications.

With a CT compartment for utility access and ground fault options, EMI solar switchgear is the custom solution to keep your solar installation's energy flowing.

BACK TO BACK CONFIGURATION-LOW VOLTAGE

Two back to back sections of low voltage switchgear shipped as a single unit minimizing valuable on-site installation time. These sections are shipped with all bus and wiring interconnects complete. This single unit houses utility metering cabinet built to local utility standards, customer check meter, main device

with visible lockable disconnect means, grounding transformer disconnect and protection, auxiliary power center, array main disconnect with visible lockable disconnect means, inverter disconnect with condensation heaters and 20A GFCI service receptacles. These units can be customized to meet your needs.

- 400A to 3000A
- Rated 600Y/347V, 480Y/277V or 208Y/120V
- Copper or Aluminum Bus
- Bus Bracing up to 100kAIC
- Type 1 or 3R Construction
- ANSI 70 paint standard, custom available

BACK TO BACK CONFIGURATION-LOW VOLTAGE



3 SECTION CONFIGURATION-LOW VOLTAGE

- 400A to 3000A
- Rated 600Y/347V, 480Y/277V or 208Y/120V
- Copper or Aluminum Bus
- Bus Bracing up to 100kAIC
- Type 1 or 3R Construction
- ANSI 70 paint standard, custom available



MULTIPLE TENANT METERING 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 90”H x 38”W x 24”D. All metering switchboards are built in accordance with ANSI Standards, UL891 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
- Type 3R structure
- Dim: 90”H x 42”W x 30”D
- Up to six (6) 200 amp meters and disconnects per section at 240V



Six Disconnect, MLO Type 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

PRODUCT CONSTRUCTION

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

AVAILABLE OPTIONS

- 200A Maximum Tenant (2-Pole), 10 Meters Per 90"H x 36"W 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: 90"H x 38"W x 24"D
 Metering Sections 2 & 3 Dimensions: 90"H x 36"W x 12"D

MULTISOURCE COLLECTOR CABINET

PRODUCT FEATURES

- Aluminum or Copper bus construction
- Available from 1000 through 3000 A
- Type 3R Single section freestanding enclosure
- Lifting lugs (not shown)
- Up to 6 input breakers
- UL Listed

PRODUCT CONSTRUCTION

- Code gauge steel
- Load exit bottom
- Bottom feed design

AVAILABLE OPTIONS

- 85,000A Short Circuit Interrupt Rating
- Receptacles



UL Listed File #E67452



SPECIFICATIONS

Amperes	Description	Dimensions
3000A	- 480Y/277V, 3 PH, 4W - Copper bus - 35 KAIC, - 3000A main outgoing lugs - 3P CB's, thermal mag trip	90"H x 42"W x 30"D
2000A	- 480Y/277V 3 PH, 4W - Aluminum bus - 35 KAIC - 2000A main outgoing lugs - 3P CB's, thermal mag trip	90"H x 42"W x 30"D
1600A	- 480Y/277V 3 PH, 4W - Aluminum bus - 35 KAIC - 1600A main outgoing lugs - 3P CB's, thermal mag trip	90"H x 42"W x 30"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.

ARC FLASH MITIGATION

Arc Flash Mitigation, per NEC 2014, can be provided in states that have adopted the current code.

PHASE LOSS MONITOR

PRODUCT FEATURES

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

PRODUCT CONSTRUCTION

- Code gauge steel

AVAILABLE OPTIONS

- Indication for line
- Utility status indication via lights or analog meters



UL Listed



Intertek

5KV, 15KV, 25KV & 35KV METAL ENCLOSED 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
- Substation main with transformer transition section
- Multiple source; main-tie-main configuration available
- Type 1 Indoor or Type 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

PRODUCT OPTIONS

- Utility metering sections, main switch, branch switch and fuse distribution
- Tie switch sections, bus transition section
- Multiple source and paralleling options available



MEDIUM VOLTAGE TAP BOX

EMI manufactures custom Type 1 and Type 3R and medium voltage tap boxes to meet your needs. Custom termination pads allow connection of multiple conductors for distribution throughout a power system. Integral surge arrestors and surge capacitors can be added for increased system protection. All boxes are factory tested to IEEE power frequency withstand standards.

PRODUCT FEATURES

- Rated 5kv - 35kv
- 3000A max Current rating range
- Type 1 or type 3R enclosures
- Copper bus
- UL 50 rated
- Surge Arresters (Station Class - Intermediate class - Distribution class)
- Surge capacitors
- Temporary grounding provisions provided

PRODUCT CONSTRUCTION

- 12-10 Gauge steel
- Bottom feed, bottom load
- Pad mounted or wall mount
- Epoxy paint or stainless steel



EMERGENCY TRANSFER & PARALLELING 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, data centers, 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 OPTIONS

- 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.

CONTROL & SWITCHGEAR ENCLOSURES

EMI, Inc. provides switchgear and switchgear enclosures for your electrical distribution needs. Whether you need additional real estate or desire a turnkey electrical distribution solution, we can provide you with an integrated solution. These houses are designed to your specifications and requirements. The switchgear can be integrated to connect to your building automation system or operate as a stand alone system. We customize these enclosures to include a complete solution for your specialized needs.

