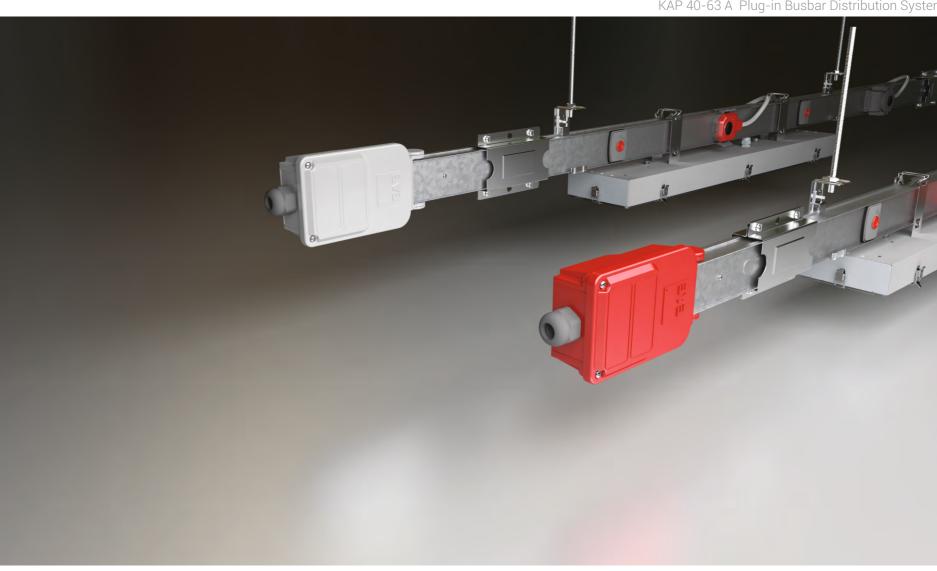


KAM 25-32 A Lighting Busbar System KAP 40-63 A Plug-in Busbar Distribution System





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Catalogue 06-Eng. / Rev 14 2.000 Pcs. 01/08/2018

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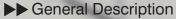
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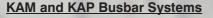
▶▶ E-LINE KAM/KAP

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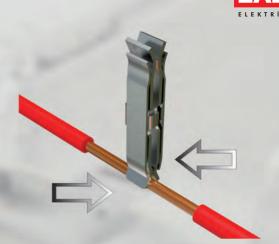


General Characteristics





KAM and KAP are busbar trunking systems, for lighting (KAM) and small Power (KAP), designed and certified in full compliance with international standards IEC 61439-1/6. Both systems have been tested and certified at the CESI Institute in accordance with the full type test cycle stated in the relevant IEC codes.



Tap off plugs are available in ratings from 10A to 32A. The plugs are manufactured in a self extinguishing material. The contacts for the phase and neutral conductors are

silver plated copper to provide the best conductivity and resistance to corrosion. The

tap off plugs for the KAM and KAP busbar systems have different plug-in

configurations and are not interchangeable. All plugs are equipped with a separate

earth contact which is the first to make and and the last to break. The plugs have been

tested at CESI Laboratories for 50 connection disconnection duty cycles. The tap off

plugs when plugged into the system provides both a good contact with the main

KAM 10B are single phase plugs, with fixed phase, without fuses, prewired with cable,

cross section 3x1.5 mm² and length 1m. They can be supplied with different length

conductors and a secure fixing of the plug on the housing.

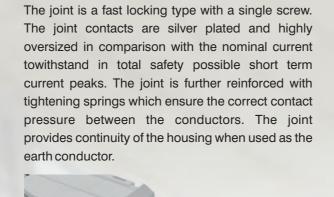
10A Tap Off Plugs (Only for KAM)

Tap Off Plugs

The housing is manufactured using pregalvanised sheet steel metal which provides a substantial earth path. The housing gives the line a very high mechanical strength, particularly suitable for industrial applications and applications in severe climatic conditions. The conductors are in electrolytic copper, tin plated and insulated along their full length (except at tap off positions) with a self extinguishing plastic sleeve. 2 and 4 conductor versions are standard, with 3 or 5 conductor versions supplied upon request. Each 3 m standard straight length is provided with 4 tap off points at 75 cm distance on one side of the trunking.

	— 3000 —		~~~
→375 → 750 →	~ 750 →	~ 750 →	375 →
Ö) p o

<u>Joint</u>





KAM 16 K and KAP 16 K are single phase plugs with fixed phase, available with or without fuse holders. A three phase version is also available, and can be used as a phase selectable unit for single phase operations. They can be wired with cables up to a maximum of Ø11 mm.

cable on request.

