



ETHERMA

Skandinavia Oy

Kiitoradankuja 9, 01530 Vantaa
puh. (09) 825 4840
www.etherma.fi



TEHNOPLAST

DESIGN IN FUNCTION OF SAFETY



Product catalog 2014

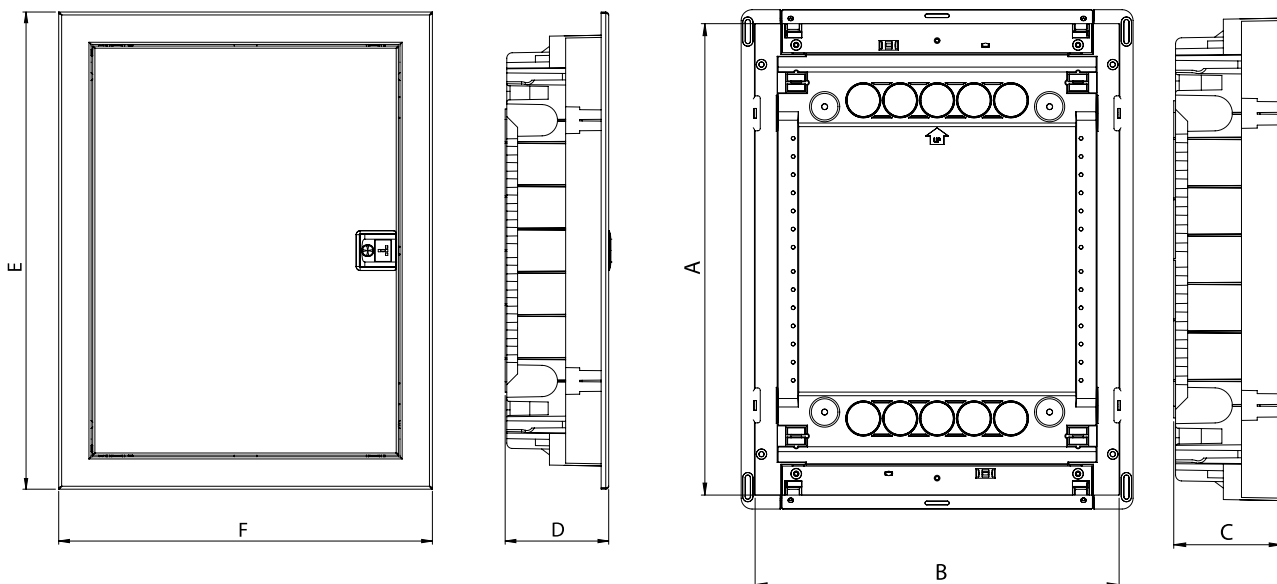
ENCLOSURES IP40 - FLUSH MOUNTING



PLASTIC ENCLOSURE WITH METAL DOORS



Name	U 12 E	U 24 E	U 36 E	U 48 E
Type	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A
Dimensions	346 x 317 x 96	346 x 442 x 96	346 x 592 x 96	346 x 717 x 96
Number of modules	12 + 2	24 + 4	36 + 6	48 + 8
PE, N terminal	2 x 10	2 x 13	2 x 15	2 x 20



Enclosures are completely assembled whit all necessary part, such as:

- DIN rail
- Insulated terminals, neutral and ground
- Covers for free space
- Needed installation accessories
- Manual instruction

* Additional terminal upon request

	A	B	C	D	E	F
U12E	274 mm	306 mm	88 mm	96 mm	317 mm	346 mm
U24E	399 mm	306 mm	88 mm	96 mm	442 mm	346 mm
U36E	549 mm	306 mm	88 mm	96 mm	592 mm	346 mm
U48E	673 mm	306 mm	88 mm	96 mm	717 mm	346 mm

