Schneider Electric Busway from 25A to 6300A



Schneider Electric

Life Is On

schneider-electric.co.in

Schneider Electric Busway, make the most of your energy!

Being global specialist in energy management and automation. Schneider Electric provides you the most energy efficient, safest and most reliable busway system for power distribution.

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Schneider Electric Busway make the most of your energy!



Being global specialist in energy management and automation. Schneider Electric provides you the most energy efficient, safest and most reliable busway system for power distribution.

- More than 70000 kilometers busway installed worldwide
- Full type tested as per IEC61439-6:2012 for each and every rating
- KEMA KEUR, ASTA-Diamond, UL compliance
- Seismic zone 4 compliance
- Complete package solution
- Mylar[®] insulation by DuPont
- 99.9% copper purity
- Bimetal Copper contact technology
- Steel/Aluminium housing
- Continuous earth
- Made by Schneider Electric













Seismic

compliance









Bimeta



Steel/Alum Technology

Earth continuity

70.000 KM Installed worldwide

70,000

Design Verifications

KEMA-KEUR Certification

Certification

Intertek

Complete solution

Made by Schneider Electric

by DuPont

housing

4



70,000 Kilometers busway installed worldwide

With over 50 years of experience, more than 70,000 kilometers of Schneider busway has been installed around the world; Schneider busway is now on the second round of world tour!





Schneider Electric Presence in 100 countries

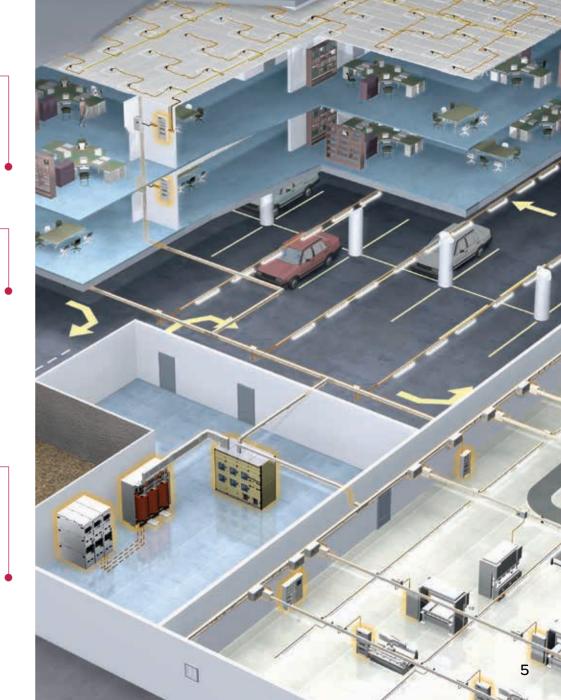
Schneider Electric is present in more than 100 countries, providing you strong local support and quick response!



Integrated and complete solutions —

Schneider Electric offers complete and integrated solutions across multiple market segments. Schneider busway is part of the comprehensive offering of low and medium voltage electrical distribution system. (transformer, switchboard, busway, ect)

The result is an optimized and fully coordinated electrical installation with higher performance through full electrical, mechanical and communication compatibility.



The safe and reliable Schneider Electric Busway is always with you

25 Full type tests, reliable quality



According to IEC standard 61439-6:2012, there are 25 type tests for busway system. **The 25 Design Verifications includes the following:**

Strength of material and parts (10.2)

- Resistance to corrosion (10.2.2)
- Properties of insulating materials (10.2.3)
- Thermal stability (10.2.3.1)
- Resistance to abnormal heat and fire due to internal electric effects (10.2.3.2)
- Resistance to ultra-violet (UV) radiation (10.2.4)
- Lifting (10.2.5)
- Mechanical impact (10.2.6)
- Marking (10.2.7)
- Ability to withstand mechanical loads (10.2.101)
- Thermal cycling test (10.2.102)
- Degree of protection of enclosures (10.3)
- Clearances (10.4)
- Creepage distances(10.4)

Protection against electric shock and integrity of protective ciruits(10.5)

