



**Subject:** Global Infrastructure and Networks – GSCL008 Synthetic resin enclosure for 2 circuit breakers on pole

**Application Areas**

Perimeter: *Global*

Staff Function: -

Service Function: -

Business Line: *Infrastructure & Networks*

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THE HEAD OF NETWORK COMPONENTS STANDARDIZATION

**Maurizio Mazzotti**

**Subject:** Global Infrastructure and Networks – GSCL008 Synthetic resin enclosure for 2 circuit breakers on pole

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## 1. DOCUMENT AIMS AND APPLICATION AREA

This global standard provides requirements for the supply of enclosures for the assembly of two Low Voltage Molded Case Circuit Breakers (LV MCCB) for outdoor applications to be used in the Enel Group distribution networks listed below:

Country	Distribution Company
Argentina	Edesur
Brazil	Enel Distribuição Rio Enel Distribuição Ceará Enel Distribuição Goiás Enel Enel Distribuição São Paulo
Chile	Enel Distribución Chile
Colombia	Codensa
Iberia	e-distribución
Italy	e-distribuzione
Peru	Enel Distribución Perú
Romania	Enel Distribuție Banat Enel Distribuție Dobrogea Enel Distribuție Muntenia

### 1.1 RELATED DOCUMENTS TO BE IMPLEMENTED AT COUNTRY LEVEL

This document applies to both Enel Global Infrastructure and Networks Srl Company and to Infrastructure and Networks Business Line perimeter, when each Company does not have to issue further documents.

## 2. DOCUMENT VERSION MANAGEMENT

Version	Date	Main changes description
01	XX/05/2021	Issuing of "Global Infrastructure and Networks GSCL008 technical specification"

## 3. UNITS IN CHARGE OF THE DOCUMENT

Responsible for drawing up the document:



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- Global Infrastructure and Networks: Operation and Maintenance / Network Components Standardization unit

Responsible for authorizing the document:

- Global Infrastructure and Networks: Head of Operation and Maintenance unit
- Global Infrastructure and Networks: Head of Health, Safety, Environment and Quality unit.

#### 4. REFERENCES

- Code of Ethics of Enel Group;
- Enel Human Right Policy;
- The Enel Group Zero Tolerance of Corruption (ZTC) Plan;
- Organization and management model as per Legislative Decree No. 231/2001;
- RACI Handbook Infrastructure and Networks no. 06;
- Enel Global Compliance Program (EGCP);
- Integrated Policy of Quality, Health and Safety, Environment and anti-Bribery;

#### 5. ORGANIZATIONAL PROCESS POSITION IN THE PROCESS TAXONOMY

Value Chain/Process Area: Networks Management

Macro Process: Materials management

Process: Network components standardization

#### 6. DEFINITIONS AND ACRONYMS

Acronym and Key words	Description
Manufacturer Product	Component manufactured by a Supplier in accordance with a technical specification

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Technical Conformity Assessment (TCA)	A “conformity assessment” <sup>1</sup> with respect to “specified requirements” <sup>2</sup> consists in functional, dimensional, constructional and test characteristics required for a product (or a series of products) and quoted in technical specifications and quality requirements issued by Enel Group distribution companies. This also includes the verification of conformity with respect to local applicable regulation and laws and possession of relevant requested certifications
Conformity assessment body	Body that performs the conformity assessment activities [ISO 17000]
Enel Equipment Key code	It’s an equipment representative for a group (family) of similar equipment chose by Enel
Enel Equipment Family code	Equipment belonging to a specific group (family) in which another equipment is identified as key code
TCA systems	The “conformity assessment systems”, is applicable specifying that the rules and procedures to carry on the TCA are those specified in the present document
Type A documentation	Not confidential documents used for product manufacturing and management from which it is possible to verify the product conformity to all technical specification requirements, directly or indirectly
Type B documentation	Confidential documents used for product manufacturing and management where all product project details are described, in order to uniquely identify the product object of the TCA
TCA report	Document describing the activities carried out for TCA
TCA dossier	Set of final documents delivered by the Supplier for the TCA
Material LifeCycle Management (MLM)	Integrated IT platform to manage the processes of Technical Specifications (TSM), Technical Conformity Assessment (TCA), Quality Control Tools (QCA), Defects Managing (CMD), Warranties and Materials Shipping(MSH)

## 6.1 ENEL GLOBAL INFRASTRUCTURE AND NETWORKS COUNTRIES REFERENCE STANDARDS

Reference documents listed below (amendments included) shall be the edition in-force at the contract date.