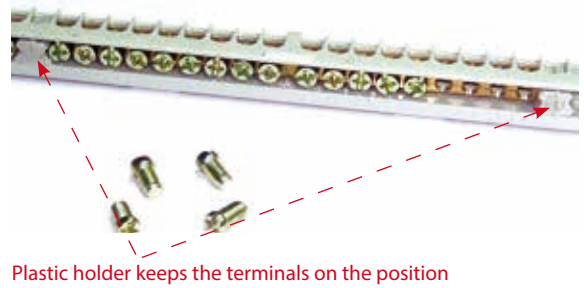
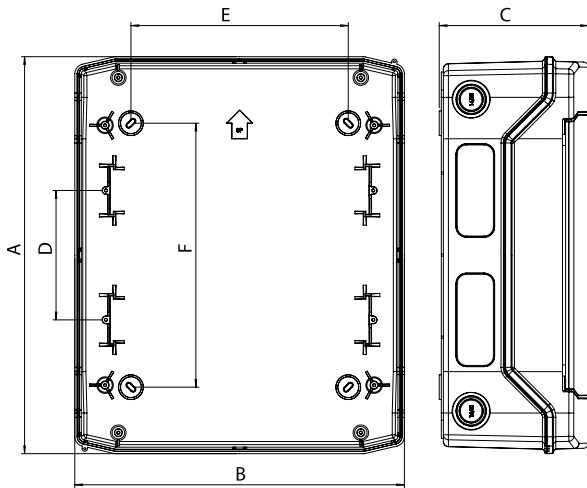
Material	Acrylonitrile butadiene styrene
Color	RAL 9003
Door	Metal
Color	White
Glow wire test	850°C
Terminal holder	Self extinguish material
Glow wire test	960°C
Temperature	-25°C / +60°C
Rated voltage	AC 400V
According to	IEC 60670
Halogen free	Yes

D

ENCLOSURES IP65 – SURFACE MOUNTING



Name	N 4 D	N 8 D	N 12 D	N 24 D	N 36 D
Type	IP 65 □ In-63A	IP 65 □ In-63A	IP 65 □ In-63A	IP 65 □ In-63A	IP 65 □ In-63A
Dimensions	128 x 201 x 120	202 x 201 x 120	318 x 259 x 144	318 x 384 x 144	319 x 508 x 144
Number of modules	4	8	12	24	36
PE, N terminal	2 x 4	2 x 8	2 x 10	2 x 13	2 x 15



Plastic holder keeps the terminals on the position

Enclosures are completely assembled whit all necessary part, such as:

- DIN rail
- Insulated terminals, neutral and ground
- Covers for free space
- Needed installation accessories
- Plastic cap for screws
- Manual instruction

* Additional terminal upon request

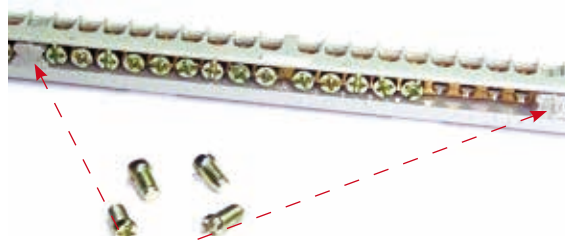
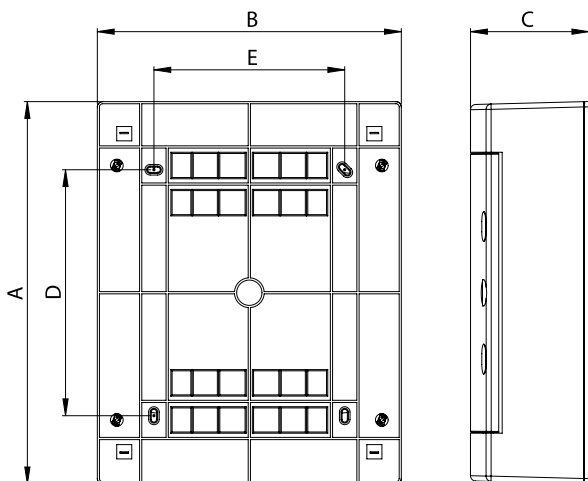
	A	B	C	D	E	F
N4D	201 mm	128 mm	120 mm	-	78 mm	111 mm
N8D	201 mm	202 mm	120 mm	-	100 mm	140 mm
N12D	259 mm	319 mm	144 mm	-	210 mm	130 mm
N24D	384 mm	319 mm	144 mm	125 mm	210 mm	255 mm
N36D	508 mm	319 mm	144 mm	125 mm	210 mm	380 mm

Material	Acrylonitrile acrylic styrene
Color	RAL 7035
Door	PC Polycarbonate
Color	Transparent
Glow wire test	650°C
Terminal holder	Self extinguish material
Glow wire test	960°C
Temperature	-25°C / +60°C
Rated voltage	AC 690V / DC 1000V
According to	IEC 60670 / IEC 60228
UV stable	Yes
Halogen free	Yes

ENCLOSURES IP40 – SURFACE MOUNTING



Name	N 8 C	N 12 C	N 24 C	N 36 C	N 48 C
Type	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A
Dimensions	215 x 236 x 102	287 x 236 x 112	287 x 361 x 112	287 x 526 x 112	287 x 653 x 112
Number of modules	8	12	24	36	48
PE, N terminal	2 x 8	2 x 10	2 x 13	2 x 15	2 x 20