- Effective continuity between the exposed conductive parts of the BTS and the protective circuit(10.5.2)
- Short-circuit withstand strength of the protective-circuit(10.5.3)

- Incorporation of switching devices and components(10.6)
- Internal electrical circuits and connection(10.7)
- Terminal for external conductors(10.8)

Dielectric properties(10.9)

- Power-frequency withstand voltage(10.9.2)
- Impulse withstand voltage(10.9.3)
- Temperature-rise limits(10.10)
- Short-circuit withstand strength(10.11)
- Electromagnetic compatibility(EMC)(10.12)
- Mechanical operation(10.13)
- Resistance to flame propagation(10.101)
- Fire resistance in building penetration(10.102)











Safety Certification

KEMA KEMA-KEUR



	KEMA-KERU / ASTA Diamond	KEMA / ASTA
Test	full type test	as specified by manufacturer
Time	continuous surveillance	one time test
Object	production line, identical to the original tested sample	one sample
Standard	latest standard	as specified by manufacturer





Zone 4 Seismic compliance, Reliable system



Why Seismic compliance important for busway?

There are more and more earthquakes all over the world, and people deserve to have higher requirement for the safety of building as well as electrical system in the case of an earthquake. The seismic compliance can guarantee that busway can work properly and safely and maintain its integrity even in the event of an earthquake.

Schneider Electric Busway certified Zone 4 Seismic compliance

Schneider Busway is certified for UBC Zone 4 seismic conditions - the maximum seismic risk zone. The seismic test was performed in EERTC (Earthquake Engineering Research & Test Center) which is a member of Asian Pacific Network of Centers for Earthquake engineering Research (ANCER), and the test was done with actual physical product, not a computer simulation analysis.







test shaking table



shaking driver



single and Repeated bending test



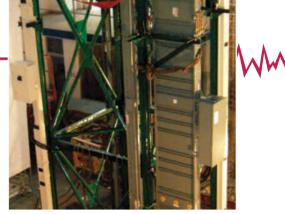
horizontal dynamic test



The tests at the lab include mechanical tests and dynamic tests. The dynamic tests are done with simulations of different kinds of waveforms of those biggest earthquakes - *KOBE, EL Centro, OJIYA*.

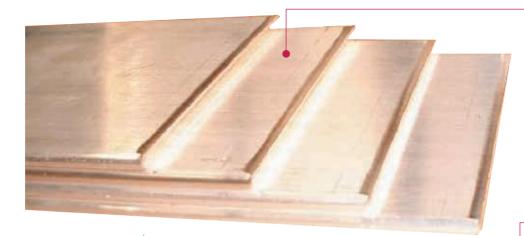


twisting tests



vertical dynamic test

Energy Efficiency

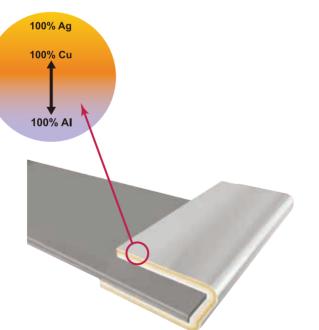


Silver-Copper transition Zone Copper Conducting Zone Copper-Aluminum Molecular Fusion Zone

Silver Contact Surface

Aluminum Conducting Zone

Aluminum Contact Surface



99.9% Highest copper purity • Only copper of 99.9% purity used, with

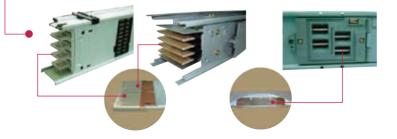
Only copper of 99.9% purity used, with silver plating at all lengths which minimizes surface oxygenation, assure low surface contact resistance and low voltage drop.
Large cross section ensures minimum heat rise and voltage drop.