32A Tap Off Box (Only For KAP)

KAP 32 is a three-phase tap off box, available with fuse holder or with DIN rail to accept standard modular MCB's.

Feed Units

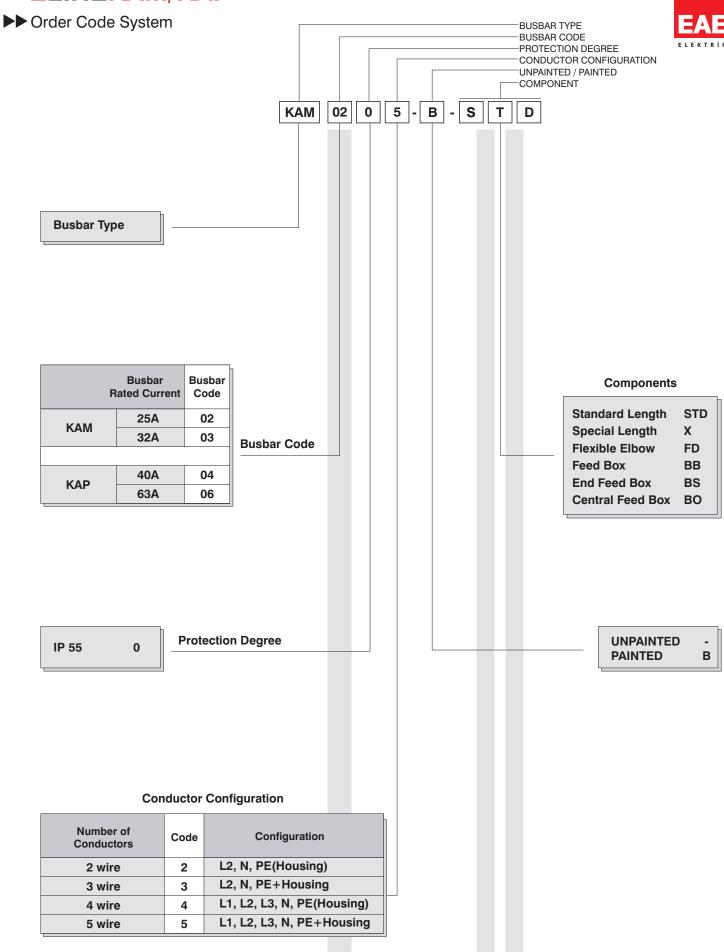
Feed units are available for installing at either end of the system or as a centre feed unit.

The feed units are IP55 as standard, and will accept supply cables up to ø16mm. The feed units are supplied complete with end closure and joint cover.