Plastic holder keeps the terminals on the position

	A	B	C	D	E
N8C	236 mm	215 mm	102 mm	107 mm	120 mm
N12C	236 mm	287 mm	112 mm	107 mm	180 mm
N18C	236 mm	396 mm	112 mm	107 mm	289 mm
N24C	361 mm	287 mm	112 mm	232 mm	180 mm
N2x18C	361 mm	396 mm	112 mm	232 mm	289 mm
N36C	526 mm	287 mm	112 mm	357 mm	180 mm
N48C	652 mm	287 mm	112 mm	482 mm	180 mm
N3x18C	526 mm	396 mm	112 mm	357 mm	289 mm

Material	Acrylonitrile butadiene styrene
Color	RAL 9003
Door	Acrylonitrile butadiene styrene
Color	Transparent & White
Glow wire test	650°C
Terminal holder	Self extinguish material
Glow wire test	960°C
Temperature	-25°C / +60°C
Rated voltage	AC 400V
According to	IEC 60670
Halogen free	Yes

Enclosures are completely assembled whit all necessary part, such as:

- DIN rail
- Insulated terminals, neutral and ground
- Covers for free space
- Needed installation accessories
- Manual instruction

* Additional terminal upon request

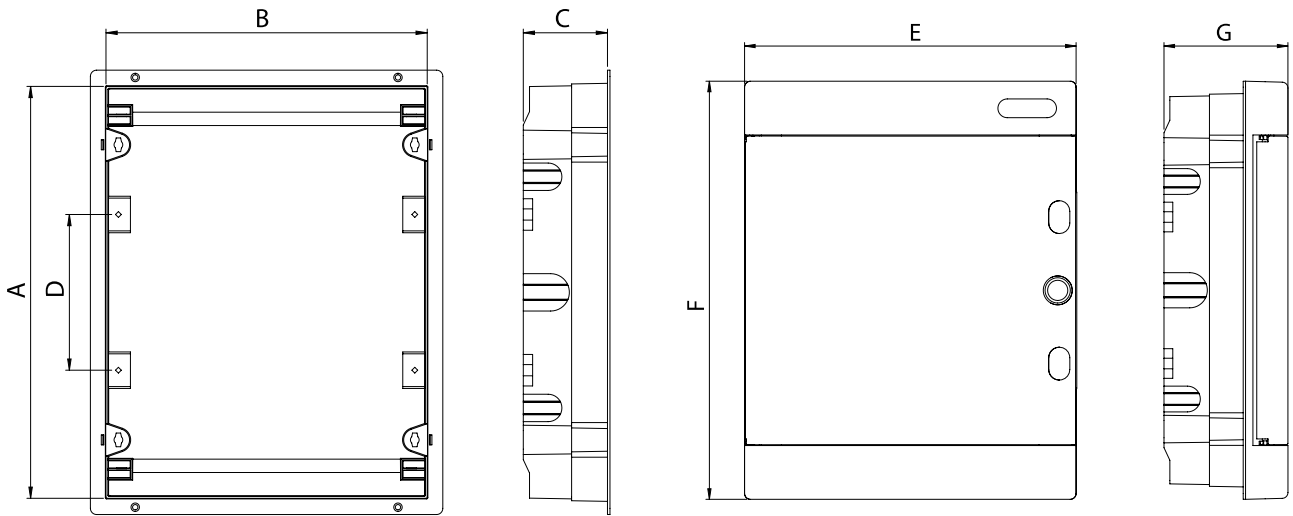


Name	N 18 C	N 2x18 C	N 3x18 C
Type	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A
Dimensions	396 x 236 x 112	396 x 361 x 112	396 x 526 x 112
Number of modules	18	36	54
PE, N terminal	2 x 13	2 x 15	2 x 25

ENCLOSURES IP40 – FLUSH MOUNTING



Name	U 8 C	U 12 C	U 24 C	U 36 C
Type	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A
Dimensions	211 x 232 x 99	283 x 232 x 106	283 x 357 x 106	283 x 482 x 106
Number of modules	8	12	24	36
PE, N terminal	2 x 8	2 x 10	2 x 13	2 x 15



	A	B	C	D	E	F	G
U8C	212 mm	201 mm	68 mm	-	211 mm	232 mm	99 mm
U12C	212 mm	273 mm	68 mm	-	283 mm	232 mm	106 mm
U18C	212 mm	373 mm	68 mm	-	392 mm	232 mm	106 mm
U24C	336 mm	273 mm	68 mm	125 mm	283 mm	357 mm	106 mm
U2x18C	336 mm	373 mm	68 mm	125 mm	392 mm	357 mm	106 mm
U36C	460 mm	273 mm	68 mm	125 mm	283 mm	482 mm	106 mm
U3x18C	502 mm	373 mm	68 mm	125 mm	392 mm	522 mm	106 mm