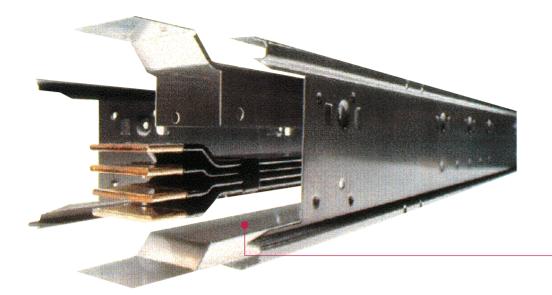
Laminated Bimetal (Copper contact)

The weakest link of busway power transportation is the electrical connection part (joint-pak and plug-in opening), where we have high temperature rise and concentrated power consumption.

With unique Molecular Fusion technology, Schneider' Copper Contact Busway' breakthrough the bottleneck of electrical connection. It incorporates the advantage of low contact resistance of copper and the lightness of aluminum, brings excellent power distribution performance.

All contact surface are silver-plated copper, ensure high energy efficiency and stable power quality.







Continuous earth

'One Piece Earth Bus' design

- Ensure the earth continuity from joint to joint, maintains continuity even if the joint cover is removed.
- Eliminate possible malfunction caused by bolting connection.
- The two ground bus bars completely encircle the phase conductor and provide a very effective high level ground path for ground faults.
- Academic study indicates that this ground bus system offers the lowest earth fault loop impedance.
- ensure an effective connection, protecting people and equipment from electrical shock.
- Both integral and internal earth are optional.



Effective cross sectional area

- The effective cross sectional area of full length remains the same.
- Eliminate possible malfunction caused by bolting connection between phase bars.



Maximum contact (non-welded design)

- plug-in jaw of a plug-in unit contact with busbar itself, not through a welded stab.
- This non-welded design eliminates the danger of imperfect welding and sudden reduction of conductor cross section and ensures a safe and effective power transportation.



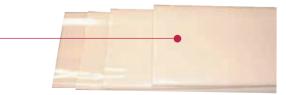
Free of Orientation

- Universal installation, no need of derating, regardless of orientation.
- Excellent compact design, ensure the good heat dissipation.



Mylar[®] insulation by DuPont

- Two layers surrounding each busbar, 4 layers between phases.
- Class B, 130C, excellent dielectric performance.
- Over 40 years of application record without failure.
- Class F is optional upon request.
- Halogen free, no toxic emission, safe in event of fire.



Easy Installation

Steel housing

- Stronger, more durable and rigid enclosure, higher mechanical strength.
- Plug-in units can be loaded on either side of the busway without causing the busway to twist.
- Galvanized steel, better anti-corrosion.
- No deformation, cracking on enclosure during transportation, handling and installation.



Finger proof

Shutter design, maximum protect for human from direct contact with live part.



High degree of protection

- Against dust and water: IP 40 IP 68
- Against mechanical impact: IK 10



Easy installation

GT?

• Single bolt connection makes busway installation faster.

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- Belleville washer provides equal pressure across the complete joint contact area to assure proper electrical contact.
- Adjustable range: ±6mm.



Slide Contact

- The system is made up of springs and an area of sliding contacts that allow conductor movement (maximum 21mm) while maintaining outstanding electrical contact.
- Each Joint can absorb expansion, no need for expansion unit.
- Sliver plated contact, lower contact resistance and voltage drop.
- Easily tighten by rotating the red button 90 deg.

Intelligent plug-in unit



Safe protection

- All plug-in units equip with Schneider original circuit breaker only, fully compatible with busway system.
- Schneider circuit breaker can provide complete overload, short circuit and earthing malfunction protection.
- Transparent shield inside the PIU can prevent a direct contact with live part.

Accurate measurement and easy communication

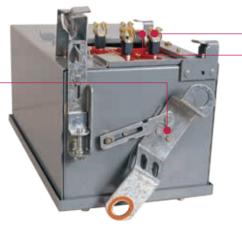
- Schneider plug-in unit can measure and display all kinds of electrical data accurately.
- With communication module, the data of plug-in unit can be accessed through network, making power management easier for you.





Triple interlock

- Plug-in unit can not be switched ON until it is installed in the right position.
- When the unit is switched ON, the door can not be opened and removed from the busway.
- When the door is opened, the unit can not be switched ON.



