LEAFLET

WavePro Series Busway

Reliable and Cost-Effective Electrical Distribution

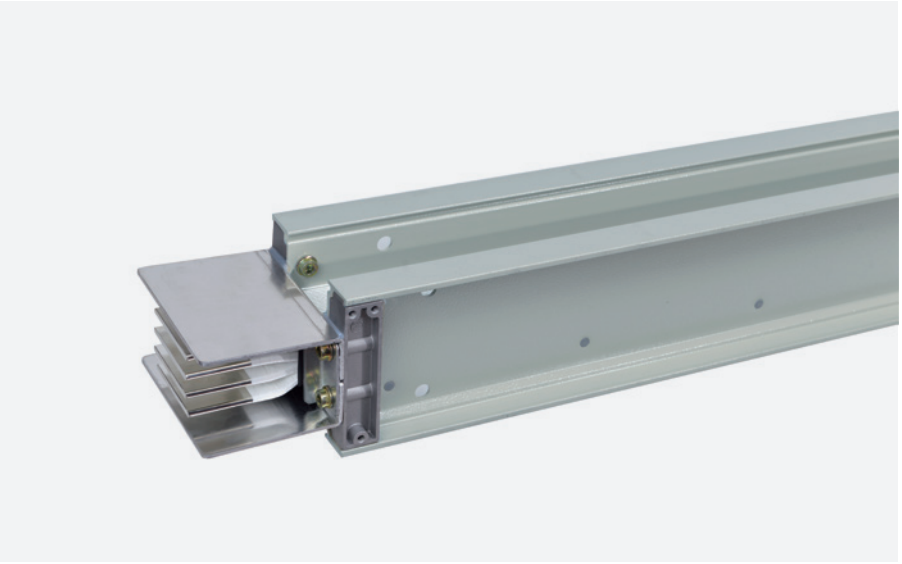

ABB Busway provides a safe, reliable and cost-effective means of distributing electrical power in commercial and industrial applications.

As an alternative to cable, ABB's busway solutions offer a range of products to ensure safe, flexible, and reliable cost-effective distribution of electrical power.

Value Propositions for Busway

- **Speed.** Busway is significantly faster to install than cable, depending upon the type of installation it can reduce by 3 time the amount of time to install when compared to cable. Resulting in direct savings to the builder in installation costs.
- **Flexibility.** Busway can be installed in sections to match the planned development of a building as opposed to cable that generally is done in a continuous install. Allows the installer to plan work around other trades and the owner
- **Space.** Factor Busway provides significant space savings when compared to cable, this means additional space for the building owner to provide to tenants. As an example the width for 2000A service for busway is about 200mm - 300mm, required for cable installed on a tray is upwards of 1000mm.
- **Extendable.** Busway can be easily extended or rearranged to allow future stages for the development to be easily carried out.

Key features and benefits

- **Maximum safety and reliability:** Reliability and Safety is a priority and WavePro meets the requirements of IEC 61439-6, rigorous testing has been conducted to ensure safety, availability, and reliability.
- **Footprint reduction:** up to 25% space saving compared to alternative designs.
- **Low loss:** All aluminum housing for reduced losses and heat dissipation.
- All WavePro busways are integrity tested with 3750 Vac – for absolute performance confidence.
- Copper conductor is made of high purity copper cathode, conductivity is no less than 97% IACS.
- Aluminium conductor conductivity is no less than 59.5% IACS.
- Plugin boxes utilising ABB's Tmax XT or Formula MCCB's up to 1000A provide electrical distribution options.