ISO/IEC 17000	Conformity assessment – Vocabulary and general principles
ISO/IEC 17020	General criteria for the operation of various types of bodies performing inspection
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories

<sup>1</sup> Definition 2.1 of ISO/IEC 17000

<sup>2</sup> Definition 3.1 of ISO/IEC 17000



**Technical Specification code: MAT-O&M-NCS-2021-0034-EGIN**

Version no. 1 dated XX/05/2021

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ISO/IEC 17050-1	Conformity assessment - Supplier's declaration of conformity - Part 1: General requirements (ISO/IEC 17050-1:2004, corrected version 2007-06-15)
ISO/IEC 17050-2	Conformity assessment - Supplier's declaration of conformity - Part 2: Supporting documentation (ISO/IEC 17050-2:2004)
ISO/IEC 17065	Conformity assessment – Requirements for bodies certifying products, processes and services

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## 7. DESCRIPTION

### 7.1 LIST OF COMPONENTS

The enclosure for the assembly of two LV MCCBs to be installed on the pole has two different types with different dimensions based on the circuit-breakers to be used.

TYPE	DESCRIPTION
GSCL008/1	Enclosure for assembly of two MCCBs with size from 40A up to 180A rated current (manual / motor-driven)
GSCL008/2	Enclosure for assembly of two MCCBs with size from 125A up to 350A rated current (manual / motor-driven)

In ENEL group the various models are identified by different material codes as in ANNEX 1.

### 7.2 APPLICABLE LAWS AND REFERENCE STANDARDS

#### 7.2.1. Standards

- IEC 60529 Degrees of protection provided by enclosures (IP Code)
- IEC 60662 Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
- IEC 60695-11-10 Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods.
- IEC 61439-1 Low-voltage switchgear and control gear assemblies - Part 1: General rules
- IEC 61439-5 Low-voltage switchgear and control gear assemblies - Part 5: Assemblies for power distribution in public networks
- IEC 62208 Empty enclosures for low-voltage switchgear and control gear assemblies - General requirements
- IEC 60112 method for the determination of the proof and the comparative tracking indices of solid insulating materials
- ISO 2859-0 Sampling procedures for inspection by attributes -- Part 0: Introduction to the ISO 2859 attribute sampling system
- ISO 2859-1 Acceptance sampling procedures based on the allocation of priorities principle (APP) -- Part 1: Guidelines for the APP approach.

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**7.2.2. Reference Laws**

**Spain**

Real Decreto 337/2014, de 9 de mayo, por el que se aprueban el Reglamento sobre condiciones técnicas y garantías de seguridad en instalaciones eléctricas de alta tensión y sus Instrucciones Técnicas Complementarias ITC-RAT 01 a 23

**7.3 SERVICE CONDITIONS**

The equipment shall be suitable for satisfactory continuous operation under the following conditions:

Condition	Argentina	Brazil	Colombia	Chile	Peru
Maximum ambient temperature [°C]	45	40	40	40	40
Minimum Temperature [°C]	-10	0	-5	-5	-5
Relative Humidity [%]	100	>80	20-100	100	100
Maximum altitude above sea level [m]	0	1000	2700	1000	1000
Pollution degree (IEC 60664-1)	4				
Wind pressure [N/m <sup>2</sup> ]	360	700	300	40	676

Table 1 Operating conditions

**7.4 TECHNICAL CHARACTERISTICS**

Rated voltage (U <sub>n</sub> )	500V
Degrees of protection provided by enclosures (IP) GSCL008/1	34
Degrees of protection provided by enclosures (IP) GSCL008/2	44
Comparative tracking index (CTI)	500
IK	10
GM	FEQE1300

Table 2 Ratings

**7.5 CONSTRUCTION CHARACTERISTICS**

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### 7.5.1. Type GCCL008/1 Enclosure

The enclosure is manufactured in two parts, the main body and the door.

The enclosure must comply with the dimensional prescriptions contained in fig. 1 and must allow the assembly of two MCCBs according to GSCL003 standard (Manual Operating MCCBs rated current: 40 ÷ 180A ).

The cables shall enter and exit into the container from the bottom. For this purpose, two galvanized steel frames with n. 8 sealing modules per frame shall be installed.

The surface of the enclosure shall be smooth and uniform without sharp edges or burrs.

The application of metal inserts shall be carried out during injection/stamping process of the enclosure. Applying inserts afterwards is not permitted as it could produce cracks or deformation of the enclosure.

The door must be of the hinged type, it must be easily removable in open position and no component of the hinges must be lost. The hinges, appropriately sized, must ensure that the door can be open up to 120° with respect to the closed position.

The door shall be equipped with a multi-point (3-point) lock, operated by a metal bolt safety lock, the head of the locking screw shall be of a triangular type. The door shall be pad-lockable. The casing and door shall be designed in such a way that when closed they guarantee their structural condition and tightness.

The door must have a ruled surface and the local distributor logo.

The enclosure shall be suitable for pole mounting using 19 mm stainless steel ribbon ties (type “band it”) for round poles. The enclosure shall be equipped in the back with eyelets that allow the cable ties to pass through. Eyelets made with the same material of the enclosure shall be properly centred and produced during the manufacturing process.

