

LOW POWER BUSBARS 63 – 160 A

OUR MISSION

EPS wants to help its customers to make a better distribution and transport of electric current in the most easy way. The mission is to make the best busbars at the best possible price using the state of the art knowledge.

SCOPE

This catalogue refers to EPD® low power busbars 63 – 100 - 160 A.

GENERAL CHARACTERISTICS

The general details of our EPD® low power busbars are the follows:

- Aluminium external housing in one extrusion
- Aluminium conductors (63-100A) and in copper (160A)
- 3 meters standard straight elements
- EPD 4: PE housing with section always bigger than phase section
- EPD 5: PE dedicated conductor
- Neutral section always like the phase section
- PE section always > 200% phase section
- Fast mounting push in coupling joint



MANUFACTURING STANDARDS

The low power busbars described in this catalogue are designed and tested in accordance to the IEC 60439-1, IEC 60439-2, IEC60529 DIN VDE 0660 part 500 and part 502.

Type tested for:

Short resistance, casing degree of protection (IP code), insulation resistance, overheating limit, wiring, electrical operation, applied voltage resistance, operation, resistance to heavy loads, protection countermeasures, protective circuit efficiency, air and surface distances, insulation.

Confirmed by numerous test marks and certificates, from the RINA, LLOYD'S, BUREAU VERITAS marks through to UL approval.

Quality you can rely on, certified as the standard DIN EN ISO 9001.

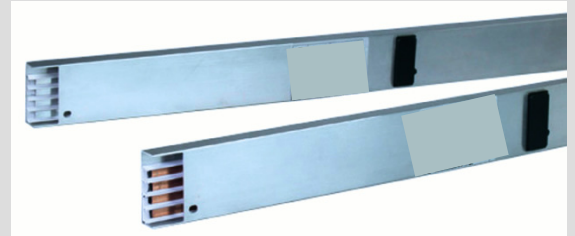
Ratings

AL 63 – 100 [A]

CU 160 [A]

1 – Straight elements (3 m)

A	EPD 4		EPD 5		Tap off points
	kg/m	Code	kg/m	code	
63	1,21	EPD406R3D3	1,34	EPD506R3D3	4
100	1,31	EPD410R3D3	1,44	EPD510R3D3	4
160	2,30	EPD416R3D3	2,43	EPD516R3D3	4
63	1,24	EPD406R3D6	1,37	EPD506R3D6	6
100	1,33	EPD410R3D6	1,46	EPD510R3D6	6
160	2,33	EPD416R3D6	2,46	EPD516R3D6	6



The joint is always included in each element.

2 – Straight elements (2 m / 1 m)

A	EPD 4 (1 m)		EPD 5 (1 m)		Tap off points
	kg/m	Code	kg/m	code	
63	1,21	EPD406R1	1,34	EPD506R1	1
100	1,31	EPD410R1	1,44	EPD510R1	1
160	2,30	EPD416R1	2,43	EPD516R1	1

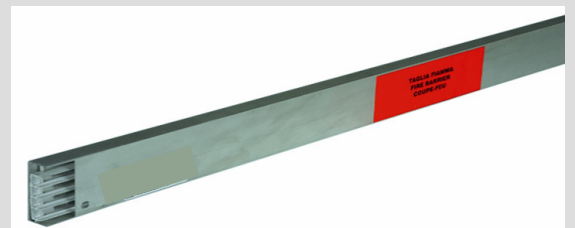
The fast mounting joints is pre-installed in every length



The joint is always included in each element.

3 – Straight elements (1 m) with fire barrier

A	EPD 4		EPD 5	
	kg/m	Code	kg/m	Code
63	1,24	EPD406R1TF	1,37	EPD506R1TF
100	1,34	EPD410R1TF	1,47	EPD510R1TF
160	2,37	EPD416R1TF	2,50	EPD516R1TF



The fire barrier, REI120 (2 h), is prefitted in the center of the 1 m straight element

4 – IP55 execution

EPD 4/5	
A	Code
63	EPDCGIP55 KIT IP55 for straight elements (3-2-1 m)
100	
160	

IP55

For all the others accessories in IP55 add at the end of each code the number 5.