Material	Acrylonitrile butadiene styrene
Color	RAL 9003
Door	Acrylonitrile butadiene styrene
Color	Transparent & White
Glow wire test	650°C
Terminal holder	Self extinguish material
Glow wire test	960°C
Temperature	-25°C / +60°C
Rated voltage	AC 400V
According to	IEC 60670
Halogen free	Yes

Enclosures are completely assembled with all necessary parts, such as:

- DIN rail
- Insulated terminals, neutral and ground
- Covers for free space
- Needed installation accessories
- Manual instruction

* Additional terminal upon request

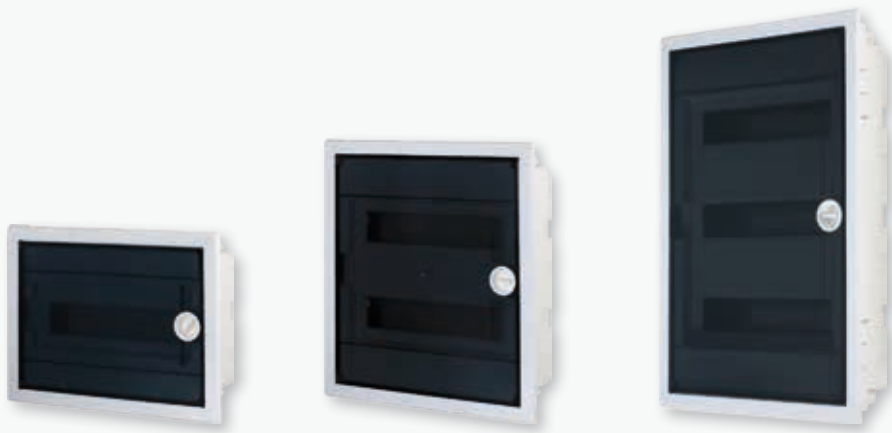


Name	U 18 C	U 2x18 C	U 3x18 C
Type	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A
Dimensions	392 x 232 x 106	392 x 357 x 106	392 x 522 x 106
Number of modules	18	36	54
PE, N terminal	2 x 13	2 x 15	2 x 25

A



ENCLOSURES IP40 – FLUSH MOUNTING



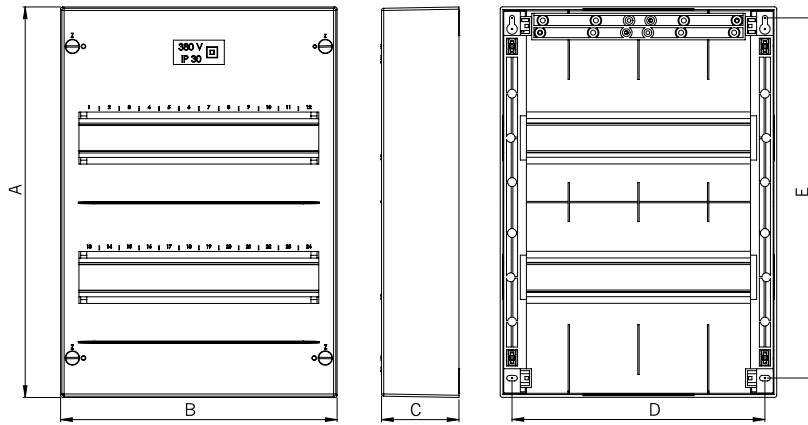
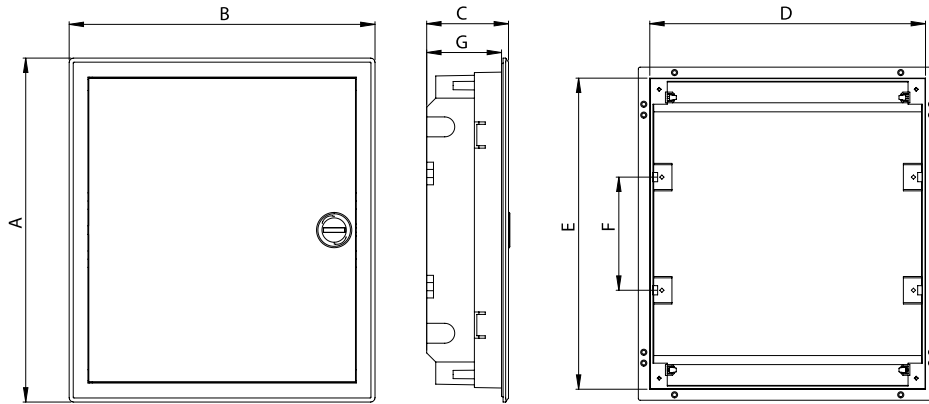
Name	U 12 A	U 24 A	U 36 A
Type	IP 40 □ In-63A	IP 40 □ In-63A	IP 40 □ In-63A
Dimensions	338 x 260 x 92	338 x 380 x 92	338 x 508 x 88
Number of modules	12 (+2)	24 (+4)	36 (+6)
PE, N terminal	2 x 10	2 x 13	2 x 15

