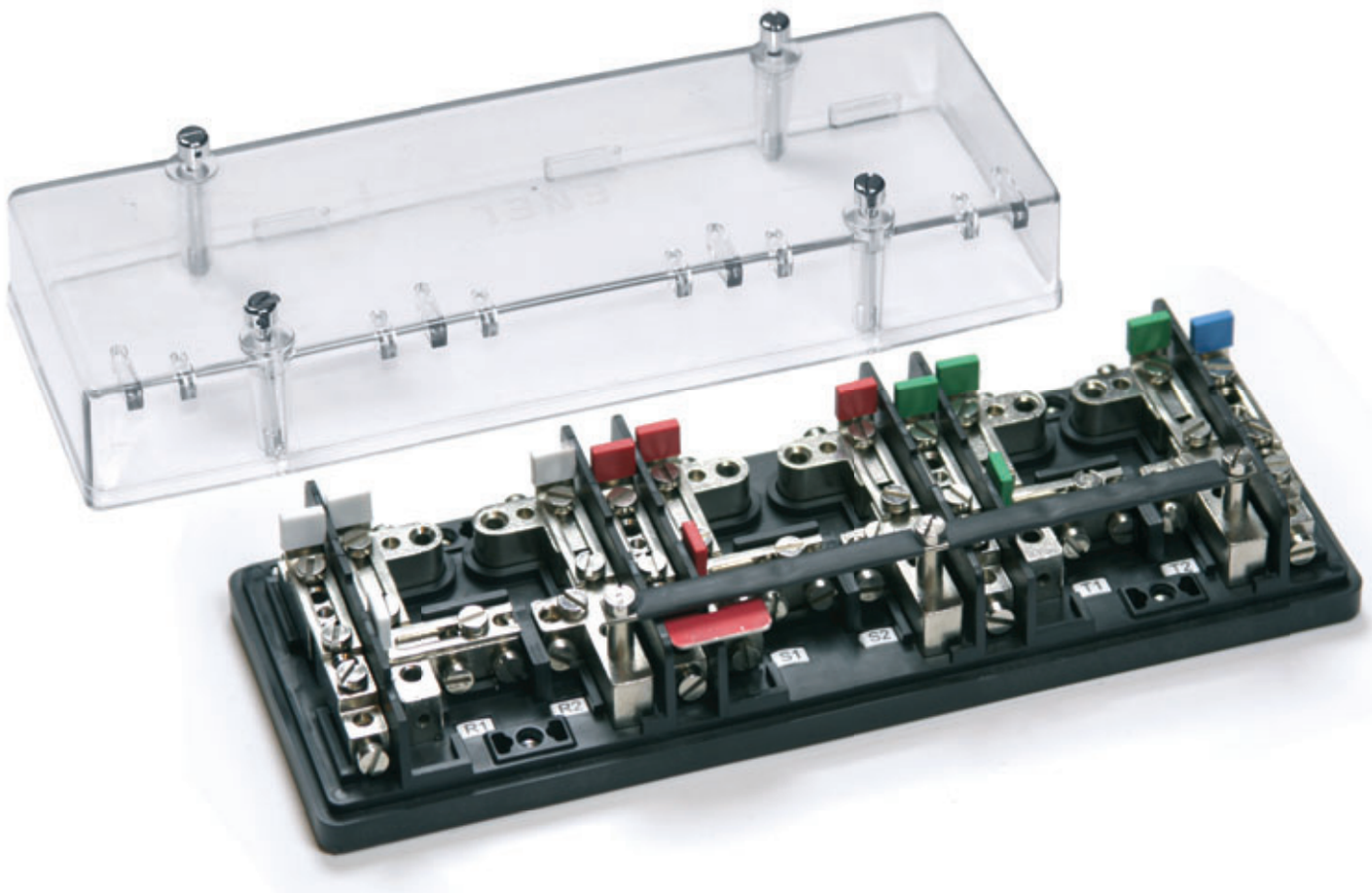
Terminal boards for metering panels



Cabur control terminal boards have been developed in order to enable electric power suppliers and users to easily check measuring instruments, without interrupting the current carrying circuits during the verification itself or during the replacement of the instruments.

Each terminal board is composed by an insulating body, carrying the copper zinc alloy terminals to which the ammeter, voltmeter circuits and the devices for disconnect and short circuit operations are connected. Each terminal board is supplied with a transparent cover (of cellulose acetate), provided with appropriate captive screws for the sealing of the assembly.

In two-phase and three-phase terminal boards, the insulating base is built from Kelon (an abbreviation of Keramic + Nylon): this is a nylon 6 based, self-extinguishing UL94V-0 polymer with the addition of special ceramic spheres and subsequent thermal stability. The inclusion of the microspheres and the thermal procedure make the item extremely hardwearing (rigid, but also able to withstand impacts and wear and tear)

The current phases are marked in different colours, to be defined when ordering.

TECHNICAL CHARACTERISTICS	
rated cross-section	6 mm²
connecting capacity	
flexible conductors	0,5 ÷ 6 mm²
rigid conductors	0,5 ÷ 6 mm²
conductors insertion hole	Ø 4,1 (mm)
tightening torque	1,2 (Nm)
rated current (conf. to IEC 60947-7-1)	57 A
rated voltage (conf. to IEC 60947-7-1)	500 V
rated impulse withstand voltage / pollution degree	6 KV / 3

MCM Series

The use of **MCM** series control terminal boards allows:

1) disconnection, upstream and downstream the measuring instruments
2) the insertion of a test instrument, downstream or upstream the measuring instruments
3) shunting, by means of common plugs, from the four connection terminals
4) voltage transmission from the beginning of the ammeter circuit to the disconnect slide-link by means of a simple cross connections.