Ex: IP42=EPD***** → IP55=EPD*****5

5 – End feed unit

A	EPD 4		EPD 5	
	LH	RH	LH	RH
63	EPD406ATS	EPD406ATD	EPD506ATS	EPD506ATD
100	EPD410ATS	EPD410ATD	EPD510ATS	EPD510ATD
160	EPD416ATS	EPD416ATD	EPD516ATS	EPD516ATD

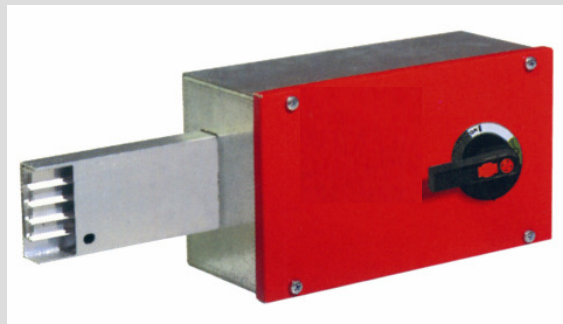
Cables entrance: 70x50 mm



6 – End feed unit with switch

A	EPD 4		EPD 5	
	LH	RH	LH	RH
63	EPD406ATSI	EPD406ATDI	EPD506ATSI	EPD506ATDI
100	EPD410ATSI	EPD410ATDI	EPD510ATSI	EPD510ATDI
160	EPD416ATSI	EPD416ATDI	EPD516ATSI	EPD516ATDI

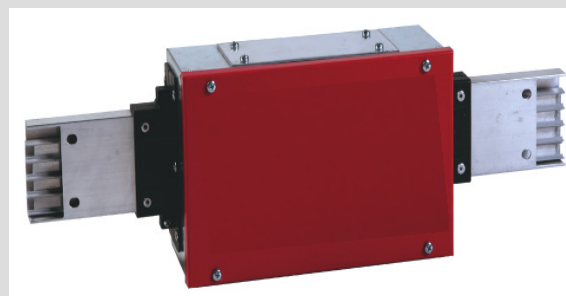
The switch mounted is without fuse bases, on request is possible to have switch fuse-bases.



7 – Centre feed unit

A	EPD 4	EPD 5
	Code	Code
63	EPD406AI	EPD506AI
100	EPD410AI	EPD510AI
160	EPD416AI	EPD516AI

Cables entrance: 70x50 mm



8 – End cap

A	EPD 4/5
	Code
63	EPDCT
100	
160	



9 – Tap off box 16 A direct

	EPD 4	EPD 5
	EPD16CDDI	EPD16CDDI
Tap off material	Plastic	Plastic
Conductor material	Al+Sn	Al+Sn
Max cable section	2,5 mm ²	2,5 mm ²
Maximum entrance cable	13 Ø mm	13 Ø mm
Fuse-base type	Not present	Not present
Execution	2P+PE	4P+PE



The tap off could be moved under voltage.

10 – Tap off box 16 A with phase selection

	EPD 4	EPD 5
	EPD16CDL*	EPD516CDL*
Tap off material	Plastic	Plastic
Conductor material	Al+Sn	Al+Sn
Max cable section	2,5 mm ²	2,5 mm ²
Maximum entrance cable	13 Ø mm	13 Ø mm
Fuse-base type	6,3x32	6,3x32
Fuse	Not included	Not included
Execution	2P+PE	4P+PE



	EPD 4	EPD 5
*Execution EPD16CDL	1= L1+N+PE	L1+N+PE
	2= L2+N+PE	L2+N+PE
	3= L3+N+PE	L3+N+PE

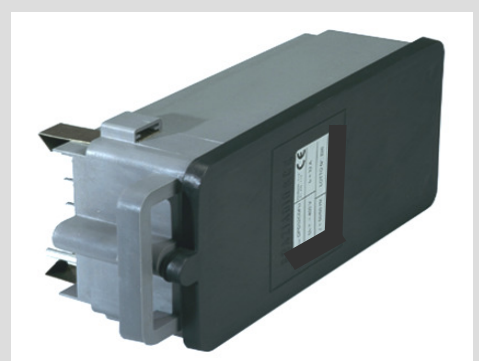
11 – Tap off box 16 A with fuse-base

	EPD 4	EPD 5
	EPD16CDFU	EPD516CDFU
Tap off material	Plastic	Plastic
Conductor material	Al+Sn	Al+Sn
Max cable section	2,5 mm ²	2,5 mm ²
Maximum entrance cable	13 Ø mm	13 Ø mm
Fuse-base type	6,3x32	6,3x32
Fuse	Not included	Not included
Execution	4P+PE	4P+PE