►► Technical Characteristics



Rated Current	In	A	25	32	40	63
Busbar Code			KAM 02	KAM 03	KAP 04	KAP 06
Main Standards	IEC 61439	-1/6, TS EN	61439-1/6			
Rated Isolation Voltage	Ui	V	500	500	690	690
Rated Frequency	f	Hz	50	50	50	50
Protection Degree	IP55					
Rated Short-time Withstand Current (0,1s)	I _{cw}	kA _(rms)	2,27	2,72	3,4	4
Rated Peak Withstand Current	I _{pk}	kA	5	6	7,5	9
MEAN PHASE CONDUCTOR CHARACTERISTICS AT RATED CURRENT I,						
Resistance at a conductor temperature of 20 °C	R ₂₀	mΩ/m	5,598	4,509	2,963	1,557
Resistance at an ambient air temperature of 35 °C	R	mΩ/m	6,612	5,444	3,518	1,914
Reactance (Independent from Temperature)	Х	mΩ/m	0,488	0,377	0,229	0,155
Positive and negative sequence impedances at an ambient air temperature of 35 °C	Z	mΩ/m	6,630	5,458	3,525	1,920
Positive and negative sequence impedances at a conductor temperature of 20 °C	Z ₂₀	mΩ/m	5,619	4,524	2,972	1,565
Rated Power Loss at 35 °C		W/m	12,7	16,5	18,2	22,1
DC Resistance at a conductor temperature of 20 °C for Phases	R/ort _{Ph}	mΩ/m	5,534	4,333	2,871	1,462
DC Resistance at a conductor temperature of 20 °C for Neutral	R _N	mΩ/m	5,466	4,368	2,876	1,457
DC Resistance at a conductor temperature of 20 °C for PE	R _{PE}	mΩ/m	2,519	1,711	1,154	1,150
SECTIONS						
L1,L2,L3,N		mm²	3,14	3,98	6,16	12,57
PE (5 Conductors)		mm²	3,14	3,98	6,16	12,57
PE (Sheet Metal)		mm²	96	96	96	96
PE (Cu Equivalent)		mm ²	9	9	9	9
Busbar Weight (4 Conductors)		kg/m	1,13	1,17	1,33	1,42
Busbar Weight (5 Conductors)		kg/m	1,17	1,19	1,41	1,48
MEAN FAULT-LOOP CHARACTERISTICS						
Zero-sequence Impedance						
Zero-sequence impedance at a conductor temperature of 20 °C	Z(0)b20phN	mΩ/m	22,53	18,40	12,13	6,06
Zero-sequence impedance at a conductor temperature of 20 °C (Housing)	Z(0)b20phPE	mΩ/m	12,30	10,32	7,09	5,62
Zero-sequence impedance at an ambient temperature of 35 °C	Z(0)bphN	mΩ/m	26,58	22,22	14,40	7,43
Zero-sequence impedance at an ambient temperature of 35 °C (Housing)	Z(0)bphPE	mΩ/m	14,50	12,44	8,39	6,87
Resistances and Reactances	111					
Resistance at a conductor temperature of 20 °C	Rb20phph	mΩ/m	10,92	8,82	5,89	2,98
Resistance at a conductor temperature of 20 °C	Rb20phN	mΩ/m	10,97	8,84	5,92	2,99
Resistance at a conductor temperature of 20 °C (Housing)	Rb20phPE	mΩ/m	7,60	6,18	4,21	2,81
Resistance at an ambient air temperature of 35 °C	Rbphph	mΩ/m	12,90	10,65	7,00	3,67
Resistance at an ambient air temperature of 35 °C	RbphN	mΩ/m	12,95	10,67	7,03	3,68
Resistance at an ambient air temperature of 35 °C (Housing)	RbphPE	mΩ/m	8,98	7,46	4,99	3,45
Reactance (Independent from temperature)	Xbphph	mΩ/m	0,61	0,11	0,25	0,21
Reactance (Independent from temperature)	XbphN	mΩ/m	0,63	0,37	0,10	0,24
Reactance (Independent from temperature)	XbphPE	mΩ/m	0,28	0,27	0,17	0,27

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 metres without any deformation of the housing.

Voltage Drop Calculation

Generally Voltage drop of a busbar system can be calculated with the following formula.

For single phase;

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

 $\Delta U = Voltage Drop [V]$

I = Rated Current [A]

L = Length of Line [mt]

 $R = Resistance \left[m\Omega m \right]$

For three phase;

$$\Delta U = \sqrt{3.1.L} (R.\cos\varphi + X.\sin\varphi).10^{-3} [V]$$

 $X = Reactance [m\Omega m]$



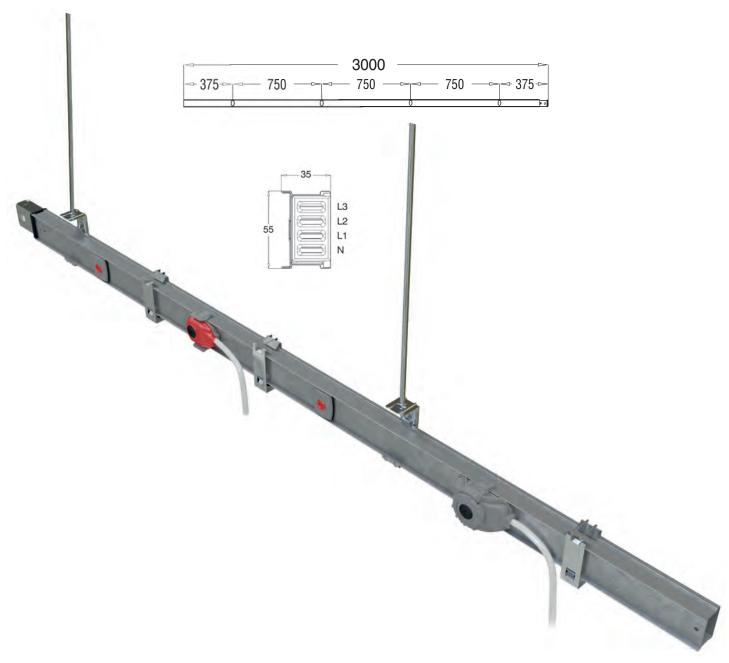
►► Standard Elements



Standard Busbars

Current (A)	Description	Conductors	Phase	Unpainted Order Code	Painted Order Code
	KAM 0205 Standard Busbar	5	L1, L2, L3, N, (PE+Housing)	3025050	3025051
25 - -	KAM 0204 Standard Busbar	4	L1, L2, L3, N, (+Housing)	3025046	3025047
	KAM 0203 Standard Busbar	3	L2, N, (PE+Housing)	3025029	3025030
	KAM 0202 Standard Busbar	2	L2, N, (+Housing)	3025027	3025028
	KAM 0305 Standard Busbar	5	L1, L2, L3, N, (PE+Housing)	3025058	3025059
32	KAM 0304 Standard Busbar	4	L1, L2, L3, N, (+Housing)	3025054	3025055
32 -	KAM 0303 Standard Busbar	3	L2, N, (PE+Housing)	3025033	3025034
	KAM 0302 Standard Busbar	2	L2, N, (+Housing)	3025031	3025032

