



**Low and Medium Voltage
Bus Duct
Types LX and MX**

Types LX and MX Bus Duct

APPLICATION

Growing emphasis on the reliability of electrical power systems for industrial and commercial facilities has resulted in increased demand for both low and medium voltage metal enclosed bus duct. M&I Electric Industries, Inc. type LX (low voltage) and type MX (medium voltage) bus duct provides a solution to this demand.

Types LX and MX bus duct systems are reliable, affordable, and are readily available. Like all M&I products, LX and MX bus duct systems benefit from M&I's commitment to consistently exceed customer quality and availability expectations.

M&I types LX and MX bus duct can be supplied in a wide range of ratings, arrangements, designs, materials, and enclosure types. This range of products has been designed to meet the electrical and physical requirements of virtually any electrical power system or equipment installation.

Type LX and type MX bus duct systems are suitable for installation in almost any environment. Bus duct is inherently resistant to many of the forces or conditions which accelerate the deterioration of insulated cable in conduit or tray. As a major added benefit, bus duct is often less expensive than equivalent cable installations.

M&I can supply special assemblies of types LX and MX bus duct on extremely short notice to meet emergency (burn-out) requirements.

M&I types LX and MX bus duct is commonly used for:

- Main service entrance bus.
- Switchgear main bus interconnections.
- Connections between transformers and switchgear.

RATINGS

Nominal Voltage Rating	Continuous Current Rating	Dry Withstand Voltage Rating	Dew Withstand Voltage Rating	Impulse Voltage Rating	Short-Circuit Current Rating
600 Volts	1200 Amperes	2.2 kV	N/A	N/A	100 kA
	2000 Amperes				
	3000 Amperes				
	4000 Amperes				
5 kV	1200 Amperes	19.0 kV	15.0 kV	60 kV BIL	58 kA 78 kA
	2000 Amperes				
	3000 Amperes				
	4000 Amperes				
15 kV	1200 Amperes	36.0 kV	24 kV	95 kV BIL	58 kA 78 kA
	2000 Amperes				
	3000 Amperes				
	4000 Amperes				

The ratings above are for standard bus duct in accordance with ANSI standard C37.23 1987. Higher and/or special ratings are readily available. Contact the M&I factory for details on non-standard offerings.



Types LX and MX Bus Duct

M&I Electric Industries, Inc. manufactures metal-enclosed bus duct assemblies for low and medium voltage power systems. Type LX bus duct is suitable for use on low voltage systems (voltage up to 600 Volts), while type MX bus duct is suitable for use on medium voltage systems (voltages up to 15,000 Volts). Types LX and MX bus duct are non segregated phase bus duct in accordance with ANSI C 37.23 - 1987.

M&I type LX and MX bus duct are designed and manufactured in accordance with recognized standards, including (but not limited to):

American National Standards Institute (ANSI) standard C 37.23 - 1987.

National Electrical Code (NEC) standard NFPA 70 - 1993

National Electrical Manufacturer's Association (NEMA)

The housings of M&I types LX and MX bus duct are fabricated from formed, 12 gauge electro - galvanized sheet steel side members and bottoms. The top covers of bus duct rated 2000 Amperes (continuous) or less are fabricated from the same material as the housing. The top covers of all other bus duct are fabricated from 0.125" thick aluminum sheet.

After fabrication, all metal parts are degreased. They are then painted with a vinyl wash primer, and are finished with one or more coats of a catalyzed polyurethane enamel, to assure a long service life under adverse environmental conditions.

Types LX and MX bus duct can also be manufactured with housings fabricated from aluminum or stainless steel, or with housings which have been hot-dip galvanized after fabrication. Contact M&I for information on these special housing designs.

Outdoor systems are assembled using type 316 stainless steel hardware. Indoor systems are assembled using plated ASME grade 5 alloy hardware.