In normal service, voltmeter leads are connected to the R-S-T terminals, whilst the ammeter leads, are to be inserted in the terminals identified R1-R2, S1-S2, T1-T2. The instruments are connected to terminals 1 and 2. The vertical slide-link cross connections are closed, the horizontal slide-link cross connections are open.

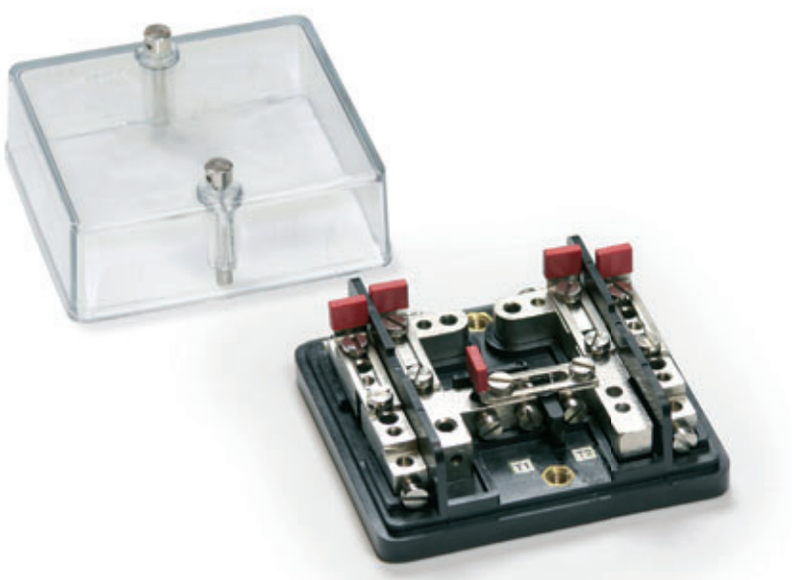
When inserting control instruments, the following instructions are to be followed:

- by means of normal plugs, the voltmeter leads must be shunted from the test instrument on to the voltage sockets of the disconnect slide-link or to the insertion blocks of the fuse-holders;
- the ammeter leads of the test instruments must be inserted in sockets 1 ad R1 or 2 ad R2; same procedure is to be followed for the other phases;
- therefore, the corresponding vertical slide-link must be disconnected.

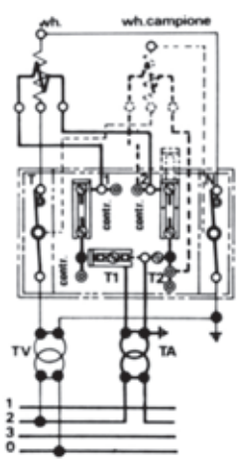
If there is a need to replace a measuring instrument, it is necessary to previously close the horizontal slide-links, disconnect the vertical slide-links and open the slide-link.
Feeding conductors (incoming and outcoming) are inserted from the rear of the terminal board, with conductors passing through slots on the insulating base of the terminal board.

for single-phase connected electric power meters

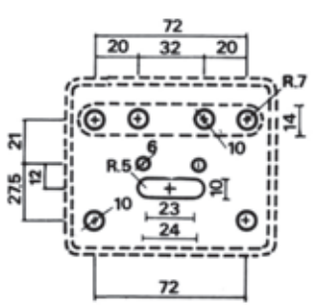
MCM.1



Overall dimension (with cover)
MCM.1: 95 x 85 x 48 mm



Application scheme



Fixing template

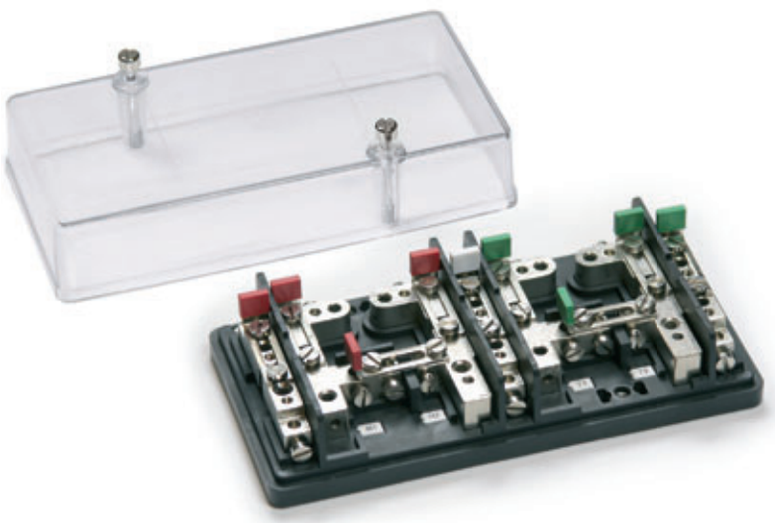
ENEL in order to identify phases, has adopted a particular colour convention, based on the sections where terminal blocks are installed.
From the left, phases are identified as follows:

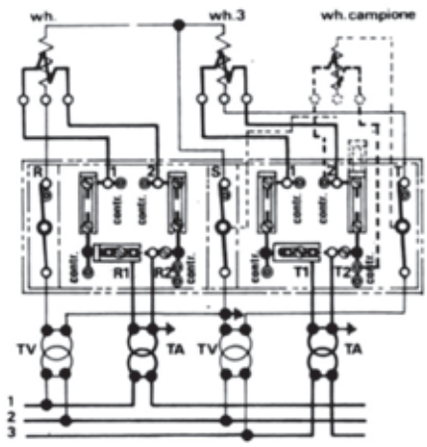
Type	Cat. No.
MCM.1/B (white)	**MC201B** (adopted in Campania and Lombardy)
MCM.1/G (yellow)	**MC201G** (adopted in Veneto and Trentino Alto Adige)
MCM.1/R (red)	**MC201R** (adopted in the rest of Italy)

