

		KAM 02	KAM 03	KAP 04	KAP 06
Rated Current	A	25	32	40	63
Standards		IEC 439 1-2			
Insulation Voltage	V	630	630	690	690
Frequency	Hz	50/60			
Protection Degree		IP 55			
Short Circuit(Peak)	kA	5	6	7.5	9
Short Circuit(1 sn.)	kA _{rms}	2.27	2.72	3.4	4
Resistance	R ₂₀ mΩ / m	5.31	4.67	1.70	1.45
Reactance	X _L m Ω/ m	1.37	1.11	0.69	0.14
Impedance	Z mΩ / m	5.49	4.80	1.84	1.45
Fault Resistance	R ₀ mΩ / m	8.58	7.60	3.48	3.22
Fault Reactance	X ₀ mΩ / m	1.53	1.22	0.90	0.49
Fault Empedance	Z ₀ mΩ / m	8.69	7.69	3.59	3.26
Joule Losses At In	W / m	3.23	4.66	2.68	5.68
L1, L2, L3, N(Cross Section)	mm ²	3.20	4.00	6.00	12.50
PE (Housing)	mm ²	18.30	18.30	18.30	18.30
PE (Conductor)	mm ²	3.20	4.00	6.00	6.00
Weight (4 Conductors)	kg/m	1.13	1.17	1.33	1.42
Weight (5 Conductors)	kg/m	1.17	1.19	1.41	1.48

The maximum permitted load for the support of light fittings of the system is 15 kg. concentrated or 20 kg. distributed for a recommended support span of every 2 meters without any deformation of the housing.

Voltage Drop Calculation

Voltage drop of a busbar system can be calculated with the following formula taking into account the “α” load distribution constant.

For single phase ;

$$\Delta U = \alpha \cdot I \cdot 2L (R \cdot \cos \varphi + X \cdot \sin \varphi) \cdot 10^{-3} \text{ [V]}$$

For three phase ;

$$\Delta U = \alpha \cdot \sqrt{3} \cdot I \cdot L (R \cdot \cos \varphi + X \cdot \sin \varphi) \cdot 10^{-3} \text{ [V]}$$

$$\Delta U = \text{Voltage Drop [V]}$$

$$I = \text{Rated Current [A]}$$

$$L = \text{Length of Line [m]}$$

$$\alpha = \text{Load Distribution Constant}$$

$$R = \text{Resistance [m}\Omega\text{m]}$$

$$X = \text{Reactance [m}\Omega\text{m]}$$

Load Distribution Constant

α



Load concentrated at the end of line.
Line fed from one end of the line.

1.00



Distributed load.
Line fed from one end of the line.

0.50



Distributed load.
Line fed from both ends of the line.

0.25

25A - 63A PLUG-IN BUSBAR SYSTEMS PRODUCT OVERVIEW (E-Line KAM / KAP)

- 1- The busbar system shall have rated current levels between 25A and 63A and shall have copper conductors.
- 2- Plug-in busbar system shall have one of the following conductor number and configurations;
 - a) 2 conductors : L1 / N / Housing (Earthing)
 - b) 3 conductors : L1 / N / PE + Housing (PE conductor and housing are connected)
 - c) 4 conductors : L1 / L2 / L3 / N / Housing (Earthing)
 - d) 5 conductors : L1 / L2 / L3 / N / PE + Housing (PE conductor and housing are connected)

Housing shall be used as earth conductor.
- 3- The rated insulation voltage of the system shall be 630 V.
- 4- On a three meter standard length there shall be four plug-in points.
- 5- The conductors in the housing shall be continuously insulated and only peeled off on the plug-in points to create contact area.
- 6- There shall be insulator supports at the plug-in points.
- 7- The conductors shall be of electrolytic copper and continuously tin plated.
- 8- Each current rating of the busbar system shall have a type test report according to IEC 60439/2. The type test reports shall be from an internationally accepted third party laboratory.
- 9- Joint of the busbar shall slide into each other; joint contacts shall be silver plated. To ensure a safe joint contact there shall be springs on both sides of joint contacts.
- 10- IP Protection degree of the busbars shall be 55.
- 11- The housing of the busbar shall be manufactured of 0,50 mm thick galvanised sheet metal.
- 12- Contacts of the tap offs shall be off jawed structure, which touches the conductors on both sides. The contacts shall also have springs.
- 13- Manufacturing facility of busbar systems shall have ISO 9001 and ISO 14001 certification.