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Aluminium conductor

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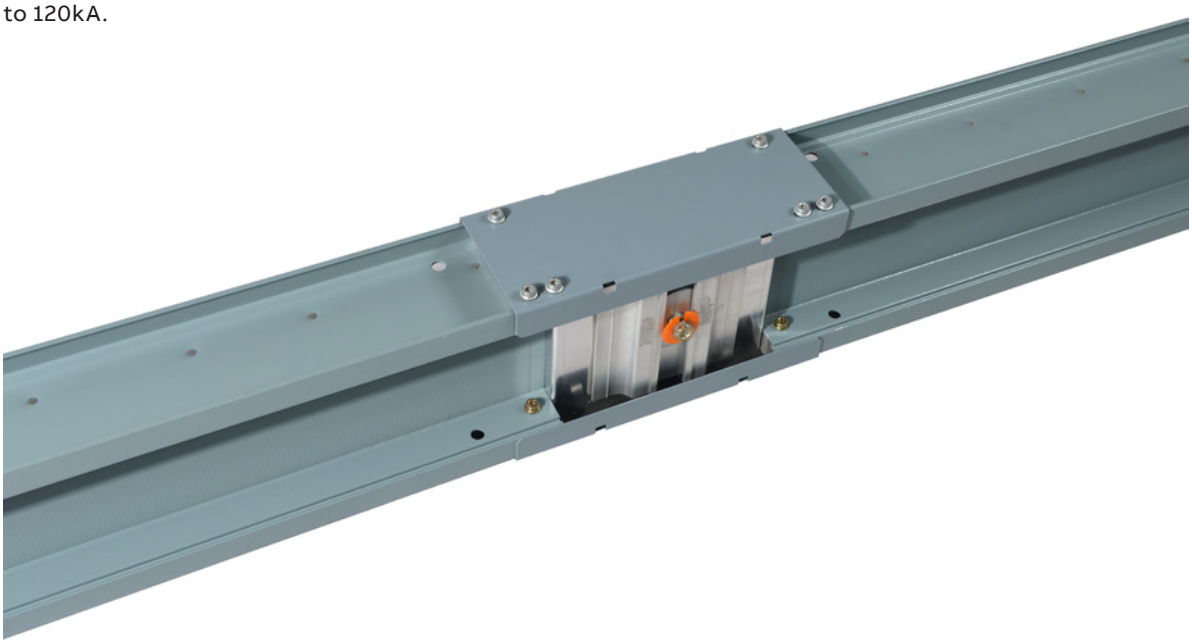
Copper conductor

Why choose WavePro Busway?

- Space saving
- Modular and scalable
- Cost-efficient
- Highest safety
- Ease of installation
- Flexibility

WavePro-A
Aluminum conductor busway

WavePro-A busway has an aluminium conductor design with aluminium housing and sandwich structure Rated operational voltage 1000V, rated current up to 5000A with short circuit capacity up to 120kA.



Key features

- Low loss: All aluminum housing for reduced losses and heat dissipation
- Easy to install: Unique error proof joint design to ensure correct installation
- WavePro-A busway has an aluminum conductor design with aluminum housing and sandwich structure that provides perfect heat dissipation performance. As low magnetic material, aluminum housing can effectively reduce the eddy current hysteresis loss.
- Plugin boxes utilising ABB's TMax MCCB's up to to 800A provide electrical distribution options
- Rated currents from 250A – 5000A, the ingress protection grade is up to IP66.

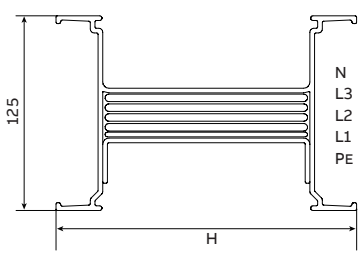


Fig.1-1

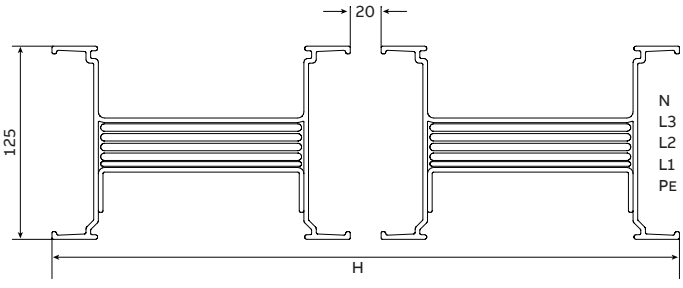


Fig.1-2

Rating (A)	H (mm)	Weight (kg/m)				
		50% Housing PE		50% Internal PE		
		3L+50%PE	3L+N+50%PE	3L+N+50%PE	3L+2N+50%PE	Fig. No.
250	103	6.2	6.7	7.1	7.6	Fig.1-1
400	113	6.8	7.4	7.8	8.4	
630	128	7.6	8.4	8.9	9.7	
800	143	8.4	9.4	10.0	11.0	
1000	168	9.8	11.1	11.9	13.2	
1250	203	11.7	13.5	14.6	16.4	
1600	253	14.5	16.9	18.3	20.7	
2000	293	18.1	21.2	22.8	25.9	
2500	392	22.4	26.0	28.1	31.7	Fig.1-2
3200	492	27.9	32.8	35.7	40.6	
4000	572	33.0	39.2	42.9	49.1	
5000	682	40.9	50.1	53.4	62.6	