MCM Series

for ARON connected
electric power meters

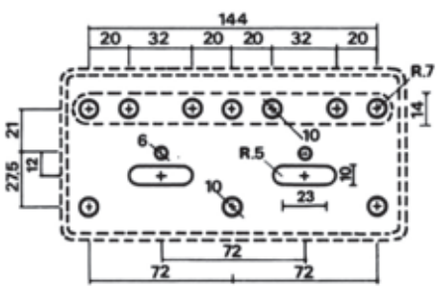
MCM.2





Application scheme

Overall dimension (with cover)
MCM.2: 170 x 85 x 48 mm



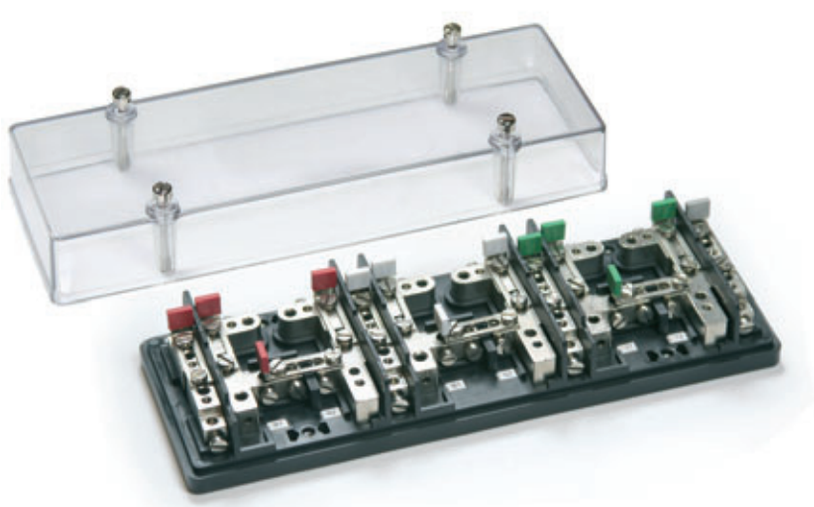
Fixing template

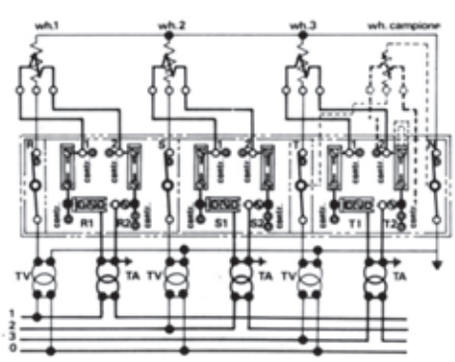
ENELin order to identify phases, has adopted a particular colour convention, based on the sections where terminal blocks are installed.
From the left, phases are identified as follows::

Type	Cat. No.
MCM.2/B (white)	**MC202B** (adopted in Campania and Lombardy)
MCM.2/G (yellow)	**MC202G** (adopted in Veneto and Trentino Alto Adige)
MCM.2/R (red)	**MC202R** (adopted in the rest of Italy)

for three-phase + neutral
connected electric power meters

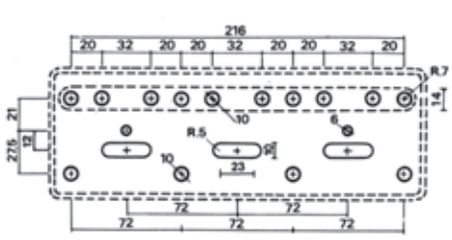
MCM.3





Application scheme

Overall dimension (with cover)
MCM.1: 95 x 85 x 48 mm



Fixing template

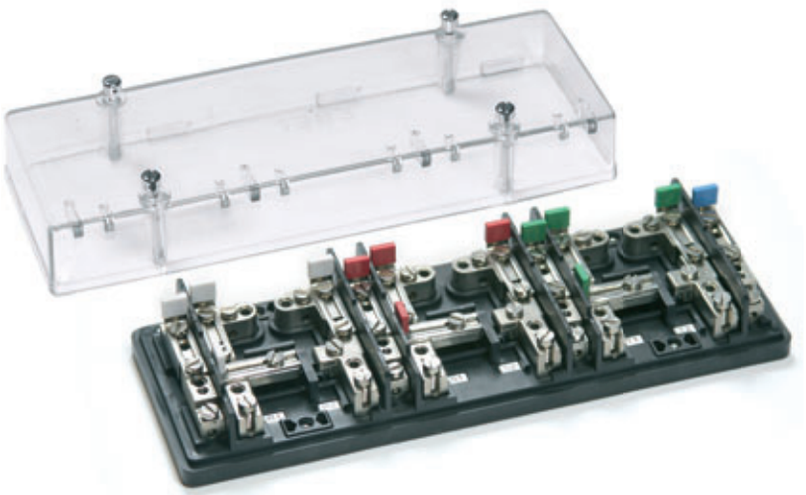
ENELin order to identify phases, has adopted a particular colour convention, based on the sections where terminal blocks are installed.
From the left, phases are identified as follows:

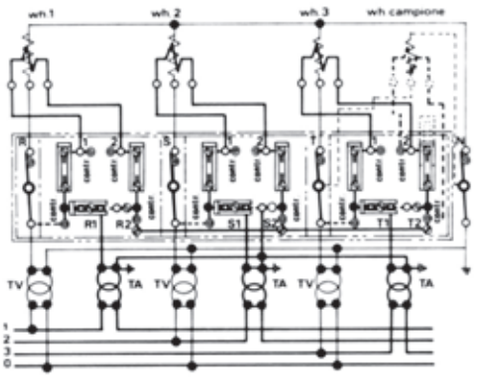
Type	Cat. No.
MCM.3/B (white)	**MC203B** (adopted in Campania and Lombardy)
MCM.3/G (yellow)	**MC203G** (adopted in Veneto and Trentino Alto Adige)
MCM.3/R (red)	**MC203R** (adopted in the rest of Italy)

