FILKAB ENGINEERING
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office@eng.bg
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Приложение 2 към Техническо предложение

„Доставка на електромерни табла НН, за индиректно измерване“

ИЗИСКВАНИ ДОКУМЕНТИ ОТ ТЕХНИЧЕСКИ

ИЗИСКВАНИЯ И СПЕЦИФИКАЦИИ

Приложение 6

ИНСТРУКЦИИ ЗА ТРАНСПОРТ, СКЛАДИРАНЕ, МОНТИРАНЕ, ПОДДЪРЖАНЕ И ЕКСПЛОАТАЦИЯ

Транспортиране и складиране:

Комплектите измервателен клемен блок с клеми за медни проводници от проходен тип и 1P, 3P или 3P+N стопяеми цилиндрични предпазител-прекъсвач-разединители трябва да се транспортират в заводската си опаковка, добре застопорени, за избягване на наранявания на изделието, механични повреди и в следствие отклонения от характеристиките и създаване на нежелани условия за нарушаване безопасността на електрическата верига и работа.

Клемните блокове, както и цилиндричните стопяеми предпазител-прекъсвач-разединители, както и предпизителите трябва да се съхраняват в сухи помещения при нормална температура.

Инсталация и работа

Инсталирането и монтажа става единствено и само според инструкциите на производителя, съгласно техническите каталози и документацията придружаваща доставката!

За безопасността на лицето и електрическо оборудване, трябва да се спазват следните инструкции, преди да пуснете в експлоатация клемните блокове:

- Моля, прочетете тази инструкция за експлоатация внимателно преди инсталиране на клемните блокове, както и инструкциятаот доставчика/ производителя, която съпътства доставката.
- клемните блокове трябва да се използват при нормални условия на експлоатация.
- Проверете възможностите на клемните блокове за точното им приложение, преди инсталацията.
- Инсталацията клемните блокове в избрана позиция е възможно, без влияние върху неговата ефективност. Определено разстояние отгоре, отдолу, отстрани и отпред, както и от други елементи следва да бъде спазено за безопасна работа.
- Трябва да се внимава да не попаднат чужди проводими предмети в клемните блокове, когато го инсталирате.
- Кабелите, използвани за свързване на клемните блокове трябва да бъде гладки, ненаранени и да не са пречупени при инсталацията на клемните блокове, с цел предотвратяване на повреди на клемните блокове и отклонения от стандартни им характеристики.
- След като инсталирате клемните блокове, следва да се направят оперативни тестове преди да се пусне веригата. Тя не може да бъде пусната в експлоатация докато всички условия не са коректни и точни;

Поддръжка

- По време на работа, клемните блокове се проверяват периодично.
- Почистете всяко прекомерно натрупване на прах, за да бъде изолацията на клемните блокове в добро състояние.
- Проверка на условията за експлоатация на клемните блокове след всяко кратко прекъсване на клемните блокове, сменете нов, ако не е в състояние да бъде използван.

Ремонт

Проблеми могат да възникнат по време на инсталация, настройка или експлоатация на клемните блокове. Решаването на проблемите се извършва от квалифицирани лица или можете да се свържете с офис на дистрибутора, където инженери ще ви помогнат и ще предоставят допълнителни услуги.

ЗА ДЕТАЙЛИ ПО СПЕЦИФИКАТА НА МОНТАЖ И ДРУГИ УКАЗАНИЯ, МОЛЯ ПОЛЗВАЙТЕ УКАЗАНИЯТА НА ПРОИЗВОДИТЕЛЯ, ПОДРОБНО ОПИСАНИ В КАТАЛОЗИТЕ.

Забележка:

Въртящ момент на затягане на клемата/ винт: 1,5 / 1,5Nm;

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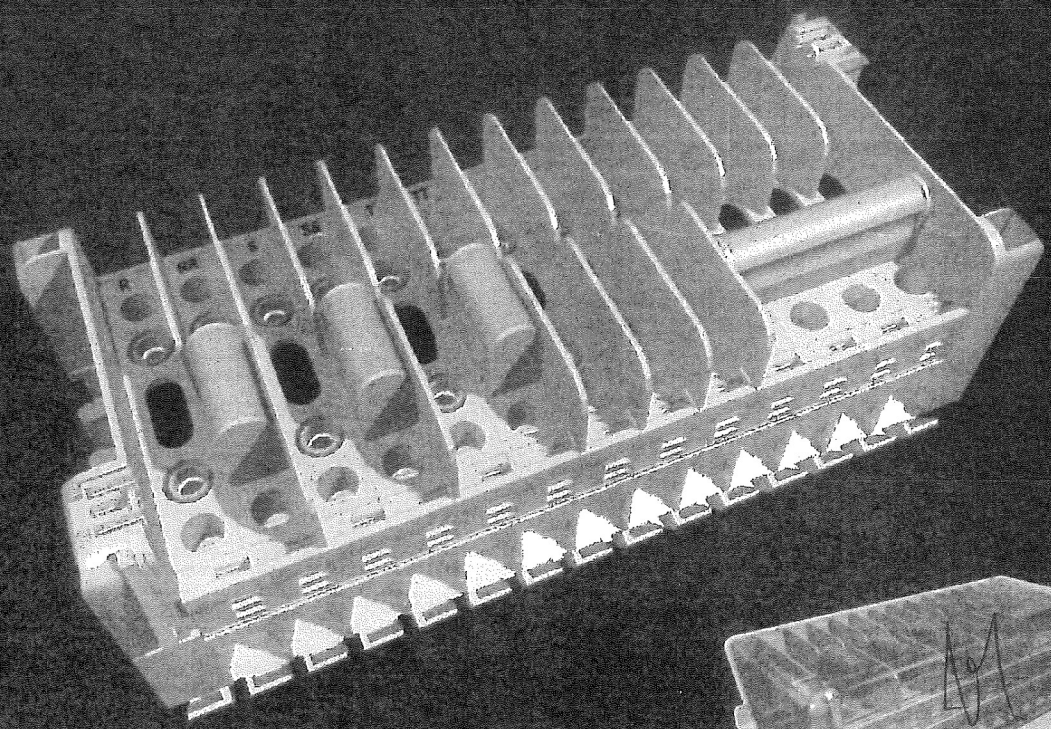
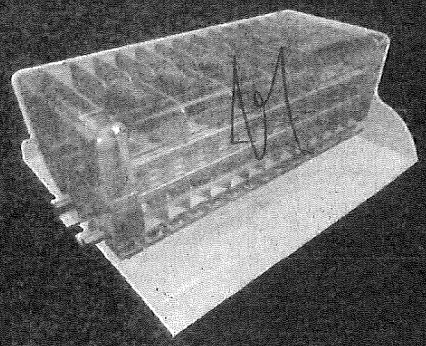
ИЗИСКВАНИЯ И СПЕЦИФИКАЦИИ

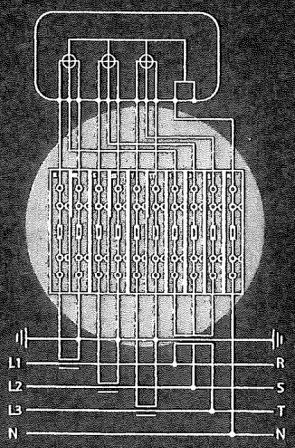
Приложение 7

REGLETAS EPI DE ALTA SEGURIDAD

PARA VERIFICACIÓN DE CONTADORES EN PUNTOS FRONTERA







AENOR
ER
Empresa Registrada
FR-0271/2001

MEDIDA DE ENERGIA ELECTRICA EN AT Y BT

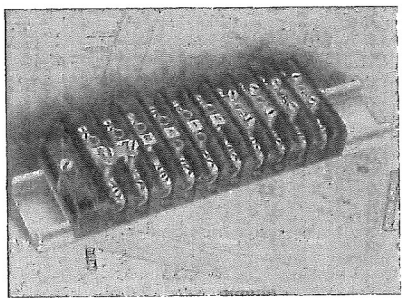
Unibloc

730

INTRODUCTION

The kWh-Meter Test Block Units from **Unibloc** have specially been designed in close collaboration with several Electrical Utility Companies. Thus, we have been able to get a final product which fully matches the highest needs and expectations.

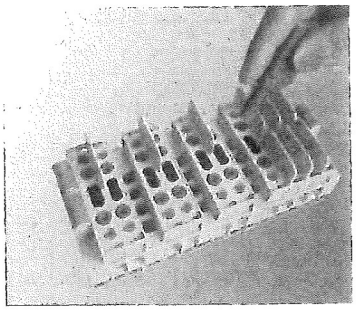
Unibloc (formerly CIAMA) has been working very close to different Electrical Utility Companies for more than 40 years, by innovating and developing new applications according to the new safety and security regulations.



1967 Model

This catalogue is about the new EPI type kWh-Meter Test Block Units. These EPI units have carefully been designed to ensure that the testing procedures comply with the legislation related to the prevention of any electric risk.

This is an open catalogue in which you can find the typical Test Block Units, as well as any necessary information about how to set up a kWh-Test Block Unit according to any special requirements of most of the Electrical Utility Companies.



2008 New EPI model

We would like to thank to all the people involved in the development of these products, legal literature, etc. for their shares and inputs in the present catalogue.

Promotora de Mercados Eléctricos, S.A.
Unibloc

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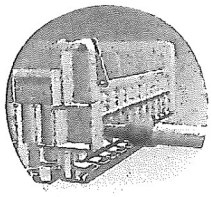
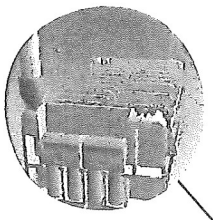
EPI kWh-meter Test Block Units

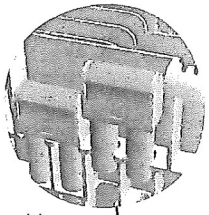
CE



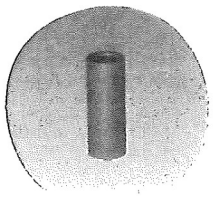
From 1,5 mm²
up to 16 mm²



Modeller for cable
end terminals
patent ES 2279726 B1



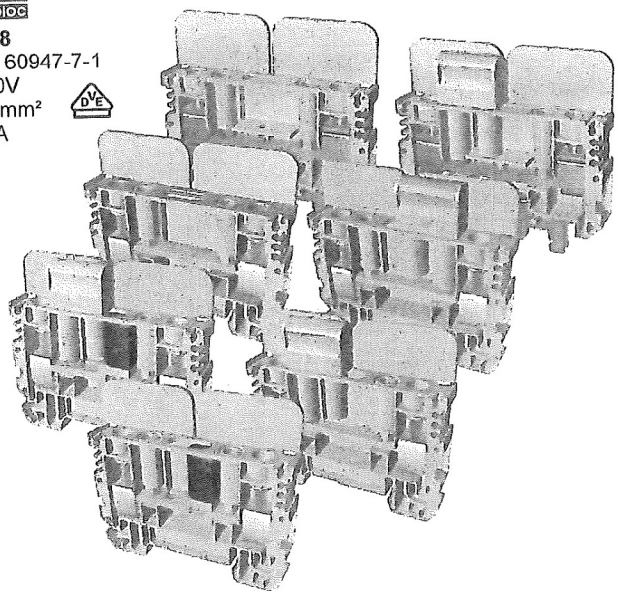
Removable
jumper plugs
2 x 2 poles
1 x 4 poles

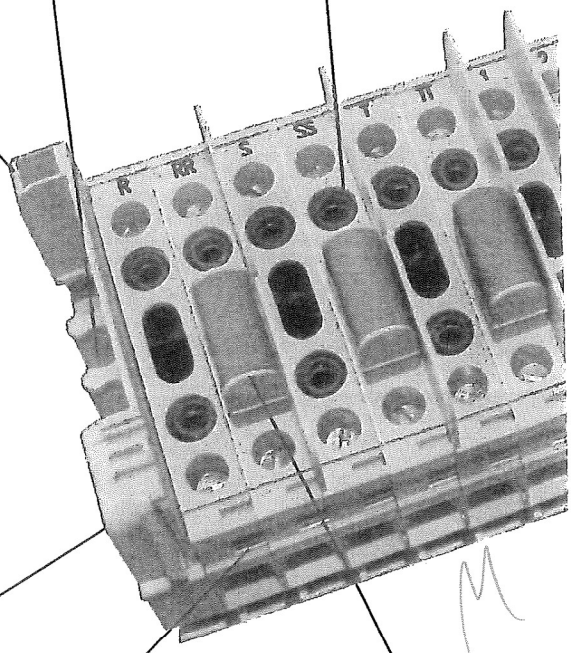


IP 20 socket
insulation
9 colours available

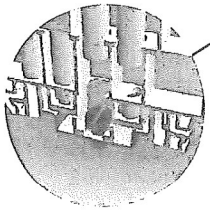
Unibloc

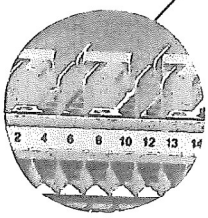
RB8
EN 60947-7-1
800V
16 mm²
76A



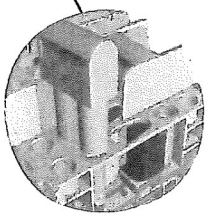


Panel self drilling
screws (included)





Additional
clamping units
marking



APPLICATIONS

- This Test Block unit is suitable for testing kWh-meter equipment at both Grid and Industrial + Commercial metering points.
- It is fitted between measuring equipment and transformers. It allows for opening and closing any circuit, also enabling to carry out ammeter and voltmeter measuring, to provide auxiliary energy feeding for calibration and to replace and/or connect auxiliary equipment.
- It ensures that checking jobs are carried out without cutting the energy supply and grants full safety for the operators, in conformity with European Directives and with regulations governing prevention of risks at work.
- To be fitted in all places and under all conditions, even when sealing of the kWh-meter test block is mandatory and protection against tampering required.

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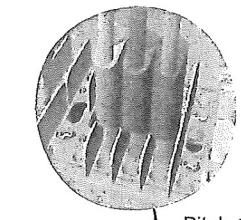
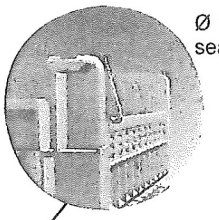
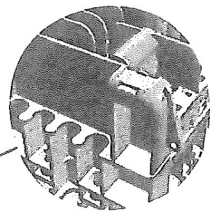


Pitch 10,5 mm

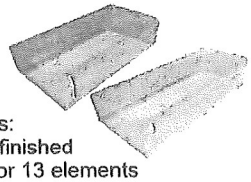


Ø 1,5 mm
sealing point



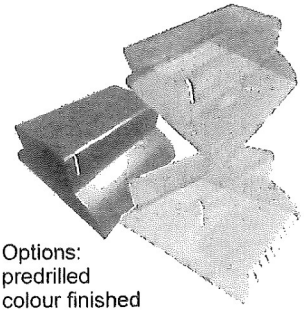
Unit marking
with SKMD tags

Minimum protection cover
IP20 / IP40 - IK08

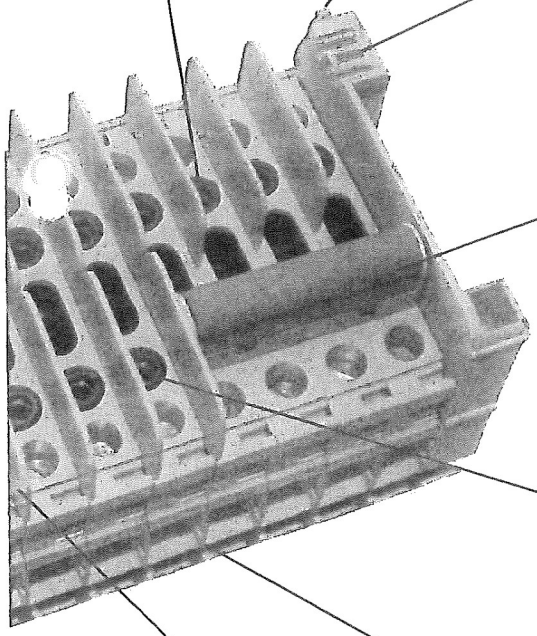


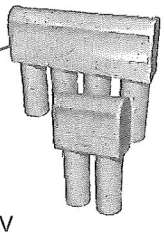
Options:
colour finished
for 10 or 13 elements

Extended protection cover
IP40 - IK08

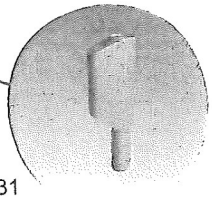


Options:
predrilled
colour finished
for 10 or 13 elements
up to 6mm² or 16mm²



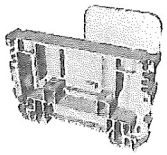


Class II ⧈
14 A / 60°C
32 A / 30°C
600V CAT IV
EN 61010-031



Ø 4 mm EN 61010-031
insulated test plugs

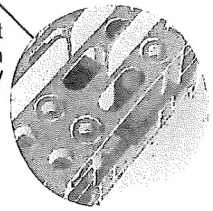
End bracket & filler part

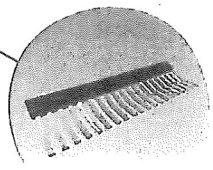


Filler part with partitions

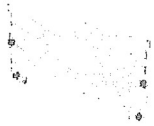
Built in
jumper plug,
U 200801385
patent pending

Open circuit
indication
Uimp 8 kV





41A



End plate

ADVANTAGES

- **SAFETY.** The Test Block unit is fully protected against finger contact. It has been designed to take standard Ø 4 mm. insulated probes or plugs which are indispensable for checking under safety. All hand held parts fitted with suitable insulation while performing checking procedures.
- **OPERATION.** Simplicity = Safety. The modular construction and the disconnect systems make it possible to set up safe, easy and intuitive operational procedures. Status is always displayed. Partition plates prevent from wrong jumpering. Marking, optionally coloured sockets if required, both make operation easier.
- **CONSTRUCTIONAL.** Conductor parts are oversized so as to reduce losses. No contact pressure exerted through insulating materials. Screw fastening is safest and most dependable in the long run, where the device is to be very often operated.
- **INSTALLATION.** Design of the enveloping cover and of the fastening system both allow for the need of a minimum space. Aesthetics in the design of the Test Block unit have been highly taken into consideration so as to match state-of-the art equipment fitted in today's meter panels.

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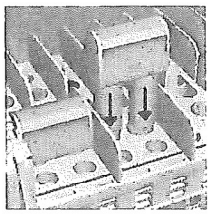
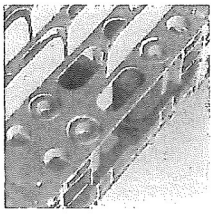
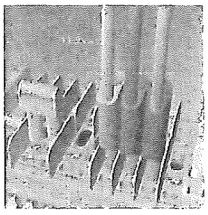
IP 20 Protection granted

- Access to the plug sockets, to the longitudinal sliding link and to the terminal block fastening screws, all meet the fingerproof test thereby affording an IP20 protection degree accordingly to IEC 60529 standard.





Fully protected plugs used

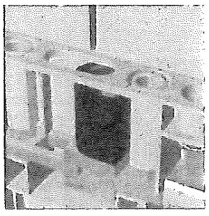


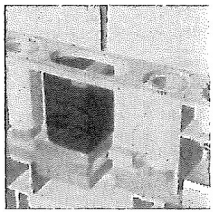
- The sockets of each element are so designed as to take protected plugs fitted with fixed sleeve, for a working insulation voltage higher than 33 V r.m.s. according to IEC 61010-031 standard.
- The 10,5 mm. pitch of the RB8 series terminal blocks also allows for simultaneous insertion of standard Ø 4 mm. plugs in adjacent terminal blocks.