ENCLOSURES IP30 – SURFACE MOUNTING



Name	N 1 A	N 2 A	N 3 A	N 12 A	N 24 A	N 36 A
Type	IP 30 □ In-63A	IP 30 □ In-63A	IP 30 □ In-63A	IP 30 □ In-63A	IP 30 □ In-63A	IP 30 □ In-63A
Dimensions	137 x 51 x 57	137 x 87 x 57	97 x 155 x 57	250 x 225 x 70	250 x 353 x 70	250 x 463 x 70
Number of modules	1 (+1)	3 (+1)	3 (+2)	12 (+4)	24 (+4)	36 (+6)
PE, N terminal	-	-	2 x 4	2 x 10	2 x 13	2 x 15

U
N



	A	B	C	D	E	F	G
U12A	260 mm	338 mm	92 mm	310 mm	231 mm	-	83 mm
U24A	380 mm	338 mm	92 mm	310 mm	349 mm	125 mm	83 mm
U36A	508 mm	338 mm	88 mm	310 mm	480 mm	125 mm	78 mm
N1A	51 mm	139 mm	57 mm	34 mm	114 mm	-	-
N2A	87 mm	139 mm	57 mm	70 mm	114 mm	-	-
N3A	-	-	-	-	-	-	-
N12A	225 mm	250 mm	70 mm	229 mm	198 mm	-	-
N24A	353 mm	250 mm	70 mm	229 mm	326 mm	125 mm	-
N36A	463 mm	250 mm	70 mm	229 mm	463 mm	125 mm	-

Material	Styrene
Color	RAL 9003
Door	Styrene Acrylonitrile
Color	Transparent & White
Glow wire test	650°C
Terminal holder	Self extinguish material
Glow wire test	960°C
Temperature	-25°C / +60°C
Rated voltage	AC 400V
According to	IEC 60670
Halogen free	Yes

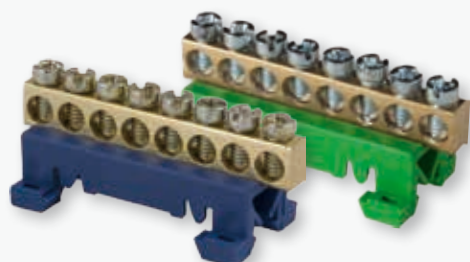
ACCESSORIES

INSULATED TERMINAL

Material: PBT - Polyphenylene (Lumiloy)
Flamability: Self extinguish V2
Glow wire test: 960° C
12 modules and more



EARTH AND NEUTRAL TERMINAL (WITH HOLDER FOR DIN RAILS)



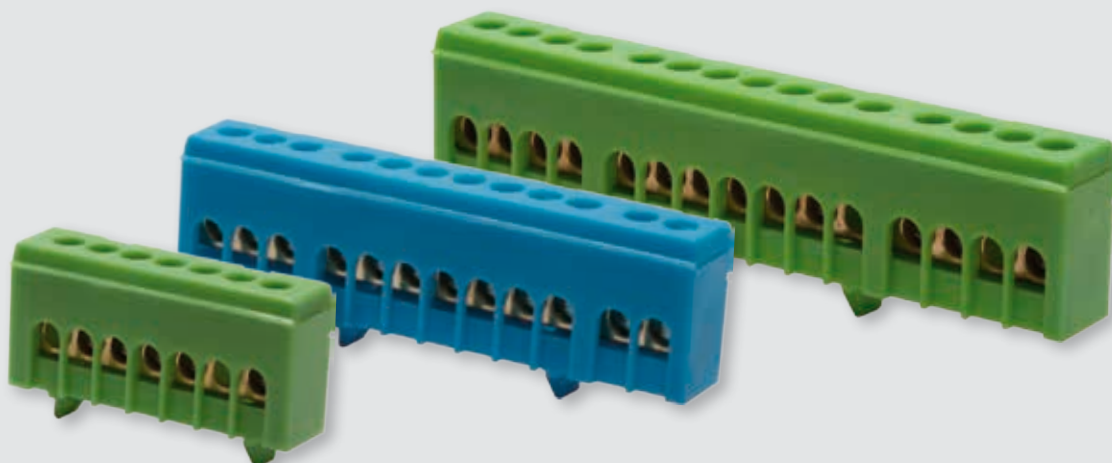
EARTH AND NEUTRAL TERMINAL

K5 - 5 holes/ K8 - 8 holes/ K10 - 10 holes/ K140 - 1 meter
Hole diameter: 5.5 mm
Cable size: 24 mm²
Screw size: M5x8 Ph#2 Combi (±)Cross Zinc plated A2F