MCM Series

for three-phase + neutral
connected electric power meters

MCM.3/VE



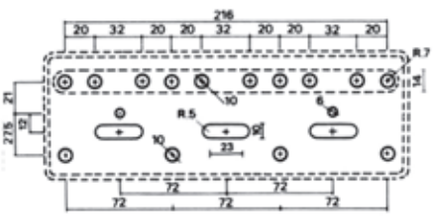


Application scheme

Overall dimension (with cover)
MCM.3/VE: 245 x 85 x 48 mm

ENELin order to identify phases, has adopted a particular colour convention, based on the sections where terminal blocks are installed.
From the left, phases are identified as follows:

Type	Cat. No.
MCM.3/VE/B (white)	**MC233B** (adopted in Campania and Lombardy)
MCM.3/VE/G (yellow)	**MC233G** (adopted in Veneto and Trentino Alto Adige)
MCM.3/VE/R (red)	**MC233R** (adopted in the rest of Italy)



Fixing template

MCT/SA Series

MCT/SA series differs from MCM series in that:

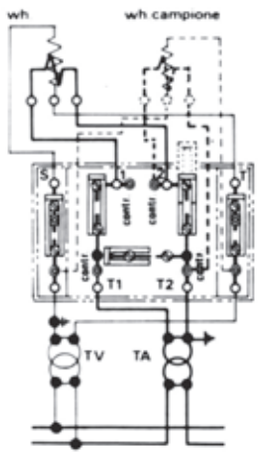
1) feeding conductors (incoming and outcoming) are inserted frontally instead from the rear of the terminal board, withconductors passing through slots on the upper and lower sides of the cover

2) the cover is provided with safety locks that prevent the closing if the slide-links are not in the correct position. The employment specifications of MCT/SA terminal boards are identical to those given for MCM series.

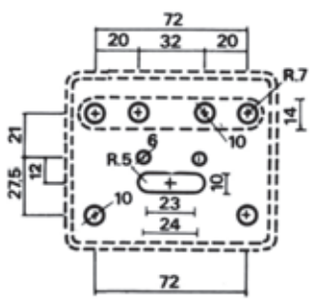
MCT/SA Series

for single-phase connected electric power meters

MCT.1/SA



Application scheme



Fixing template

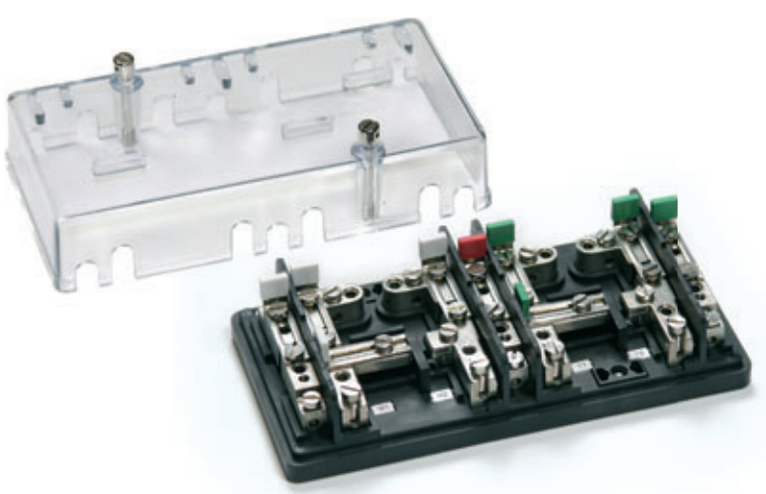
Overall dimension (with cover)
MCT.1/SA: 95 x 85 x 48 mm

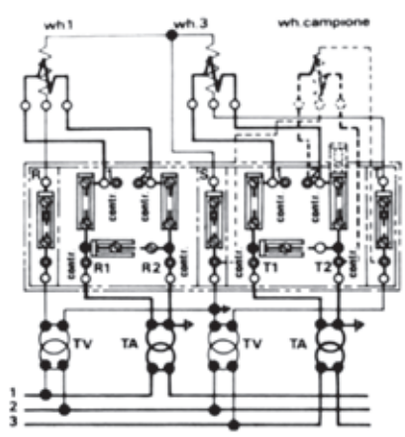
ENELin order to identify phases, has adopted a particular colour convention, based on the sections where terminal blocks are installed.
From the left, phases are identified as follows:

Type	Cat. No.
MCT.1/SA/B (white)	**MC401B** (adopted in Campania and Lombardy)
MCT.1/SA/G (yellow)	**MC401G** (adopted in Veneto and Trentino Alto Adige)
MCT.1/SA/R (red)	**MC401R** (adopted in the rest of Italy)

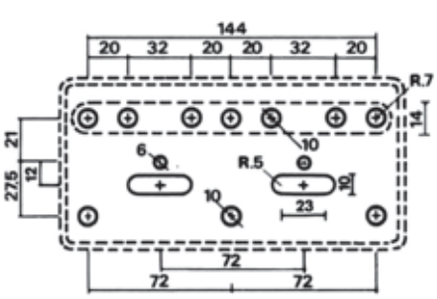
for ARON connected electric power meters