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Technical data

Standards	IEC 61439-1 2011: LV switchgear and control gear assemblies – Part 1: General rules IEC 61439-6 2012: LV switchgear and control gear assemblies – Part 6: Busbar trunking systems (busways)
Test certificates	KEMA KEUR
Electrical data	
Rated frequency (fn)	50 / 60Hz
Rated current (InA)	250A - 5000A
Rated short-time withstand current (Icw)	15kA / 1s - 120kA / 1s
Rated peak withstand current (Ipk)	30kA - 264kA
Rated operational voltage (Ue)	1000V
Rated insulation voltage (Ui)	1000V
Rated impulse withstand voltage (Uimp)	8kV
Construction	
Construction	Sandwich busway
Degree of protection - Busway	Feeder: IP66 Plug-in: IP54
Degree of protection - Tap-off unit	IP41, IP54
Housing	Aluminium alloy
Busbars	Aluminium conductor, partial tin-plating (at two ends and joints) as standard offering
Main insulation material	Polyester film (PET), Class B
Resistance to flame propagation	Comply
Service conditions	
Ambient air temperature – Lower limit	Indoor: -5 °C
Ambient air temperature – Upper limit	40 °C
Ambient air temperature – Daily average maximum	35 °C
Maximum relative humidity	Indoor: 50 % at 40 °C
Pollution degree	III
Altitude	≤ 2000 m

WavePro-II
Copper conductor busway

WavePro-II busway has a copper conductor design with aluminium housing and sandwich structure Rated operational voltage 1000V, the rated current up to 6300A with short circuit capacity up to 120kA.

Key features

- All aluminum housing for reduced losses and heat dissipation
- Unique error-proof jointing features
- Up to 6300A, 1000V ratings
- IP41, IP54 and IP65 are available to suit all indoor applications
- Conforms to IEC61439 standards
- 1000-hour salt fog testing ensures reliable operation in harsh environments

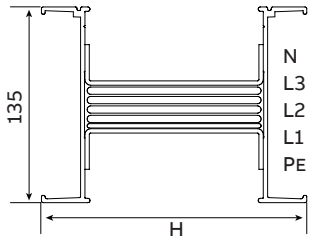

Fig.2-1

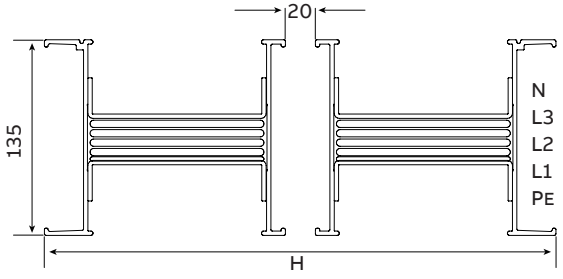

Fig.2-2

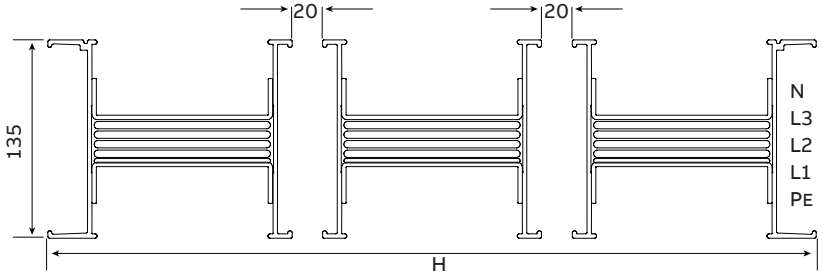

Fig.2-3

Rating (A)	H (mm)	Weight (kg/m)				Fig. No.
		50% Housing PE		50% Internal PE		
		3L+50%PE	3L+N+50%PE	3L+N+50%PE	3L+2N+50%PE	
400	104	8.4	10.0	10.8	12.4	Fig.2-1
630	104	10.0	11.8	12.9	14.7	
800	114	11.5	13.7	15.1	17.3	
1000	129	13.7	16.6	18.4	21.3	
1250	149	17.7	21.5	23.9	27.7	
1600	184	22.0	27.3	30.5	35.8	
2000	224	28.0	35.1	39.4	46.5	
2500	274	35.5	44.8	50.4	59.8	
3200	354	42.9	53.6	60.1	70.8	Fig.2-2
4000	434	55.0	69.2	77.7	91.9	
5000	534	69.9	88.6	99.8	118.5	
6300	764	99.3	126.0	145.0	171.7	Fig.2-3