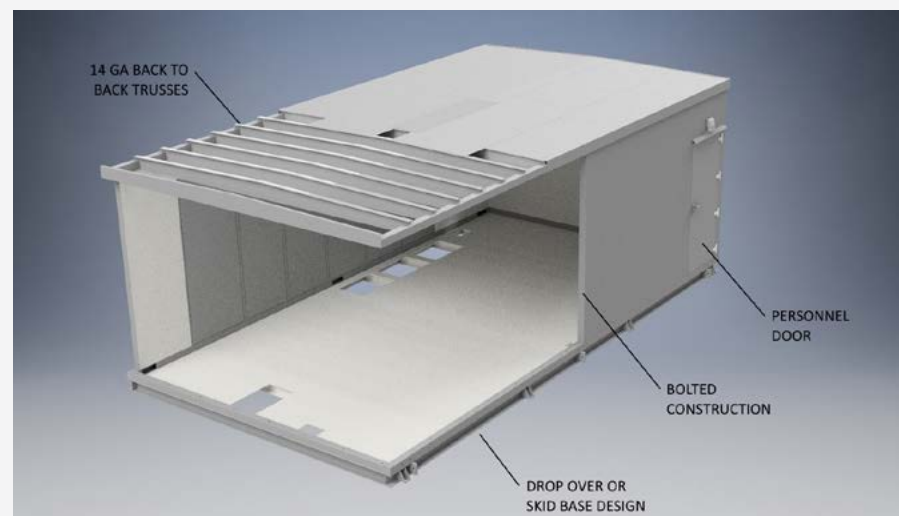
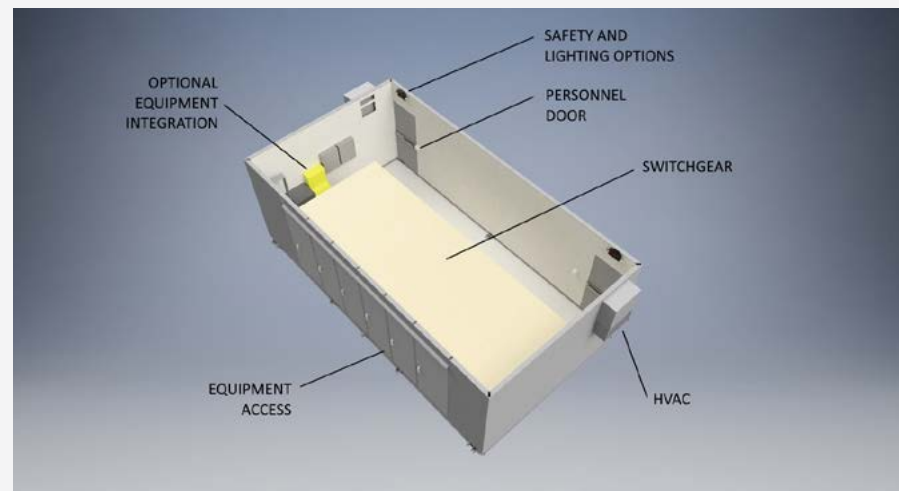
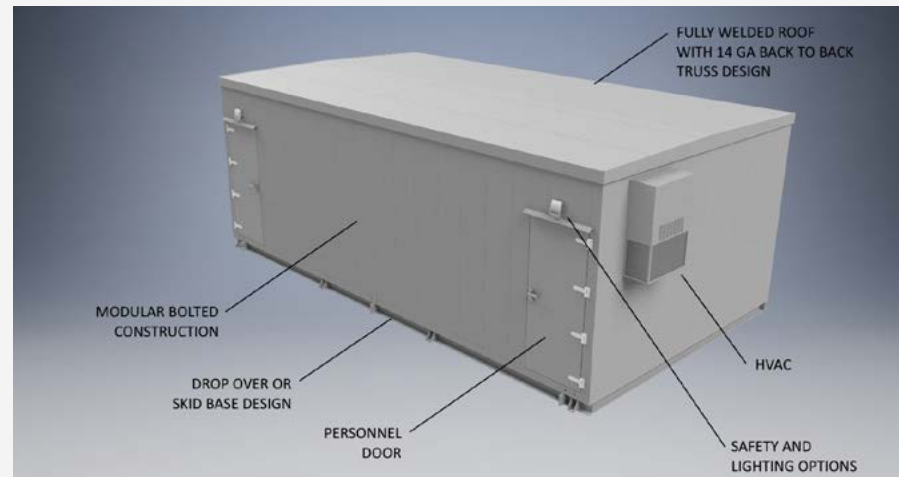
PRODUCT FEATURES

- Aesthetic painted steel construction, architectural cladding available upon request
- Built to IBC standards
- Skin-tight or walk-in style construction
- Drop-over or structural skid base construction
- Lighting, heating, cooling and ventilation options
- Package control, paralleling and transfer options

PRODUCT OPTIONS

- Thermal insulated and sound attenuation options
- Fire suppression FM200 or CO2 options
- Integrate customer supplied equipment





INTEGRATION

- Electrical
 - Controls, PLC's & HMI's
 - Drives & Inverters
 - Light Fixtures
 - MCC's
 - Panelboards
 - Switchgear
 - Relay Panels
 - Transformers
- Mechanical
 - BAS Connections
 - HVAC
 - Fire Suppression
 - Smoke Detection
 - Fumes Detection
- Safety
 - Eye Wash stations
 - Life Safety Lighting
- Controls
 - Battery Systems & Storage
 - Servers
 - Telecommunications

TERMS OF SALE & 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 dock. 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 shipment. This warranty does not apply to customer supplied parts or components. 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 (a) not been altered or modified after shipment without specific factory authorization, (b) the equipment has been stored properly and (c) proper installation, use, operation and maintenance of Products has been adhered to. 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 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. EMI is not responsible for the cost of providing working access necessary for fulfillment of its warranty obligations, or for cost of removal and reinstallation, insurance, or transportation to and from the repair facility or factory.

CREATIVE SOLUTIONS FOR POWER DISTRIBUTION

2020 CATALOG

REV 1/10/2020

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