^{*}Special straight length busbars are manufactured as standard as 1 m., 1,5 m. and 2 m.



ELINEKAM

►► Standard Elements

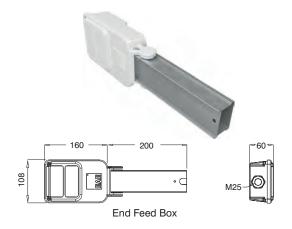
Feed Box*

Current (A)	Description	Busbars	Unpainted Order Code	Painted Order Code
25	KAM 0205 BB Feed Box	KAM 0205 KAM 0204 KAM 0203 KAM 0202	3025062	3025063
32	KAM 0305 BB Feed Box	KAM 0305 KAM 0304 KAM 0303 KAM 0302	3025064	3025065



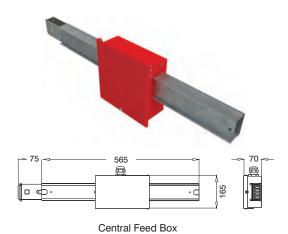
End Feed Box*

Current (A)	Description	Busbars	Unpainted Order Code	Painted Order Code
25	KAM 0205 BS End Feed Box	KAM 0205 KAM 0204 KAM 0203 KAM 0202	3025066	3025067
32	KAM 0305 BS End Feed Box	KAM 0305 KAM 0304 KAM 0303 KAM 0302	3025068	3025069



Central Feed Box*

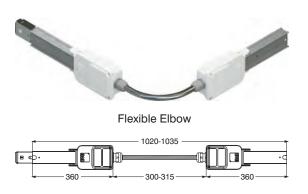
Current (A)	Description	Busbars	Unpainted Order Code	Painted Order Code
25	KAM 0205 BO Central Feed Box	KAM 0205 KAM 0204 KAM 0203 KAM 0202	3025070	3025071
32	KAM 0305 BO Central Feed Box	KAM 0305 KAM 0304 KAM 0303 KAM 0302	3025072	3025073



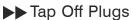
Flexible Elbow

Current (A)	Description	Busbars	Unpainted Order Code	Painted Order Code
25	KAM 0205-FD Flexible Elbow	KAM 0205 KAM 0204 KAM 0203 KAM 0202	3024417	3024418
32	KAM 0305-FD Flexible Elbow	KAM 0305 KAM 0304 KAM 0303 KAM 0302	3024415	3024416

^{*} With PE Conductor and M25 Gland as standard. End Closer is supplied together with the feed unit.









Tap-off Plug (B)

Current		Cable Length / Type				Order Code	
(A)	Description	Halogen Free	Standard (PVC)	Phase	Properties	Halogen Free	Standard (PVC)
	KAM 10 - B Tap-off Plug L1	0,75 m.	0,75 m.	L1, N, PE	With Black Cover	3024549	3086986
10	KAM 10 - B Tap-off Plug L2	3x1.5 mm ²	3x1.5 mm ²	L2, N, PE	With Yellow Cover	3024548	3086988
	KAM 10 - B Tap-off Plug L3						3086990

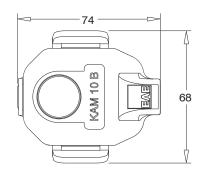
Tap-off Plug (BL)**

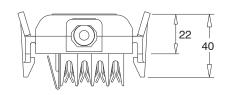
Current	Description	Cable Length / Type	Phase	Duamantiaa	Order Code
(A)	Description	Cable Length / Type	Filase	Properties	Halogen Free
	KAM 10 - B Tap-off Plug L1	0,75 m.	L1, N, PE	With Black Cover	3134596
10	KAM 10 - B Tap-off Plug L2	3x0,75 11111	L2, N, PE	With Yellow Cover	3134597
	KAM 10 - B Tap-off Plug L3		L3, N, PE	With Blue Cover	3134598

- * Plugs with different length cable available upon request.
- ** It is used only for lighting fittings supply in lighting circuits.