MCT.2/SA





Application scheme



Fixing template

Overall dimension (with cover)
MCT.2/SA: 170 x 85 x 48 mm

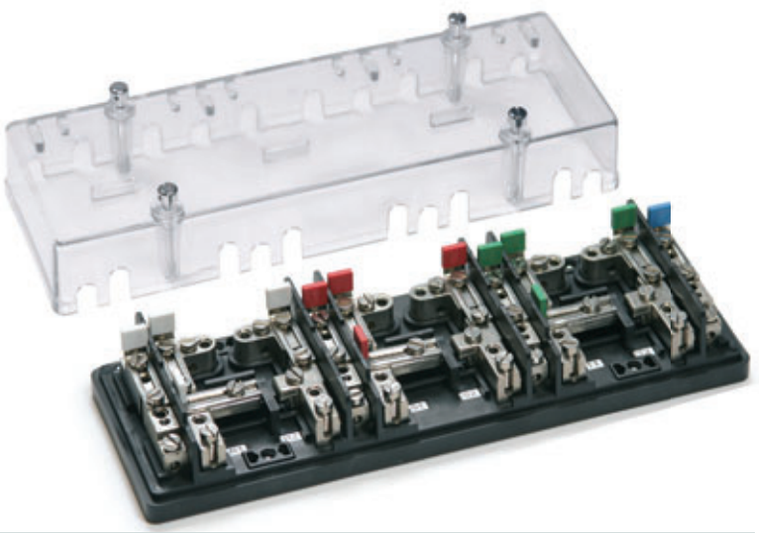
ENELin order to identify phases, has adopted a particular colour convention, based on the sections where terminal blocks are installed.
From the left, phases are identified as follows:

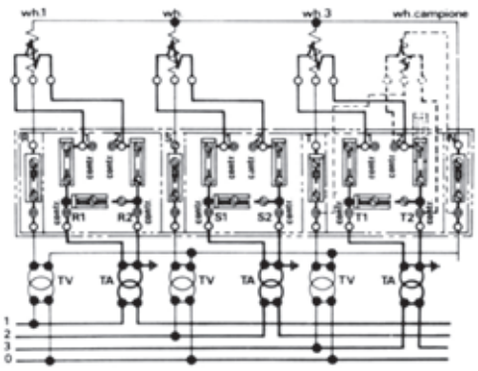
Type	Cat. No.
MCT.2/SA/B (white)	**MC402B** (adopted in Campania and Lombardy)
MCT.2/SA/G (yellow)	**MC402G** (adopted in Veneto and Trentino Alto Adige)
MCT.2/SA/R (red)	**MC402R** (adopted in the rest of Italy)

MCT/SA Series

for three-phase + neutral
connected electric power meters

MCT.3/SA



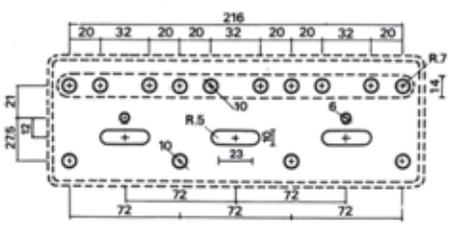


Application scheme

Overall dimension (with cover)
MCT.3/SA: 245 x 85 x 48 mm

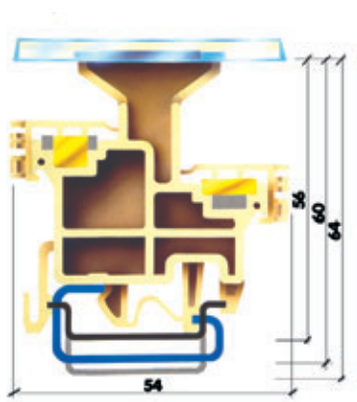
ENEL in order to identify phases, has adopted a particular colour convention, based on the sections where terminal blocks are installed.
From the left, phases are identified as follows:

Type	Cat. No.
MCT.3/SA/B (white)	**MC403B** (adopted in Campania and Lombardy)
MCT.3/SA/G (yellow)	**MC403G** (adopted in Veneto and Trentino Alto Adige)
MCT.3/SA/R (red)	**MC403R** (adopted in the rest of Italy)

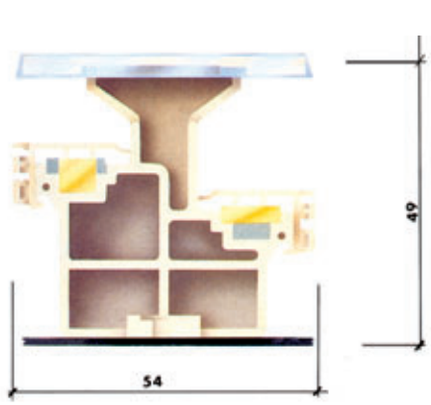


Fixing template

SDN neutral busbar supports



SDN/D

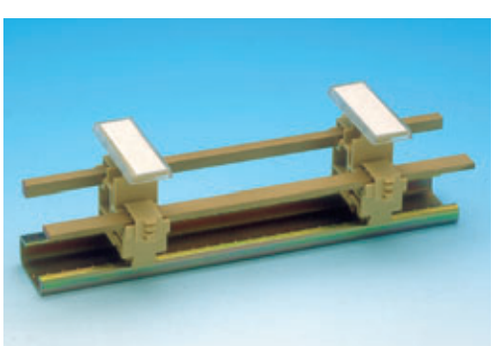


SDN/H

SDN/D (Cat. No. SD200)
to be mounted on rails according to IEC 60715 Std.