Note: IEC 61010-031 considers that voltage level above 33 V r.m.s, 46,7 V peak or 70 V d.c. is deemed to be HAZARDOUS LIVE

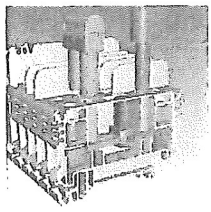
Open circuit indication

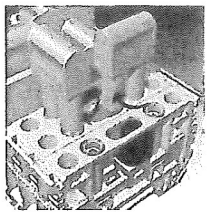
- The longitudinal disconnect system is designed so the open status of the sleve is easily viewed by a red colour indication.
- Fitted with a rugged M4 screw operated by means of one only insulated 5 mm x 1 mm. width screwdriver.
- Meets the IEC 60947-1 and IEC 60947-7-1 principle "NON CONTACT PRESURE SHALL BE TRANSMITED THROUGH THE INSULATING MATERIALS". This principle applies to all contacts of **Unibloc** test block units.





Two options for perpendicular disconnection



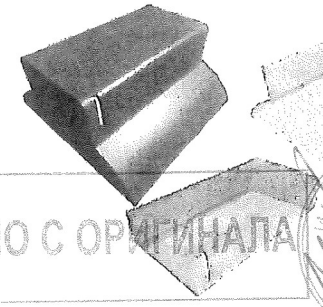


1. By means of 2-poles or 4-poles removable jumper plugs. The jumper plugs might be housed on both side end brackets.
2. By means of 2-poles non-removable jumper plugs, which stay in their element. When not being used, the non-removable jumper plugs stay in the same place, in one of the sockets.

- Filler parts are placed for avoiding any undesired short-circuit connection.

Cover options

- Made of fire resistant transparent polycarbonate, offering an IP 40 degree of protection and an IK08 impact strength as per IEC 50102 standard in two protection levels.
  1. **Basic or minimum protection:** protects from access to functional elements againts non anthorized operations.
  2. **Extended protection:** protects from access to any live part with wires higer than 1 mm Ø from malicious purposes.
- Optional non-transparent covers are available. Additionally, extended protection covers can be drilled on one or both of top/bottom sides providing an easier connection of incoming cables atop the base plate.



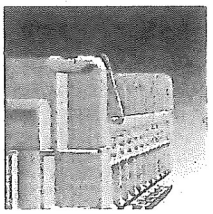
435

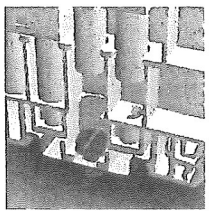
kWh-METER TESTING UNITS

DESING FEATURES

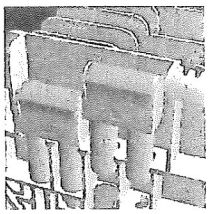
Fastening and sealing

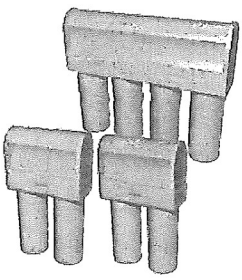
- The protection cover is fastened and sealed on both end brackets by means of an ergonomic clip latch system. Sealing wire to be used, Ø 1,5 mm. max.
- Fixing of both test block unit to panel and end brackets to Din rail is carried out by the same fastening screw. The sealed enveloping cover offers safe protection and prevents removal of the screw.





Recess for the jumper plugs



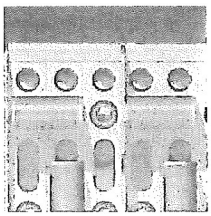


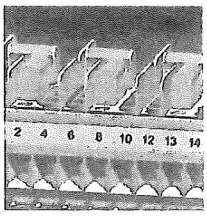
- The removable jumper plugs are housed on both side end brackets and remain always protected by the sealable enveloping cover.
- Each end bracket can house either one 4-pole or two 2-pole plugs.

Dual marking system

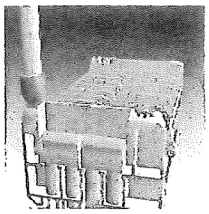
Unibloc test block units use two marking possibilities :

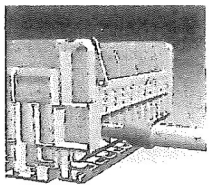
1. On the front, showing the circuit being operated to the controller.
2. On both bottom sides, showing connection points to the panel builder.





Connections up to 16 mm²



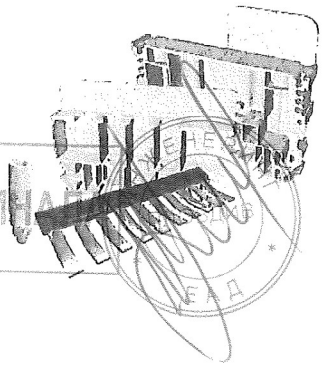


- Whenever transformers lie at some distance and the use of a larger cable section is therefore required, **Unibloc** test block units make the task of using 16 mm² stranded wire cable much easier by means of a modeller for cable end terminals built in at both end brackets, which enables to set on the spot such terminals with no extra tools.

Other accessories

Unibloc test block units can be delivered in different configurations.

- Insulated colour coded plug sockets can be fitted for an easier identification of circuits, as well as special colour for the terminal blocks is available.
- Jumper comb bars for neutral connections are available when cross-connection + earthing is necessary, also in combination with RBT8 earthing terminal block accordingly to IEC 60947-7-2 standard.
- Stoppers or filling elements can be used to complete free sapce to meet protection cover sizes.



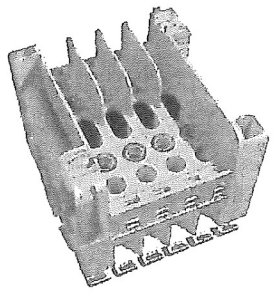
Y36

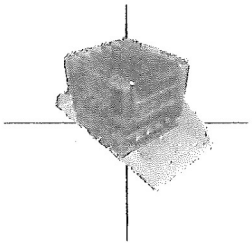
kWh-METER TESTING UNITS

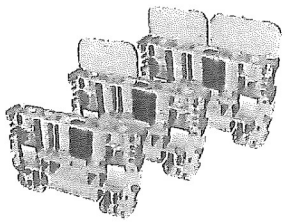
with 1 current terminals per phase for 4 mm Ø insulated test plugs

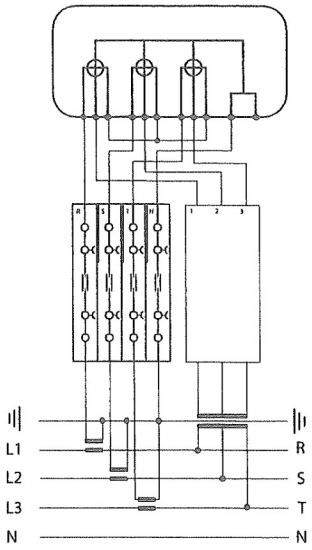
4E 4I EPI

Test Block Unit only for current transformers with one current circuit element per phase. Neutral is common to the three phases .







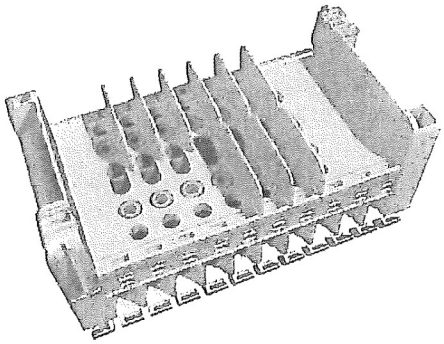


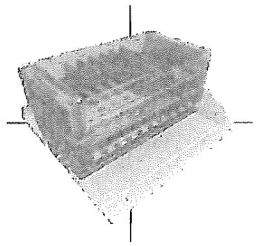
800V 16mm² 76A
EN 60947-7-1

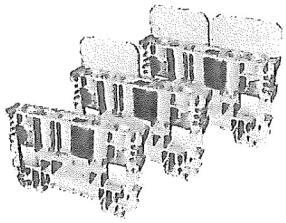
Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549385	UNB 4E 4I EPI	4e Extended protection plus filler parts	100	1-20	600	6	32
549364	UNB 4E 4I-M EPI	Mimimum protection cover	80	1-20	600	16	32
549268	REG 4E 4I EPI	Set without rail and without cover	80	1-24	600	16	32

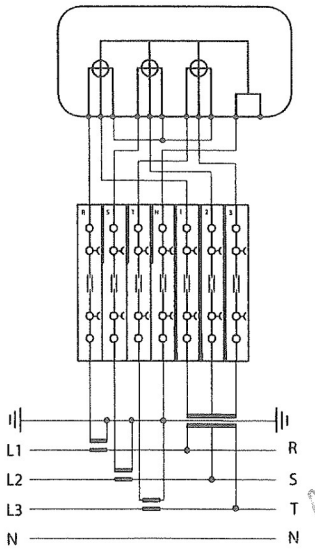
7E 4I-3T EPI

Test Block Unit for current circuits with one element per phase and votage circuits. One common element.









800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549333	CSE AT 7E 4I-3T EPI	10e Extended protection cover	400	1-20	600	6	32

437

kWh-METER TESTING UNITS

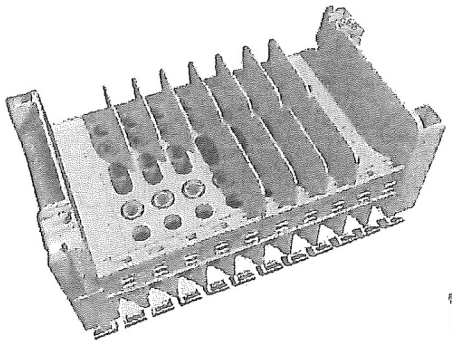
with 1 current terminals per phase for 4 mm Ø insulated test plugs

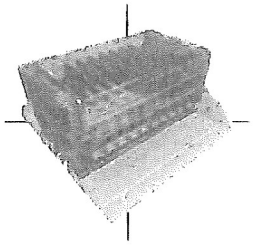
Unibloc

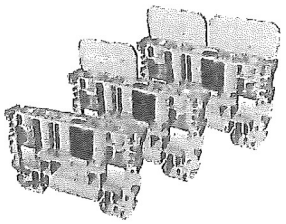
UNB 8E 4I-4T-S EPI

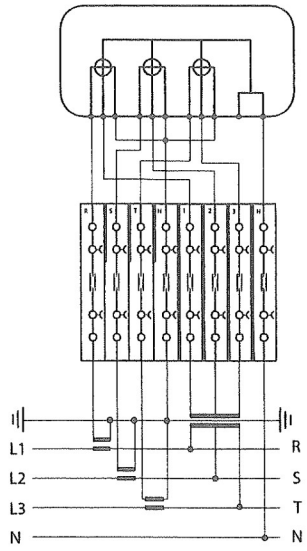
CE

Test Block Unit for current circuits with one element per phase and for votage circuits. Two different neutral elements for current and voltage circuits.









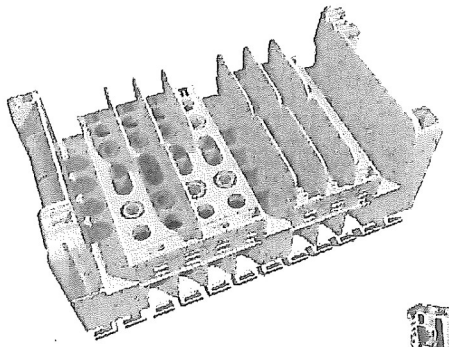
800V 16mm² 76A
EN 60947-7-1

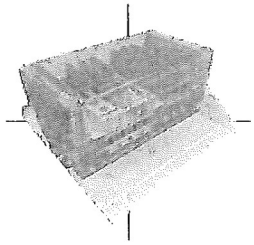
Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549217	EEI 8E EPI	10e Extended protection cover plus filler parts	400	1-20	600	6	32
549358	UNB 8E 4I-4T-M EPI	10e Minimum protection cover	380	1-40	600	16	32

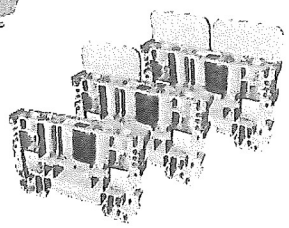
7E 4I-3T-AT EPI

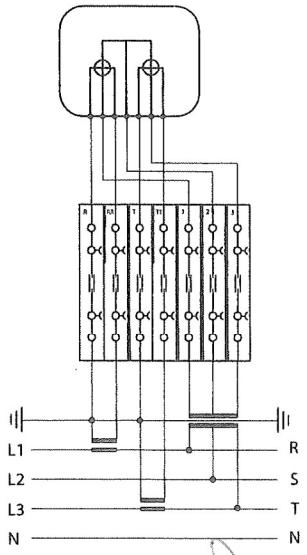
CE

Test Block Unit for HV measuring meters, two phases reading. Current circuits with two elements per phase. No neutral element. Two pole removable jumper plugs.









800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549000	ID 7E 4I-3T-AT EPI	10e Extended protection cover	400	1-20	600	6	32
549334	UNB 7E 4I-3T EPI	Without cover	380	1-40	600	16	32
549376	UNB 7E 4I-3T-AT EPI	10e Extended protection cover	400	1-20	600	6	32

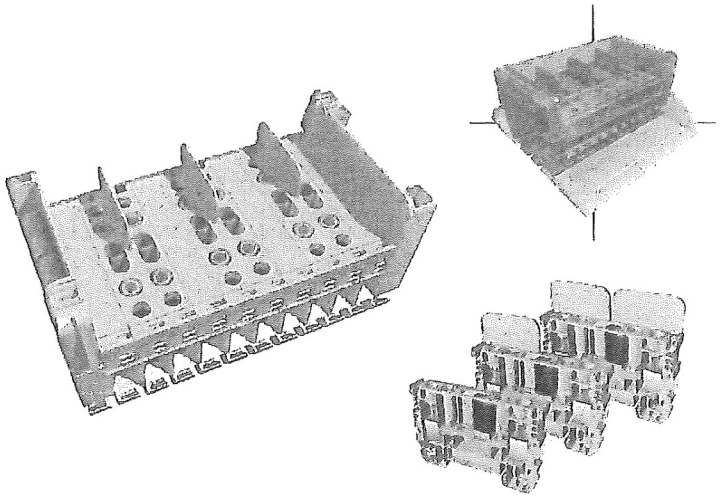
438

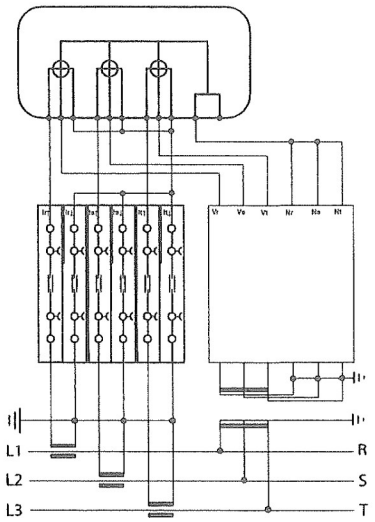
kWh-METER TESTING UNITS

with 2 current terminals per phase for 4 mm Ø insulated test plugs

6E 6I EPI

Test Block Unit only for current circuits, with two elements per phase and remobavle jumper plugs.





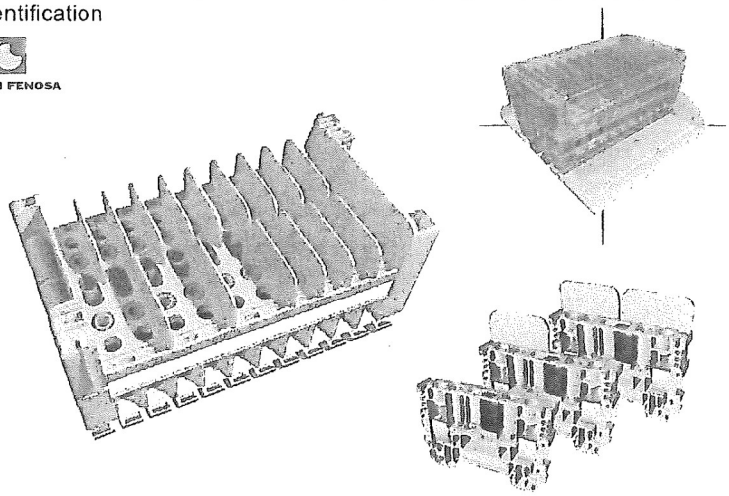
800V 16mm² 76A
EN 60947-7-1

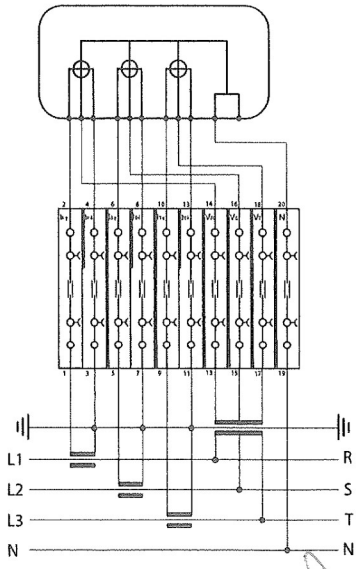
Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549236	ID 6E 6I EPI	10e extended protection cover plus filler parts.	100	1-20	600	6	32
549313	UF AT 6E 6I EPI	10e extended protection cover plus filler parts.	100	1-24	600	6	32
549359	UNB 6E 6I-M EPI	Minimum protection cover	90	1-24	600	16	32
549386	UNB 6E 6I EPI	10e extended protection cover plus filler parts.	100	1-24	600	6	32

UF 10E 6I-4T EPI

Test Block Unit for current and voltage circuits with 2 elements per phase on the current circuit, removable jumper plugs and double terminal indentification

UNION FENOSA





800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549206	UF 10E-6I-4T-EPI	Unión Fenosa	516	1-40	600	6	32

439

kWh-METER TESTING UNITS

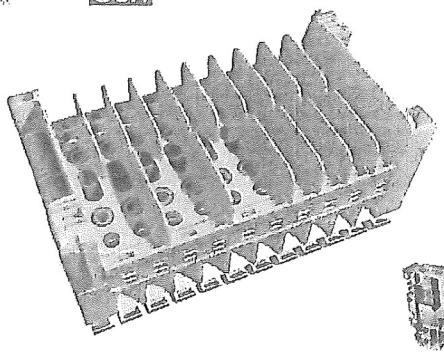
with 2 current terminals per phase for 4 mm Ø insulated test plugs

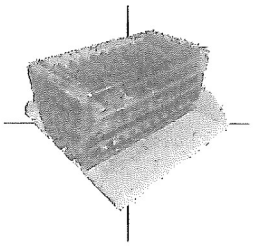
10E 6I-4T EPI

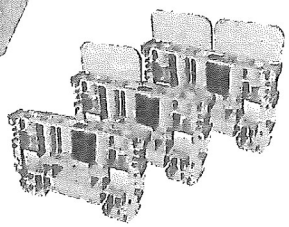
CE

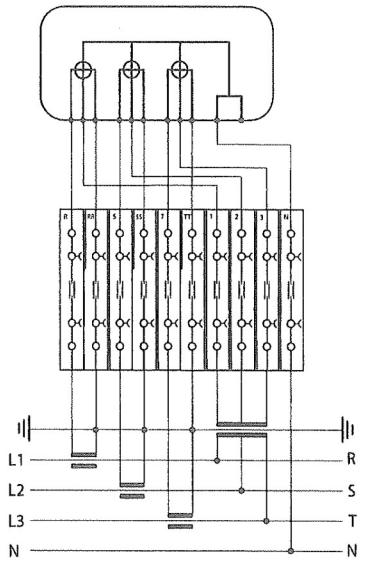
Test Block Unit for current and voltage circuits with 2 elements per phase on the current circuit, removable jumper plugs.