INSULATED EARTH AND NEUTRAL TERMINAL FOR DIN RAILS

PE/N 7, PE/N 12, PE/N 15



ACCESSORIES

WHITE DOOR / XX-W

White door and lock are available for all enclosures type c



MULTIPLE PLUG BOX / SP1

Dimensions: 80 x 80 x 28 mm



COVER FOR THE EMPTY PLACE / PP

Material: Poliamid; Dimensions: 226 x 52 mm



LOCKS

For enclosures type C, D and E



HOLDER FOR ELECTROMETER



NB

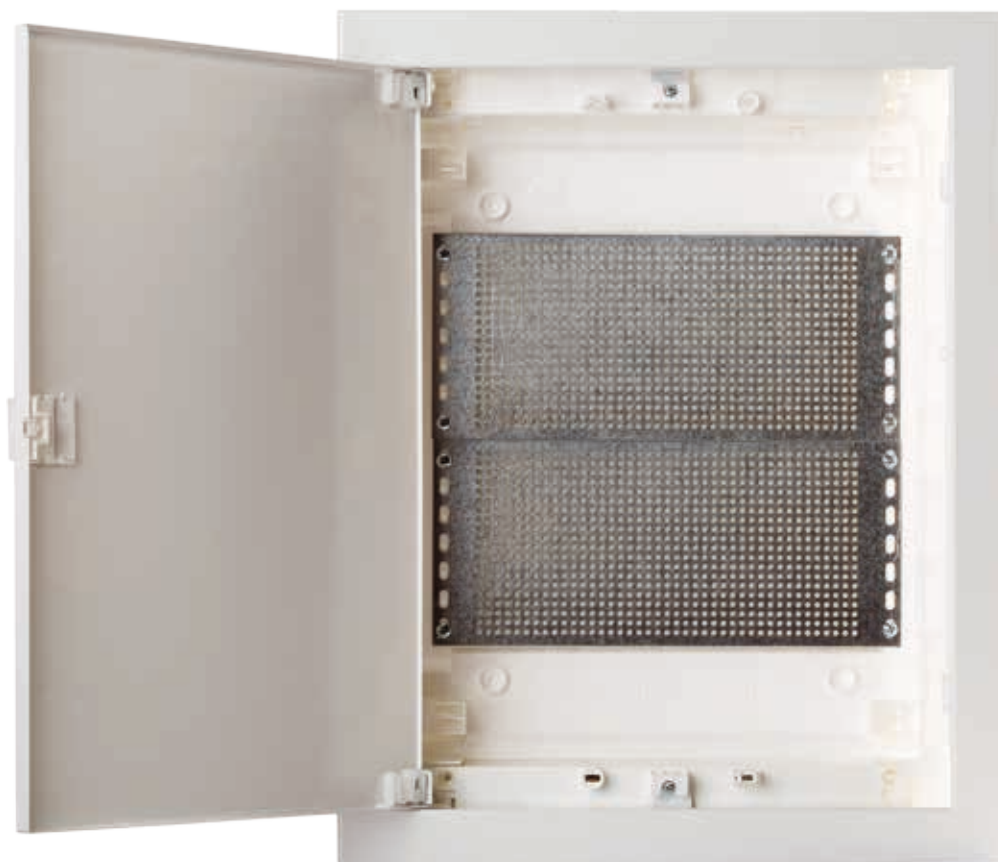
Dimensions
185 x 370 x 35 mm



NB 2

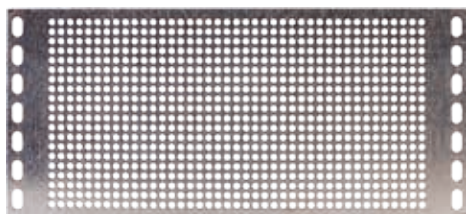
Dimensions
210 x 370 x 15 mm

ACCESSORIES



ENCLOSURE FOR MULTIMEDIA AND COMMUNICATION DEVICES

- telephone connection
- wireless router
- antenna, cable or satellite TV connection
- ISDN
- ASSL modem
- ...