Spring jaw design

- The spring jaw is composed of different metal copper and steel.
- The spring design ensures the plug-in jaw always has firm and tight contact with the busbar regardless of hundreds of times of operation and temperature fluctuation.

Earthing protection

Earthing path is established at first and broken off at last as to protect human against electrical shock.

Worldwide major project reference: Asia Pacific & Middle East



International Finance Center



Bitexco Financial Tower



D1 Tower



اللہ Buildings

Office Building

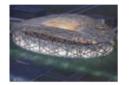
- International Finance Center (Hong Kong)
- Julfar Tower at RAK (UAE)
- D1 Tower (UAE)
- Bitexco Financial Tower (Vietnam)
- Republic Plaza (Singapore)
- Qatar Tower (Qatar)
- Monem Business District (Bangladesh)
- HH4 Twin Tower (Vietnam)
- Arabilla Project (Kuwait)
- Zahran Business Center (Saudi Arabia)
- Central Market (UAE)
- Etihad Towers (UAE)
- Julfar Tower (UAE)

Shopping Center

- Carrefour Supermarket (Worldwide)
- Central Plaza Rama 9 (Thailand)
- Al Nagfa Mall (UAE)
- Queensgate Shopping Mall (New Zealand)
- Tesco (China)
- Sahara Ganj Mall (India)
- Siam Paragon (Thailand)
- Las Vegas Sands (Macau)

Exhibition Center

- World Expo (China)
- Abu Dhabi National Exhibition Center (UAE)
- Convention & Exhibition Centre (Hong Kong)
- Guangzhou International Convention & Exhibition Center (China)



National Stadium



Central Bank of Kuwait



The first Affiliated Hospital



Regatta



- F1 Race Course (India)
- Zaved Sports City (UAE)
- National Stadium (China)
- 16th Asian Games Stadium (China)

Bank

- Central Bank of Kuwait (Kuwait)
- Credit Suisse (Thailand)
- Bank of China Tower (Hong Kong)
- Islamabad Stock Exchange (Pakistan)
- Cairo Bank (Egypt)

Hospital

- East Riyadh Hospital (Saudi Arabia)
- King Fahd Hospital (Egypt)
- Jaber Hospital(Kuwait)
- Alchemist Hospital (India)
- The First Affiliated Hospital, Guangzhou(China)

Hotel

- Sofitel Hotel (Pakistan)
- Movenpick Tower Hotel (Saudi Arabia)
- Hotel Development at Al Muraqqabat (UAE)
- Libya hotel (Korea)
- Hotel Park Plaza (India)



- Kingdom of Sheba (UAE)
- City Garden (UAE)
- Regatta (Indonesia)
- Cybergate 2 (Philippines)
- Farm House (Thailand)
- Golden West Lake (Vietnam)

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Wind Farm



Cairo Airport



Guangzhou Metro



MHI Ro-Ro Ship



Energy Power

- Three Gorges Power Station (China)
- Wind Farm (China)
- Qatar Petrol GTC (Qatar)
- Assuit Aswan Gas Pipeline (Egypt)
- Exxon Mobil Chemical Plant (Malaysia)
- Ceylon Petroleum Corporation-II (Sri Lanka)

Airport

- Beijing Capital New International Airport (China)
- TG Project (Thailand)
- Tan Son Nhat Airport (Vietnam)
- India Ahmedabad Airport (India)
- Cairo Airport (Egypt)
- Dubai Airport (UAE)
- Jebel Ali Airport (UAE)

Metro

- Guangzhou Metro (China)
- Bangalore Metro (India)
- Singapore Metro (Singapore)
- Dubai Metro (UAE)
- Metro Abdibina (Indonesia)
- Delhi Metro (India)

Marine

• MHI Ro-Ro Ship (Japan)



Data Center



Hyundai E&C



General Motors



Hitachi Semiconductor

Data Center & Networks

- Fujitsu FIP (Japan)
- Dongbu Data Center (Korea)
- Saudi Telecom Company (Saudi Arabia)
- SM E-COM Project (Philippines)
- Data Center Faasri Project (Indonesia)
- IBM, Pune (India)
- HP Data Center (Australia)