endesa energía · IBERDROLA · hc energía · RED ELÉCTRICA · e.on









800V 16mm² 76A
EN 60947-7-1

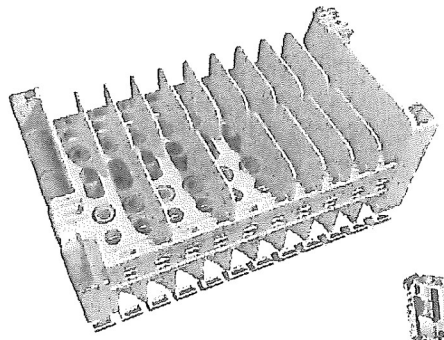
Code No.	Part No.	Aplications / Options /Accepted by	Weight	Packing	V	mm²	A
549265	END 10E-6I-4T-EPI	Endesa	516	1-40	600	6	32
549205	ID 10E-6I-4T-EPI	Iberdrola	516	1-40	600	6	32
549207	EON 10E-6I-4T-EPI	E·ON Viesgo	516	1-40	600	6	32
549208	HC 10E-6I-4T-EPI	Hidrocantábrico	516	1-40	600	6	32
549244	REE 10E-6I-4T-EPI	Red Eléctrica de España	516	1-40	600	6	32

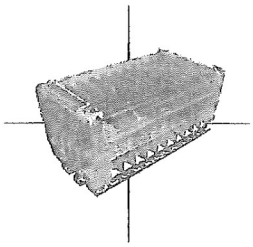
10E 6I-4T EPI

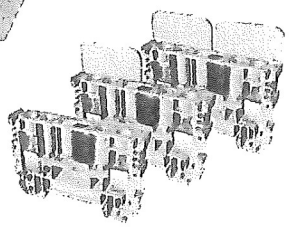
CE

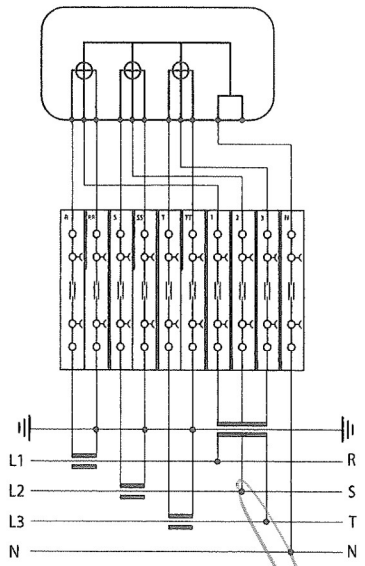
Test Block Unit with minimum protection cover for RPM boards.

endesa energía · RED ELÉCTRICA · IBERDROLA









800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549346	END 10E-6I-4T-M EPI	Endesa with minimum protection cover	516	1-40	600	16	32
549327	REE 10E-6I-4T-M EPI	Red Eléctrica de España with minimum protection cover	516	1-40	600	16	32
549349	ID 10E-6I-4T-M EPI	Iberdrola with minimum protection cover	516	1-40	600	16	32

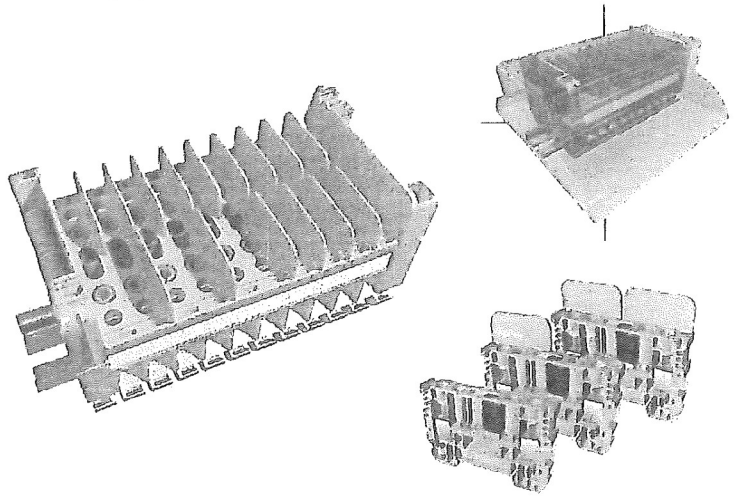
440

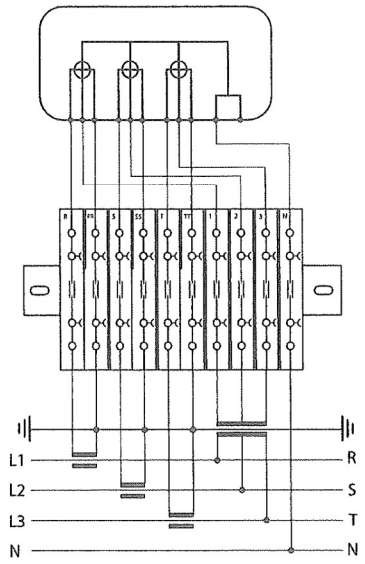
kWh-METER TESTING UNITS

with 2 current terminals per phase for 4 mm Ø insulated test plugs

10E 6I-4T FR EPI

Test Block Unit with over sized extended protection cover to allow space for a rivet fixing systeme .





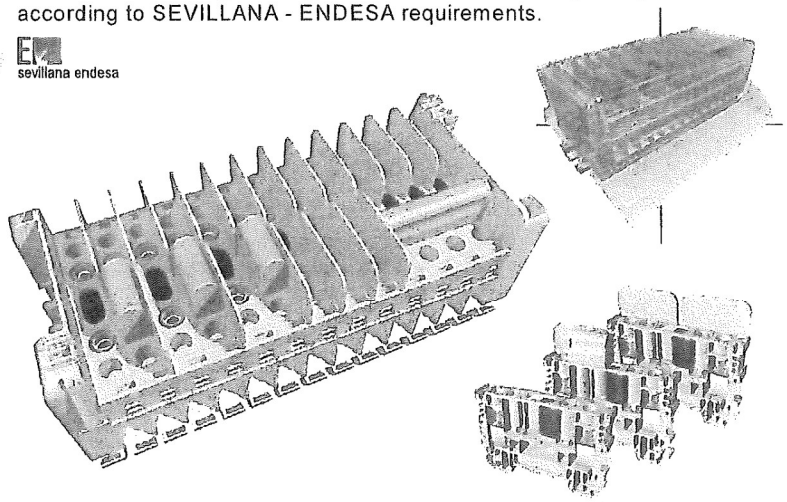
800V 16mm² 76A
EN 60947-7-1

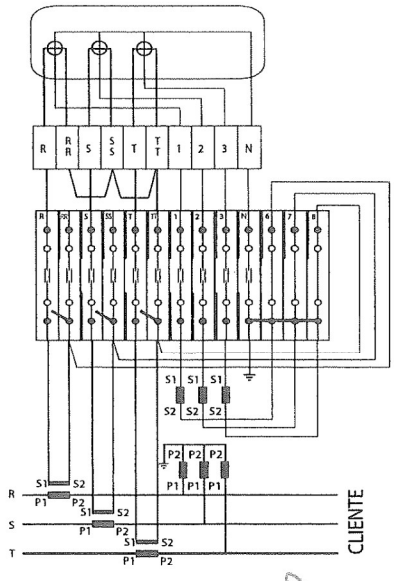
Code No.	Part No.	Aplications / Options / Accepted by	Weight	Packing	V	mm²	A
547206	UF10E-6I-4T-FR EPI	Unión Fenosa	536	1-20	600	6	32
547265	END 10E-6I-4T-FR EPI	Endesa	536	1-20	600	6	32
547205	ID 10E-6I-4T-FR EPI	Iberdrola	536	1-20	600	6	32
547207	EON 10E-6I-4T-FR EPI	E·ON Viesgo	536	1-20	600	6	32
547208	HC 10E-6I-4T-FR EPI	Hidrocantábrico	536	1-20	600	6	32

END 13E 6I-7T-CC EPI

Classic ten elements circuit Test Block Unit with three aditional elements for direct connection of grounding wires of the the secondary voltage transformer according to SEVILLANA - ENDESA requirements.

sevillana endesa





800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549310	END 13E 10I-3T-CC EPI	Sevillana-Endesa (caja centralizadora)	652	1-20	600	6	32

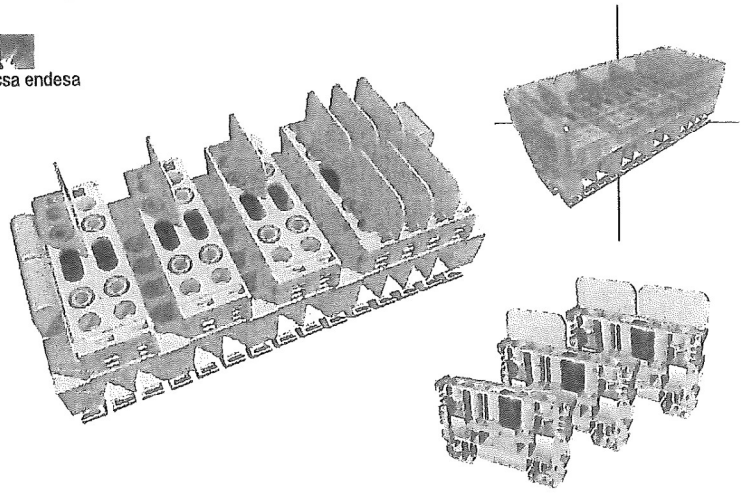
kWh-METER TESTING UNITS

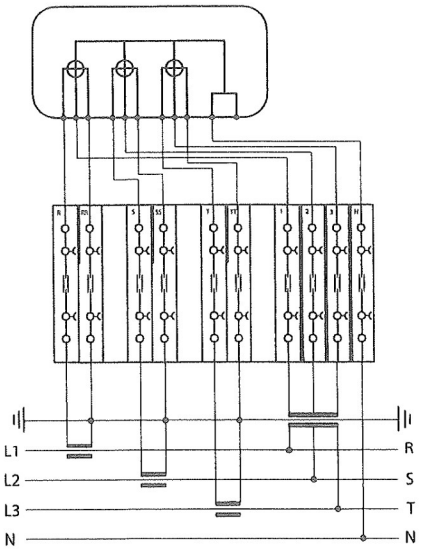
with 2 current terminals per phase for 4 mm Ø insulated test plugs

CAT 10E 6I-4T EPI

Test Block Unit with separations between current phases, without cover according to FECSA-ENDESA.

fecsa endesa





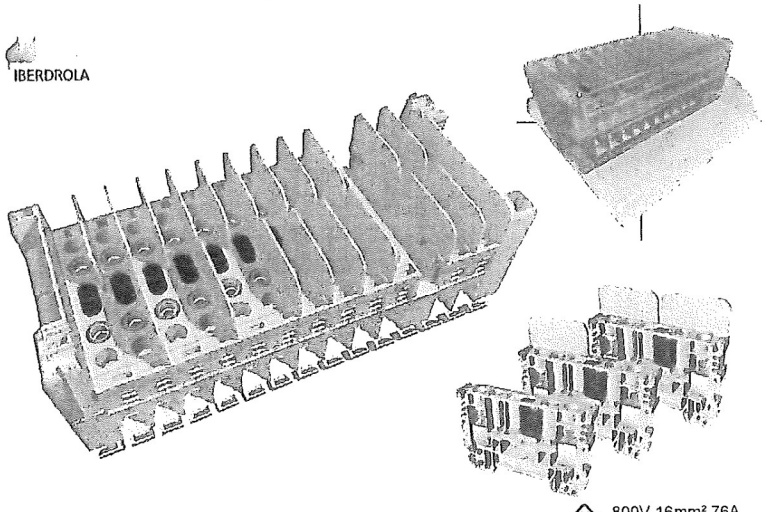
800V 16mm² 76A
EN 60947-7-1

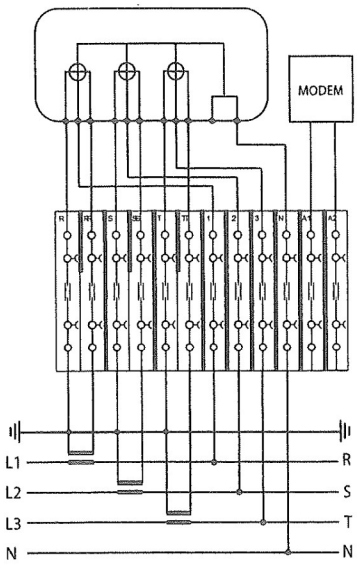
Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549209	CAT 10E 6I-4T EPI	Fecsa-Endesa, without protection cover	470	1-24	600	16	32
549360	CAT 10E 6I-4T-M EPI	Fecsa-Endesa, with minimum protection cover	530	1-24	600	16	32

10E 6I-4T+2AUX EPI

Test Block Unit with 10 functional elements plus two additional elements to connect a "Smart metering" modem according to IBERDROLA standard.

IBERDROLA





800V 16mm² 76A
EN 60947-7-1

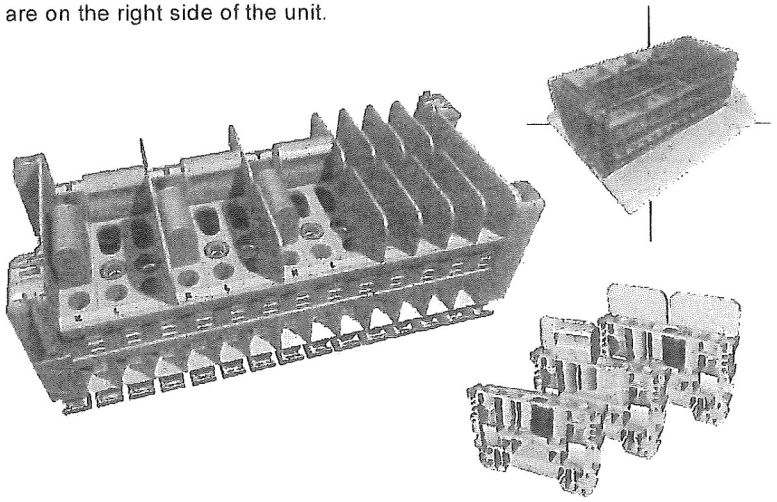
Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549246	ID 10E-6I-4T+2AUX EPI	With extended protection cover	618	1-20	600	6	32
549352	UF 10E-6I-4T+2AUX EPI	With extended protection cover	618	1-20	600	6	32

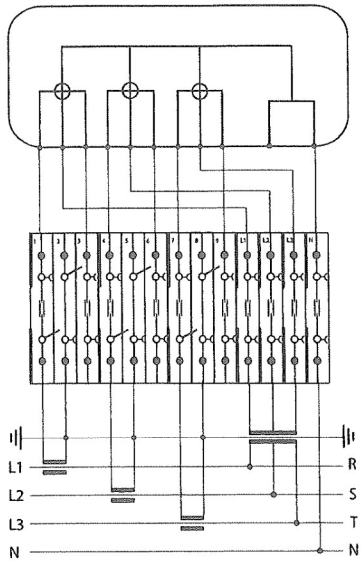
kWh-METER TESTING UNITS

with 3 current terminals per phase for 4 mm Ø insulated test plugs

13E 9I-4T EPI

Test Block Unit with three current elements per phase. Current elements can have perpendicular and longitudinal disconnection. Voltage elements are on the right side of the unit.



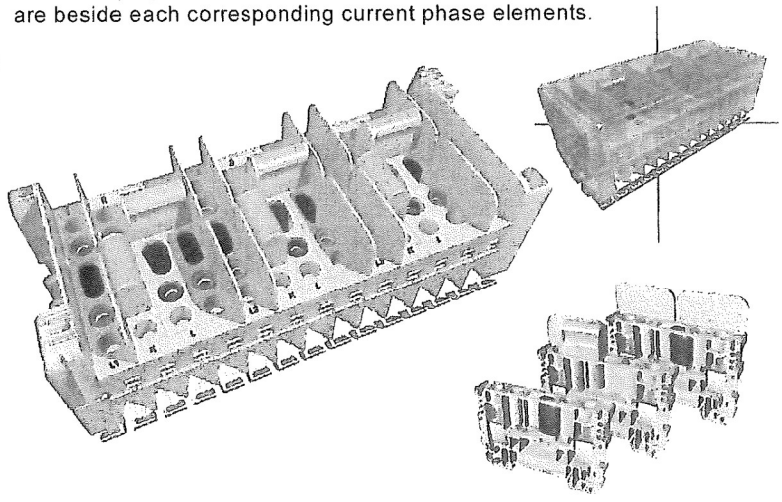


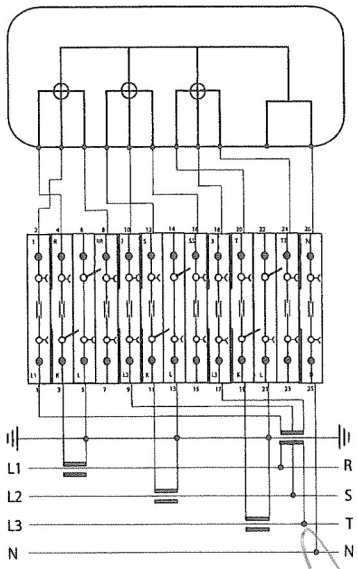
800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549329	UNB 13E 9I-4T-A EPI	Extended protection cover	632	1-20	600	6	32
549362	UNB 13E 9I-4T-M EPI	Minimum protection cover	600	1-24	600	16	32

13E 9I-4T-TS EPI

Test Block Unit with three current elements per phase. Current elements can have perpendicular and longitudinal disconnection. Voltage elements are beside each corresponding current phase elements.





