Non - Segregated Phase Bus duct

Non-segregated phase bus duct offers a full range of products to meet many diverse applications

For over 30 years, Eaton's non–segregated phase bus duct has been designed to meet specific installation requirements for reliable power distribution. Typical of such applications are the connections from transformers to switchgear assemblies in unit substations, connections from switchgear assemblies to generators, and tie connections between switchgear assemblies. Non-segregated phase bus duct is an assembly of bus conductors with associated connections, joints and insulating supports confined within a metal enclosure without interphase barriers. Because of its compact dimensions, relative light weight and user-friendly design, non- segregated phase bus duct is easy to install.

Product offering

- 1200–5000A rated continuous current
- 600V–38 kV rated maxi- mum voltage
- 40–63 kA symmetrical short-circuit withstand
- 10–17 kV impulse withstand
- Straight sections of indoor or outdoor bus duct are available in any leghth in 1/8-inch increments from a 24.00-inch (609.6 mm) minimum to a 96.00-inch (2.4 m) maximum.

A wide range of fittings are available for indoor and outdoor bus

Product features and benefits

- Standard 11 gauge aluminum housing provides durability and product integritysteel and stainless steel also available
- Standard finish (inside and out) is a bakedon epoxy powder coating, which provides excellent mechanical strength, is scratch resistant and resists chalking caused by ultraviolet rays
- An epoxy insulation process ensures optimum conductor protection, reducing the possibility of corona and electrical tracking
- 98% conductivity copper with all joint surfaces silverplated to ensure maximum conductivity through the joint
- Innovative joint design allows each horizontal joint to expand and contract up to 0.50 inch (12.7mm), ensuring a reliable installation
- Product design and manufacturing meets requirements of NEMAT, ANSI/IEEE,T ISO and CSAT; also seismic-certified for the Uniform Building Code (UBC) and California Building Code
- A full family of fittings and accessories to meet any application requirements
- High two-second short-circuit ratings optimize coordination between bus duct and power equipment
- Easy installation allows for a lower installation cost in comparison to power cable

Bus duct capabilities

- The non-segregated phase bus duct manufacturing facility in Greenwood, SC, is able to meet your emergency or quick-ship lead-times from two days to three weeks
- Customer approval drawings can be available in two weeks or less to meet your project requirements
- Eaton's Final Field Fit program ensures accurate layout and allows for minor last minute modifications during installation
- Advanced system tools, including Bid Manager, ProDesignE, and AutoCADT, provide quick and accurate information as well as help meet your custom requirements

Product support

Non-segregated phase bus duct product and application support is available from a professional team of BCP employees that includes field sales engineers, application engineers, engineering service and product engineers.

Additional information

Technical Data
TD01702001E
Distribution Products Catalog
CA08101001E
Consulting Application Guide
CA08104001E