KAM 10 B KAM 10 BL





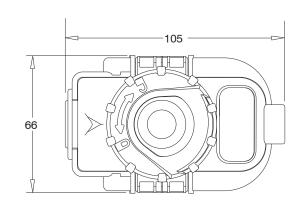
Tap Off Plugs

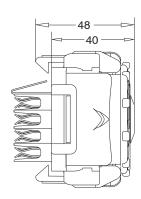
Current (A)	Description	Cable Length	Phase	Properties	Order Code
	KAM 16 - FS Tap Off Plug L1	-	L1, N, PE	M/:No FigO and additional	3024612
16	KAM 16 - FS Tap Off Plug L2	-	L2, N, PE	With 5x20 cylindirical fuseholders. Max	3024611
10	KAM 16 - FS Tap Off Plug L3	-	L3, N, PE	diameter of feeder	3024610
	KAM 16 - FS Tap Off Plug L123		L1, L2, L3, N, PE	cable is Ø 11mm.**	3024609
	KAM 16 - K Tap Off Plug L1	-	L1, N, PE	Without Fuses.	3024616
16	KAM 16 - K Tap Off Plug L2	-	L2, N, PE	Max diameter	3024615
10	KAM 16 - K Tap Off Plug L3	-	L3, N, PE	of feeder cable	3024614
	KAM 16 - K Tap Off Plug L123	-	L1, L2, L3, N, PE	is Ø 11mm.	3024613

^{**} The cylindirical fuse plug is not included.



KAM 16 FS KAM 16 K



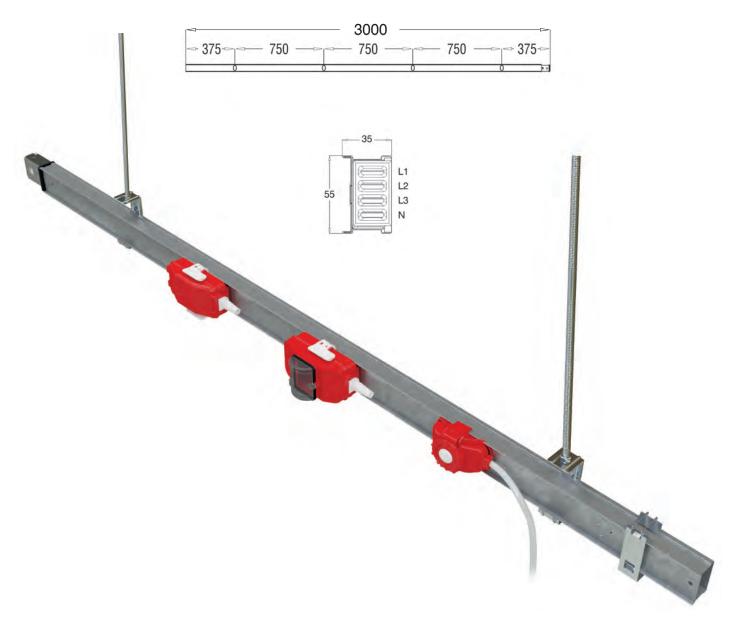






Standard Busbars

Current (A)	Description	Conductors	Phase	Unpainted Order Code	Painted Order Code
	KAP 0405 Standard Busbar	5	L1, L2, L3, N, (PE+Housing)	3025076	3025077
40	KAP 0404 Standard Busbar	4	L1, L2, L3, N, (+Housing)	3025074	3025075
40	KAP 0403 Standard Busbar	3	L2, N, (PE+Housing)	3025086	3025087
	KAP 0402 Standard Busbar	2	L2, N, (+Housing)	3025088	3025089
	KAP 0605 Standard Busbar	5	L1, L2, L3, N, (PE+Housing)	3025080	3025081
63	KAP 0604 Standard Busbar	4	L1, L2, L3, N, (+Housing)	3025078	3025079
03 -	KAP 0603 Standard Busbar	3	L2, N, (PE+Housing)	3025082	3025083
	KAP 0602 Standard Busbar	2	L2, N, (+Housing)	3025084	3025085



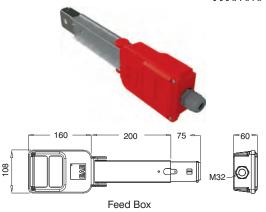
ELINEKAP

▶► Standard Elements



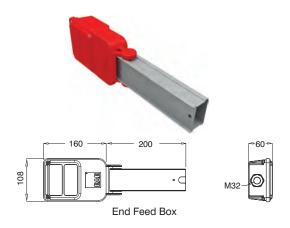
Feed Box*

Current (A)	Description	Busbars	Unpainted Order Code	Painted Order Code
40	KAP 0405 BB Feed Box	KAP 0405 KAP 0404 KAP 0403 KAP 0402	3025098	3025099
63	KAP 0605 BB Feed Box	KAP 0605 KAP 0604 KAP 0603 KAP 0602	3025100	3025101