800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549319	UNB 13E 9I-4T-TSM EPI	Minimum protection cover, colour sockets	622	1-24	600	16	32
549320	UNB 13E 9I-4T-TSA EPI	Extended protection cover, colour sockets	632	1-20	600	6	32
549309	UNB 13E 9I-4T-TSA EPI	Extended protection cover, orange sockets	632	1-20	600	6	32

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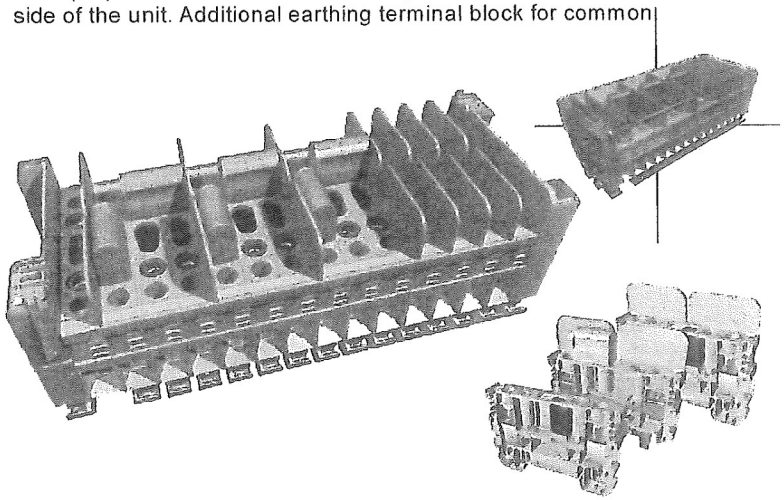
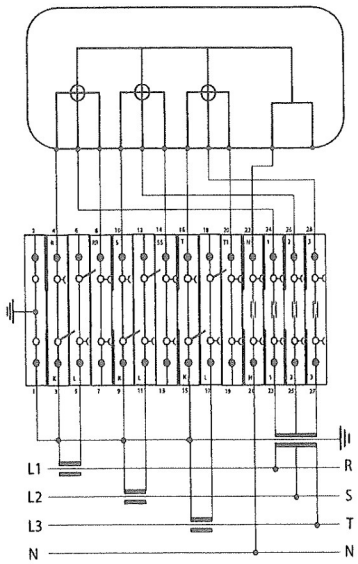
kWh-METER TESTING UNITS

with 3 current terminals per phase for 4 mm Ø insulated test plugs

14E 9I-4T-1G EPI

Test Block Unit with three current elements per phase. Current elements have perpendicular disconnection only. Voltage elements are on the right side of the unit. Additional earthing terminal block for common



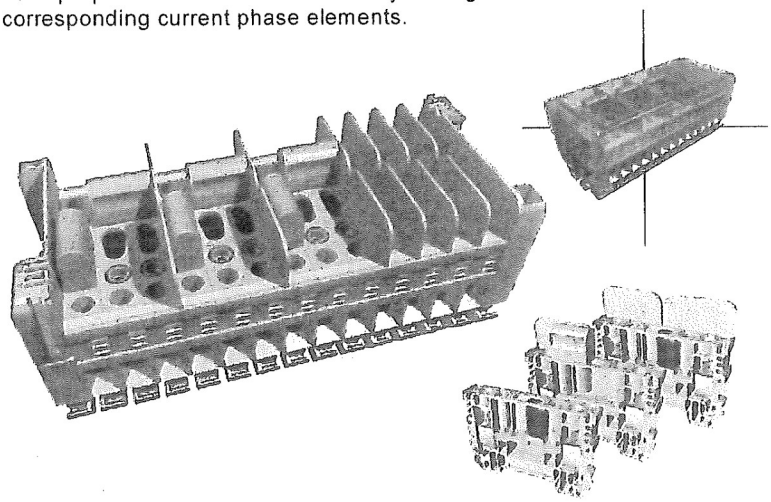


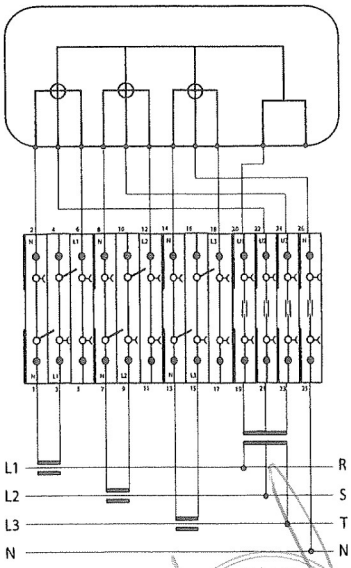
800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549321	UNB 14E 9I-4T-1GM EPI	Minimum protection cover	705	1-24	600	16	32

13E 9I-4T-TA EPI

Test Block Unit with three current elements per phase. Current elements have perpendicular disconnection only. Voltage elements are beside each corresponding current phase elements.





800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549387	UNB 13E 9I-4T-TSM EPI	Minimum protection cover, colour sockets	622	1-24	600	16	32
549363	UNB 13E 9I-4T-TSA EPI	Extended protection cover, colour sockets	632	1-20	600	6	32

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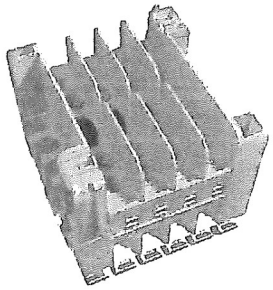
kWh-METER TESTING UNITS

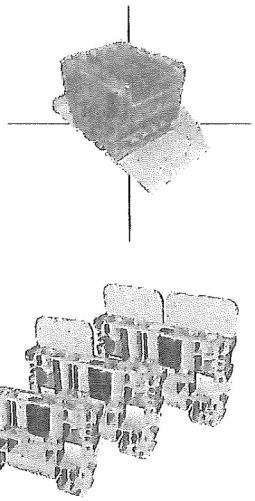
for voltage circuits only and for 4 mm Ø insulated test plugs

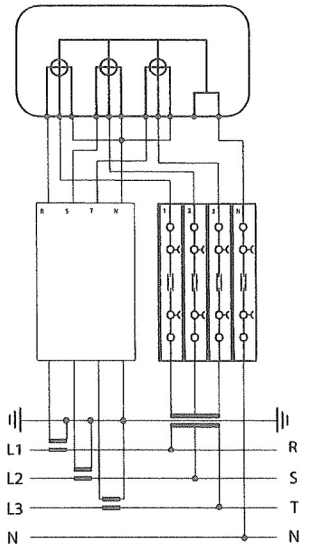
4E 4T EPI

CE

Test block Unit for voltage circuits only including one terminal for neutral connection.







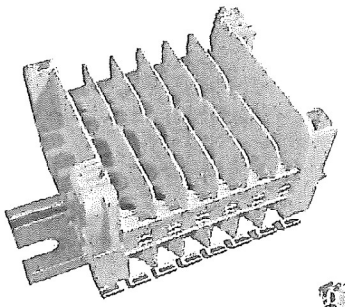
800V 16mm² 76A
EN 60947-7-1

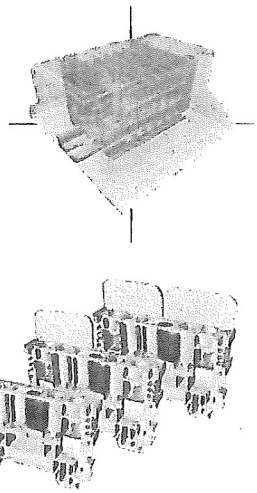
Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549388	UNB 4E 4T EPI	4e Extended protection cover	100	1-20	600	6	32
549267	UNB 4E 4T-M EPI	4e Minimum protection cover	80	1-24	600	16	32
549389	UNB 4E 4T-ST EPI	Without protection cover	65	1-24	600	16	32

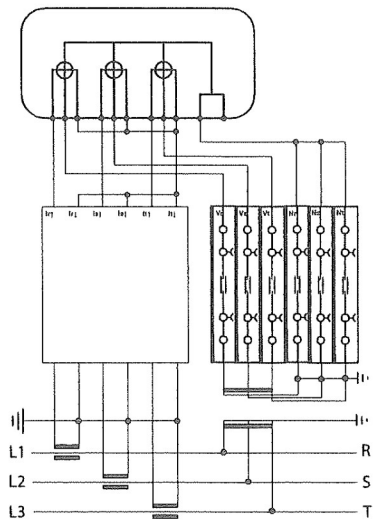
6E 6T EPI

CE

Test Block Unit for three voltage circuits and three terminals for separate connection of neutral wires.







800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549307	UF 6E 6T EPI	10e Extended protection cover	100	1-20	600	6	32

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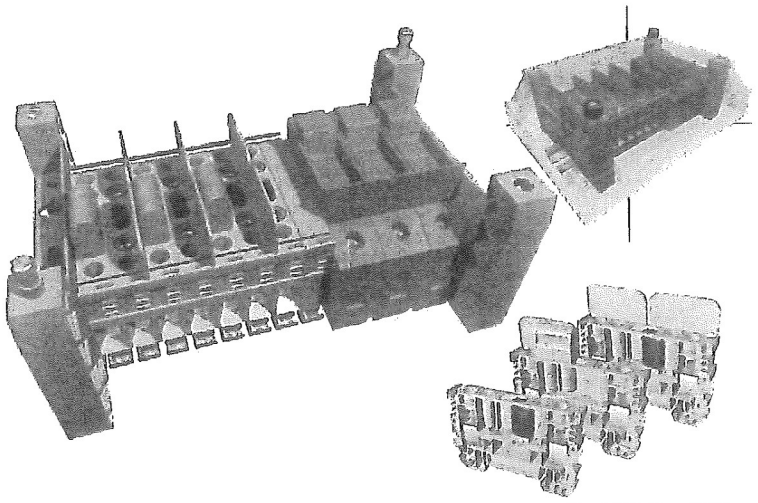
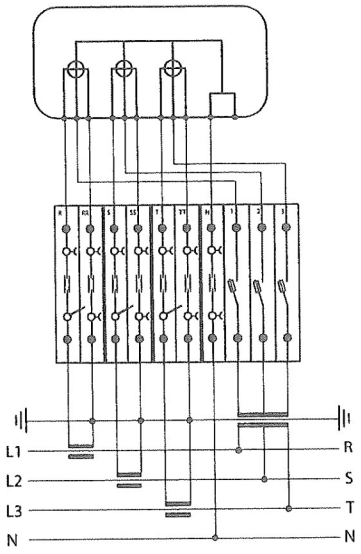
10E 6I-1N-3FUS EPI

CE

Test Block Unit with 3 fuse elements for voltage circuits.





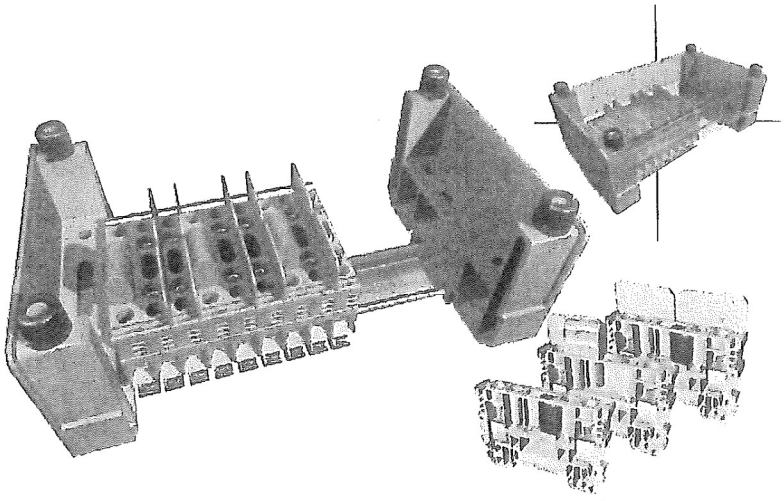
800V 16mm² 76A
EN 60947-7-1

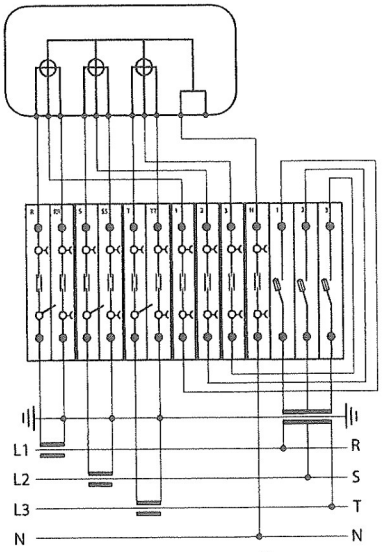
Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549302	VID 7E 6I-1T-3FUS EPI	Extended protection grey colour cover	550	1-24	600	16	32
549366	ASTAD 7E 1T-6I-3FUS EPI	Extended protection transparent cover	550	1-24	600	6	32

13E 6I-4T-3FUS EPI

CE

Test Block Unit with 3 additional fuse elements for voltage circuits.





800V 16mm² 76A
EN 60947-7-1

Code No.	Part No.	Aplications / Options	Weight	Packing	V	mm²	A
549365	UNB 10E 6I-4T-3F-TSA EPI	Extended protection cover	650	1-24	600	16	32

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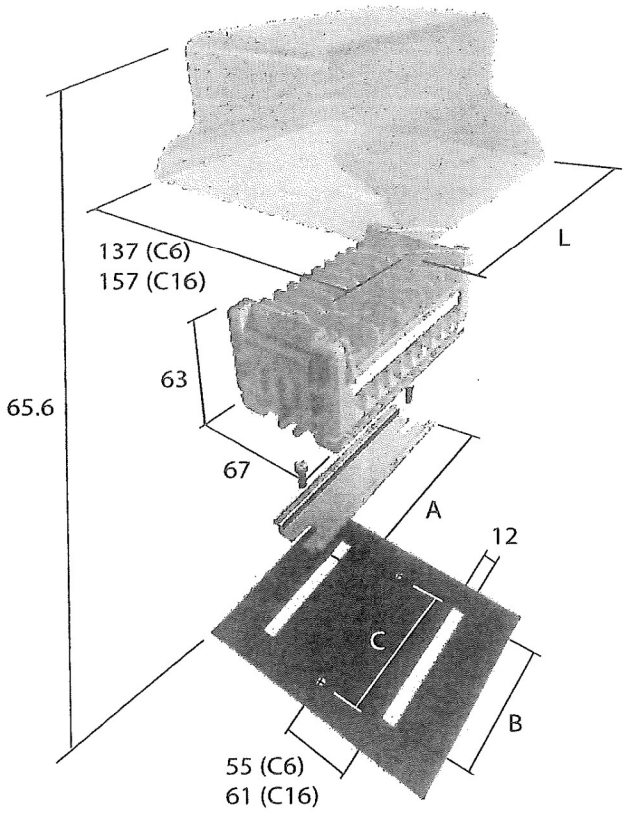
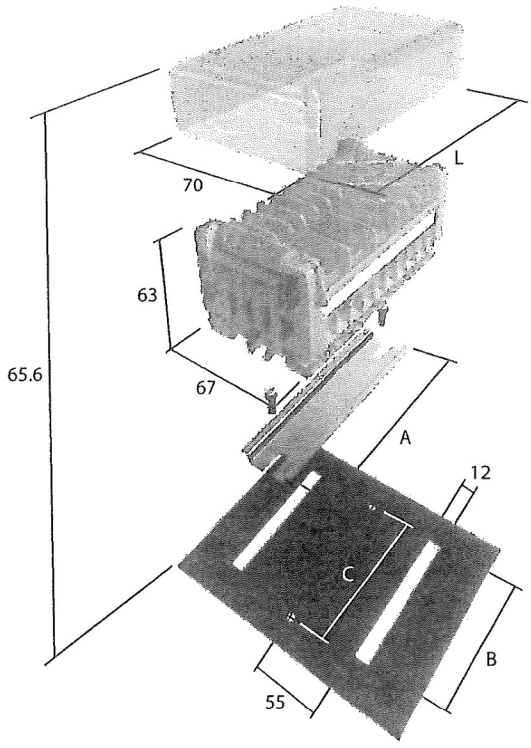
OVERALL DIMENSIONS

C6/C16 EXTENDED PROTECTION COVER



MINIMUM PROTECTION COVER



ELEMENT	A	B	C	L
3	53,1	30,1	42,2	53,3
4	63,8	40,8	52,9	64
5	74,5	51,5	63,6	74,7
6	85,2	62,2	74,3	85,3
7	95,9	72,9	85	96
8	106,6	83,6	95,7	106,7
9	117,3	94,3	106,4	117,3
10	128	105	117,1	128
11	138,7	115,7	127,8	138,7
12	149,4	126,4	138,5	149,3
13	160,1	137,1	149,2	160
14	170,8	147,8	159,9	170,7

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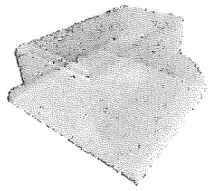
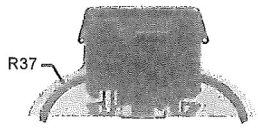
DRILING OPTIONS FOR EXTENDED PORTECTION COVERS AND WIRE CURVES

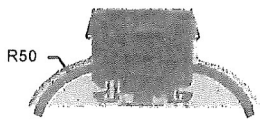
1 NON DRILLED



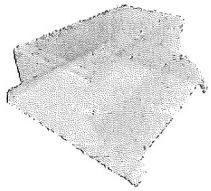
6mm² cover



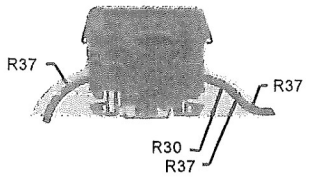
16mm² cover



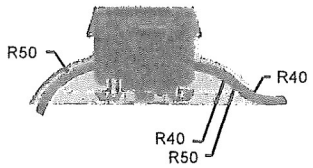
2 ONE SIDE DRILLED



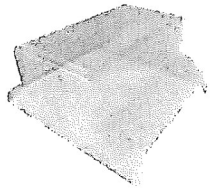
6mm² cover



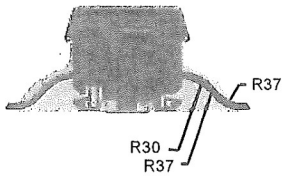
16mm² cover



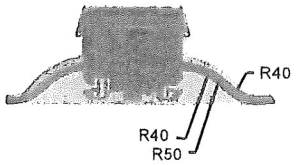
3 BOTH SIDES DRILLED



6mm² cover

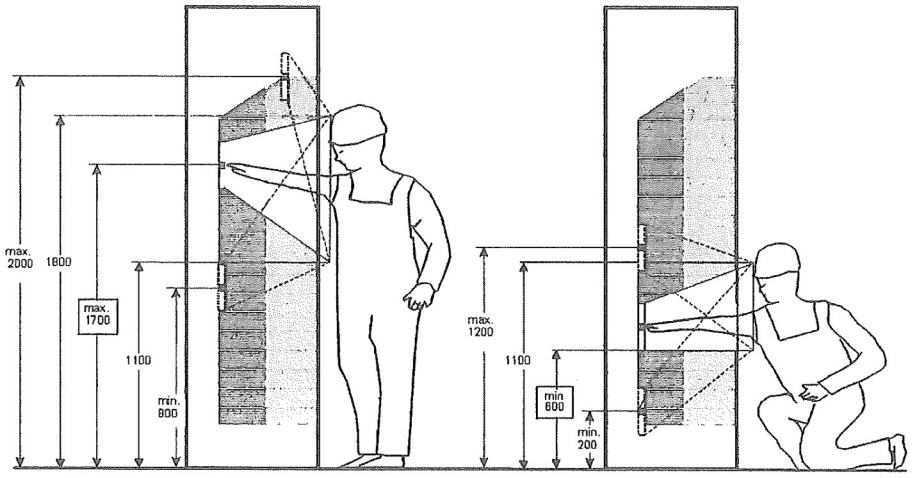


16mm² cover



Drilled covers give an IP3XD protection degree accordingly to IEC 60529

TEST BLOCK UNIT LOCATION



- The Test Block Unit must be placed in such a position that the gravity benefits in opening the circuits. Namely, transformers connections should be on the bottom side, and meter connections should be on the upper side.
- Vertical mounting could be required under some special circumstances. In those occasions, the disconnection system works properly, but the gravity will not affect when oppening or closing the circuit.
- Unibloc recommends to place the Test Block Unit at between 600 and 1700 mm high, and at ≤500 mm deep in the cabinet. (see fig. 1 & 2 in EN50274 Standard)

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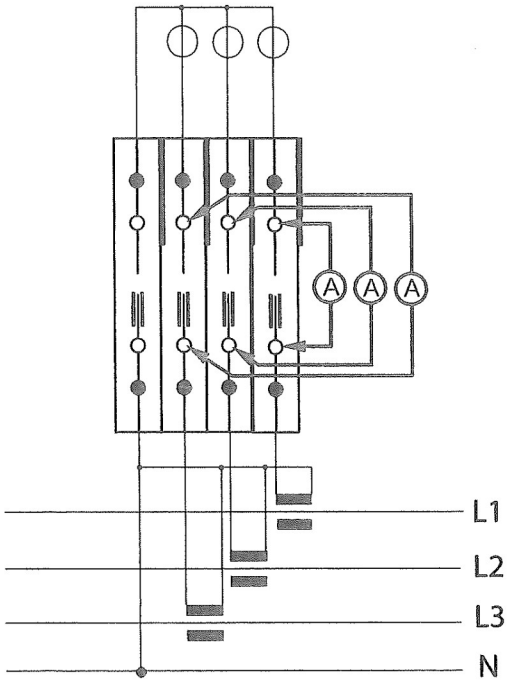
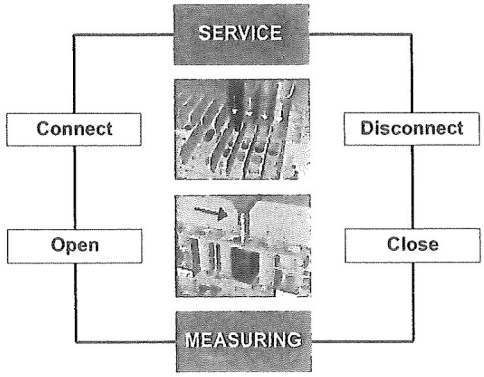
kWh-METER TEST BLOCK UNITS