Automotive

- General Motors (Worldwide)
- Ford Motors (Thailand)
- Toyota Motors (Australia)
- Hyundai E&C(Korea)

Electronic

- Hitachi Semiconductor Manufacturing (China)
- TSMC (Taiwan)
- AUO (Taiwan)
- Seagate Factory (Singapore)
- Intel Plant (Malaysia)
- Canon Hi-Tech (Thailand)
- Infineon Plant (Malaysia)
- Bharti Airtel (India)

Light Industry

- EPETCO Glass Factory (Saudi Arabia)
- P&G Detergent Factory (China)
- 3M Tuas Factory & Warehouse (Singapore)
- Foster Beer Factory (Vietnam)
- Hindoostan Mills (India)

Worldwide major project reference: India

Office Buildings

- Deutsche Bank
- Times of India Building, Mumbai
 Nanded City
- SIDBI, Mumbai
- Adobe, Noida
- HCL Chennai
- Nestle Manesar
- Bharti Airtel (multiple projects)
- CBI Headquaters Mumbai
- ASF Insignia
- Bank of America
- ITC Multiple Building Projects
- OA Infotech SEZ

Residential

- I odha World Towers
- Panchshil Group
- Exotica Fresco
- Urmi Estate
- Pioneer Urban
- Ireo Uptown
- Morning Glory, Kanpur
- Panchshil Group, Nanded City, Lodha World Towers

Exhibition Centers and Stadiums

- Buddh International Circuit (Formula One Racing), Greater Noida.
- Pragati Maidan, New Delhi
- JLN Stadium, New Delhi
- Jaipur Exhibition and Convention Center

Other Buildings

- North Country Mall, Mohali
- Mahagun Metro Mall
- TDI Mall Kundli
- MES Hospital
- IISER Research, Mohali
- French Embassy
- GM Modi Hospital
- Hotel Hvatt
- Tirupati Airport
- Kalpana Chawla Hospital
- Infopark, Cochin

Government

- NTPC BHEL, Mannavaram
- Indian Railways
- Parliament of India (Annexe). New Delhi
- North Block (Ministry of Finance), New Delhi
- North Block (Ministry of Home Affairs), New Delhi
- IIT Mumbai
- Cochin Port Trust
- Engineers India Limited Projects
- Indian Air Force
- Aadhar Card Scheme
- DMRC projects

Textile/Pharmaceutical/ F&B

- Nestle Group
- Cadbury
- Nutricia Danone
- Trident Group
- Glenmark Pharma
- Arvind Mills
- Groz-Breckert
- Voith Industries
- Hitachi Chemicals
- Granules Omnichem
- Piramal Group
- Ruchi Soya
- Kavem Foods
- IFB Agro

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• ITC, Multiple locations

• Sunpharma Industries

Automobile/ Auto Ancillaries $\sqrt{-2}$

- Maruti Suzuki
- Ford Motors
- Mahindra Gears Tata Motors
- BMW India
- Bosch Industries
- Michelin Tyres
- GNA Axle
- Bajaj Auto
- Honda Cars
- Delphi
- Toyota
- Saint Gobain Glass

- NNN **Other Industries**
- Metso Minerals
- Schaeffler
- Everready Industries
- Timken India
- Forbes Marshall
- Schrader
- Enercon India
- Rinac Engineering
- JSW Steel
- Federal Mogul

- Data Center
- UID, Manesar
- UID, Bangalore
- Bharti Airtel, Noida

Bharti Airtel, Pune

- EMC square
- Wipro Aircel

ITC Sankhva

Idea Cellular

NIC Data Center

Net Magic

• Amdocs

• Sify India

Accenture

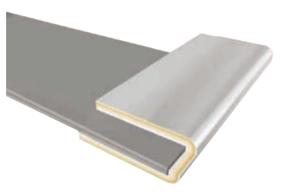
Cognizant

High power busway (400A-2500A) I-LINE V Copper Contact Busway



General Info (I-LINE V)								
Ampere Rating:	400A	630A	800A	1000A	1250A	1600A	2000A	2500A
IP Rating:	IP54 - IP	65						
System:	3L+N+P	E/3L+PE						
Operation Voltage:	1000V							
Insulation Voltage:	1000V							
Frequency:	50/60H	Z						
Standard Length:	10 feet							
Finish:	ANSI49							
Neutral Capacity:	100% as	phase ba	ar					
Earth bar:	50% Cap	oacity, Int						
Tap-off unit Ampere Rating:	1000A							