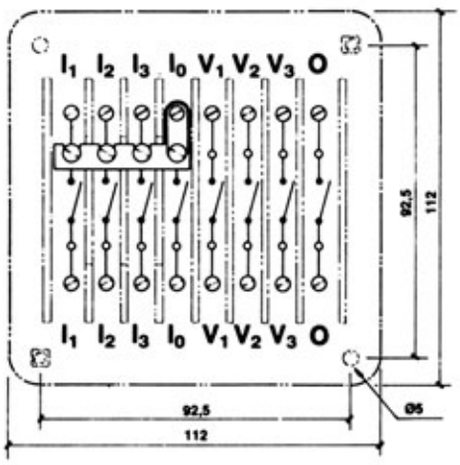
SDN/H (Cat. No. SD300)
to be screwed directly on panel

- **support pitch: 20 mm**
- **both types are suited for 6 x 6 mm or 10 x 3 mm busbars**
- **insulating body:** of beige polyamide (RAL 1001); KC 600 degree tracking resistance, UL94V-0 self-extinguishing degree. Temperature range: between - 30°C and +110°C. Provided with two housing for the marking compositions of letters or numbers (up to 3 figures), by means of CSC tags, and card holders with transparent protection for identification inscription.



MS.8x10 disconnect terminal board

8-poles, 4 ammetric and 4 voltmetric



MS/8x10/N

Cat. No. **MZ300N**

TECHNICAL CHARACTERISTICS

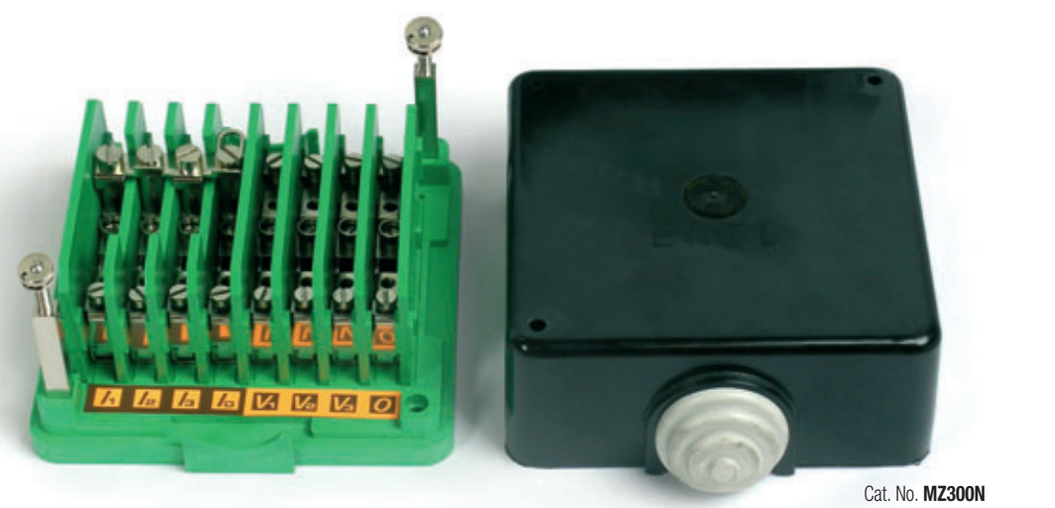
rated cross-section	10 mm²
connecting capacity	
flexible conductors	0,5 ÷ 16 mm²
conductors insertion hole	5 x 10 (mm)
test tightening torque	120 (Ncm)
rated current (conf. to IEC 60947-7-1)	57 A
rated voltage (conf. to IEC 60947-7-1)	500 V
rated impulse withstand voltage / pollution degree	6 KV / 3
thickness (with cover, including screws)	52 / 65 mm

Insulating body: of green polycarbonate, filled with fibreglass.
Conductor body: components of copper-zinc alloy with high percentage of copper and provided with nickel plating.
Cover: of black polyamide.

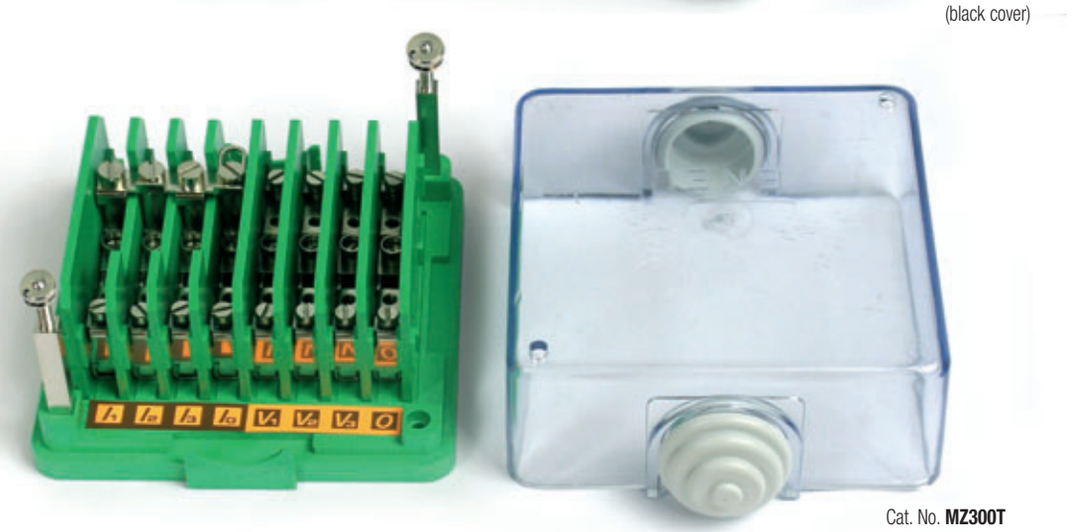
On request, the terminal board can be supplied according to different electrical schemes.

A version with cover in transparent cellulose acetate is available.