The dimensional tolerances, prescribed in the drawings and adopted by the manufacturer, must be expressly indicated in the project documentation.

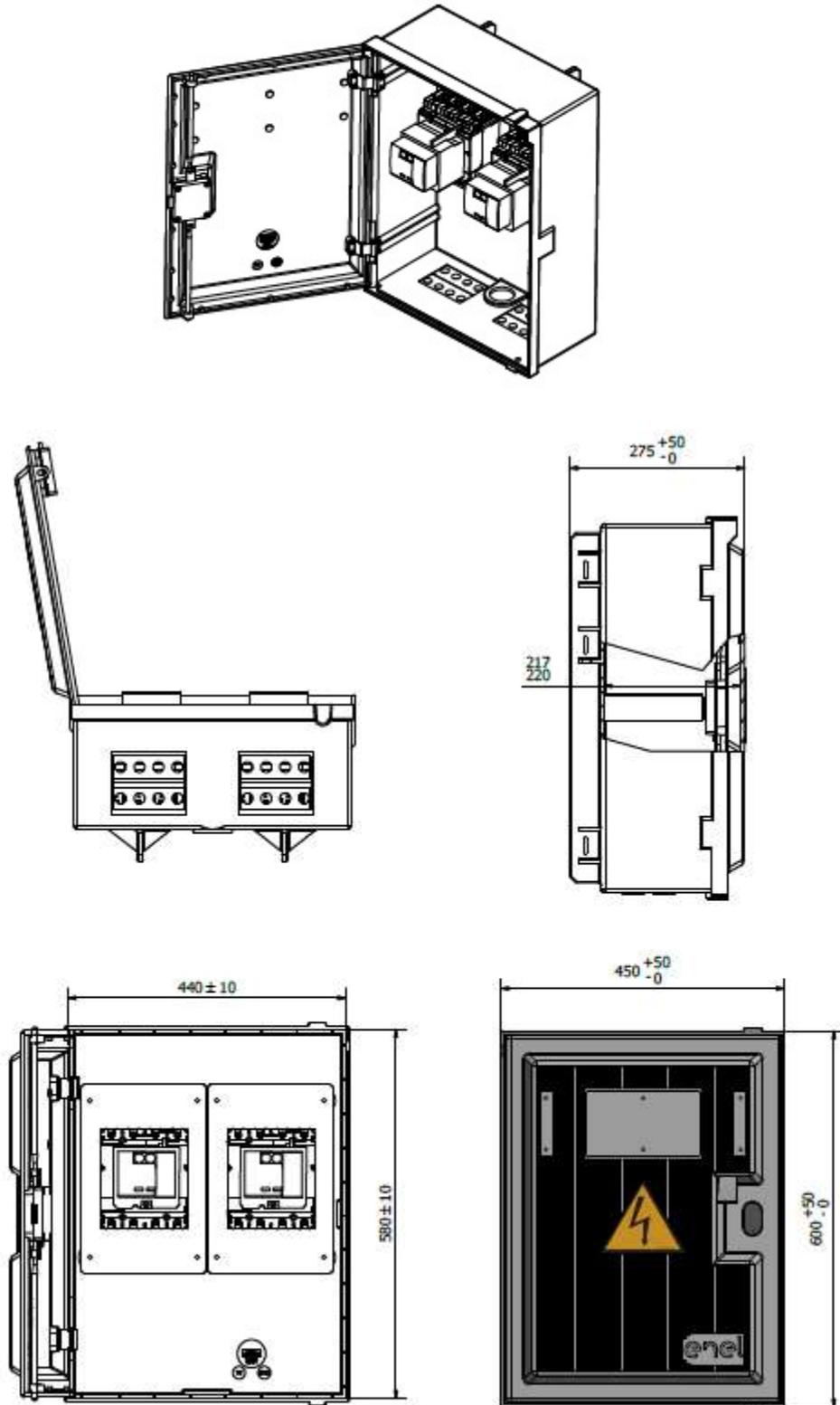
If the manufacturer wishes to adopt constructive solutions or materials other than those prescribed, it must be requested previous Enel approval. In case of positive response Enel will establish the supplementary tests needed.

The upper part of the container should consider a slight slope to avoid the accumulation of rainwater.

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**Figure A1 – Dimensions of Type GSCL008/1 and steel plate**

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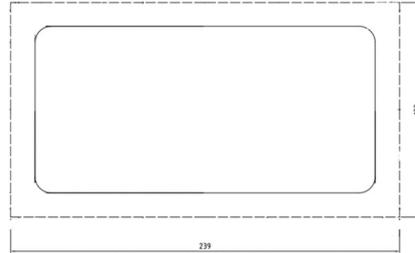
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**Figure A2 – steel plate**



**Figure A3 – cable glands**

On the bottom side of the enclosure following accessories shall be provided (included in the supply):

- two rectangular shaped holes;
- n. 2 galvanized steel plates;
- n. 16 sealing modules for the passage of cables;
- n. 2 cable glands Ø 25 mm for cables to RTU device (UP) IP 55;
- On the door a warning plate, clearly visible, with the following characteristics shall be present:
  - Triangle background: yellow.
  - Arrow and triangle outline: black
  - Adhesive nameplate or attached to door without rivets.