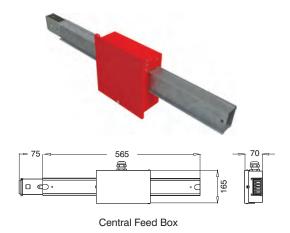
End Feed Box*

Current (A)	Description	Busbars	Unpainted Order Code	Painted Order Code
40	KAP 0405 BS End Feed Box	KAP 0405 KAP 0404 KAP 0403 KAP 0402	3025102	3025103
63	KAP 0605 BS End Feed Box	KAP 0605 KAP 0604 KAP 0603 KAP 0602	3025104	3025105



Central Feed Box*

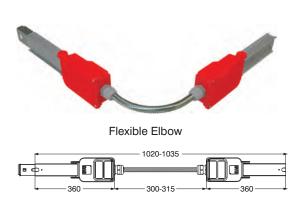
Current (A)	Description	Busbars	Unpainted Order Code	Painted Order Code
40	KAP 0405 BO Central Feed Box	KAP 0405 KAP 0404 KAP 0403 KAP 0402	3024960	3024961
63	KAP 0605 BO Central Feed Box	KAP 0605 KAP 0604 KAP 0603 KAP 0602	3024962	3024963



Flexible Elbow

Current (A)	Description	Busbars	Unpainted Order Code	Painted Order Code
40	KAP 0405-FD Flexible Elbow	KAP 0405 KAP 0404 KAP 0403 KAP 0402	3024413	3024414
63	KAP 0605-FD Flexible Elbow	KAP 0605 KAP 0604 KAP 0603 KAP 0602	3024411	3024412

^{*} With PE Conductor and Special EAE Gland M32 as standard.



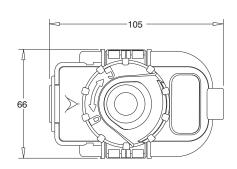


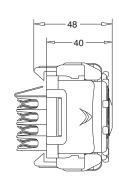


Tap Off Plugs

Current (A)	Description	Phase	Properties	Order Code
	KAP 16 - FS Tap Off Plug L1	L1, N, PE		3024556
16	KAP 16 - FS Tap Off Plug L2	L2, N, PE	5 x 20 Fuse holders. Max diameter of feeder	3024555
10	KAP 16 - FS Tap Off Plug L3	L3, N, PE	cable is Ø 11 mm.	3024554
	KAP 16 - FS Tap Off Plug L123	L1, L2, L3, N, PE		3024557
	KAP 16 - K Tap Off Plug L1	L1, N, PE		3024552
16	KAP 16 - K Tap Off Plug L2	L2, N, PE	Without Fuses Max diameter of feeder	3024551
10	KAP 16 - K Tap Off Plug L3	L3, N, PE	cable is Ø 11 mm.	3024550
	KAP 16 - K Tap Off Plug L123	L1, L2, L3, N, PE		3024553





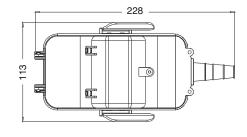


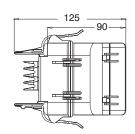
Tap Off Plugs

Current (A)	Description	Phase	Properties	Order Code
32	KAP 32-Empty Tap Off Box*	L1, L2, L3, N, PE	10 x 38 Fuse cylindirical holders Max diameter of	3025109
32	KAP 32-Tap Off Box 10x38 fuse holders**		feeder cable is Ø 20 mm.**	3025108

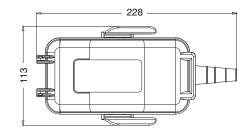
^{*} Tap off box can be fitted with MCB's of different ratings and brands.
** The cylindirical fuse plug is not included.