PT. BERKAH CIPTA PERSADA
Fabrication & Electrical Integration

Lightweight Enclosures With Built-In Features For Easy Installation

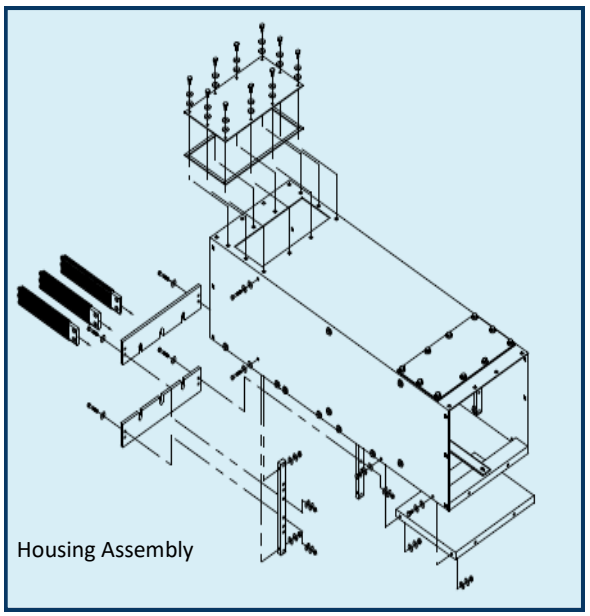
Housing design

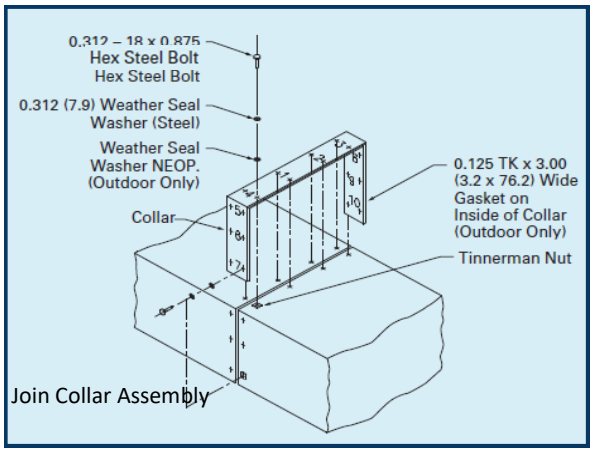
Enclosures are fabricated from 11-gauge aluminum as standard. Elev-en- gauge mild steel and stainless steel are available upon request. Enclo- sures are welded for maximum rigidity. Removable covers are secured with bolts for ease of access when making joints and subse-quent peri- odic inspections.

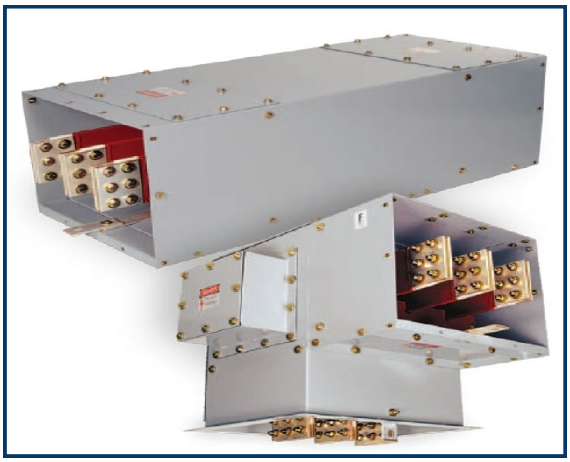
Enclosures are painted with a baked-on polyester powder coat paint system resulting in a very durable finish with uniform thick-ness and gloss. This cosmetically pleasing finish minimizes the risk of problems in harsh environments. The standard color is ANSI-61 light gray. Special paint colors are available upon request.

The housing is designed with 0.50-inch adjustability at the joint (0.25-inch more or less than nominal). To make these adjustments, remove the two nominal position screws and loosen the two 0.375-16 bolts on the adjustable angle. The adjustable angle, collar, and bus-bars are slotted to allow movement. Adjustment available on hori-zontal joints only.

Enclosures for outdoor applications are supplied with a neoprene gas-ket. The gasket is applied under the collar and around the cutout of the top access cover (when provided). Rubber washers are provided with the collar hardware and top access cover hardware.







High short-circuit and withstand ratings

Bar design

All conductors are 98% conductivity copper bars. Each conductor for 2400V service and above is insulated with a fluidized bed epoxy coating throughout, which reduces the possibility of corona and electrical tracking. Insulating 600V is available upon request. The conductors are adequately separated and insulated from each other using non- hygro-scopic, track-resistant, flame-retardant polyester supports. Porce- lain supports are available upon request. Bus joints are made by solidly bolting busbars together with splice plates on each side. All joint surfac- es are silver-plated as standard to ensure maximum conductivity through the joint.

Tin-plating is available upon request. After bolting, each standard joint is covered by a preformed, flame-retardant in-sulating boot, providing full insulation for bus conductors. The-se boots are easily removable for in- spection of the joints at any future time.

Copper bar only

Custom-made copper conductors are available. See Tech-nical Data TD01702001E page 4 for available bar sizes.