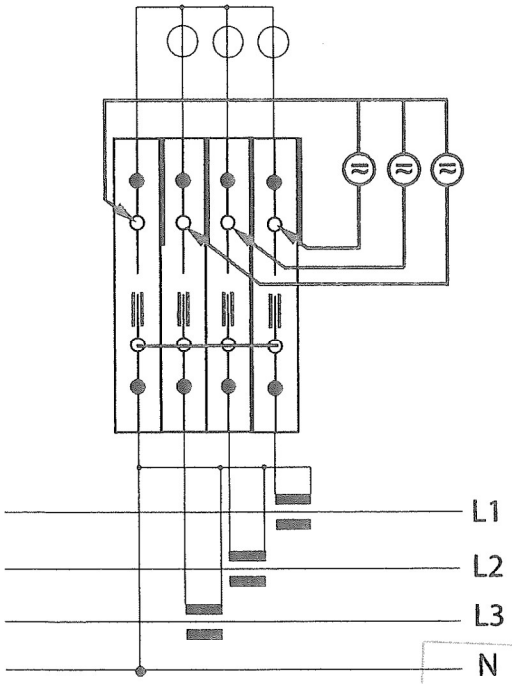
Aplication examples

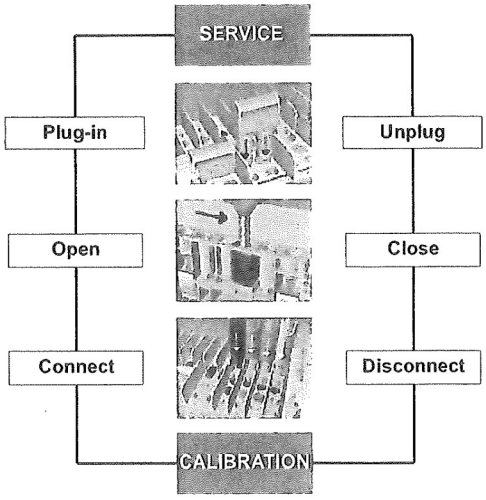
MEASURING in current circuits with one single element per phase





CALIBRATION in current circuits with one single element per phase





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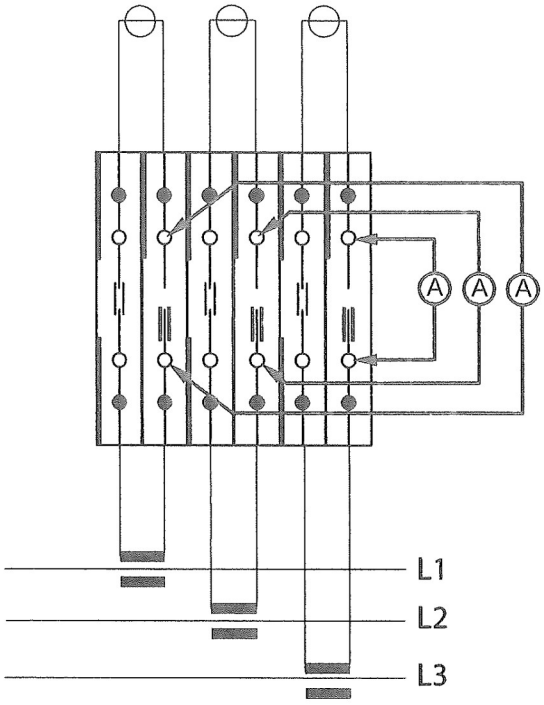
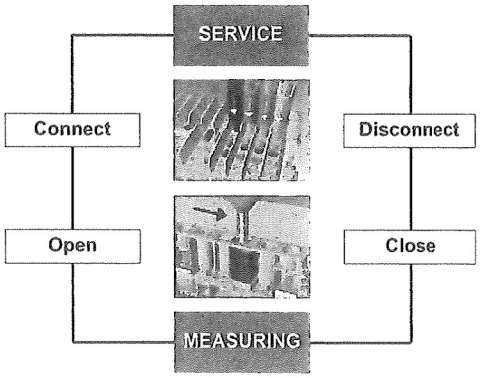
kWh-METER TEST BLOCK UNITS

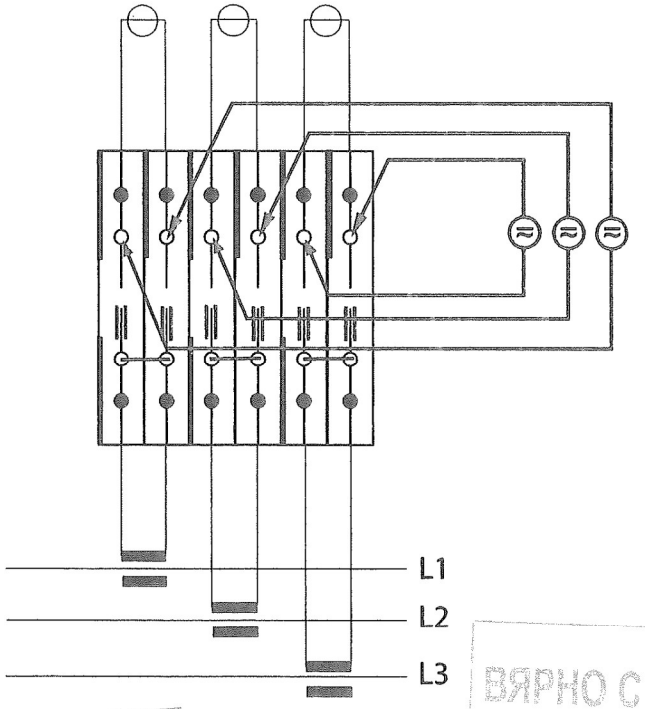
Aplication examples

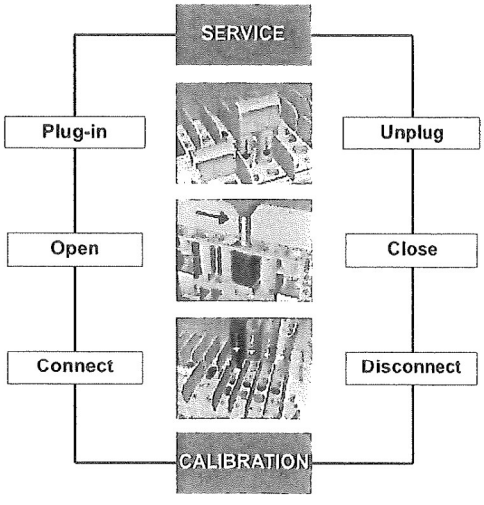
MEASURING in current circuits with two elements per phase



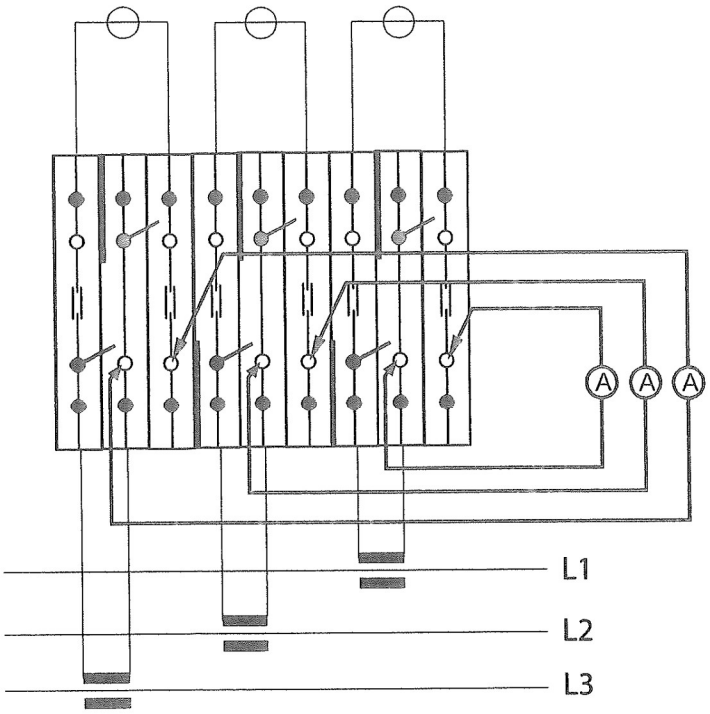


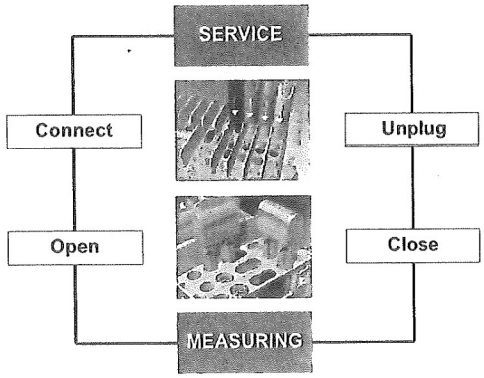
CALIBRATION in current circuits with two elements per phase



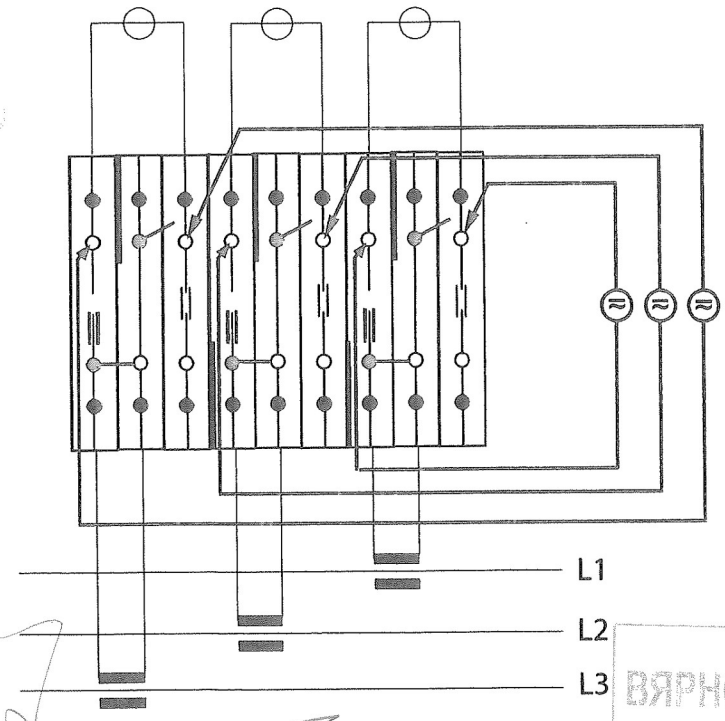


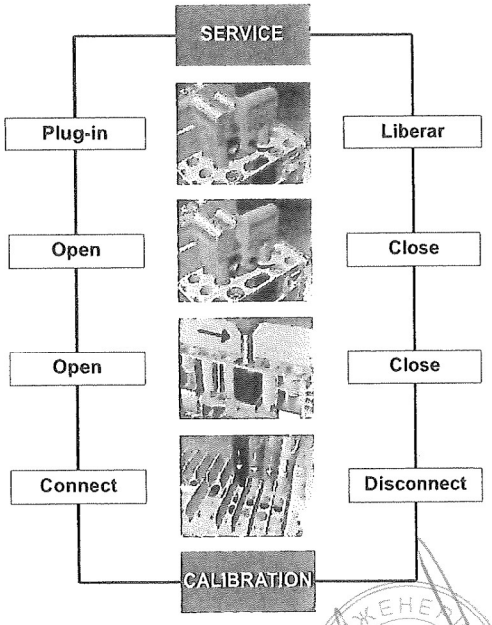
MEASURING in current circuits with three elements per phase





MEASURING in current circuits with three elements per phase





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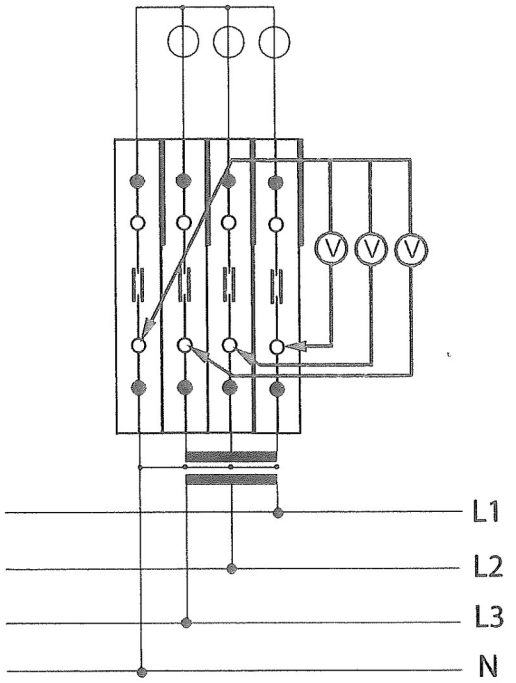
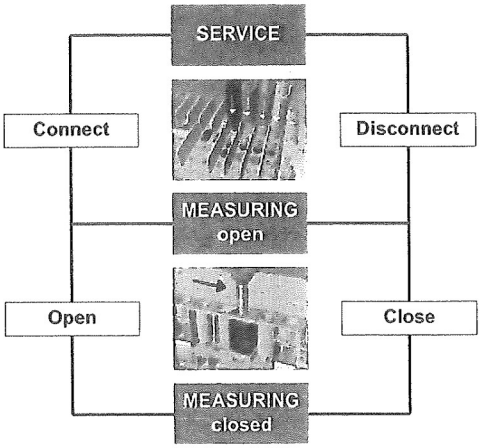
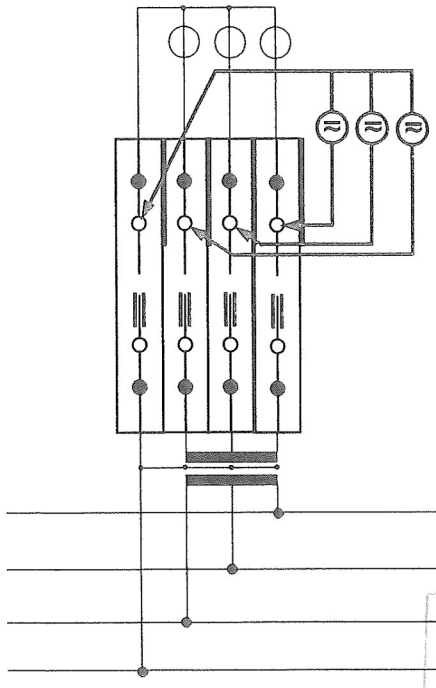
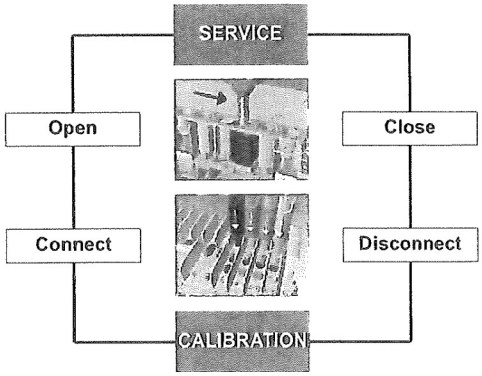
MEASURING in voltage circuits





CALIBRATION in voltage circuits





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TECHNICAL DATA

kWh-METER TEST BLOCK UNITS

The main purpose of **Unibloc EPI kWh-meter Test Block Units** is to **"PREVENT RISK"**. A prior step to prevent any risk is to identify and acknowledge it. Whereby a Test Block unit is to be regarded as an item of electrical equipment to be fitted to a switchgear assembly, the access to such test block unit and its operation being carried out in a routine way and without cutting the energy supply.

IEC 50274 *"Low voltage switchgear assemblies. Protection against electric shock. Protection against unintentional direct contact with hazardous live parts"* contemplates using (EPI) Individual Safety Equipment to protect health and safety of persons as a last ressource, therefore not suitable for switchgear assemblies.

Furthermore, to keep people away from risk by means of screens, barriers or other obstacles would in no case be considered acceptable when checking kWh-meters.

IEC 61140 *"Protection against electric shock. Common facts related to installation and equipment"*, regards as satisfactorily safe the switchgear assemblies that have all accessible devices offering a degree of protection not less than IPxxB accordingly to IEC 60529.

IEC 60947-7-1 *"Terminal blocks for copper conductors"* sets requirements that are all met by the elements from which our EPI kWh-meter test block units are built. The design of such elements affords additionally the degree of protection IPxxB. However, this is not enough to ensure that "all risk is being avoided" in any given checking job, because the operator may be using miscellanous types of probing units to switch his test equipment to the test block unit.

IEC 61010-031 *"Safety requirements for hand-held probe assemblies for electrical measurement and test"*. It sets out that a sufficient insulation can only be obtained when using probes fitted with fixed sleeves, or else that these latter cannot be removed unless using a tool.

Unibloc EPI kWh-meter Test Block Units are so designed as to take insulated test plugs fitted with fixed sleeves, any unintentional contact with live parts during the checking job being thereby prevented. That is of application whether the probes are connected or disconnected, even at their connection or disconnection stages.

Our design is completed with a number of extra features, i.e. easier identification of the connected or disconnected position of any circuit, which also increases safety at all checking operations.

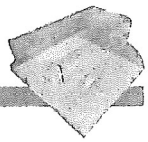
These three suitably combined characteristics (installation, equipment and procedures) make it easier to attain a ***"safe working environment"***, as stipulated by the **89/391/CEE Directive** concerning the *"introduction of measures to encourage improvements in the safety and health of workers at work"*, as well as by the **89/655/CEE Directive** concerning the *"minimum safety and health requirements for the use of work equipment by workers at work"*.

TECHNICAL DATA

TEST BLOCK UNITS

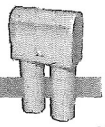
RATED VOLTAGE	**600V**
RATED CONNECTING CAPACITY	
with extended protection cover C6	**1,5..6 mm² / 2x6 mm²**
with extended protection cover C16	**1,5..16 mm² / 2x6 mm²**
with basic or without protection cover	**1,5..16 mm² / 2x6 mm²**
CURRENT LIMITS	
with standard jumper plugs (T=-5°C..30°C)	**32 A**
with premium jumper plugs (T=-5°C..30°C)	**41 A**
without jumper plugs	**76 A**

APLICABLE STANDARD: At present is not available an international standard for quality requirements of test block units. Nevertheless IEC is evaluating a proposal submitted by **Unibloc** to its national subcommittee.



COVERS

Impact resistance EN 50102	**IK08**
Cover protection under IEC 60529	
-Extended protection covering: functional parts, external wires, jumper plugs and unit fixing	**IP40**
-Extended protection with wire openings	**IP3XD**
-Basic protection covering: functional prarts and jumper plugs	**IP40**
Sun radiation resistance under	EN 60068-2-5 and EN 60068-2-9
Resistance to hot wire ignition	**850°C**
Material	**Polycarbonate**

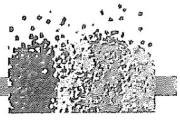


JUMPER PLUGS

Rated voltage	**600V CAT IV**	
Measuring category IV is for measurements made at the origin of a low voltage instalation.		
Dielectric strength test voltage	**4,12 kV**	
Rated Impulse withstand voltage	**8 kV**	
Double Insulation fully protected plugs	Class II ⧈	
Maximal current limits	**Standard**	**Premium**
- environment temperature -5 °C ..+30 °C	32A	41A
- environment temperature -5 °C ..+40 °C	24A	32A
- environment temperature -5 °C ..+60 °C	14A	20A

- Environment testing conditions: relative humidity 80%, sea level elevation 2000 m, polution degree 2.