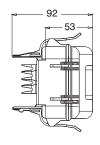








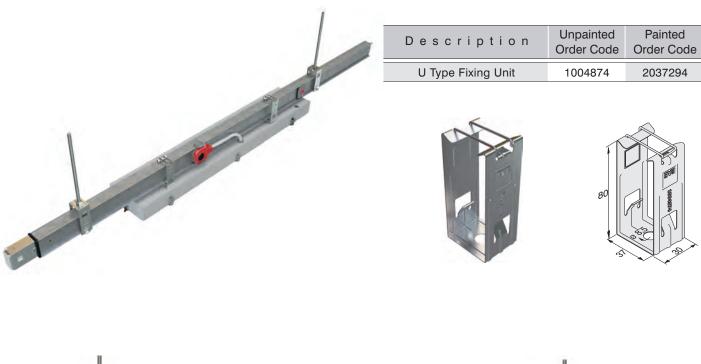


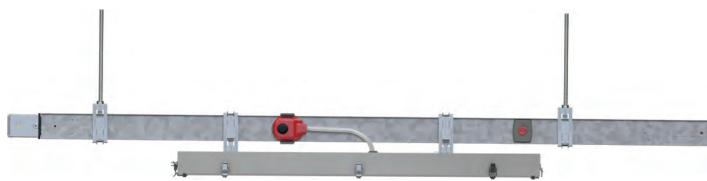


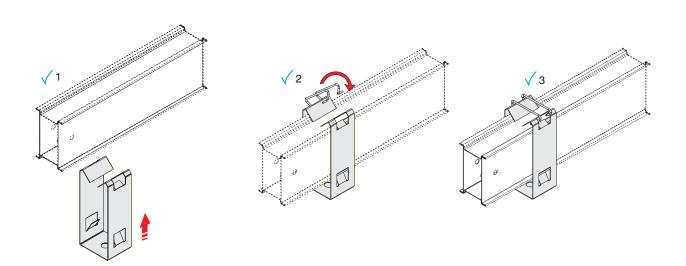
KAP 32 FS

▶▶ Hanger accessories for Busbar and Lighting Luminaries



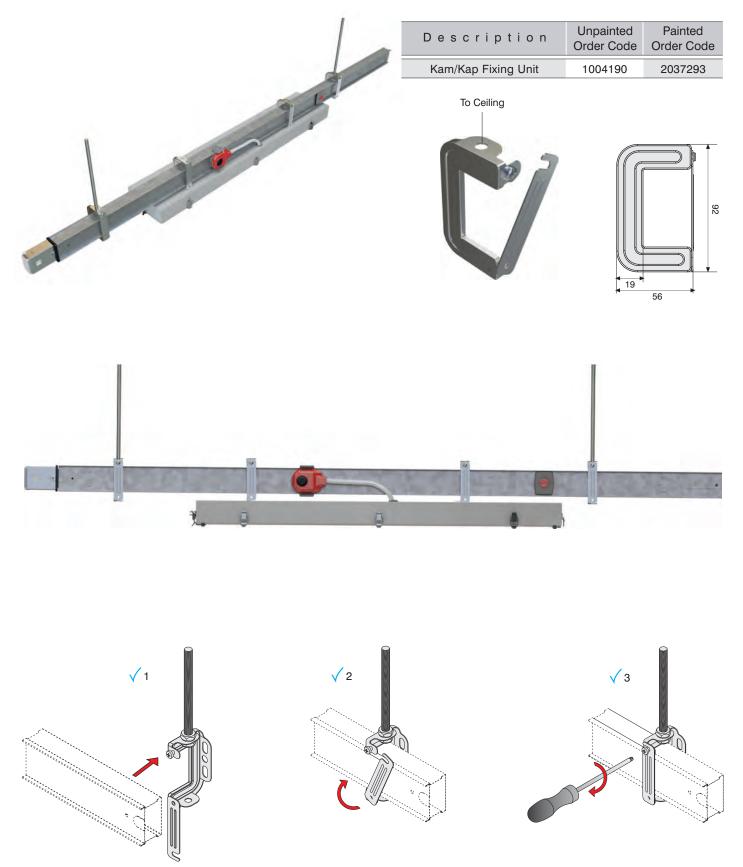






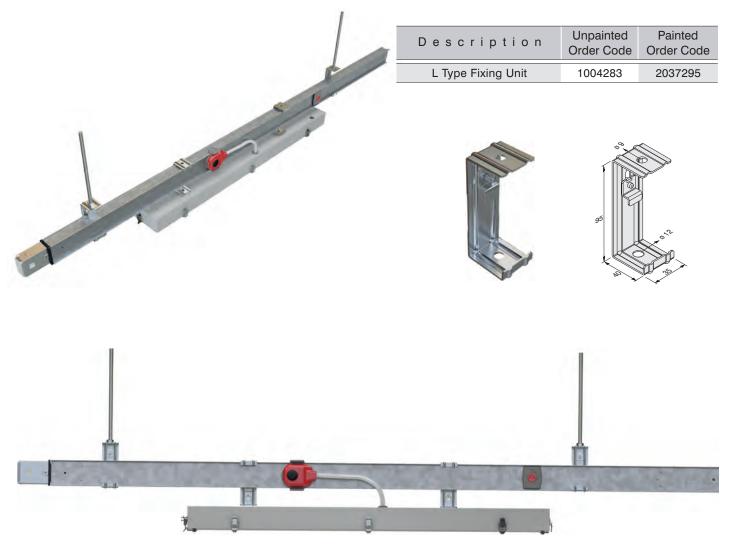
▶▶ Hanger accessories for Busbar and Lighting Luminaries