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Technical data

Standards	IEC 61439-1 2011: LV switchgear and control gear assemblies – Part 1: General rules IEC 61439-6 2012: LV switchgear and control gear assemblies – Part 6: Busbar trunking systems (busways)
Test certificates	KEMA KEUR
Electrical data	
Rated frequency (fn)	50 / 60Hz
Rated current (InA)	400A - 6300A
Rated short-time withstand current (Icw)	30kA / 1s - 120kA / 1s
Rated peak withstand current (Ipk)	63kA - 264kA
Rated operational voltage (Ue)	690V
Rated insulation voltage (Ui)	1000V
Rated impulse withstand voltage (Uimp)	8kV
Construction	
Construction	Sandwich busway
Degree of protection - Busway	Feeder: IP41, IP54, IP65 Plug-in: IP41, IP54
Degree of protection - Tap-off unit	IP41, IP54
Housing	aluminium alloy
Busbars	Cathode copper Tin plating over full length, silver plating as an option
Main insulation material	Polyester film (PET), Class B
Resistance to flame propagation	KEMA report
Fire resistance in building penetration	240 min, KEMA report
Service conditions	
Ambient air temperature – Lower limit	Indoor: -5 °C
Ambient air temperature – Upper limit	40 °C
Ambient air temperature – Daily average maximum	35 °C
Maximum relative humidity	Indoor: 50 % at 40 °C
Pollution degree	III
Altitude	≤ 2000 m

WavePro-R
Cast resin type busway

ABB WavePro-R Cast Resin Busway Rated operational voltage 690V, rated current up to 5000A and short circuit current up to 100kA. It is a high performance low-voltage busbar system. The cast resin forms an external surface which provides a watertight barrier around the current carrying conductors. It's up to 5000A rated current and IP68 protection level. Insulation material is halogen free, non-toxic and non-flammable.

Phase and earthing arrangement: L1, L2, L3, with N, PE & N and PEN. Neutrals are 100%, PE is available are 50%. PEN is rated at 100%. The PE/PEN bar material is the same as the phase bar.

WavePro-R busway features excellent performance. It is especially suitable for subway, shipyards, chemical industry, and other demanding applications with high requirements on waterproofing and corrosion resistance.

Key features

- It's up to 5000A rated current and IP68 protection level. Insulation material is halogen free, non-toxic and non-flammable.
- The protection degree is up to IP68 for feeder busway which comply with the requirements of IEC 60529 degrees of protection provided by enclosures. The IP68 designed product can work under water over a certain period or be laid in cable conduit.
- High safety and reliability.
- Maintenance free.

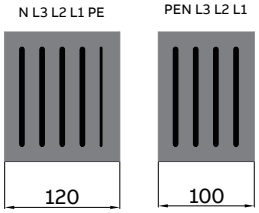

Fig.3-1

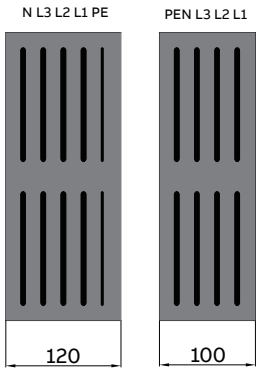

Fig.3-2

Rating (A)	H (mm)	Weight (kg/m)		
		3L+PEN	3L+N+50%PE	Fig. No.
400	60	19.1	22.4	Fig.3-1
630	70	23.1	26.4	
800	80	27.3	31.2	
1000	90	31.4	35.9	
1250	110	39.7	45.3	
1600	140	53.1	60.7	
2000	190	77.3	88.1	
2500	230	92.7	105.7	
3200	310	118.9	135.6	Fig.3-2
4000	380	147.7	168.7	
5000	460	178.5	203.9	

Technical data

Standards	IEC 61439-1 2011: LV switchgear and control gear assemblies – Part 1: General rules IEC 61439-6 2012: LV switchgear and control gear assemblies – Part 6: Busbar trunking systems (busways)
Test certificates	KEMA KEUR
Electrical data	
Rated frequency (fn)	50/60Hz
Rated current (InA)	400A - 5000A
Rated short-time withstand current (Icw)	30kA - 100kA
Rated peak withstand current (Ipk)	63kA - 220kA
Rated operational voltage (Ue)	690V
Rated insulation voltage (Ui)	1000V
Rated impulse withstand voltage (Uimp)	8kV
Construction	
Degree of protection	IP68
Material of enclosure	Epoxy resin mixture
Protection against electric shock (indirect contact)	Protective Earthing and Insulating Material
Busbars	Cathode copper Tin plating over full length, silver plating as an option
Insulation class	Class B (130°C)

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