MOUNTING PLATE, PERFORATED

Material: steel sheet, zinc plated
Height: 110 mm
Installation: one mounting plate per row



CONNECTION BRACKET

Connection bar for series installation of several enclosures
Material: steel sheet, zinc plated
Installation: 2 pieces for two enclosures

ACCESSORIES



TECHNOSEAL

Material: EPDM - Halogen Free Resistant to chemicals and weatherproof.

Made of protection: IP67 acc. to EN 60592

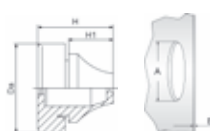
Temperature range: -40°C +110°C (Unstressed material)

Test standard: SEMKO 44:1984

Semko report 0211038/01-07

Suitable for holes in materials of 0,5 - 4 mm thickness.

Quick and simple assembly without the use of tools.



Push the grommet into the hole.



Pierce the grommet with the cable.



The grommet is then locked in position by pulling it back

RAL 7035

E-number	Size	For cable/pipe Ø mm	A mm	B mm	Da mm	H mm	H1 mm	Pcs pack
T_14 582 33	M12	4 - 7	12,5	0,5 - 2	20	12,8	5,6	50
T_14 582 34	M16	5 - 9	16,5	1 - 4	21	17,7	11	50
T_14 582 35	M20	8 - 13	20,5	1 - 4	25,5	20	13,4	50
T_14 582 36	M25	11 - 17	25,5	1 - 4	30,5	21,3	15,3	50
T_14 582 37	M32	15 - 20	32,5	1 - 4	38,5	24,6	18,6	25
T_14 582 38	M40	19 - 28	40,5	1 - 4	48,5	29,5	21,7	25
T_14 582 39	M50	27 - 35	50,5	1 - 4	60,5	34,8	25	10

TSS

Material: TPE - Thermoplastic Elastomer- Halogen Free. UL approved material.

Made of protection: IP67

Temperature range: -50°C +125°C (Unstressed material)

Test standard: EN60529:1991+A1

EMKO-TUI (03-SEC) FI001/84

Semko report M16 - 708555-1

M20 - 708555-2

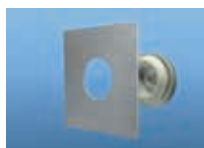
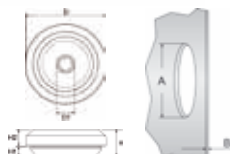
M25 - 708555-3

M32 - 708555-4

Quick and simple assembly without the use of tools.

Handles exceptionally large cable span

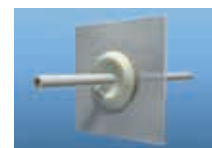
An end-plug for all applications



Push the grommet into the hole.



Pierce the grommet with the cable.



RAL 7035

E-number	Size	For cable/pipe Ø mm	A mm	B mm	D* mm	D1 mm	H mm	H1 mm	H2* mm	Pcs pack
T_14 757 11	M16	5 - 10	16,5	0,5 - 3	23,5	4	11	4	6,75	50
T_14 757 12	M20	6 - 13	20,5	0,5 - 3	27,5	5	11	4	6,75	50
T_14 757 13	M25	8 - 17	25,5	0,5 - 3,5	32,5	7	11	4	6,75	50
T_14 757 14	M32	12 - 24	32,5	0,5 - 4,5	39,5	11	11	4	6,75	25

*Varies depending on the thickness of material installed in.

COPPER BUSBARS

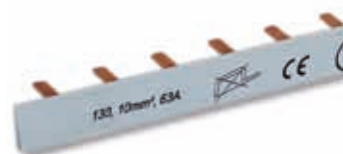
BUSBARS FOR MCBS – ELEMENTS, 1 PHASE, PIN TYPE

Artical	Lenght (mm)	Pole	Section (mm ²)	I (A)
110	1000	56 x 1	10	63
110 S	210	12 x 1	10	63
111	1000	56 x 1	16	80
111 S	210	12 x 1	16	80



BUSBARS FOR MCBS – ELEMENTS, 1 PHASE, PIN TYPE, INSULATED

Artical	Lenght (mm)	Pole	Section (mm ²)	I (A)
130	1000	56 x 1	10	63
130 S	210	12 x 1	10	63
131	1000	56 x 1	16	80
131 S	210	12 x 1	16	80



BUSBARS, 3- PHASES, PIN TYPE, FOR MCBS ELEMENTS, L- STYLE

Artical	Lenght (mm)	Pole	Section (mm ²)	I (A)
140	1000	19 x 3	10	63
140 S	210	4 x 3	10	63
141	1000	19 x 3	16	80
141 S	210	4 x 3	16	80