A frame must be provided for lifting the container by means of eyebolts.

**7.5.2. Type GSCL008/2 Enclosure**

The enclosure must comply with the dimensional prescriptions contained in fig. 4 and must allow the assembly of two MCCBs according to GSCL003 standard (Motor Driven MCCBs rated current: 125 ÷ 350A).

The surface of the enclosure shall be smooth and uniform without sharp edges or burrs.

The application of metal inserts shall be carried out during injection/stamping process of the enclosure. Applying inserts afterwards is not permitted as it could produce cracks or deformation of the enclosure.

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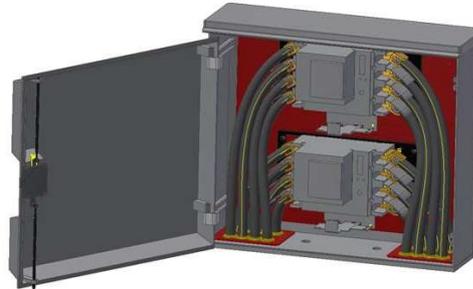
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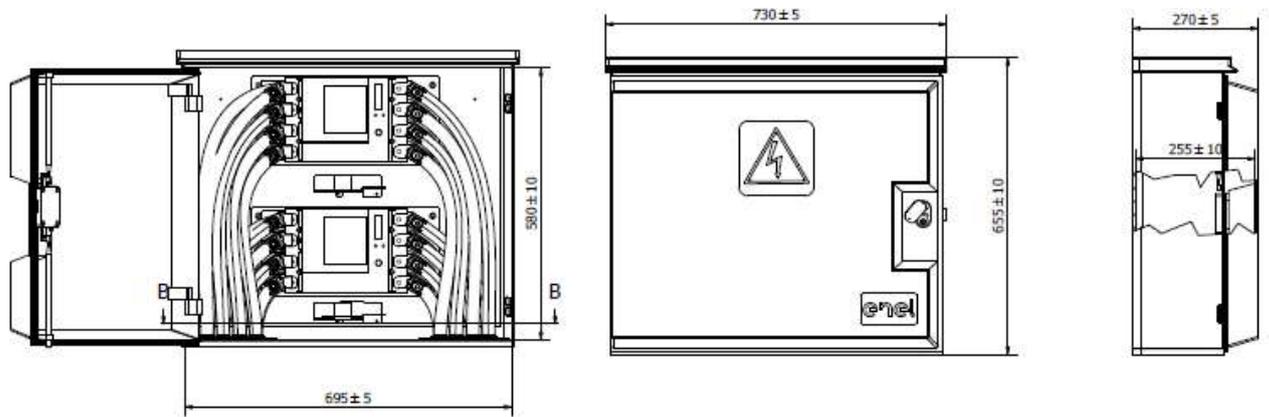


**Figure A4 – Type GSCL008/2**

The enclosure must be designed for supporting two MCCBs horizontally mounted on the panel using the supplied clamping plates with n. 4 screws M5 and n. 4 steel spring washers 5,3x11 (not included in supply).

The enclosure shall be able to support a weight at least of 25kg.

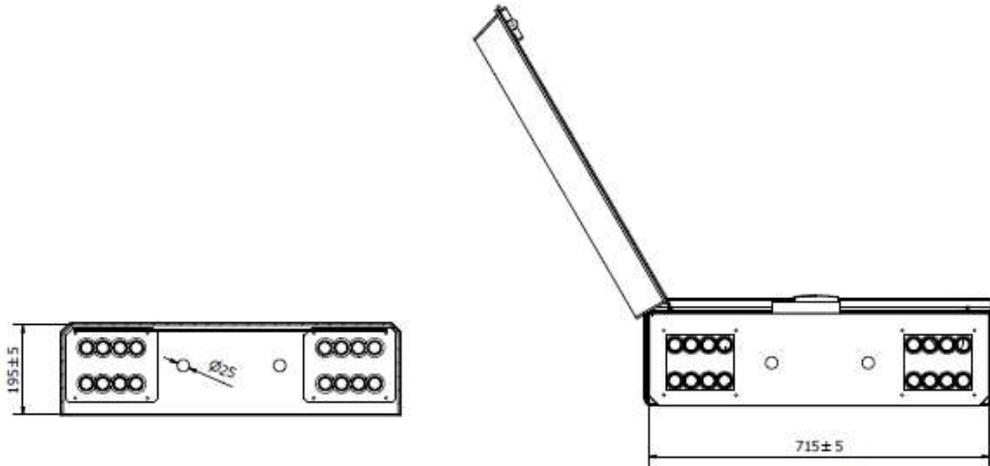
Bakelite or fiberglass board may be used to stiffen the enclosure.