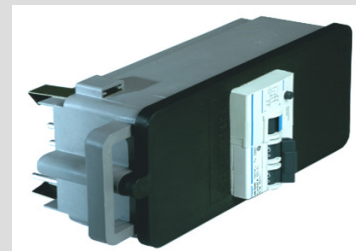
12 – Tap off box 32 A with off load isolator and fuse base

	EPD 4	EPD 5
	EPD32CDFU	EPD532CDFU
Tap off material	Plastic	Plastic
Conductor material	Al+Sn	Al+Sn
Max cable section	6 mm ²	6 mm ²
Maximum entrance cable	38 Ø mm	38 Ø mm
Fuse-base type	CF 10x38	CF 10x38
Fuse	Not included	Not included
Execution	4P+PE	4P+PE



13 – Tap off box 32 A modular

	EPD 4	EPD 5
	EPD32CDMD	EPD532CDMD
Tap off material	Plastic	Plastic
Conductor material	Al+Sn	Al+Sn
Max cable section	6 mm ²	6 mm ²
Maximum entrance cable	38 Ø mm	38 Ø mm
MCB number of modules on DIN rail	4	4
MCB	Not included	Not included
Execution	4P+PE	4P+PE



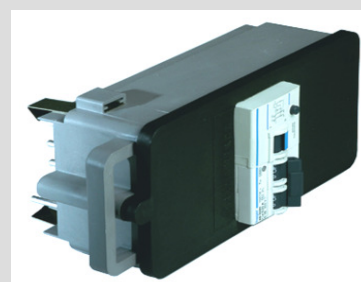
14 – Tap off box 63 A with off load isolator

	EPD 4	EPD 5
	EPD63CDFU	EPD563CDFU
Tap off material	Metal	Metal
Conductor material	Cu+Sn	Cu+Sn
Max cable section	16 mm ²	16 mm ²
Maximum entrance cable	45x35 mm	45x35 mm
Fuse-base type	14x51	14x51
Fuse	Not included	Not included
Execution	4P+PE	4P+PE



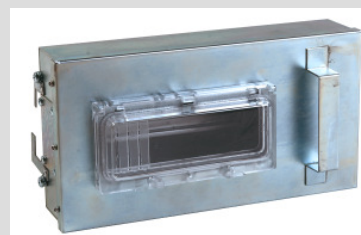
15 – Tap off box 63 A – 4 modules

	EPD 4	EPD 5
	EPD63CDMD	EPD563CDMD
Tap off material	Plastic	Plastic
Conductor material	Al+Sn	Al+Sn
Max cable section	10 mm ²	10 mm ²
Maximum entrance cable	38 Ø mm	38 Ø mm
MCB number of modules on DIN rail	4	4
MCB	Not included	Not included
Execution	4P+PE	4P+PE



16 – Tap off box 63 A – 8 modules

	EPD 4	EPD 5
	EPD63CDMD8	EPD563CDMD8
Tap off material	Metal	Metal
Conductor material	Cu+Sn	Cu+Sn
Max cable section	16 mm ²	16 mm ²
Maximum entrance cable	140x30 mm	140x30 mm
MCB number of modules on DIN rail	8	8
MCB	Not included	Not included



17 – Fixing hanger

EPD 4/5		
A	Code	Kg
63	EPDSSU	0,200
100	EPDSSU	0,200
160	EPDSSU	0,200

Every EPD element lengty requieres 2 fixing hanger



18 – Flexible element for elbows

A	EPD 4		EPD 5	
	kg/m	Code	kg/m	Code
63	1,69	EPD4FX06	1,75	EPD5FX06
100	1,74	EPD4FX10	1,77	EPD5FX10
160	2,13	EPD4FX16	2,30	EPD5FX16

In every flexible element is always included one joint



19 – “T“ element

A	EPD 4	EPD 5
	Code	Code
63	EPD406T	EPD506T
100	EPD410T	EPD510T
160	EPD416T	EPD516T

In every “T“ element are included 2 joints.