Components (I-LINE V)



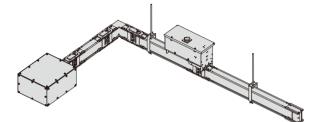


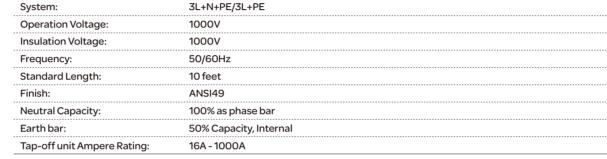


High power busway (400A-2500A) I-LINE V Copper Busway

400 - 2500

IP54 - IP65





Components (I-LINE V)

General Info (I-LINE V)

Ampere Rating:

IP Rating:





High power busway (800A-5000A) I-LINE II Copper Contact Busway



General Info (I-LINE II)											
Ampere Rating:	800	1000	1250	1350	1600	2000	2500	3200	4000	5000	
IP Rating:	IP41-IP	IP41-IP66									
System:	3L+N+I	3L+N+PE/3L+PE									
Operation Voltage:	1000V	1000V									
Insulation Voltage:	1000V										
Frequency:	50/60	50/60Hz									
Standard Length:	10 feet	10 feet									
Max/Min length:	10 feet	10 feet/16 inch									
Finish:	ANSI49	9									
Tap-off Intervals:	610mn	n/1219mm	1								
Neutral Capacity:	100% a	s phase b	ar								
Earth bar:	50% Ca	apacity, In	tegral/Int	ernal							
Tap-off unit Ampere Rating:	16A-16	00A									

Components (I-LINE II)





High power busway (630A-6300A) I-LINE II Copper Busway



Ampere Rating:	630 800 1000 1250 1350 1600 2000 2500 3200 4000 5000 6300								
IP Rating:	IP41-IP66								
System:	3L+N+PE/3L+PE								
Operation Voltage:	1000V								
Insulation Voltage:	1000V								
Frequency:	50/60Hz								
Standard Length:	10 feet								
Max/Min length:	10 feet/16 inch								
Finish:	ANSI49								
Tap-off Intervals:	610mm/1219mm								
Neutral Capacity:	100% as phase bar								
Earth bar:	50% Capacity, Integral/Internal								
Tap-off unit Ampere Rating:	16A-1600A								

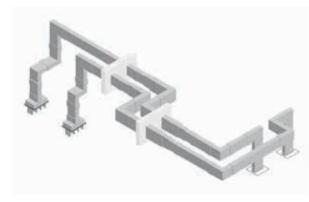
Components (I-LINE II)

General Info (I-LINE II)





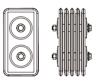
Prefabricated cast resin busway Canalis KR Aluminum Busway (800A-5000A)



Ampere Rating:	800A 1000A 1250A 1600A 2000A 2500A 3200A 4000A 5000A
IP Rating:	IP68
System:	3L/3L+PE/3L+N/3L+P+N/3L+N+PE
Operation Voltage:	1000V
Insulation Voltage:	1000V
Frequency:	50/60Hz
Standard Length:	10 feet
Finish:	RAL7030
Neutral Capacity:	100% as phase bar

Canalis KR





- 800 to 6300 A / 1000 V
- Full epoxy resin
- IP68
- UV resistance
- Tropical resistance
- ATEX zone II
- Chemical resistance
- High short circuit withstand

- Compact system
- Non chimney effect
- Fire barrier 120' under DIN 4102-9
- F ire resistance 90' under DIN 4102-12
- Fire resistance 180' under IEC 60331
- Maintenance free
- Anti-vandal solution
- Resistance against fungi, animals, insects

Schneider Electric India Pvt. Ltd.