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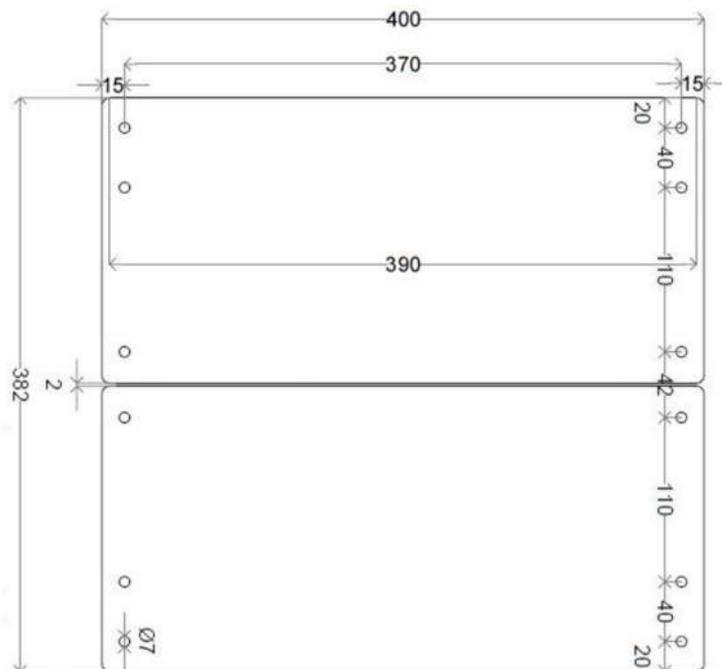
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**Figure A5 - Dimension**

Figure 6 shows the fixing plates of the 350 / 250A MCCBs with the relative 6 holes which correspond to the inserts embedded in the bottom of the panel.



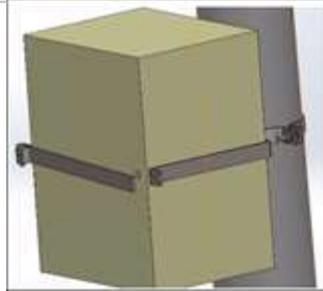
**Figure A6 – Dimension and Plates MCCBs 250/350A with inserts embedded in the bottom of the panel**

A steel bar must be installed around the outside of the container to prevent tampering. The steel bar must be closed with a padlock.

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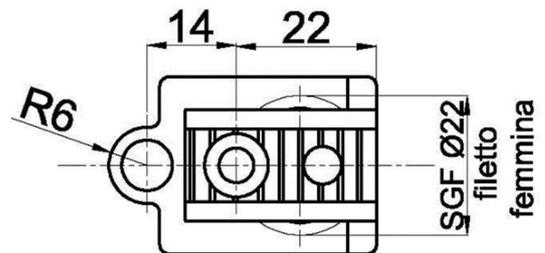
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**Figure A7**

Each panel must be supplied with 16 cable terminals to receive unipolar cables up to 240mm<sup>2</sup> which will be previously mounted on the MCCBs by opening the terminal covers and removing the unnecessary ones. The mounted terminals shall facilitate the installation of the cables by bending them up to 120° (see Fig. 7). Insulated separator sets should be provided between the terminals.



**Figure A8 - Details of the terminations for cables**

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The insulating separator set, supplied with the MCCBs, must be mounted between one termination and the other.

Four plates of insulating material (5 mm thick) must be provided completely covering the upper and lower terminals of each MCCB that will be installed. The plates shall be fixed above the terminals by means of 4 screws in proper way at manufacturer's choice.

On the bottom side of the enclosure following accessories shall be provided (included in the supply):

- two rectangular shaped holes;
- two plates (bakelite or fiberglass) with 8 holes each;
- n. 16 cable glands Ø 32 mm for cables 240/150 sq mm Al (fig.3);
- n. 2 cable glands Ø 25 mm for cables Up (fig.3);

Moreover, the supply must include:

- 1 door lock;
- n. 4 plates mounted on the panel made of insulating material with a minimum thickness of 5 mm suitable for insulating the lower and upper terminals of the MCCBs. Each plate must be independent from the others.

a warning plate on the access door, clearly visible, with the following characteristics:

- Triangle background: yellow.
- Arrow and triangle outline: black
- Adhesive nameplate or attached to door without rivets.

Cable glands positioning shall be properly chosen in order to ensure the optimal installation of power input / output preventing water inlet from outside.