Type	Cat. No.
MS/8x10/T	**MZ300T**



Cat. No. **MZ300N**
(black cover)



Cat. No. **MZ300T**
(transparent cover)

QBLOK series

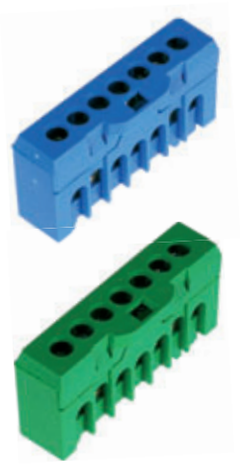
NEW

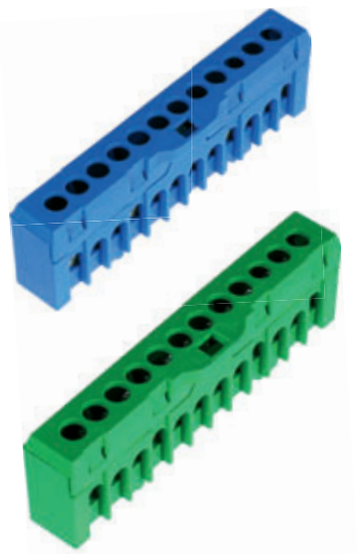
Applications

Distribution terminal boards are used as supplementary terminal boards for phase or neutral expansion inside electrical panels. They are also called equipotential terminal boards since they are used as equipotential nodes in distribution control units to house the earthing system.

General characteristics

- Configuration, with 7 and 12 holes
- Mounting onto PR/3, type “TH/35 “ rails according to IEC 60715 Std.
- Intrinsically IPXXB protected according to IEC 60529 Std.
- Marking possibility with CNU/8 or CNU/10 tags on each busbar
- Available in green and blue
- Insulating in polyamide 6.6 UL94V-0





Blue version	QBLOK.7/BLU Cat. No. QBLOK7001	QBLOK.12/BLU Cat. No. QBLOK1201
Green version	**QBLOK.7/TE Cat. No. QBLOK7002**	**QBLOK.12/TE Cat. No. QBLOK1202**
height / width / thickness ⌣ TH/35 7,5 mm	33 / 53 / 16	33 / 85 / 16
height / width / thickness ⌣ TH/35 15 mm	41 / 53 / 16	41 / 85 / 16
TECHNICAL CHARACTERISTICS		
function / type	Distribution terminal boards	Distribution terminal boards
number and diameter of holes	7 holes ø 5,3 mm	12 holes ø 5,3 mm
sezione nominale (mm²)	10	10
connecting capacity:		
flexible (mm²)	1,5 ÷ 10	1,5 ÷ 10
rigid (mm²)	1,5	1,5
max. flexible with ferrule (mm²)-ferrule type	10 - WP100/21	10 - WP100/21
rated voltage / rated current / gauge conf. to IEC 60947-1	500 V / 63 A / B5	500 V / 63 A / B5
rated impulse withstand voltage / pollution degree	-	-
insulation stripping length (mm)	6	6
tightening torque value (test / max) (Nm)	2 / 2,5 Nm	2 / 2,5 Nm
APPROVALS	IMQ pending	IMQ pending

ACCESSORIES	Type	Cat. No.	Type	Cat. No.
Marking tag printed or blank	**CNU/8/51**	NU0851	**CNU/8/51**	NU0851
End bracket	**BTU** for PR/DIN and PR/3	BT005	**BTU** for PR/DIN and PR/3	BT005
	BT/3-BTO for PR/3 only	BT003-BT007	**BT/3-BTO** for PR/3 only	BT003-BT007
Mounting rail ⌣ according to IEC 60715 Std.				
⌣	**PR/3/AC** of steel	PR003	**PR/3/AC** of steel	PR003
	PR/3/AS same with slots	PR005	**PR/3/AS** idem con asole	PR005

POLM series

Applications

Distribution terminal boards are used as supplementary terminal boards for phase or neutral expansion inside electrical panels. They are also called equipotential terminal boards since they are used as equipotential nodes in distribution control units to house the earthing system.

General characteristics

- Protected terminal boards with 7,11, and 15 holes
- Fixing: DIN rail or panel-mount with screws
- Rated voltage 500V according to IEC 60947-7-1 Std.
- Conforming to EU Low voltage Directive 2006/95/EC

Materials

- CW 614N Brass
- Zinc-plated steel screws with combinated single-slot and Phillips heads

CAT. NO.	TYPE	COLOUR	RATED CROSS-SECTION (mm²)	RATED CURRENT	NUMBER OF HOLES
QPOL1203	POLM.1215	Grey	12 x 1,5 2 x 2,5 1 x 16	80 A	The 16mm² diameter hole is screw-clamped type
QPOL1204	POLM.1215/TE	Blue	12 x 1,5 2 x 2,5 1 x 16	80 A	The 16mm² diameter hole is screw-clamped type
QPOL1205	POLM.1215/BLU	Green	12 x 1,5 2 x 2,5 1 x 16	80 A	The 16mm² diameter hole is screw-clamped type
QPOL7005	POLM.7/TRA	Transparent	1,5-10,0	57 A	7
QPOL1105	POLM.11/TRA	Transparent	1,5-10,0	57 A	11
QPOL1505	POLM.15/TRA	Transparent	1,5-10,0	57 A	15


Spring clamp

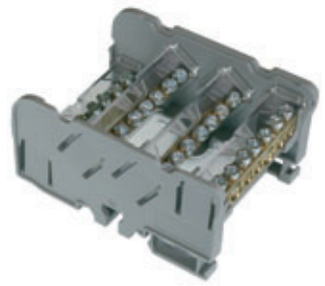

Spring clamp


Spring clamp

QBLOK series

Applications
Distribution terminal boards

General characteristics
- Four pole configuration, with 2 ø 7,5 mm holes and 5 ø 5,4 mm holes
- Mounting onto PR/3, type “TH/35 “ rails according to IEC 60715 Std. or directly onto the panel
- Insulating supports in polyamide 6.6 and insulating cover in polycarbonate - UL94V-0 grade
- Insulating cover on each conducting body
- Feeding inputs in staggered position for easier conductor connection
- Marking possibility with CNU/8 or CNU/10 tags on each busbar
- IMQ approval in conformity to EN 60947-7-1 Std.