Aplicable standard: IEC 61010-031



MATERIALS

Polymeric materials	
Insulation:	Co-Polyamide 6/6.6
Flame resistant as per UL94	V0
Resistance to hot wire ignition - EN 60695-2-11:	960°C
Temperature at continuous operation - UL 746B:	115°C
Minimum working temperature:	-20°C
Tracking index UL 746A:	>600V / Gado 0
Dielectric strength:	17 kV/mm
Chemical resistant to:	solvents, lubricants, fuels, refrigerants, salts and alkalis
Metalic materials	
Contacts, conductor bar:	Electrolytic copper, tin plated
Contacts, disconnect device:	Electrolytic copper, tin plated
Sockets for inserting plugs:	58 % copper alloy, tin plated
Screws:	Steel with Cr III coating
Clampling units:	Hardened steel with Cr III coating

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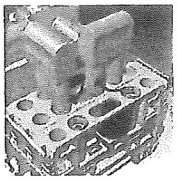
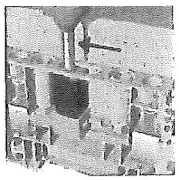


IEC 60947-7-1:2009 is the aplicable version of the standard for test disconnect terminal blocks

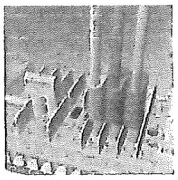
- RB8 Series has been designed to meet the requirements of this new version of IEC 60947-7-1.
- Such new version of the Standard includes a complete annex with the additional requirements for test disconnect terminal blocks, which cover terminal blocks with longitudinal disconnection (between input and output) and/or perpendicular disconnection (between one terminal block and its adjoining blocks), also make it possible to configurate or freely introduce some of the features that are already established by the standard specification for the feed through terminal blocks.
- IEC 60947-7-1:2009 Standard covers three disconnection methods, i.e. plug in, knife type and sliding link.
- Additionally the RB8 Series incorporates Earthing terminal blocks accordingly to IEC 60947-7-2 standard.



Ultra compact design affording maximum heat efficiency (I_{th}):

- Its 10,5 mm. pitch allows for a 16 mm² rated connecting capacity (single core, stranded or stranded fitted with cable terminal) and a 76 A test current accordingly to IEC 60947-7-1 standard. Voltage drop is lower than 0,8 mV with a 5 Amp current.

FULL PROTECTION:



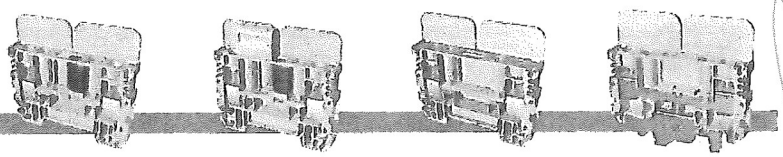
- Insulated sockets for 4 mm Ø test plugs afford an IP20 degree of protection. They also take sleeve insulated test rods to be used under operating voltages up to 600V, accordingly to IEC 61010-031 standard, which makes easier checking or testing procedures under tension. Strict fulfillment of European rules and regulations covering Precautions against Worker's Risk is thereby ensured.

Easy handling:

- The 10,5 mm. pitch enables insertion of standard insulated test plugs easily found at the market. No interference when inserted at the same time in adjoining terminal blocks.

TECHNICAL DATA

TERMINAL BLOCKS

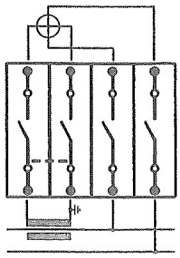


	RB8	RB8-P	RB8-SS	RBT8
Aplicable standard	IEC 60947-7-1 (D)	IEC 60947-7-1 (D)	IEC 60947-7-1	IEC 60947-7-2
Rated insulation Voltage (Ui)	**800 V**	**800 V**	**800 V**	**800 V**
Rated Impulse withstand & Cat. Voltage	8 kV CAT IV	8 kV CAT IV	8 kV CAT IV	8 kV CAT IV
Dielectric strength test voltage	2,2 kV	2,2 kV	2,2 kV	2,2 kV
Pollution degree / Material group	3 / I	3 / I	3 / I	3 / I
Connecting range with 1 wire	0,75..16 mm²	0,75..16 mm²	0,75..16 mm²	0,75..16 mm²
Connecting range with 2 wire	1,5..6 mm²	1,5..6 mm²	1,5..6 mm²	1,5..6 mm²
Stripping length	12 mm	12 mm	12 mm	12 mm
Rated cross-section	**16 mm²**	**6 mm²**	**16 mm²**	**10 mm²**
Test current on longitudinal current line	76 Amp	41 Amp	76 Amp	57 Amp
Perpendicular test / free air thermal current (Ith)	-	32 / 41 Amp	-	-
Short time withstand test current	1920 Amp	720 Amp	1920 Amp	1200 Amp
Tightening torque	1,2...1,5 Nm	1,2...1,5 Nm	1,2...1,5 Nm	1,2...1,5 Nm
Screwdriver head size	5 x 1 mm	5 x 1 mm	-	-
Service life testing cycles	100	100	100	100
OTHER TECHNICAL FEATURES				
Pitch (A)	**10,5 mm**	**10,5 mm**	**10,5 mm**	**10,5 mm**
Width (B)	67 mm	67 mm	67 mm	67 mm
Height on TH 35x7,5 rail without separators (C)	46 mm	46 mm	46 mm	46 mm
Height on TH 35x7,5 rail with separators (C)	61,2 mm	61,2 mm	61,2 mm	61,2 mm
Wire gauge EN 60947-1	A6/B6	A6/B6	A6/B6	A6/B6
Protection degree EN 60947-1	IP20	IP20	IP20	IP20
Voltage drop for I_{th} = 5 Amp	< 0.8 mV	< 0.8 mV	< 0.8 mV	< 0.8 mV
Dielectric strength special test	> 4 kV	> 4 kV	> 4 kV	> 4 kV

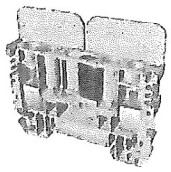
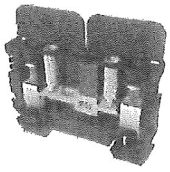
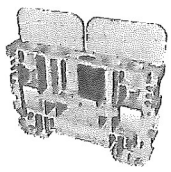
- **NOTE 1** - "**Rated cross section**" refers to the selected conductor cross section used for the the evaluation test accordingly to IEC 60947-7-1, setting up the operating limits of the terminal block.
- **NOTE 2** - "**Connection Capacity or Connecting range**" refers to the range of size of the conductors, according to its type and quantity, for which the Rated Insulation Voltage of the terminal block is valid.
- **NOTE 3** - Voltage indicated in the Earthing Terminal Blocks means the voltage in respect of the adjacent RB8 terminal blocks.

Y54

RB8

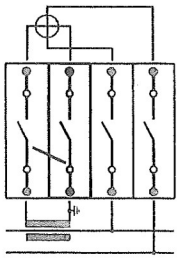


- Test disconnect terminal block with longitudinal diconnection by means of one only M4 screw slide link.
- The type without the socket protection is IP10. Protection should be completed by means of the socket insulators indicated in page 28.
- Perpendicular disconnection is done by means of short-circuit jumper plugs indicated in page 28.

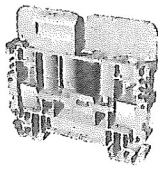
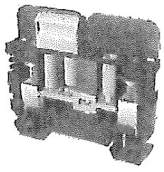
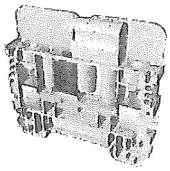
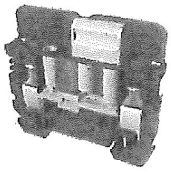




ORDERING DATA	GREY	COLOUR	UNPROTECTED SOCKET
Weight	20g	20g	20g
Packing	50	50	50
Without partition wall	585315	585365	585319
With 2 LR partition walls	585335	585375	585339
With L left partition wall	585345	585385	585349
With R right partition wall	585325	585395	585329

RB8-P

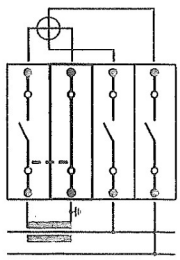


- Test disconnect terminal block with both longitudinal and perpendicular disconnections. The perpendicular link (built-in plug) might be placed before the longitudinal disconnection (sliding link) on model RB8-P1, or it might be placed after it on model RB8-P2.
- This model is protected by the Utility Model patent U200801385.

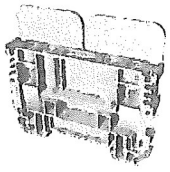
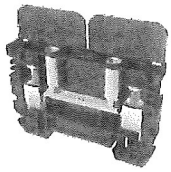
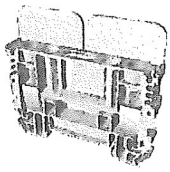





ORDERING DATA	FRONT POSITION - P1		BACK POSITION - P2	
	GREY	COLOUR	GREY	COLOUR
Weight	26g	26g	26g	26g
Packing	50	50	50	50
Without partition wall	585314	585364	585313	585363
With 2 LR partition walls	585334	585374	585333	585373
With L left partition wall	585344	585384	585343	585383
With R right partition wall	585324	585394	585323	585393

RB8-SS



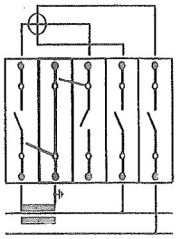
- Feed through terminal block to combine with RB8 test disconnect terminal blocks.
- The type without the socket protection is IP10. Protection should be completed by means of the socket insulators indicated in page 28.
- Perpendicular disconnection is done by means of short-circuit jumper plugs indicated in page 28.

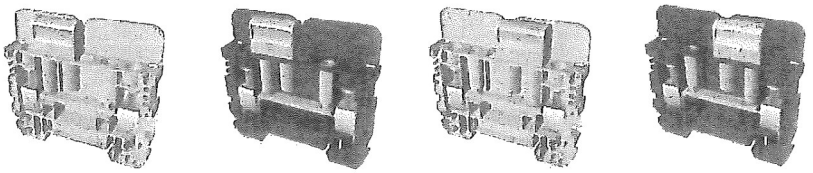
ORDERING DATA	GREY	COLOUR	UNPROTECTED SOCKET
Weight	18g	18g	17g
Packing	50	50	50
Without partition wall	585317	585367	585360
With 2 LR partition walls	585337	585377	585370
With L left partition wall	585347	585387	585380
With R right partition wall	585327	585397	585390

Y55

RB8-SS-P

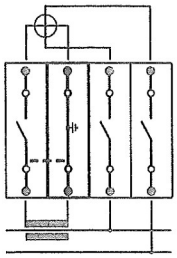


- Test diconnect terminal block with built-in perpendicular disconnection. In combination with an adjacent RB8 or RB8-SS of the same polarity the disconnection becomes in longitudinal type.
- The disconnection link (built-in plug) might be placed at any side of the terminal block.

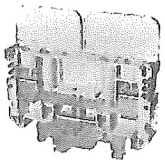


ORDERING DATA	GREY	COLOUR	GREY	COLOUR
Weight	24g	24g	24g	24g
Packing	50	50	50	50
Without partition wall	585312	585362	585316	585366
With 2 LR partition walls	585332	585372	585336	585376
With L left partition wall	585342	585382	585346	585386
With R right partition wall	585322	585392	585326	585396

RBT8

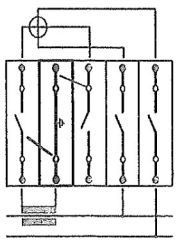


- Earthing terminal block, according to EN 60947-7-2 standard.
- Perpendicular disconnection is done by means of short-circuit jumper plugs indicated in page 28.
- To be fixed to the TH 35x7,5 rail, according to the EN 60715 standard, with any type of material (steel, copper or aluminium)

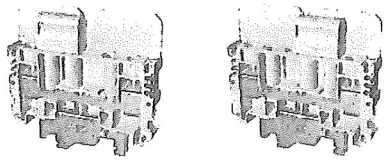


ORDERING DATA	Yellow/Green			
Weight	g			
Packing	50			
Without partition wall	-			
With 2 LR partition walls	585355			
With L left partition wall	-			
With R right partition wall	-			

RBT8-P



- Hybrid terminal block, for earthing purpose according to the EN 609447-7-2 and test disconnecting according to the EN 60947-7-1 standard, annex D, by means of the built-in perpendicular link.
- To be fixed to the TH 35x7,5 rail, according to the EN 60715 standard, with any type of material (steel, copper or aluminium)



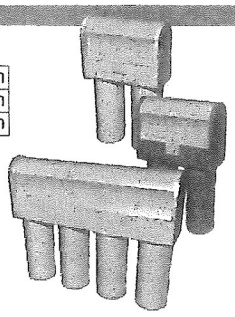
ORDERING DATA	FRONT POSITION - P1	BACK POSITION - P2
Weight	g	g
Packing	50	50
Without partition wall	-	-
With 2 LR partition walls	585352	585356
With L left partition wall	-	-
With R right partition wall	-	-

ASSEMBLING COMPONENTS

IEC 61010-031 JUMPER PLUGS & TEST PLUGS

JUMPER PLUGS IEC 61010-031

Code No.	Part No.	Weight	Packing	Poles	Voltage	Current	Pitch
542473	ECD600-2P	6 g	10	2	600V CAT IV	32 A	10.5 mm
542474	ECD600-41	6 g	10	2	600V CAT IV	41 A	10.5 mm
542475	ECD600-4P	15 g	10	4	600V CAT IV	32 A	10.5 mm



ONE POLE TEST PLUGS IEC 61010-031

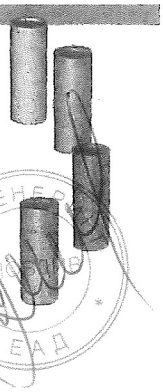
Code No.	Part No.	Weight	Packing	Cross section	Size	Current	Pitch
522220	UMF/2.5 BG	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522221	UMF/2.5 BL	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522222	UMF/2.5 YG	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522223	UMF/2.5 GN	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522224	UMF/2.5 YW	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522225	UMF/2.5 GR	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522226	UMF/2.5 OG	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522227	UMF/2.5 BK	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522228	UMF/2.5 RD	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm
522229	UMF/2.5 PL	6 g	10	2.5 mm²	Ø 4 mm	32 A	10 mm

TEST PLUG COMBS IEC 61010-031

Code No.	Part No.	Weight	Packing	Cross section	Current	Width	Length
522051	UMF/2.5 L0.5 BL	-	1	2.5 mm²	32 A	10 mm	0.5 m
522101	UMF/2.5 L1.0 BL	-	1	2.5 mm²	32 A	10 mm	1.0 m
522151	UMF/2.5 L1.5 BL	-	1	2.5 mm²	32 A	10 mm	1.5 m
522201	UMF/2.5 L2.0 BL	-	1	2.5 mm²	32 A	10 mm	2.0 m
522053	UMF/2.5 L0.5 GN	-	1	2.5 mm²	32 A	10 mm	0.5 m
522103	UMF/2.5 L1.0 GN	-	1	2.5 mm²	32 A	10 mm	1.0 m
522153	UMF/2.5 L1.5 GN	-	1	2.5 mm²	32 A	10 mm	1.5 m
522203	UMF/2.5 L2.0 GN	-	1	2.5 mm²	32 A	10 mm	2.0 m
522054	UMF/2.5 L0.5 YW	-	1	2.5 mm²	32 A	10 mm	0.5 m
522104	UMF/2.5 L1.0 YW	-	1	2.5 mm²	32 A	10 mm	1.0 m
522154	UMF/2.5 L1.5 YW	-	1	2.5 mm²	32 A	10 mm	1.5 m
522204	UMF/2.5 L2.0 YW	-	1	2.5 mm²	32 A	10 mm	2.0 m
522055	UMF/2.5 L0.5 GY	-	1	2.5 mm²	32 A	10 mm	0.5 m
522105	UMF/2.5 L1.0 GY	-	1	2.5 mm²	32 A	10 mm	1.0 m
522155	UMF/2.5 L1.5 GY	-	1	2.5 mm²	32 A	10 mm	1.5 m
522205	UMF/2.5 L2.0 GY	-	1	2.5 mm²	32 A	10 mm	2.0 m
522057	UMF/2.5 L0.5 BK	-	1	2.5 mm²	32 A	10 mm	0.5 m
522107	UMF/2.5 L1.0 BK	-	1	2.5 mm²	32 A	10 mm	1.0 m
522157	UMF/2.5 L1.5 BK	-	1	2.5 mm²	32 A	10 mm	1.5 m
522207	UMF/2.5 L2.0 BK	-	1	2.5 mm²	32 A	10 mm	2.0 m
522058	UMF/2.5 L0.5 RD	-	1	2.5 mm²	32 A	10 mm	0.5 m
522108	UMF/2.5 L1.0 RD	-	1	2.5 mm²	32 A	10 mm	1.0 m
522158	UMF/2.5 L1.5 RD	-	1	2.5 mm²	32 A	10 mm	1.5 m
522208	UMF/2.5 L2.0 RD	-	1	2.5 mm²	32 A	10 mm	2.0 m

SOCKET INSULATION

Code No.	Part No.	Weight	Packaging	Colour code	Colour	Internal Ø	External Ø
5853080	A4 BG	0.5 g	100	0	Beige	4 mm	6.5 mm
5853081	A4 BL	0.5 g	100	1	Blue	4 mm	6.5 mm
5853082	A4 YG	0.5 g	100	2	Yellow/Green	4 mm	6.5 mm
5853083	A4 GN	0.5 g	100	3	Green	4 mm	6.5 mm
5853084	A4 YW	0.5 g	100	4	Yellow	4 mm	6.5 mm
5853085	A4 GY	0.5 g	100	5	Grey	4 mm	6.5 mm
5853086	A4 OG	0.5 g	100	6	Orange	4 mm	6.5 mm
5853087	A4 BK	0.5 g	100	7	Black	4 mm	6.5 mm
5853088	A4 RD	0.5 g	100	8	Red	4 mm	6.5 mm
5853089	A4 PL	0.5 g	100	9	Purple	4 mm	6.5 mm



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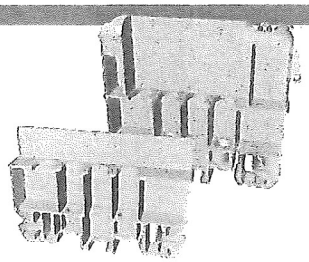
ASSEMBLING COMPONENTS

OTHER ACCESSORIES AND MARKINGS

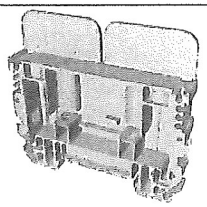
END BRACKET

Code No.	Part No.	Peso	Embalaje	Espesor	Ancho	Alto
585300	BFRB8	9.5 g	50	10.5 mm	67.0 mm	62.2 mm
585399	BFRB8-SP	8.5 g	50	10.5 mm	67.0 mm	46.0 mm



BLANK TERMINAL

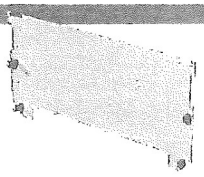
Code No.	Part No.	Peso	Embalaje	Espesor	Ancho	Alto
585320	BFRB8 ciega	9.5 g	50	10.5 mm	67.0 mm	62.2 mm



- This part is used as separator between different groups of terminal blocks, for completing the total number of elements in a test block unit for making it suitable for a protection cover with no empty spaces.