The door must be of the hinged type, it must be easily removable in open position and no component of the hinges must be lost. The hinges, appropriately sized, must ensure that the door can be open up to 120° with respect to the closed position.

The door and each mounted component (eg the lock) must allow the installation of 2 motor driven MCCBs with maximum dimensions of 270 mm from the bottom of the panel.

The enclosure door handle shall include a padlock predisposition with a shackle up to 6 mm in diameter.

The door must have the ruled surface and the local distributor logo.

The enclosure shall be equipped at the rear with a galvanized steel plate for fastening the enclosure with 19 mm bands to the pole.

Fixing systems for steel towers shall also be considered by manufacturer and proposed for Enel approval.

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The dimensional tolerances, prescribed in ENEL drawings and those adopted by the manufacturer, must be expressly indicated in the project documentation.

If the manufacturer wishes to adopt constructive solutions or materials other than those prescribed, it must be requested previous Enel approval; in case of positive response Enel will establish the supplementary tests needed.

A frame must be provided for lifting the container by means of eyebolts.

### **Materials**

- a) The enclosures must be made of non-marking synthetic resin (CTI 500) self-extinguishing, non-dripping, low smoke and toxic and corrosive gases development; the containers must not present deformations, processes of embrittlement or decrease in surface hardness in the temperature range from  $-15^{\circ}$  to  $+100^{\circ}$  C.
- b) Color of the resin used must be gray (RAL 7001).
- c) The screws for mechanical fasteners must be made of stainless steel X8Cr Ni 1910 or X5Cr Ni 1810 (EN 10088-1).
- d) The threaded inserts must be made of brass P-Cu Zn 40 Pb2 (C 37000 ASTM CODE).
- e) The hinges must be made of stainless steel X8Cr Ni 1910 or X5Cr Ni 1810 (EN 10088-1), die-cast aluminium or synthetic resin reinforced with min 30% fiberglass.

### **Marking**

On the back of each elementary part of the container following markings must be embossed, with characters not less than 3 mm high:

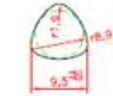
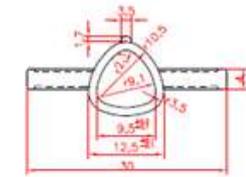
- The name or trademark of the Manufacturer;
- The initials of the raw material used,
- The month and year of manufacture;
- The abbreviation assigned by the Manufacturer.

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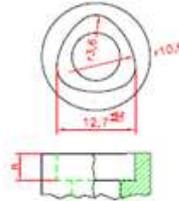
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Dimensions in mm  
Drawings are not in scale

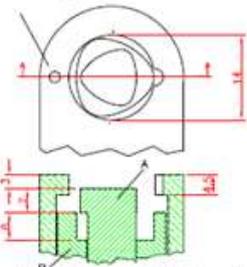


Fitting element (A)

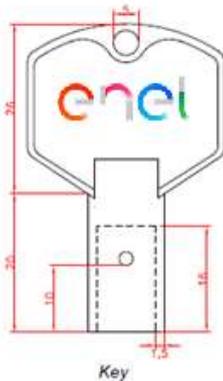


Operation element (B)

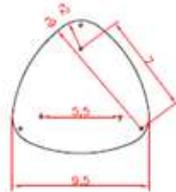
Reference for key insertion



Assembly (A) and (B) elements

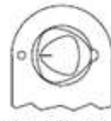


Key

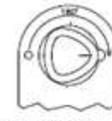


Triangle construction

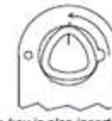
Opening operation sequence



Insert the key into the triangle of the element (A)



Turn the key 180° clockwise aligning the two triangles



The key is also inserted in the triangle of the element (B) and rotated in anti-clockwise direction until the lock is completely opened

**NOTE**

When the element (A) is in resting position it shall only rotate clockwise for an angle same as 180° until the alignment with the triangle of the element (B).  
The rotation shall be countered by a return spring, constrained to the lock that shall generate a maximum torque of equal to 1 Nm

When the element (B) is in resting position it shall only rotate anticlockwise until the lock is completely opened. The rotation shall be countered by the return spring of the lock.

**Figure A9 - Locking system and key**

**Subject:** Global Infrastructure and Networks – GSCM005 modular MV switchboards

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## 7.6 TESTING

### 7.6.1. Type tests

The enclosures under test shall be mounted and installed as in normal use according to the conditions indicated herein.

