



## MDY Busduct System

A reliable and safe solution for power transmission from the transformer to switchgear and between switchgear sections

Power and productivity  
for a better world™



# MDY Busduct – Application Versatility

The MDY busduct system is the ABB solution for power transmission from the transformer to low voltage switchgear and between switchgear sections.

From the point of view of the transmission reliability, busduct is the safest solution for conducting current from distribution transformer to main switchgear and motor control board. The MDY busduct is manufactured from insulated conducting bars, which can be made of aluminium or copper. Thanks to its construction, the busduct is rigid and its short circuit withstand is in a class of its own from the transformer terminals up to the main switching device terminals of the switchgear. Even with its open construction, the insulated busduct can be used in demanding environments. In addition to full phase separation, the MDY busduct can also be protected from rain and mechanical damage using an additional enclosure.

The MDY busduct is manufactured in transport units which enable quick and easy installation and connecting even in narrow places. It can be connected to existing switchgear, and also joined to different manufacturers busducts. Each MDY busduct system is designed individually on order to ensure an optimal solution for our customers.



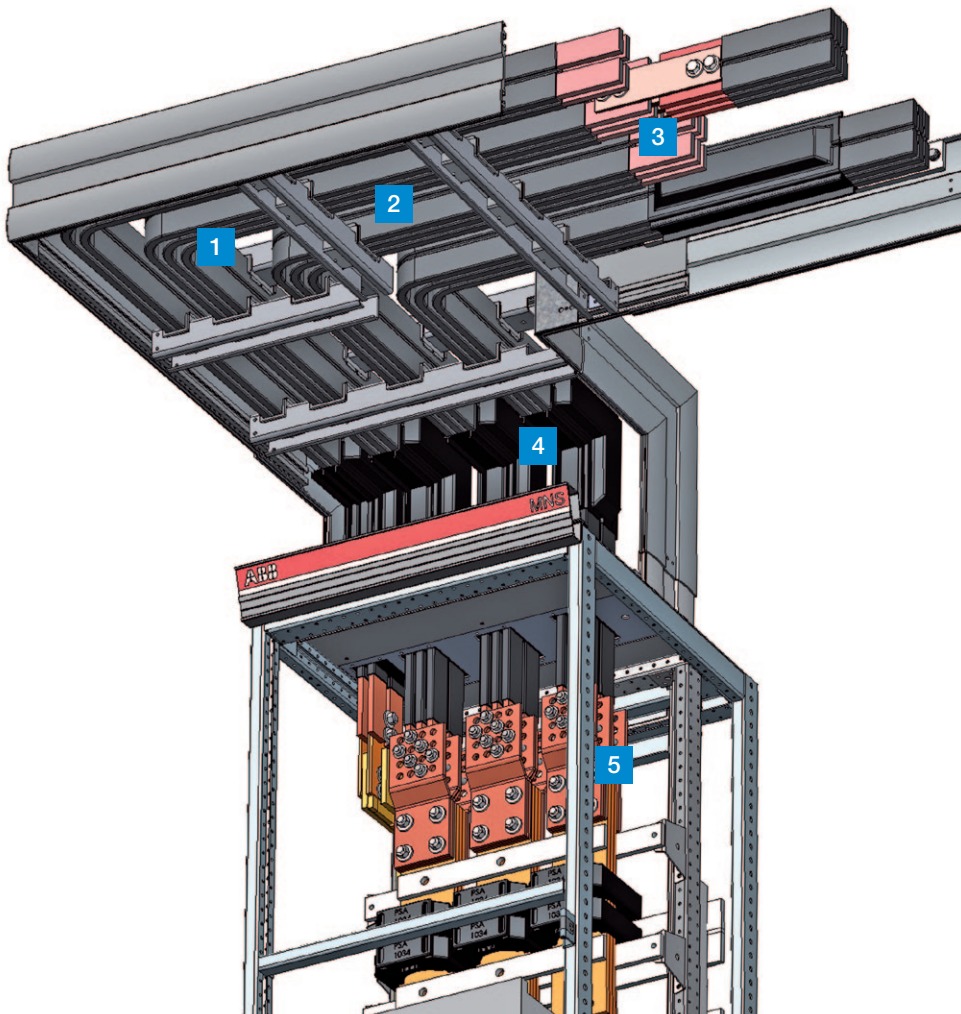
# The MDY Busduct System – a Reliable Solution for Power Transmission in Demanding Environments