20 – Spare joint

EPD 4/5	
A	Code
63/100	EPD0017
160	EPD0022

The coupling joint is included with each straight element, for the spare part see above.



14 - EPD TECHNICAL DATA

Nominal current	I_n	[A]	63	100	160
Material of phase and neutral conductor			AL	AL	Cu
Operational voltage	U_e	[V]	500	500	500
Insulation voltage	U_i	[V]	750	750	750
Frequency	f	[Hz]	50-60	50-60	50-60
Cross section phases	S_F	[mm ²]	30	40	40
Cross section neutral	S_N	[mm ²]	30	40	40
Cross section of protective Conductor (Al housing)	S_{PE}	[mm ²]	222(Al)	222(Al)	222(Al)
Cross section of earth bar (5th bar)	S_{PE}	[mm ²]	48	48	48
Phase resistance (T=20 °C)	R_{20}	[mΩ/m]	0,9	0,675	0,425
Phase reactance	X	[mΩ/m]	0,157	0,18	0,51
Phase impedance (T=20 °C)	Z_{20}	[mΩ/m]	1,81	1,36	0,66
PE resistance (housing)	R_{PE}	[mΩ/m]	0,122	0,122	0,122
PE reactance (housing)	X_{PE}	[mΩ/m]	0,014	0,014	0,014
PE impedance (housing)	Z_{PE}	[mΩ/m]	0,123	0,123	0,123
Losses for the Joule effect at nominal current	P_j	[W/m]	10,72	20,25	32,64
Rated short circuit time current	$I_{cw} (1s)$	[kA]	3,5	5	6
Peak current	$I_{pk} (1s)$	[kA]	5,3	7,5	10,2
Rated short circuits time of neutral bar	$I_{cw} (1s)$	[kA]	2,1	3	3,6
Peak current of neutral bar	$I_{pk} (1s)$	[kA]	3,2	4,5	5,4
Rated short circuit time of PE	$I_{cw} (1s)$	[kA]	3,5	5	6
Peak current of PE	I_{pk}	[kA]	5,3	7,5	10,2
IP degree of protection		IP	42/55	42/55	42/55
IK degree of protection		IK	09	09	09
Calorific power		[kcal/m]	1071	1071	1071

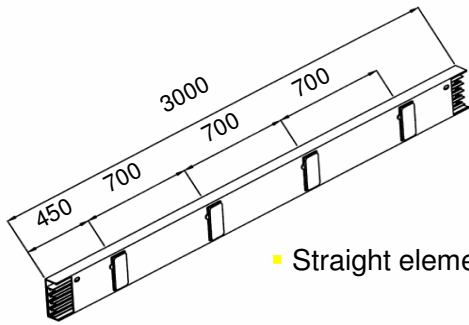
Voltage drop with distribution load [Δv]

		63[A]	100[A]	160[A]
$\cos\phi = 0,7$	[mV/m]	153,5	153,5	153,5
$\cos\phi = 0,8$	[mV/m]	174,7	174,7	174,7
$\cos\phi = 0,9$	[mV/m]	195,7	195,7	195,7
$\cos\phi = 1,0$	[mV/m]	215,8	215,8	215,8

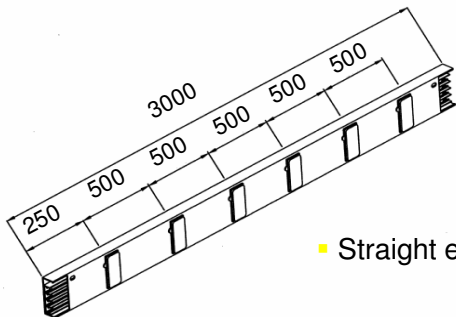
Schedule of ratings for the ambient temperature on average 24 h