The following type tests shall be performed:

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N°	Test	Test Method and Requirement
1	Visual examination	It must be checked that: <ul style="list-style-type: none"> <li>- the packaging corresponds to the one prescribed;</li> <li>- the packages are complete with all the prescribed elementary parts;</li> <li>- the markings correspond to those prescribed;</li> <li>- The color of the resin parts, for which it is prescribed, corresponds to RAL 7001;</li> <li>- by placing the test item on a reference surface and making it stick to three points, it must be verified that no deviation larger than 2 mm occur;</li> </ul>
2	Dimensional verification	It must be checked that all the dimensions of the complete artefacts of each elementary part correspond to the values prescribed in the standard, within the tolerances planned, as well as the quotes indicated in the construction drawings of the approved type from ENEL, considering manufacturing tolerances. Furthermore the weights of all the elementary parts and their values must be recorded and reported in the approval report;
3	Verification of assembly	Each mobile part must be removed, reinserted and fixed with its own screws (example: lock, brackets, brackets, etc.) and checked that it is reinserted easily and can be fixed correctly.
4	Material verification	It consists in verifying that the materials used are those specified in the drawings constructive documents and in the documentation presented by the manufacturer for approval. For this purpose the Manufacturer must present the certificates of origin of the materials used. According to ENEL, this verification can be carried out by mechanical tests and chemical analysis on samples taken from finished products to ascertain the exact compliance of the materials used with the prescriptions.
5	Verification of the degree of protection	According to IEC 60529 it must be verified that the complete product with all elementary parts and installed as in ordinary use, ensure IP 34D protection degree. (D = calibre envisaged in table 6 of the above regulation)
6	Dielectric strength	The test must be performed in the manner prescribed sub-clause 9.10 of the standard IEC 62208, with the component in normal conditions of complete installation (brackets, screws etc).
7	Verification of temperature rise	According IEC 61439-1
8	Verification of structural strength: (static load)	The test must be performed as prescribed in the IEC 61439-5 standard. Furthermore the enclosers for which installation is planned on pole, directly or through support brackets, must be fixed as in normal service conditions.
9	Impact resistance verification	The test must be performed in the manner prescribed in the IEC 61439-5
10	Torsion resistance verification	The test must be performed in the manner prescribed in the IEC 61439-5.
11	Verification of the mechanical strength of the doors	The test must be performed in the manner prescribed in the IEC 61439-5.

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12	Verification of the functionality of the locking system	50 complete maneuvers of opening and closing door or cover must be performed also affecting the accessory parts; the 50 complete maneuvers must be performed applying, in correspondence of the lock, a force of 100 N in a direction parallel to the axis of door rotation. Furthermore, with the door closed, in correspondence of the lock and then at each edge, a force of 200 N must be applied for a time not less than 120s, acting in the direction in which the door is opened. The test has a positive outcome if the door, including any hinges, locks, etc., does not show signs of damaging, breakage or permanent deformation such as to jeopardize its subsequent use.  Furthermore, compliance with the IP degree of protection is prescribed.										
13	Verification of the resistance to impact of a steel ball	The test must be performed as prescribed in the IEC 61439-5.										
14	Verification of the impact resistance of sharp objects	The test must be performed as prescribed in the IEC 61439-5.										
15	Verification of the resistance of the inserts to the torsional load	<p>The following test procedures apply to all inserts for screw connections. To verify the twisting resistance of connections, the screws must be inserted, screwed down and loosened five times; the test must be carried out applying with continuity and without tears, a torque wrench, as below specified:</p> <table border="1" data-bbox="815 1151 1366 1382"> <thead> <tr> <th>Nominal diameter</th> <th>Twisting moments (Nm)</th> </tr> </thead> <tbody> <tr> <td>4 ÷ 6</td> <td>3</td> </tr> <tr> <td>8</td> <td>6</td> </tr> <tr> <td>10</td> <td>10</td> </tr> <tr> <td>12</td> <td>15</td> </tr> </tbody> </table> <p>At the end following conditions must be verified:</p> <ul style="list-style-type: none"> <li>- inserts have not undergone any change with respect to the initial position;</li> <li>- it is possible to unscrew, remove and re-tighten the screws without any difficulty;</li> <li>- synthetic resin elements containing the inserts have not been damaged, cracked or detached from the top.</li> </ul>	Nominal diameter	Twisting moments (Nm)	4 ÷ 6	3	8	6	10	10	12	15
Nominal diameter	Twisting moments (Nm)											
4 ÷ 6	3											
8	6											
10	10											
12	15											
16	Verification of the resistance of the inserts to the axial load	The test must be performed as prescribed in point 1 in the IEC 61439-5. Furthermore the inserts must be tested in compression with the application of one force of 100 N, during the test the inserts must not come out of their seat.										
17	Resistance to abnormal heat and to fire	IEC 61439-1										
18	Resistance to normal heat	The test must be performed as prescribed in the IEC 61439-5										
19	Check the flammability category	The test must be performed as prescribed in the IEC 61439-5										
20	Corrosion resistance for metal parts	The test must be performed as prescribed in the IEC 61439-5										