The self-supporting frame construction of the MDY busduct is achieved using corrosion resistant aluminium profiles. The insulators with their carriers, fastened to the aluminium profiles, form a rigid but light construction. The short-circuit withstand level of the MDY busduct is sufficient for most applications.

## MDY busduct is

- Rigid to withstand short circuits
- No electric arcs
- Good cost-effectiveness
- Quick and easy installation
- Safe and reliable operation

- 1 Horizontal angles are formed by bending.
- 2 Halogen-free plastic insulation.
- 3 The degree of protection by enclosure of the busbar covers is IP30 and when fully sealed IP54. If required, IP65 is also available. The installation adjustment range is  $\pm 40$  mm. Busbar extension joints are enclosed, otherwise the construction is open.
- 4 Vertical angles have the same enclosure class as busbar joints. Installation adjustment range is  $\pm 20$  mm.
- 5 The busduct can be connected to the switchgear from top or the bottom. Connection to ABB's MNS type switchgear is carried out using standard bushings providing the same enclosure class as the busduct. This guarantees the shortcircuit withstand of the busduct system up to the main switching device terminals.



### Busbar material

The MDY busbar material is aluminium or copper, but can also be tin-coated copper. A halogen-free insulating plastic coating is extruded onto the bars. The insulation fastens tightly onto the busbar surface, which guarantees an excellent current-carrying capacity of the busduct. The insulation material allows the busbars to be bent.

### Busbar bushings and mechanical protection (wall, roof and floor bushings)

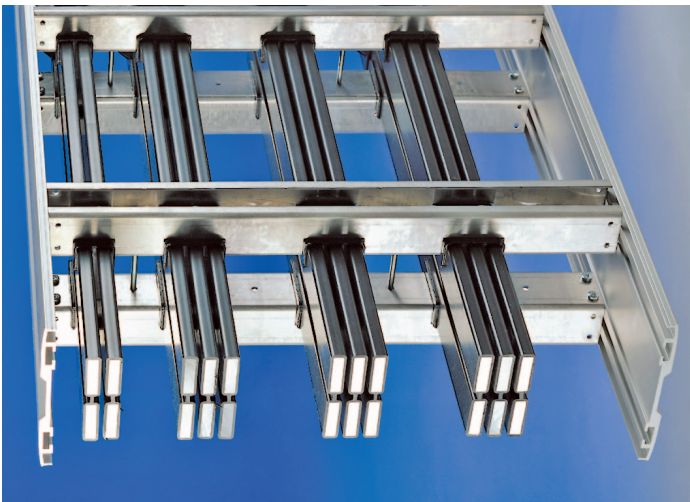
The fire insulation between compartments is realised using bushings, which fulfil fire separation class EI-M 60 or EI-M 120 according to the fire-safety regulations for production and storage buildings.