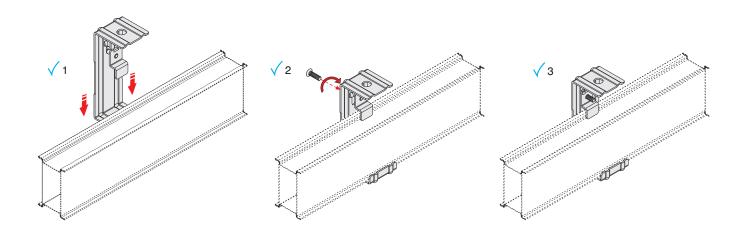




▶▶ Hanger accessories for Busbar and Lighting Luminaries







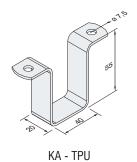


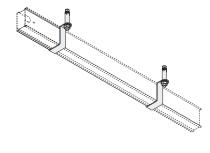
▶▶ Fixing and IP Accessories



Fixing unit "U" type

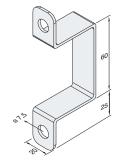
Description	Unpainted Order Code	Painted Order Code
KA - TPU TPU Fixing unit "U" type	3025158	3025159

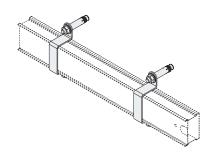




Side Wall Support

Description	Unpainted Order Code	Painted Order Code
KA-TD Side Wall Support	3025106	3025107

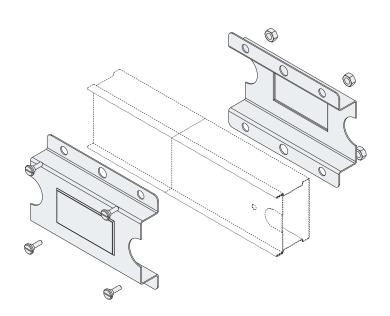


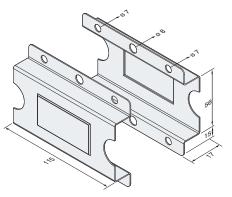


KA-TD Side Wall Support

KAM-KAP Joint Support

Description	Unpainted Order Code	Painted Order Code
KAM-KAP Joint Support	3025160	3025161





KAM-KAP Joint Support

Certificates





T+31 88 96 83000 F+31 88 96 83100 www.dekra-certification.com Company registration 09085396







CE DECLARATION OF CONFORMITY

Product Group E-Line KAM-KAP Busbar Energy Distribution System

Manufacturer EAE Elektrik Asansor End. Insaat San. ve Tic. A.S.

Akcaburgaz Mahallesi, 3114. Sokak, No:10 34522 Esenyurt-Istanbul

The objects of the declaration described below is in conformity with the relevant Union harmonisation legislation. This declaration of conformity is issued under the sole responsibility of the manufacturer.

Standard:

EN 61439-6

Low-voltage switchgear and controlgear assemblies - Part 6: Busbar trunking systems

IEC 61439-6

Low-voltage switchgear and controlgear assemblies - Part 6: Busbar trunking systems (busways)

CE - Directive

2014/35/EU "The Low Voltage Directive"

2014/30/EU "Electromagnetic Compatibility (EMC) Directive"

2011/65/EU "Restriction of the use of certain hazardous substances (RoHS)"

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20.04.2016

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

- 1- The busbar sytem 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 must be 500V for KAM busbar and 690V for KAP busbar
- 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 stripped off at 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 61439-6. The type test reports shall be from an internationally accepted third party laboratory.
- 9- Joints 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 from 0,50 mm thick galvanised sheet steel.
- 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- The manufacturing facility for the busbar systems shall have ISO 9001 and ISO 14001 certification.







					Component List		
				Item	Component	Quantity	
				Company			
				Project Project No			
EAE .				Name Date Signatu	Name : Date : Signature :		1





PRODUCT TYPES



BUSBAR ENERGY DISTRIBUTION SYSTEMS

CABLE TRAYS





TROLLEY BUSBAR ENERGY DISTRIBUTION SYSTEMS



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