END PLATE

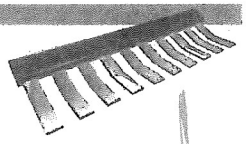
Code No.	Part No.	Weight	Packaging	Thicknes	Width	Height
585350	FRB8	3.4 g	20	1.4 mm	67.0 mm	45 mm



- The end plates are for closing and isolating a group of RB8 series elements.
- When being placed between 2 RB8 series elements, the Pitch becomes 12 mm. This is suitable for using the 30 V insulation CLJ jumper plugs from **Unibloc**.

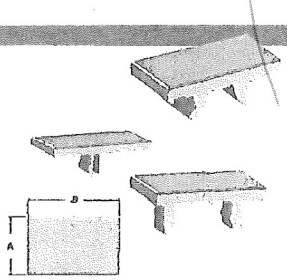
SIDE JUMPER COMBS

Code No.	Part No.	Weight	Packaging	Poles	Section	Current	Pitch
634312	PA RB8/2	3 g	10	2	5.1 mm²	41 A	10.5 mm
634314	PA RB8/4	6 g	10	4	5.1 mm²	41 A	10.5 mm
634323	PA RB8/3	5 g	10	3	5.1 mm²	41 A	21.0 mm
634324	PA RB8/4	6 g	10	4	5.1 mm²	41 A	21.0 mm



MARKING TAGS

Code No.	Part No.	Weight	Packaging	Size A/B	Printed code no.	Printed pack.
86402004	KAB 5/5.4-5		1430	5.4x5 mm	552001	440
86402006	KAB 5/9-5		1408	9x5 mm	552002	352
86401026	KMR 5/7.5-5		1408	5x7.5 mm	553001	352
86401036	KMR 5/7.5-5		1408	5x7.5 mm	553002	359
551400	KMD 6/9		100	6x9 mm	551490	100



- High quality identification marking tags, halogen free, to be placed by fitting them in each point of the terminal block.
- Large surface for labelling.
- Temperature resistance from -40°C to +140°C
- PC V0 material, white colour.
- They can be delivered already printed by using the Printed code no.

PRINTABLE STRIPS

Code No.	Part No.	Weight	Packaging	Size width	Printed code no.	Printed pack.
5853916	PTR 9.6		150	9.6 mm	585390	150
5853616	PTR 4.9		320	4.5 mm	585360	320

- High quality identification strips, halogen free, to be simultaneously placed in a group of terminal blocks.
- Available in sheets or plates for plotter.
- Very easy and well organised printing by using our "StripLable" software.
- Temperature resistance from -40°C to +140°C
- PVC material, white or yellow colour.
- They can be delivered already printed by using the Printed code no.

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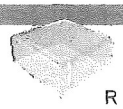
ASSEMBLING COMPONENTS

PROTECTION COVERS

BASIC OR MINIMUM PROTECTION SEALABLE COVERS

	Code No.	Part No.	Elements	Weight	Packing	Drilling	Wire size	Width	Height	Length
☐	538004	ERB8 4E R	4	15 g	1	-	-	80	32	66.5
☐	538010	ERB8 10E R	10	23 g	1	-	-	80	32	130
☐	538013	ERB8 13E R	13	31 g	1	-	-	80	32	164
☐	538014	ERB8 14E R	14	37 g	1	-	-	80	32	175

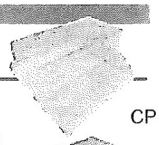


R

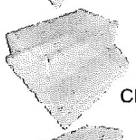
EXTENDED PROTECTION WIRING SEALABLE COVERS

For 6mm²

	Code No.	Part No.	Elements	Weight	Packing	Drilling	Wire size	Width	Height	Length
☐	538110	ERB8 10E CP	10	67 g	1	Non drilled	6 mm²	138	64	130
☐	538210	ERB8 10E CP-C	10	67 g	1	Cut	6 mm²	138	64	130
☐	538710	ERB8 10E CP-PT	10	67 g	1	Pre-drilled	6 mm²	138	64	130
☐	538610	ERB8 10E CP-T	10	65 g	1	Drilled	6 mm²	138	64	130
☐	538713	ERB8 13E CP-PT	13	76 g	1	Pre-drilled	6 mm²	138	64	130



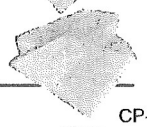
CP



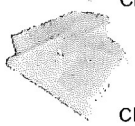
CP-C

For 16mm²

	Code No.	Part No.	Elements	Weight	Packing	Drilling	Wire size	Width	Height	Length
☐	538310	ERB8 10E CP C16	10	70 g	1	Non drilled	16 mm²	157	64	164
☐	538810	ERB8 10E CP-PT C16	10	70 g	1	Pre-drilled	16 mm²	157	64	164
☐	538313	ERB8 13E CP C16	13	80 g	1	Non drilled	16 mm²	157	64	164

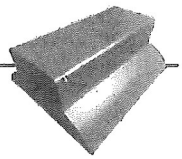


CP-PT



CP-T

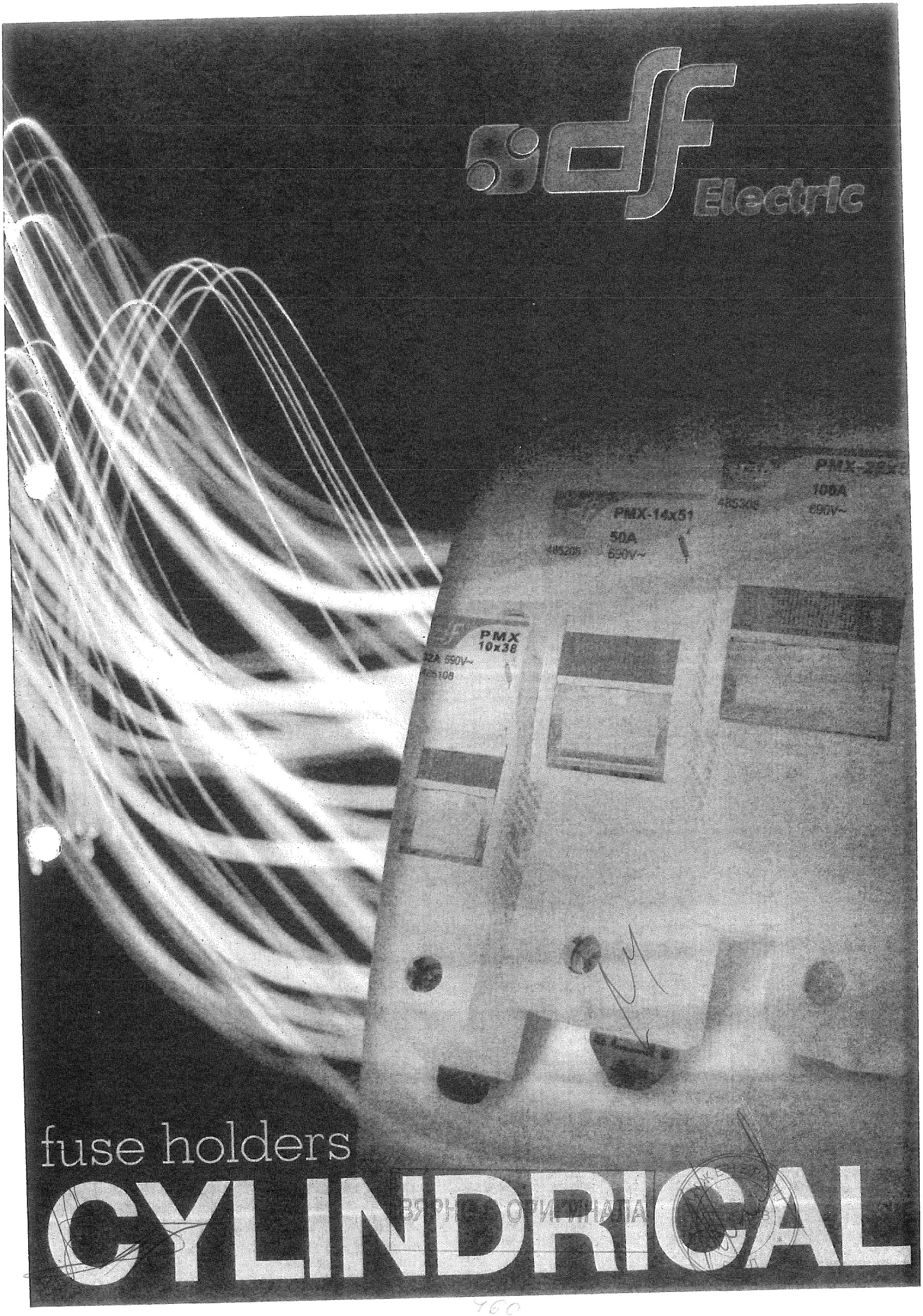
Under request, non transparent material



- Dimensions: Width, Height and Length, are in mm.
- Under request, holes might be done for sealing, adapted to any distance for different sizes of the test block units (less than 10 elements). Other drillings and colours might also be supplied under request.
- Different sizes to cover up to 25 terminal blocks can be manufactured under request. Ask for delivery time and minimum order quantity.

459

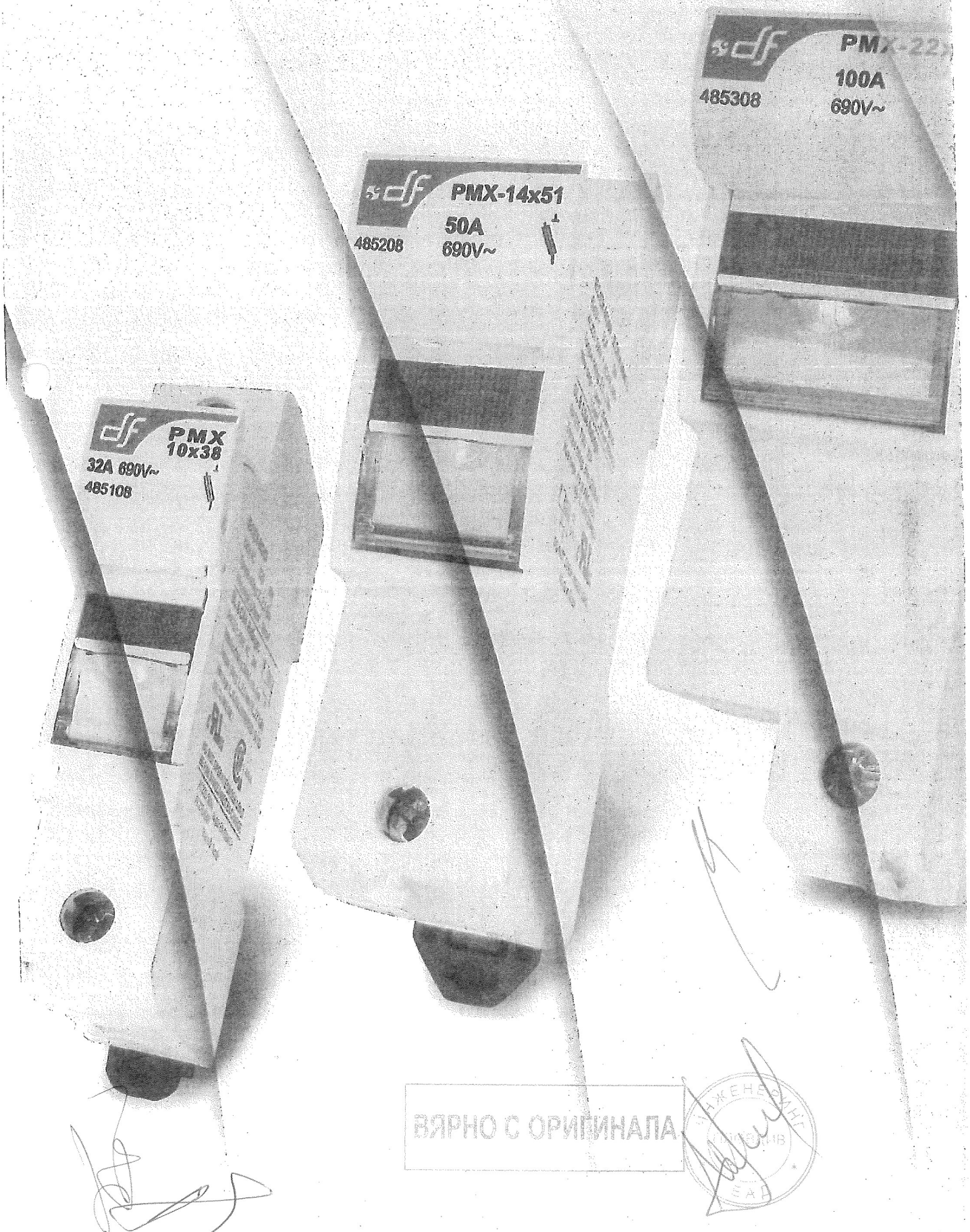
df Electric



fuse holders

CYLINDRICAL

760



CYLINDRICAL

FUSE HOLDERS

CYLINDRICAL FUSE HOLDERS

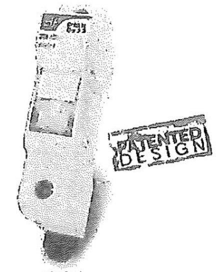
DF Electric

PMX MODULAR FUSE HOLDERS NEW

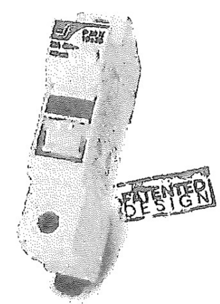
- Available in a extended range of different versions with fuse indicator, with microswitch, 690V, 24 V DC, Microswitch FUSING+PRE-BREAKING+FUSE LINK DETECTION.
- Accessory available to lock the fuse holder by a padlock.
- IP20 Security accessory in terminal zones. For wires of section ≤10 mm^2.
- All the versions with label holder for a good circuit identification.
- Compact design.
- Accessories for multiple poles assembly for fuse holders and microswitch.
- Ventilation zones optimized for a better heat dissipation.
- 2 position DIN Rail fixation.
- Made of a polymer high performance with a fusion temperature more than 300 °C. This provides a safety margin against a possible overheating of the fuse, and when it exceeds the rated power acceptance of the fuse holder.
- The PMX fuse holder can be fixed/unfixed on DIN rail with the same screwing tools that the installer uses for cable terminal fixing, regardless the screw driver head is in form of slot or PZ2.
- PMX Fuse holder is made of halogen free plastic, prepared for future restrictions on these substances.
- IEC (CB) tested.

www.df-sa.es/cylindrical/fuseholders/PMX/

	POLES	MODULES	REFERENCE WITHOUT INDICATOR	REFERENCE WITH INDICATOR	I_n (A)	U (V)	PACKING Uni/BOX
8x32	I	1	485001	485008	25	400V AC/DC	12/180
	I+N	2	485003	485009	25	400V AC/DC	6/90
	2	2	485004	485010	25	400V AC/DC	6/90
	3	3	485005	485011	25	400V AC/DC	4/60
	3+N	4	485006	485012	25	400V AC/DC	3/45
	4	4	485007	485013	25	400V AC/DC	3/45
10x38	I	1	485101 cULus	485108 cULus	32	690VAC - 750VDC	12/180
	N	1	485102 cULus	–	32	690VAC - 750VDC	12/180
	I+N	2	485103 cULus	485109 cULus	32	690VAC - 750VDC	6/90
	2	2	485104 cULus	485110 cULus	32	690VAC - 750VDC	6/90
	3	3	485105 cULus	485111 cULus	32	690VAC - 750VDC	4/60
	3+N	4	485106 cULus	485112 cULus	32	690VAC - 750VDC	3/45
	4	4	485107 cULus	485113 cULus	32	690VAC - 750VDC	3/45
10x38 24VDC	1	1,5	–	485114 cULus	32	24DC	12
	2	3	–	485116 cULus	32	24DC	12



485001



485108

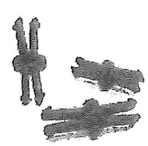
PMX MODULAR FUSE HOLDERS NEW
ACCESSORIES

8x32

10x38

REFERENCE	DESCRIPTION	PACKING
480005	PIN FOR MULTIPOLE ASSEMBLY	12
485050	HANDLE TIES FOR MULTIPOLE ASSEMBLY	12
485051	LOCK ACCESSORY	5
485052	SPECIAL IP20 PROTECTION ACCESSORY	24
485053	PHASE SEPARATOR ACCESORY	12
485054	REPLACEMENT FUSING NEON INDICATOR 120/690V AC	6
485055	REPLACEMENT FUSING LED INDICADOR 24V DC	6
485656	SCREWS PROTECTION ACCESSORY	20

485050



480005

ВЯРНО С ОРИГИНАЛА

STANDARDS	STANDARDS	APPROVALS	TECHNICAL	TECHNICAL	TECHNICAL	TECHNICAL
IEC 60269-1 IEC 60269-2 EN 60269-1 EN 60269-2	CSA C22.2 4248-1 UL 4248-1	cULus IEC RoHS compliant	TECHNICAL DATA PAGE 11	PMX FUSE HOLDERS MULTI-POLE ASSEMBLY PAGE 12	DIMENSIONS PAGE 12	PMX FUSE HOLDERS ASSEMBLY ... IDENTIFICATION ... LASER ... SYSTEM PAGE 14

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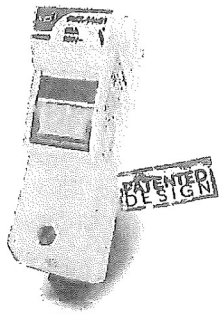
CYLINDRICAL FUSE HOLDERS

PMX MODULAR FUSE HOLDERS NEW

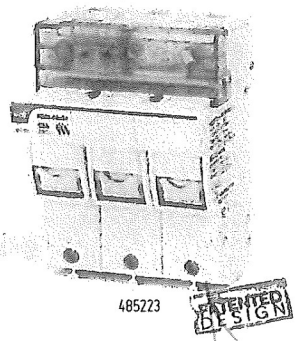
	POLES	MODULES	REFERENCE WITHOUT INDICATOR	REFERENCE WITH INDICATOR	I_n (A)	U (V)	PACKING Uni/BOX
14x51	I	1,5	485201	485208	50	690	6/90
	N	1,5	485202	–	50	690	6/90
	I+N	3	485203	485209	50	690	3/45
	2	3	485204	485210	50	690	3/45
	3	4,5	485205	485211	50	690	2/30
	3+N	6	485206	485212	50	690	1/18
	4	6	485207	485213	50	690	1/18
14x51 24VDC	1	1,5	–	485214	50	24	6/90
	1+N	3	–	485215	50	24	3/45
	2	3	–	485216	50	24	3/45



485208

PMX MODULAR FUSE HOLDERS NEW WITH MICROSWITCH

	POLES	MODULES	REFERENCE PREBREAKING FUSING - PRESENCE	REFERENCE ONLY FUSION	I_n (A)	U (V)	PACKING Uni/BOX
14x51	I	1,5	485220	485226	50	690	6/90
	I + N	3	485221	485227	50	690	3/45
	2	3	485222	485228	50	690	3/45
	3	4,5	485223	485229	50	690	2/30
	3+N	6	485224	485230	50	690	1/18
	4	6	485225	485231	50	690	1/18