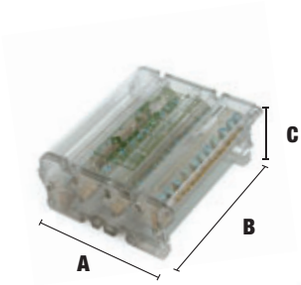


VERSION		QBLOK4P100A7 Cat. No. QBLOK4100	QBLOK4P125A11 Cat. No. QBLOK4125	QBLOK4P125A15 Cat. No. QBLOK4126
height / width / thickness	TH/35 7,5 mm	52 / 97 / 71	52 / 97 / 108	52 / 97 / 137
height / width / thickness	TH/35 15 mm	59 / 97 / 71	59 / 97 / 108	59 / 97 / 137
TECHNICAL CHARACTERISTICS				
function / type		Distribution 4-pole terminal board	Distribution 4-pole terminal board	Distribution 4-pole terminal board
number and diameter of holes		2 holes ø 7.5 mm + 5 holes ø 5.4 mm	2 holes ø 9 mm + 2 holes ø 7,5 mm +7 holes ø 5.4 mm	2 holes ø 9 mm + 2 holes ø 7,5 mm + 11 holes ø 5,4 mm
rated cross-section	(mm^2)	25	35	35
connecting capacity (hole ø 9 mm):				
flexible	(mm^2)		10 ÷ 35	10 ÷ 35
rigid	(mm^2)		10 ÷ 35	10 ÷ 35
max. flexible with ferrule (mm^2)-ferrule type			25 - WP 250/29	25 - WP 250/29
connecting capacity (hole ø 9 mm):				
flexible	(mm^2)	10 ÷ 25	10 ÷ 25	10 ÷ 25
rigid	(mm^2)	10 ÷ 25	10 ÷ 25	10 ÷ 25
max. flexible with ferrule (mm^2)-ferrule type		16 - WP160/22	16 - WP 160/22	16 - WP 160/22
connecting capacity (hole ø 5,4 mm):				
flexible	(mm^2)	2.5 ÷ 6	2,5 ÷ 6	2,5 ÷ 6
rigid	(mm^2)	2,5 ÷ 6	2,5 ÷ 6	2,5 ÷ 6
max. flexible with ferrule (mm^2)-ferrule type		4 - WP40/16	4 - WP 40/16	4 - WP 40/16
rated voltage / rated current / gauge	conf. to IEC 60947-7-1	500 V / 100 A / -	500 V / 125 A / -	500 V / 125 A / -
Short-time withstand current (Icw)	conf. to IEC 60947-7-1	3 kA (r.m.s value x 1s)	3 kA (r.m.s value x 1s)	3 kA (r.m.s value x 1s)
rated impulse withstand voltage / pollution degree		8 kV / 3	-	-
insulation stripping length	(mm)	13	13	13
tightening torque value (test / max)	(Nm)	1,8 / 2,2 Nm	1,8 / 2,2 Nm	1,8 / 2,2 Nm
APPROVALS				

ACCESSORIES		Type	Cat. No.	Type	Cat. No.	Type	Cat. No.
Marking tag	printed or blank	**CNU/8/51/...**	NU0851...	**CNU/8/51/...**	NU0851...	**CNU/8/51/...**	NU0851...
		CNU/10/51/...	NU1051…	**CNU/10/51/...**	NU1051…	**CNU/10/51/...**	NU1051…
End bracket		**BTU** for PR/DIN and PR/3	BT005	**BTU** for PR/DIN and PR/3	BT005	**BTU** for PR/DIN and PR/3	BT005
		BT/3-BTO for PR/3 only	BT003-BT007	**BT/3-BTO** for PR/3 only	BT003-BT007	**BT/3-BTO** for PR/3 only	BT003-BT007
		-		-		-	
Mounting rail according to IEC 60715 Std.							
		PR/3/AC in acciaio	PR003	**PR/3/AC** in acciaio	PR003	**PR/3/AC** in acciaio	PR003
		PR/3/AS idem con asole	PR005	**PR/3/AS** idem con asole	PR005	**PR/3/AS** idem con asole	PR005

POLM/N series

Distribution terminal boards



General characteristics

- Fixing: EN 50022 rail or panel-mount
- Insulating screen on each brass busbar
- Holes specially staggered for better cabling of the conductors
- IMQ certificate (extension) and conformity to EU 2006/95/EC Low Voltage Directive

Materials

- CW 614N Brass
- Zinc-plated steel screws with combined single-slot and Phillips heads
- Transparent polycarbonate

CAT. NO.	TYPE	DIAMETER OF BAR HOLES (mm)	BAR NUMBER	I MAX	V MAX	PACKAGE	A (mm)	B (mm)	C (mm)
QPOL2100N	POLM.2/100/N	5,0 x 5,5 2,0 x 7,5	2	100 A	500V	4	47,0	69,0	50,0
QPOL2125N	POLM.2/125/N	7,0 x 5,4 2,0 x 7,5 2,0 x 9,0	2	125 A	500V	2	47,0	106,0	50,0
QPOL2126N	POLM.2/126/N	11,0 x 5,4 2,0 x 7,5 2,0 x 9,0	2	125 A	500V	2	47,0	106,0	50,0
QPOL4160S	POLM.4/160/S	6,0 x 6,5 2,0 x 8,5 1,0 x 11,0	4	160 A	500V	1	87,0	135,0	52,0
QPOL4161N	POLM.4/161/N	9,0 x 6,5 4,0 x 8,5 1,0 x 11,0	4	160 A	500V	1	88,0	182,0	55,0