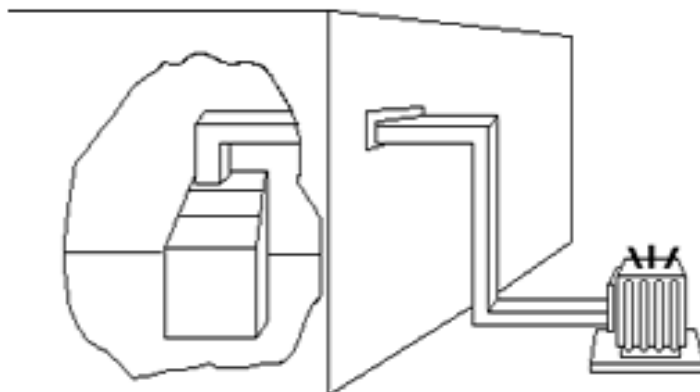
To prevent condensation of moisture inside the bus duct, each ten (10) foot section of bus duct is supplied with a combination breather/drain assembly and an electrical space

heater. The space heaters are rated for 240 volts, but they are operated at 120 volts to assure low surface temperature and a long operating life. Space heaters are wired to readily accessible metallic junction boxes to facilitate field wiring.

M&I types LX and MX bus duct assemblies are supplied with a sealed vapor barrier integrated into the wall transition piece. This vapor barrier is supplied to control the interchange of air or contaminants through the bus duct. The vapor barrier also serves to limit the transmission of flame or smoke through the bus duct.

All bus bars are fabricated from annealed electrical grade copper, which is either tin plated or electrically silver plated at the contact surfaces. All bus bar joints are assembled with ASME grade 5 alloy fasteners, which are carefully torqued to assure reliable performance under all operating conditions.

The conductors in all medium voltage type MX bus duct are fully insulated along their entire length with flame and track resistant material, and all internal joints are insulated with molded vinyl boots assembled with nylon fasteners.



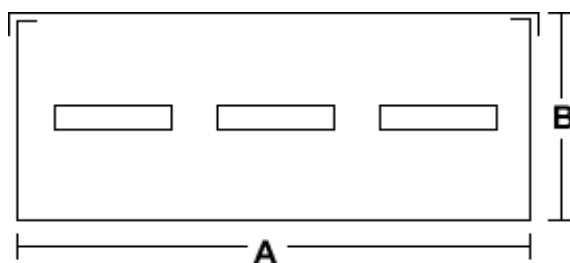
Bus bar supports are manufactured from electrical grade glass-reinforced polyester. Upon request, bus bar supports may be manufactured from electrical grade porcelain-lain or cyclo-aliphatic epoxy.

Regardless of which bus bar support material is used, bus bar supports will be weather and track resistant, and will be self extinguishing.

Type LX and MX bus duct is fully grounded through the sheet steel enclosure. Readily accessible external ground pads are provided to simplify field connection of the bus duct to the ground grid of the facility where it is installed. Upon request, the bus duct may be equipped with a separate ground bus.

Each assembly of M&I bus duct is supplied with a weather resistant nameplate, detailing: Nominal Voltage rating, Insulation rating (Withstand and BIL), Frequency rating, Continuous Current rating, Short-circuit Current rating, Temperature Rise of conductor(s) and enclosure, Manufacture date, and Manufacturing ID number.

Specifications of equipment and the design thereof re subject to change without notice or obligation to incorporate same in existing or in equipment under construction. The above sales information is for informational purposes only and there are NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FIRTNESS FOR A SPECIFIC PURPOSE contained herein. For details of presently available equipment, designs, and specifications, please contact your local representative for M&I Electric Industries, Inc. to obtain specific application data for M&I equipment and services to meet your needs.



End View

TYPICAL DIMENSIONS

Voltage Rating	Current Rating	Dimension in Inches			Bus Bars			
		A	B	Length ¹	Qty. per Phase	Bar Size		
600 V	1200 A	22"	12"	96" (Typ.)	1	1/2" x 4"		
	2000 A				2	1/2" x 4"		
	3000 A	30"	17.5"		2	1/2" x 6"		
	4000 A				3	1/2" x 6"		
5 kV	1200 A				1	1/2" x 4"		
	2000 A				1	1/2" x 4"		
	3000 A				2	1/2" x 6"		
	4000 A				3	1/2" x 6"		
15 kV	1200 A						1	1/2" x 4"
	2000 A						1	1/2" x 4"
	3000 A						2	1/2" x 6"
	4000 A						3	1/2" x 6"

- Notes: 1. Bus duct is normally supplied in eight foot (96") lengths. Special length pieces will be built as required by the installation.
 2. The above dimensions are typical, and are provided for reference only. Actual dimensions may vary, based upon the application.



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