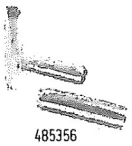


485223

PMX MODULAR FUSE HOLDERS NEW ACCESSORIES

14x51

REFERENCE	DESCRIPTION	PACKING
480005	PIN FOR MULTIPOLE ASSEMBLY	12
485356	HANDLE TIES FOR MULTIPOLE ASSEMBLY	12
485357	HANDLE TIES FOR MICROSWITCH ASSEMBLY	12
485258	LOCK SUPPORT	5
485259	MICROSWITCH 1P *	5
485260	MICROSWITCH 3P *	2
485261	MICROSWITCH 3P (2M) *	2
485262	MICROSWITCH UNIPOLAR EXTENSION	5
485263	MICROSWITCH TRIPOLAR EXTENSION	2
485264	REPLACEMENT FUSING INDICATOR NEON 120/690 VAC	3
485265	REPLACEMENT FUSING INDICATOR LED 24 VDC	3
485266	SPECIAL PROTECTION IP20 ACCESSORY PMX-14	12
	SPECIAL CONNECTION M6 ACCESSORY	12
485656	SCREW PROTECTION ACCESSORY	12


485356


480005


485258

* TO CONVERT STANDARD BASE ON MICROSWITCH BASE ONLY FUSING AND AS MICROSWITCH PMX SPARE PREBREAKING-FUSING-PRESENCE

STANDARDS: IEC 60269-1, IEC 60269-2, EN 60269-1, EN 60269-2
STANDARDS: CSA C22.2 248-1, UL 4248-1
APPROVALS
TECHNICAL: PAGE 11
TECHNICAL: PAGE 12
TECHNICAL: PAGE 13
TECHNICAL: PAGE 14

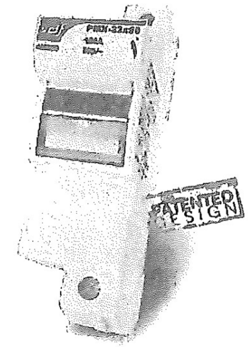
CYLINDRICAL FUSE HOLDERS

df Electric

PMX MODULAR FUSE HOLDERS

	POLES	MODULES	REFERENCE WITHOUT INDICATOR	REFERENCE WITH INDICATOR	In (A)	U (V)	PACKING Uni./BOX
22x58	1	2	485301 cULus	485308 cULus	100*	690	6/48
	N	2	485302 cULus	–	100*	690	6/48
	1+N	4	485303 cULus	485309 cULus	100*	690	3/24
	2	4	485304 cULus	485310 cULus	100*	690	3/24
	3	6	485305 cULus	485311 cULus	100*	690	2/16
	3+N	8	485306 cULus	485312 cULus	100*	690	1/8
	4	8	485307 cULus	485313 cULus	100*	690	1/8
22x58 24VDC	1	2	–	485314 cULus	100*	24	6/48
	1+N	4	–	485315 cULus	100*	24	3/24
	2	4	–	485316 cULus	100*	24	3/24

* ACCEPT 125A FUSE-LINKS

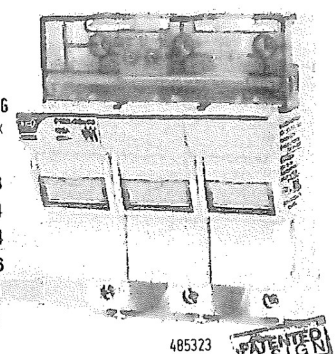


485308

PMX MODULAR FUSE HOLDERS WITH MICROSWITCH

	POLES	MODULES	REFERENCE PREBREAKING FUSING - PRESENCE	REFERENCE ONLY FUSION	In (A)	U (V)	PACKING Uni./BOX
22x58	1	2	485320 cULus	485326 cULus	100*	690	6/48
	1+N	4	485321 cULus	485327 cULus	100*	690	3/24
	2	4	485322 cULus	485328 cULus	100*	690	3/24
	3	6	485323 cULus	485329 cULus	100*	690	2/16
	3+N	8	485324 cULus	485330 cULus	100*	690	1/8
	4	8	485325 cULus	485331 cULus	100*	690	1/8

* ACCEPT 125A FUSE-LINKS



485323

PMX MODULAR FUSE HOLDERS ACCESSORIES

22x58

REFERENCE	DESCRIPTION	PACKING
480005	PIN FOR MULTIPOLE ASSEMBLY	12
485356	HANDLE TIES FOR MULTIPOLE ASSEMBLY	12
485357	HANDLE TIES FOR MICROSWITCH ASSEMBLY	12
485358	LOCK SUPPORT	5
485359	MICROSWITCH 1P *	5
485360	MICROSWITCH 3P *	2
485361	MICROSWITCH 3P (2M) *	2
485362	MICROSWITCH UNIPOLAR EXTENSION	5
485363	MICROSWITCH TRIPOLAR EXTENSION	2
485364	REPLACEMENT FUSING INDICATOR NEON 120/690 VAC	3
485365	REPLACEMENT FUSING INDICATOR LED 24 VDC	3
485366	SPECIAL PROTECTION IP20 ACCESSORIE PMX-22	12
485367	SPECIAL CONNECTION M8 ACCESSORY	12

* TO CONVERT STANDARD BASE ON MICROSWITCH BASE ONLY FUSING AND AS MICROSWITCH PMX SPARE PREBREAKING- FUSING-PRESENCE

485360

485366

STANDARDS	STANDARDS	APPROVALS	TECHNICAL	TECHNICAL	TECHNICAL	TECHNICAL
IEC 60269-1 IEC 60269-2 EN 60269-1 EN 60269-2	CSA C22.2 4248-1 UL 4248-1	cULus IEC RoHS compliant	TECHNICAL DATA PAGE 11	PMX FUSE HOLDERS MULTI-POLE ASSEMBLY PAGE 12	DIMENSIONS PAGE 13	PMX FUSE HOLDERS ASSEMBLY MICROSWITCH IDENTIFICATIONS LABELS PAGE 14

465

CYLINDRICAL FUSE HOLDERS

df Electric

PMC COMPACT FUSE HOLDERS

NEW

Compact fuse holders for industrial cylindrical fuse links. Very low dimensions. For mounting on DIN/EN rail. Single phase models or single phase + neutral in only one module. Multi-pole units can be made with connection accessories. PMC fuse holders are made with self-extinguishable materials and have silver plated copper contacts.

www.df-sa.es/cylindrical/fuseholders/PMC/

	POLES	MODULES 17,5 mm	REFERENCE	I_n (A)	U (V)	PACKING Uni /BOX
8x32	I	1	483500	25	400	12/336
	N	1	483502	32	400	12/336
	I + N	1	483504	25	400	12/336
	I + N	2	483506	25	400	6/168
	2	2	483508	25	400	6/168
	3	3	483510	25	400	4/112
	3 + N	3	483512	25	400	4/112
	3 + N	4	483514	25	400	3/84
	4	4	483516	25	400	3/84
10x38	I	1	483530	32	500	12/336
	N	1	483502	32	500	12/336
	I + N	1	483534	32	500	12/336
	I + N	2	483536	32	500	6/168
	2	2	483538	32	500	6/168
	3	3	483540	32	500	4/112
	3 + N	3	483542	32	500	4/112
	3 + N	4	483544	32	500	3/84
	4	4	483546	32	500	3/84

483530

PMC COMPACT FUSE HOLDERS ACCESSORIES

8x32
10x38

SIZE	REFERENCE	DESCRIPTION	PACKING
8x32 / 10x38	480005	PINS FOR MULTIPOLE ASSEMBLY	12/300
8x32 / 10x38	483550	PMC HANDLE TIES FOR MULTIPOLE ASSEMBLY	12/300
8x32 / 10x38	483552	PMC MULTIPOLE ASSEMBLY KIT	12/300

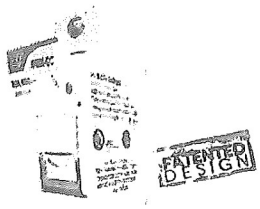
PMX CC MODULAR FUSE HOLDERS

NEW

Modular fuse holders for cylindrical CC class fuse links. For mounting on DIN/EN rail. Single phase and multi-pole types. Available with fusing indicator Multi-pole units can be made with connection accessories. PMCC fuse holders are made with self-extinguishable materials and have silver plated copper contacts. UL approval.

www.df-sa.es/cylindrical/fuseholders/PMCC/

POLES	REFERENCE WITHOUT INDICATOR	REFERENCE WITH INDICATOR	I_n (A)	U (V)	PACKING Uni /BOX
I	485181 (UL)	485188 (UL)	30	600	12/192
II	485184 (UL)	485190 (UL)	30	600	6/96
III	485185 (UL)	485191 (UL)	30	600	4/64



485181

STANDARDS: IEC 60269-1, IEC 60269-2, EN 60269-1, EN 60269-2

STANDARDS: CSA C22.2 4248-1, UL 4248-1, UL 4248-4

APPROVALS: UL, RoHS compliant, CHAMU

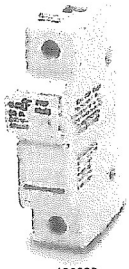
TECHNICAL TABLES PAGE 11
TECHNICAL FUSES & PMCF FUSE HOLDERS MULTI-POLE ASSEMBLY PAGE 12
TECHNICAL DIMENSIONS PAGE 17

YGG

CYLINDRICAL FUSE HOLDERS

PMF MODULAR FUSE HOLDERS WITH INTEGRATED NEUTRAL

Modular fuse holders for industrial cylindrical fuse links. For mounting on DIN/EN rail. Single phase models, single-phase+neutral in only one module and multi-pole types. Available with fusing indicator or with microswitch for use with fuse links with striker (only fusing detection or fusing+pre-breaking+fuse link detection). Multi-pole units can be made of connection accessories. PMF fuse holders are made of self-extinguishable materials and have silver plated copper contacts.
www.df-sa.es/cylindrical/fuseholders/PMF/


480032

	POLES	MODULES 17.5 mm	REFERENCE WITHOUT INDICATOR	REFERENCE WITH INDICATOR	I_n (A)	U (V)	PACKING Uni/BOX
8x32	I + N	1	480125	480125 I	25	400	12/192
	3 + N	3	480325	480325 I	25	400	4/64
10x38	I	1	480032	–	32	690	12/192
	N	1	480032 N	–	32	690	12/192
	I + N	1	480135	480335 I	32	400	12/192
	I + N	2	480132	–	32	690	6/96
	2	2	480232	–	32	690	6/96
	3	3	480332	–	32	690	4/64
	3 + N	3	480335	–	32	400	4/64
	3 + N	4	480432	–	32	690	3/48
	4	4	480532	–	32	690	3/48

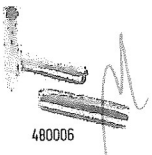

4801351

PMF MODULAR FUSE HOLDERS ACCESSORIES

8x32
10x38

REFERENCE	DESCRIPTION	PACKING
480005	PINS FOR MULTIPOLE ASSEMBLY	12
480006	HANDLE TIES FOR MULTIPOLE ASSEMBLY	12


480005


480006

PMF PMX PMC PMCC CONNECTION ACCESSORIES PHASE BUSBARS NEW

POLES	MODULES	REFERENCE	SECTION (mm^2)	PACKING
I	13	485600	10	10
I	57	485601	10	10
II	12	485602	10	6


485600

PMF PMX PMC PMCC CONNECTION ACCESSORIES ACCESSORIES FOR PHASE BUSBARS NEW

REFERENCE	DESCRIPTION	PACKING
485603	INSULATED TERMINAL 6..25 mm^2 (FEEDING ACROSS)	10
485604	INSULATED TERMINAL 6..50 mm^2 (FEEDING ACROSS)	50
485605	END COVER FOR 1 PHASE BUSBAR	50


485603


485605

STANDARDS: EC 60269-1, EC 60269-2, EN 60269-1, EN 60269-2
APPROVALS: RoHS compliant

TECHNICAL TECHNICAL DATA PAGE 11
TECHNICAL PMF FUSE-HOLDERS MULTI-POLE ASSEMBLY PAGE 12
TECHNICAL DIMENSIONS PAGE 17
TECHNICAL PHASE BUSBARS ACCESSORIES DIMENSIONS PAGE 21

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CYLINDRICAL FUSE HOLDERS

SC SCREW FIXING FUSE HOLDERS

Fuse holders for industrial cylindrical fuse links. Screw fixing.Available single-pole and neutrals.
SC fuse holders are made with self-extinguishable materials and have silver plated copper contacts.
www.df-sa.es/cylindrical/fuseholders/SC/

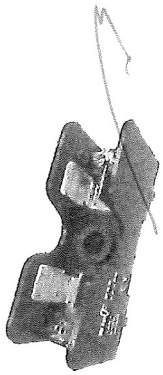
	POLES	MODULES 17,5 mm	REFERENCE	I_n (A)	U (V)	PACKING Uni/BOX
8x32	I	1	451025	25	400	12
	N	1	451025 N	25	400	12
10x38	I	1	451032	32	500	12
	N	1	451032 N	32	500	12
14x51	I	1	451050	50	690	12
	N	1	451050 N	50	690	12
22x58	I	1	451100	100	690	6
	N	1	451100 N	100	690	6


451032

BAC OPEN FUSE BASES

Open bases for cylindrical fuses. The bases BAC for cylindrical fuses are particularly suitable for semiconductor fuses with high power dissipation and therefore needed to be mounted on open bases to facilitate the heat dissipation. Fixation on panel by screw. Made of thermosetting self extinguishing material.
www.df-sa.es/cylindrical/fuseholders/BAC/

	REFERENCE	I_n (A)	U (V)	PACKING Uni/BOX
10x38	451210	32	690	20/300
14x51	451220	50	690	10/240
22x58	451230	100	690	10/120


451230

STANDARDS: IEC 60269-1, IEC 60269-2, EN 60269-1, EN 60269-2
APPROVALS: RoHS compliant

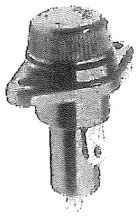
TECHNICAL TECHNICAL DATA PAGE 11
TECHNICAL DIMENSIONS PAGE 18

CYLINDRICAL FUSE HOLDERS

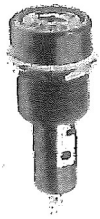
PMP PANEL MOUNTING FUSE HOLDERS NEW

www.df-sa.es/cylindrical/fuseholders/PMP/

	REFERENCE	DESCRIPTION	I_n (A)	U (V)	PACKING Uni / BOX
10x38	486001	BAYONET FIXING	30	600	10/100
	486002	SCREW FIXING	30	600	10/100



486001

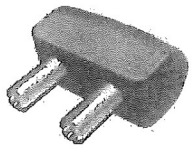


486002

PMB PLUG CONNECTION FUSE HOLDERS NEW

www.df-sa.es/cylindrical/fuseholders/PMB/

	REFERENCE	I_n (A)	U (V)	PACKING Uni / BOX
10x38	490030	32	500	20/100



CLIP CONTACT FOR Ø10 FUSE-LINKS NEW

Clip contact for Ø10 cylindrical fuse links. Screw fixation and PCB versions. Manufactured in tinned bronze. All the materials are according to the European Directive 2002/95/EC RoHS (Restriction of the use of certain hazardous substances in electrical material).

	REFERENCE	DESCRIPTION	I_n (A)	Pd max (W)	PACKING Uni / BOX
10x38 10x85	482001	Ø10 CLIP CONTACT SCREW FIXATION	25	4	50/200
	482002	Ø10 CLIP CONTACT FOR PCB	25	4	50/200

482001

482002

CYLINDRICAL MODULAR FUSE HOLDERS

		PMF 8x32	PMF 10x38	PMX 8x32	PMX 10x38	PMX 14x51	PMX 22x58	PMX CC	PMC 8x32	PMC 10x38	BAC 10x38	BAC 14x51	BAC 22x58	PMP 10x38
RATED CURRENT		25 A	32 A	25 A	32 A	50 A	100 A	30 A	25 A	32 A	32 A	50 A	100 A	30 A
RATED VOLTAGE		400 V	690 V	400 V	690 V AC 750 V DC	690 V	690 V	600 V	400 V	690 V	690 V	690 V	690 V	600 V
RATED POWER DISSIPATION		2,5 W	3 W	2,5 W	3 W	5 W	9,5 W	3 W	3 W	3 W	8 W	12 W	20 W	
UTILIZATION CATEGORY		AC-22B 400V	AC-22B 500V AC-21B 690 V	AC-22B 400 V	AC-22B 500 V AC-21B 690 V DC-20B 750 V DC	AC-22B 500 V AC-21B 690 V	AC-21B 690 V	–	AC-20	AC-20				
PROTECTION DEGREE		IP-20	IP-20	IP-20	IP-20	IP-20	IP-20	IP-20	IP-20	IP-20	IP-00	IP-00	IP-00	
OPERATING TEMPERATURE		-20 .. 70 °C	-20 ... 70 °C	-20 ... 70 °C	-20 ... 70 °C	-20 ... 70 °C	-20 ... 70 °C	-20 ... 70 °C	-20 ... 70 °C	-20 .. 70 °C	-20 ... 60 °C	-20 ... 60 °C	-20 ... 60 °C	-20 ... 70 °C
STORAGE TEMPERATURE		-40 .. 80 °C	-40 ... 80 °C	-40 .. 80 °C	-40 ... 80 °C	-40 ... 80 °C	-40 ... 80 °C	-40 ... 80 °C	-40 ... 80 °C	-40 .. 80 °C	-40 ... 80 °C	-40 ... 80 °C	-40 ... 80 °C	-40 ... 80 °C
DERATING TEMPERATURE	20 °C	1	1	1	1	1	1	1	1	1				1
	30 °C	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95	0,95				0,95
	40 °C	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9				0,9
	50 °C	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8				0,8
DERATING N° OF POLES	1 ...4	1	1	1	1	1	1	1	1	1				
	5 ... 6	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8				
	7 ... 9	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7				
	≥ 10	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6				
FIXING	RAIL DIN / EN	•	•	•	•	•	•	•	•	•				
	SCREW	–	–	–	–	–	–	–	–	–				
CONNECTING WIRE		0,75 ...16 mm² STRANDED 0,75 ... 25 mm² SOLID 0,75...10 mm2 STRANDED (1P+N 1M) 0,75...16 mm2 SOLID (1P+N 1M)		0,75...16 mm² STRANDED 0,75...16 mm² SOLID	0,75...16 mm² STRANDED 0,75...16 mm² SOLID	1,5...25 mm² STRANDED 1,5...35 mm² SOLID	1,5...35 mm² STRANDED 1,5...50 mm² SOLID	0,75...16 mm² STRANDED 0,75...16 mm² SOLID	0,75...6 mm² STRANDED 0,75...10 mm² SOLID	0,75...6 mm² STRANDED 0,75...10 mm² SOLID	Ø 4 mm TERMINAL	2,5...35 mm² STRANDED 4...35 mm² SOLID	4...70 mm² STRANDED 6...95 mm² SOLID	
WITH LIGHTNING INDICATOR		120.. 400V AC	120...690V AC 12...24V DC	120.. 400V AC	120...690V AC 12...24V DC	230...690V AC 24...60 VDC	230...690V AC 24...60 VDC	120...690V AC 12...24V DC	–	–				
MAX. TIGHTENING TORQUE		2,5 Nm 2 Nm (1P+N 1M)	2,5 Nm 2 Nm (1P+N 1M)	2,5 Nm	2,5 Nm	3 Nm	4 Nm	2,5 Nm	2 Nm	2 Nm	2,5 Nm	2,5 Nm	3,5 Nm	
WITH MICROSWITCH 5A-250V	FUSING	–	–	–	–	•	•	•	–	–				
	PREBREAKING PRESENCE FUSING	–	–	–	–	•	•	•	–	–				
MULTIPOLAR UNION WITH ACCESSORIES		•	•	•	•	•	•	•	•	•				
LABEL HOLDER		–	–	•	•	•	•	•	–	–				
LOCKING ACCESSORIES		–	–	•	•	•	•	•	–	–				