Available options

Fluidized epoxy insulation, Silver-plating, Tin-plating, Pierc-ing per customer specification, Bend per customer specifica-tion (90°–180°)

Available Non-Sgregated Bus Rating per IEC Standards 62271-100

					Rated short time short circuit withstand current (kA rms Symmetrical)		Rated momentary short circuit withstand current (10 cycle)	
							10 Cycle	
Rated Maximum Voltage (kV)	Rated Power Frequency (Hz)	Power Frequency Withstand 1 min. kV rms	Impulse withstand (1.2 x 50 ms) kV peak	Rated Continous current Amperes	2 Sec	1 Sec	kA peak	kA rms Assymmetrical
0.635	60	2.2	10	1200 2000 3000 3200 4000 5000	49	69	132	78
0.635	60	2.2	10	1200 2000 3000 3200	63	89	170	100.8
4.76	60	19	60	1200 2000 3000 3200 4000 5000	49	—	132	78
4.76	60	19	60	1200 2000 3000 3200	63	—	170	100.8
8.25	60	36	95	1200 2000 3000 3200 4000 5000	41	—	111	66
8.25	60	36	95	1200 2000 3000 3200	63	—	170	100.8
15	60	36	95	1200 2000 3000 3200 4000 5000	48	—	130	77
15	60	36	95	1200 2000 3000 3200	63	—	130	100.8
27	60	60	125	1200 2000	40	—	108	64
38	60	80	170	1200 2000	40	—	104	64

A complete line of accessories for indoor and outdoor applications

Accessories
Flange Connects non-segregated phase bus to medium voltage switch-gear, medium volt- age motor control centers, low voltage switchgear, low voltage switchboards, and low voltage motor control centers

Phase transposition
Can be provided within the bus run system to align phasing of terminal equipment at two ends

Elbow
Used to turn the bus run by 90°

Tee
Used for three-directional connections

Offset
Used to avoid obstacles

Expansion joint
Provided in runs longer than 50 feet to accommodate thermal expansion of bus conductors with respect to the en-closure

Wall flange
Provided when a bus run passes through a wall or floor

Transformer throat
Used when making connetions to trans-formers; includes a matching flange and required number of flexible copper braids for connections to transformer bushing terminal pads

Cable tap box
Used for cable connections to the bus run

Bushing box
Used to connect bus duct to an outside source such as a power station or cable connection located outdoors

Horizontal hanger
Provided on indoor runs and attached to the existing building structure through the use of 5/8-inch diameter drop rods

Column support
Used to support outdoor runs; normal-ly consists of a single structural column with a crossbeam, which is bolted to brackets provided on the bus housing (Eaton provides the brackets only)

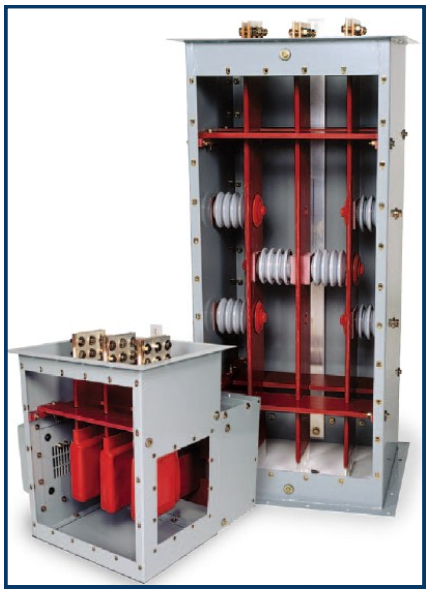
Space heater
Provided on outdoor bus runs for use with customersupplied 120 Vac (or 240 Vac) power supply; energized continu-ously, or optional thermostat control available