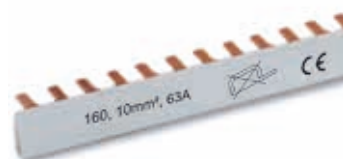
BUSBARS, 3- PHASES, FORK TYPE, FOR MCBS ELEMENTS, L- STYLE

Artical	Lenght (mm)	Pole	Section (mm ²)	I (A)
150	1000	19 x 3	10	63
150 S	210	4 x 3	10	63
151	1000	19 x 3	16	80
151 S	210	4 x 3	16	80



BUSBARS FOR MCBS – ELEMENTS, 1 PHASE, FORK TYPE, INSULATED

Artical	Lenght (mm)	Pole	Section (mm ²)	I (A)
160	1000	56 x 1	10	63
160 S	210	12 x 1	10	63
161	1000	56 x 1	16	80
161 S	210	12 x 1	16	80



BUSBARS TECHNICAL DATA

Description	Busbar
Type	1 / 3 – phase

Technical data

Busbar	Copper
Insulation	ABS
End cover	RAL 7035

General data

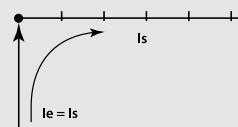
Heat deflection temperature	ABS $\geq 80^{\circ}\text{C}$ UL94 V0
Glow Wire Flammability Index	ABS 960°C / 3,2mm
Standards	EN 60947-1:2007 / IEC 60947-1:2007
Impulse voltage strength	$\geq 4,5$ kV
Minimal air distance	$> 5,5$ mm
Maximal operating voltage	690 V AC / DC
Protection class	IP20
Short circuit rating	ICC 25kA - NH3 355A gC500V JM
Dielectric strength	> 32 kV / mm
Max. current and Phase	63 A 80 A
Product size mm ²	10 mm ² 16mm ²

Assembly details

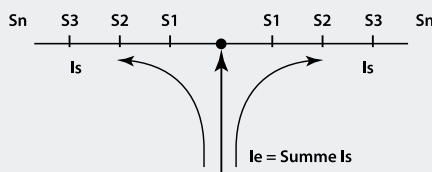
Due to security purposes all shortened bus bars need to be covered with suitable end covers

Feeding

Feeding at beginning or end of bar



In case of center-feeding, the sum of junction currents S1..Sn per rail branch may not be bigger than the maximal busbar current



Approval and marking

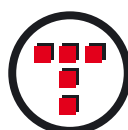
Products are CE and ROHS conform

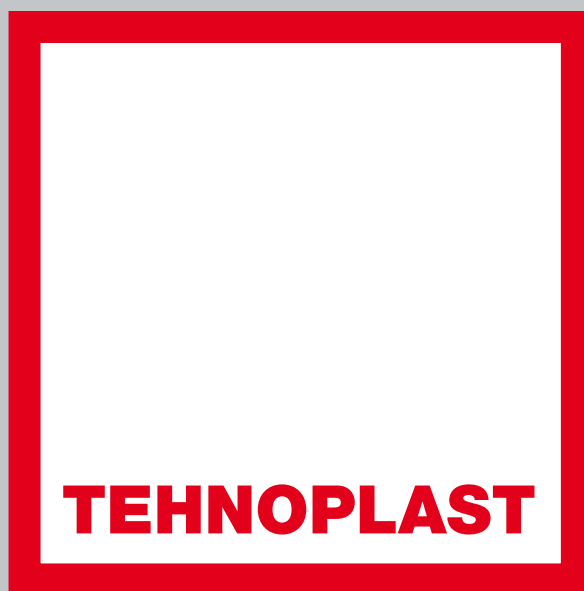


ABOUT US



Company was founded in 1970 in Zemun. Tradition built on contemporary technology assured recognition and quality. Inside the 4500m² of business-warehouse space are placed sales, supplies, accounting and administrative services, design construction team, modern tool shop, as well as the production run for spouting of plastic. As we run a complete technological operation, our company is able to answer the production needs of already existing articles as well as the development of completely new products in a short period of time. The quality and the "safety of home installations" guaranteed by many domestic and international standards that we have adopted is the sign of quality of EPS, CB, IEC, DIN and ÖVE. We always want our customers to be one step ahead. The best price/quality/design combination that we offer places us at the very top - ahead our competitors. Many years of experience, excellent work that our team has been doing, complete attention to detail, overcoming of every obstacle before it occurs, as well as the quick solving of every problem constitute our goals. We are present on the markets of 30 countries world wide.





DESIGN IN FUNCTION OF SAFETY

Tehnoplast doo, 22305 Stari Banovci, Zdravka Jekića 119, Serbia
Tel/Fax: + 381 (0) 22 351-223, + 381 (0) 22 351-983, + 381 (0) 22 351-804
e-mail: office@tehno-plast.com
www.tehno-plast.com