**Subject:** Global Infrastructure and Networks – GSCM005 modular MV switchboards

**Application Areas**

Perimeter: *Global*

Staff Function: -

Service Function: -

Business Line: *Infrastructure & Networks*

21	Verification of resistance to surface currents	<p>The test must be performed as prescribed by the IEC 60112 standard on a specimen obtained from each part according following voltage values:</p> <ul style="list-style-type: none"> <li>- 500 V, for the parts of insulating material in contact with the active parts;</li> <li>- 175 V, for all other insulating parts.</li> </ul>
22	Check of the thickness of the surface treatments of metallic materials	<p>Measurement of the thickness of the protective coating must be performed with the microscopic method prescribed by the ISO 1463 standard, for small elementary parts, and with the magnetic method, according to the directives reported in ISO 2178, for all other parts.</p> <p>The thickness detected at each point must not be less than the prescribed value</p>
23	Ageing and light stability (UV) tests	<p>The test shall be performed according to ISO 4892-3 . The material shall be subjected to 2000 hours.</p>

**Subject:** Global Infrastructure and Networks – GSCM005 modular MV switchboards

**Application Areas**

Perimeter: *Global*

Staff Function: -

Service Function: -

Business Line: *Infrastructure & Networks*

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### **7.6.2. Acceptance Tests**

The manufacturer shall perform the following routine tests.

- a) Degree of protection of enclosures IEC 61439-1 point 11.2
- b) Incorporation of built-in components IEC 61439-1 point 11.5
- c) Terminals for external conductors IEC 61439-1 point 11.7
- d) Verification of the axial load resistance of metal inserts IEC 61439-5 point 10.2.107.7

### **Sampling**

Sampling for acceptance tests at Enel presence:

The tests a) and c) must be performed on three samples, whatever the lot number.

All other tests must be performed with statistical control by attributes on the sample according to the UNI ISO 2859/1 standard, adopting a sampling plan simple, reduced testing, acceptable quality level 2.5% on a sample taken from the lot according to the general test level I.

### **7.7 CONDITIONS OF SUPPLY**

The enclosure, complete with lock, cable glands, insulating plates and all accessories for assembly and mounting on the pole, must be supplied in single packaging.

The material shall be supplied in cardboard boxes capable of holding its weight.

The installation and maintenance manual shall be supplied in the same packaging.



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**7.7.1. Warranty**

The containers must be guaranteed for 3 years after installation.

**7.7.2. Packaging**

The enclosure, complete with lock and all mounting accessories, must be supplied in individual packaging.

**Subject: Global Infrastructure and Networks – GSCM005 modular MV switchboards**
**Application Areas**

 Perimeter: *Global*

Staff Function: -

Service Function: -

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**8. ANNEX A – TECHNICAL CHECK LIST**

<b>GSCL008</b>						
<b>GSCL008 rev. 0 del Maggio 2021</b>						
<b>ENEL TYPE</b>						
<b>ENEL CODE</b>						
<b>ENEL COMPANY</b>						
<b>COUNTRY</b>						
<b>CHARACTERISTIC</b>		<b>REQUIRED VALUE</b>			<b>GUARANTEED VALUE</b>	
Rated voltage (U <sub>n</sub> )		500V				
Degrees of protection provided by enclosures (IP) GSCL008/1		34				
Degrees of protection provided by enclosures (IP) GSCL008/2		44				
Comparative tracking index (CTI)		500				
IK		10				
<b>SERVICE CONDITIONS</b>	<b>REQUIRED VALUE</b>					<b>GUARANTEED VALUE</b>
Conditions	Argentina	Brazil	Colombia	Chile	Peru	
Maximum ambient temperature [°C]	45	40	40	40	40	
Minimum Temperature [°C]	-10	0	-5	-5	-5	
Relative Humidity [%]	100	>80	20-100	100	100	
Maximum altitude above sea level [m]	0	1000	2700	1000	1000	
Pollution degree (IEC 60664-1)	4	4	4	4		
Wind pressure [N/m <sup>2</sup> ]	360	700	300	40		

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**Application Areas**

Perimeter: *Global*

Staff Function: -

Service Function: -

Business Line: *Infrastructure & Networks*

**9. ANNEX B - GLOBAL TYPE CODES**

Country Codes	GSCCL008/1	GSCCL008/2
Enel Distribuição Rio (Brazil)		
Enel Distribuição Ceará (Brazil)	1600082	1600081
Enel Distribuição Goiás (Brazil)		
Enel Distribuição São Paulo (Brazil)		
Enel Distribución Chile (Chile)	160069	160070
Enel Distribución Colombia (Colombia)	160079	160078
Enel Distribución Perú (Perù)		160071
Edesur (Argentine)	0112-0571	0112-0572
e-distribucion (Spain)		
Enel Distrib. Banat (Romania)		
Enel Distrib. Dobrogea (Romania)	228040	
Enel Distrib. Muntenia (Romania)		
e-distribuzione (Italy)	228040	