### Flexible MDY busduct connections

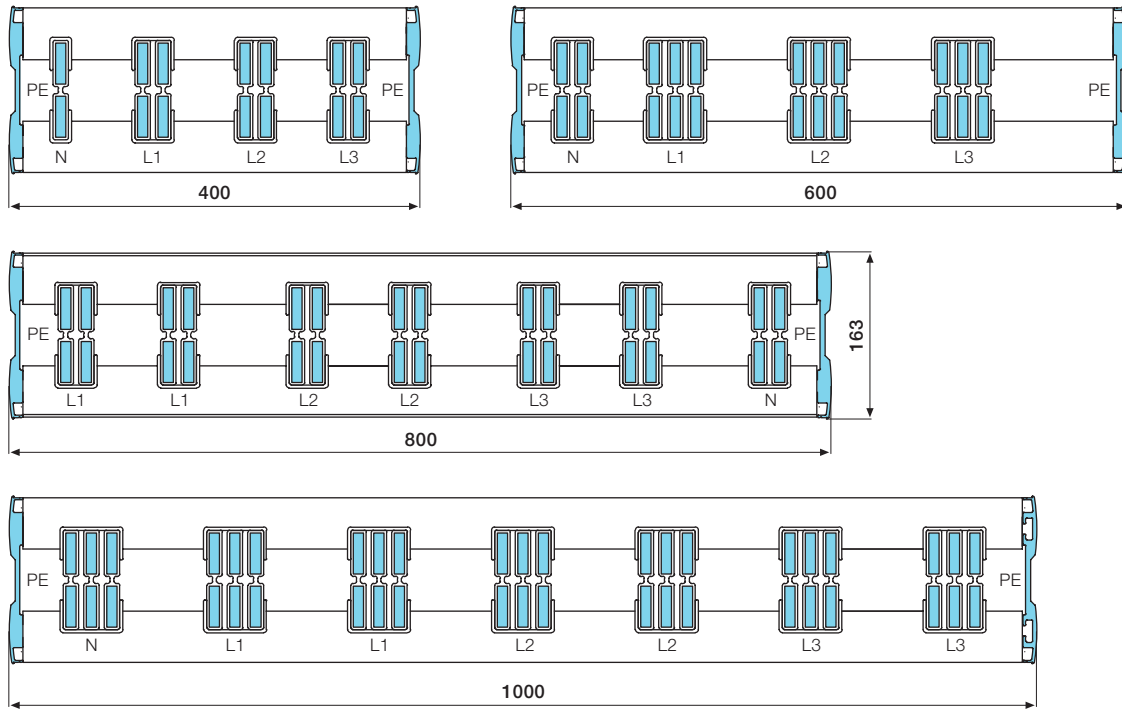
The MDY busduct is connected to a transformer using flexible connections which negate the effects of thermal expansion and vibrations. Long busducts (>20 m) are provided with longitudinal expanding connections to attenuate the thermal expansion. The connections are pre-installed on the busduct at the factory.

### Other equipment

- Busbar sectionalizer switch
- Current transformers
- Protections:
  - mechanical protection
  - protection against rain
  - protection against insects



### Frame sizes



### MDY Technical Data

- Rated voltage  $U_g$  400 ... 690 V  
(tested 1000 V AC / 1500 V DC, 3/N/PE)
- Rated current  $I_g$  1200 ... 5500 A
- Short-circuit withstand current:
  - short-time withstand current  $I_{cw}$  max. 100 kA, 1s
  - peak withstand current  $I_{pk}$  max. 235 kA
- Enclosure class IP 30, IP 54, (IP 65)

### Current values

Ambient temperature +35 °C, IP 30

Current		Width, mm	Weight, kg	
Al	Cu		Al	Cu
1300	1900	400	30	55
2500	3200	600	40	80
2800	3500	600	50	105
3500	4300	800	70	125
4000	4900	800	100	150
	6000	1000		180

A busbar width of 400 mm is also possible up to a rating of 2150 A using aluminium bars and up to 2700 A using copper bars. The number of phase bars is determined by the rated current and service conditions.

### Bushing sizes

Wall, roof and floor bushings			Wall bushing	Roof bushing	Floor bushing
Frame size	Width, mm	Height, mm	Distance of bushing center point of opening, mm		
			from the switchgear roof	from the center of switchgear front edge	from the center of switchgear front edge
400	500	260	300	300	300
600	700	260	300	300	300
800	900	260	380	380	380
1000	1100	260	380	380	380

# Contact us

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