	18 °C	25 °C	30 °C	35 °C	41 °C	45 °C	50 °C
K	1,16	1,12	1,08	1,04	1	0,84	0,70

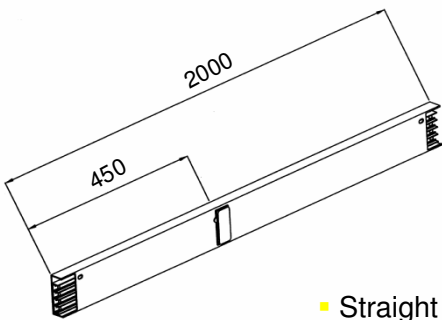
15 – DIMENSIONS



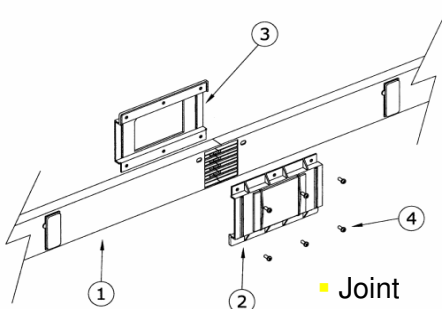
▪ Straight element 3 m



▪ Straight element 3 m 6 plug-in points

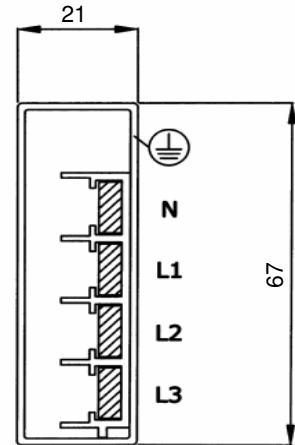


▪ Straight element 1 m

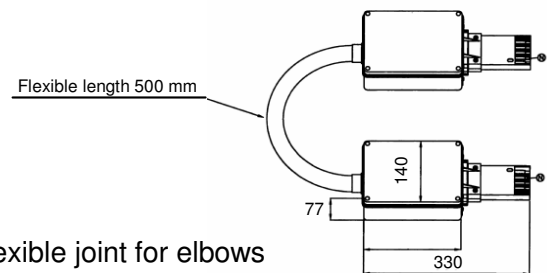
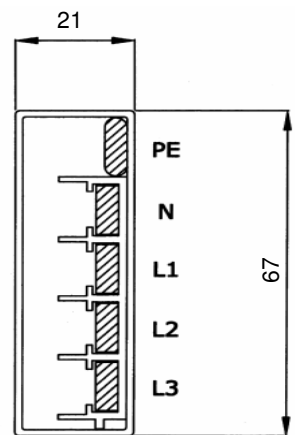