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Customer Care Centre

Toll-free numbers: 1800 103 0011, 1800 425 4272 General number: 0124 4222040 Email: in.campaign@schneider-electric.com



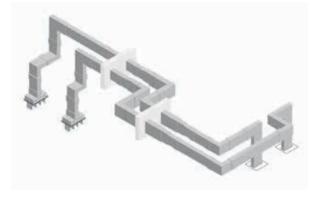
About Schneider Electric

Schneider Electric is the global specialist in energy management and automation. With revenues of ~€27 billion in FY2015, our 160,000+ employees serve customers in over 100 countries, helping them to manage their energy and process in ways that are safe, reliable, efficient and sustainable. From the simplest of switches to complex operational systems, our technology, software and services improve the way our customers manage and automate their operations. Our connected technologies reshape industries, transform cities and enrich lives. At Schneider Electric, we call this Life Is On.

www.schneider-electric.co.in



Prefabricated cast resin busway I-LINE II Copper Busway (630A-6300A)





General Info (Canalis KR)	
Ampere Rating:	1000 1350 1600 2000 2500 3200 4000 5000 6300
IP Rating:	IP68
System:	3L/3L+PE/3L+N/3L+P+N/3L+N+PE
Operation Voltage:	1000V
Insulation Voltage:	1000V
Frequency:	50/60Hz
Standard Length:	10 feet
Finish:	RAL7000
Neutral Capacity:	100% as phase bar

Canalis KR



- 800 to 6300 A / 1000 V
- Full epoxy resin
- IP68
- UV resistance
- Tropical resistance
- ATEX zone II
- Chemical resistance
- High short circuit withstand

- Compact system
- Non chimney effect
- Fire barrier 120' under DIN 4102-9
- Fire resistance 90' under DIN 4102-12
- Fire resistance 180' under IEC 60331
- Maintenance free
- Anti-vandal solution
- Resistance against fungi, animals, insects

Medium power busway (100A-800A) Canalis Copper Contact Busway



General Info(Canalis KSA)											
Ampere Rating:	100	160	250	400	500	630	800				
IP Rating:	IP40-IP5										
System:	3L+N+PE	3L+N+PE									
Operation Voltage:	690V										
Insulation Voltage:	690V										
Frequency:	50/60Hz	2									
Standard Length:	1.5/2/3 m	neter									
Max/Min length:	3meter/0	0.375 meter									
Finish:	white RA	L 9001									
Tap-off Intervals:	500/100	0 mm on eac	h face								
Neutral Capacity:	100% as	phase bar									
Earth bar:	50% Cap	acity, Integra	l/Internal								
Tap-off unit Ampere Rating:	25A-400)A									

Components(Canalis KS)



Lighting busway (25A-40A) Canalis KBA/KBB

General Info (KBA/KBB)	
Ampere Rating:	25/40A
Number of circuits:	1 or 2
IP Rating:	IP55
Operation Voltage:	230-400V
Insulation Voltage:	690V
Frequency:	50/60Hz
Standard Length:	2/3 meter
Finish:	Galvanized steel
Tap-off Intervals:	500/1000 /1500mm
Tap-off unit Ampere Rating:	10A/16A
Maximum distance between fixing points:	3/5 meter





Medium power busway (100A-800A) Canalis Copper Busway

General Info (Canalis KSC)

Ampere Rating:	100	160	250	400	500	630	800			
IP Rating:	IP40-IP5	64								
System:	3L+N+PE	3L+N+PE								
Operation Voltage:	690V									
Insulation Voltage:	690V									
Frequency:	50/60Hz	2								
Standard Length:	1.5/2/3 m	neter								
Max/Min length:	3meter/0	0.375 meter								
Finish:	white RA	L 9001								
Tap-off Intervals:	500/100	0 mm on ead	h face							
Neutral Capacity:	100% as	phase bar								
Earth bar:	50% Cap	acity,Integra	l/Internal							
Tap-off unit Ampere Rating:	25A-400)A								

Components(Canalis KS)