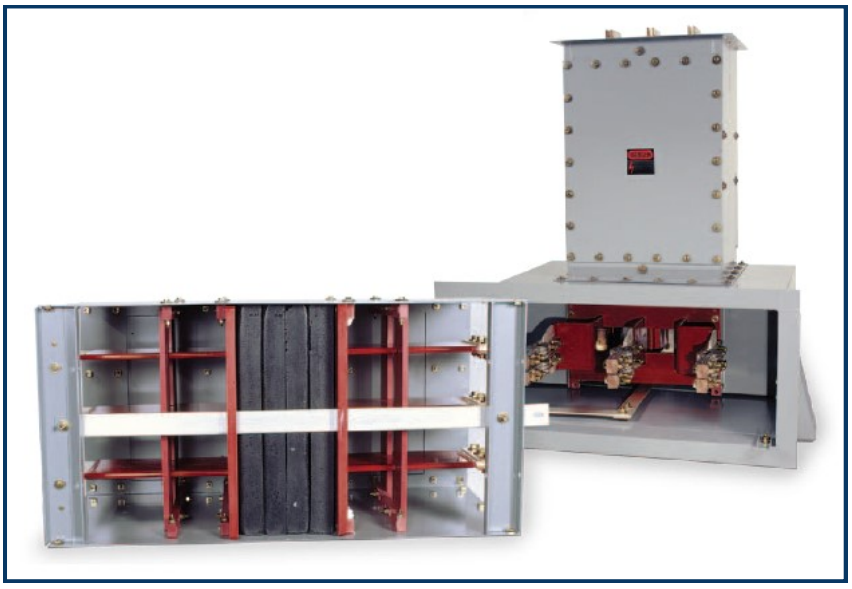
Seismic application
Bus run assemblies are designed to meet Uniform Building CodeT (UBC) and California Building Code Title 24 for Seismic Zones 4.3.2a.2b.1 and 0; complete guidelines for proper sup-ports are provided on each seis- mic -specified order

Thermostats
Two options available for control of space heaters: fixed or non-adjustable to provide continuous heat, and ad-justable for controlled heat up to 110°F

Vapor barriers
Provided as specified to prevent mois-ture and air from passing through the bus duct

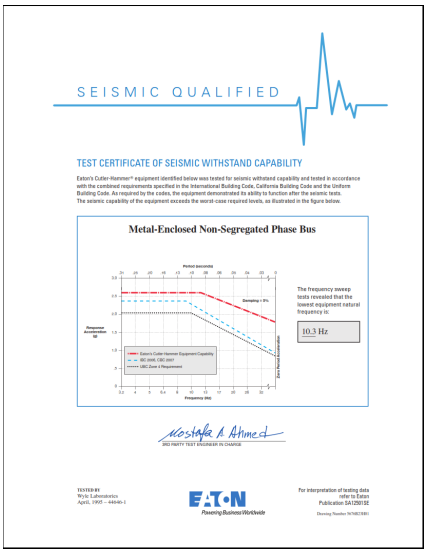
Fire barriers
Come with vapor barriers and use fire-stop foam to provide 1-, 2- or 3-hour fire barrier



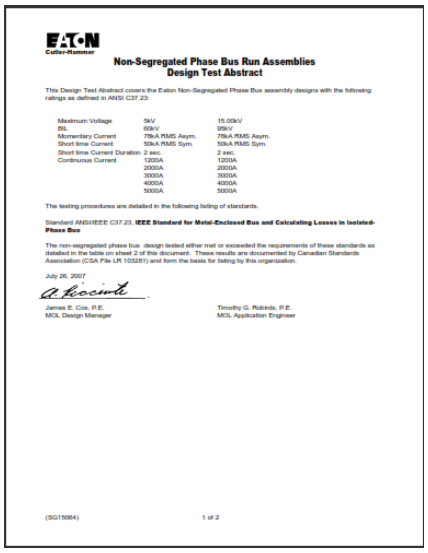


Certificate

Certificate Of Compliance by CSA



Type Test Certificate Seismic
by Eaton



Type Test Certificate
by Eaton

Success Story

NO	Project Name	Customer	Market Application
1	Suban Compression	PT. Inti Karya Persada Teknik	Oil & Gas
2	STG Boiler Pusri	PT. Rekayasa Industri	Industrial

Address :

Assembly Factory:
Kawasan Industri Greenland I
Jl. Greenland IV Blok AC No. 07 kota Deltamas
Cikarang Pusat, Bekasi-Indonesia 17530

Sheet Metal Factory:
Kawasan Delta Silicon 3
Jl. Rotan I Blok F27 N0. 20D Lippo Cikarang
Cikarang Pusat - Bekasi 17530

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