▪ Joint

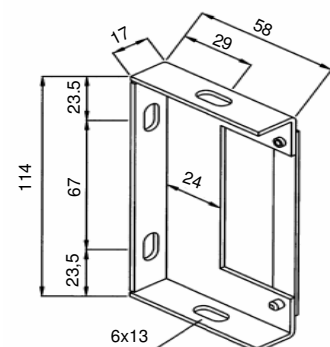
▪ EPD 4



▪ EPD 5

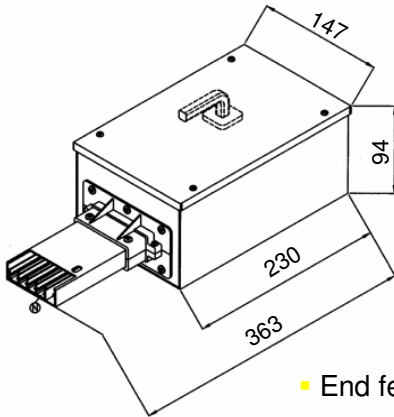


▪ Flexible joint for elbows

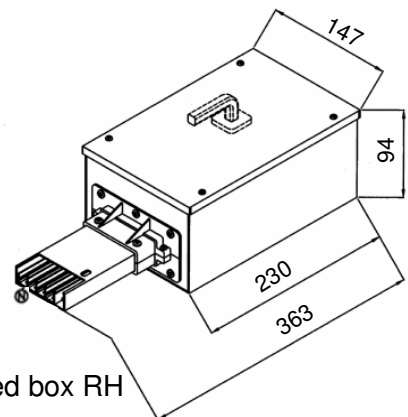


▪ Fixinger hanger

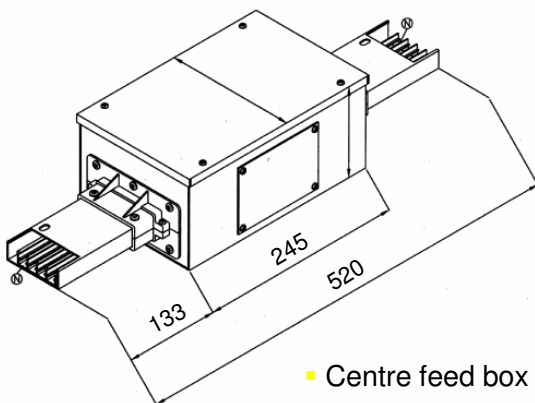
16 – DIMENSIONS



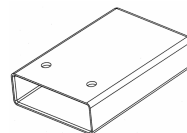
■ End feed box LH



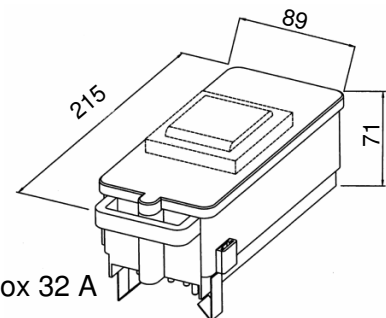
■ End feed box RH



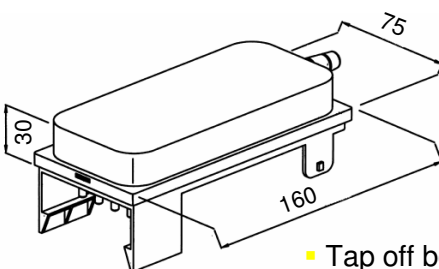
■ Centre feed box



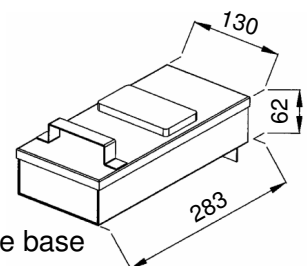
■ End cap



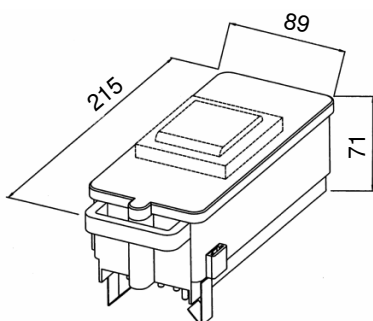
■ Tap off box 32 A



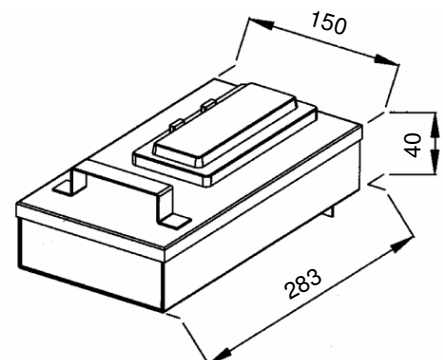
■ Tap off box 16 A



■ Tap off box 63 A with fuse base



■ Tap off box 63 A – 4 modules



■ Tap off box 63 A – 8 modules

16 - BUSBAR RANGE



	■ ELS	■ EPD	■ EDA	■ EDR	■ EPSOBAR
Nominal current	25 – 40 A	63 – 160 A	160 - 1000 A	250 – 1600 A	800 – 6300 A
Type	Lighting	Distribution	Distribution	Distribution	Transport
Operational voltage	230/400 V	500 V	690 V	690 V	1000 V
Insulation Voltage	750 V	750 V	750 V	750 V	1000 V
Conductors material	CU	AL/CU	AL	CU	AL/CU
Conductors number	2 - 4 - 6 - 8	4 - 5	4 - 5	4 - 5	4 - 5
Neutral cross section	100%	100%	100%	100%	50% - 100% - 200%
PE cross section	> 100%	> 100%	> 100%	> 100%	Up to 100%
Housing material	AL	AL	AL	AL	FE/AL/INOX
Plug in points	YES	YES	YES	YES	YES
Tap off boxes up to	16 A	63 A	400 A	400 A	2000 A
Max peak Icw for 1s	2 kA (0,1s)	6 kA	37 kA	40 kA	240 kA
Max peak Icw	4 kA	10 kA	80 kA	81 kA	500 kA
IP protection degree	55	42/55	50/55	50/55	40/42/66/68

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