



Sub Distribution Board Data sheet

Sub Distribution Board



The Distribution Board is a component of an electricity supply system which divides an electrical system which divides an electrical power feed into subsidiary circuits while providing a protective fuse or CB for each circuit. FGECO Sub Main Distribution Board serves as a complete solution for the distribution of power and is available up to 630A. The design provides complete flexibility at the time of installation, complying with IEC 61439-1,2.

Overview

Sub Distribution Board is used in a variety of sectors such as utilities and co-generation, pharmaceutical factories, generator manufacturers, critical power plants, data centers and in the oil and gas industry.

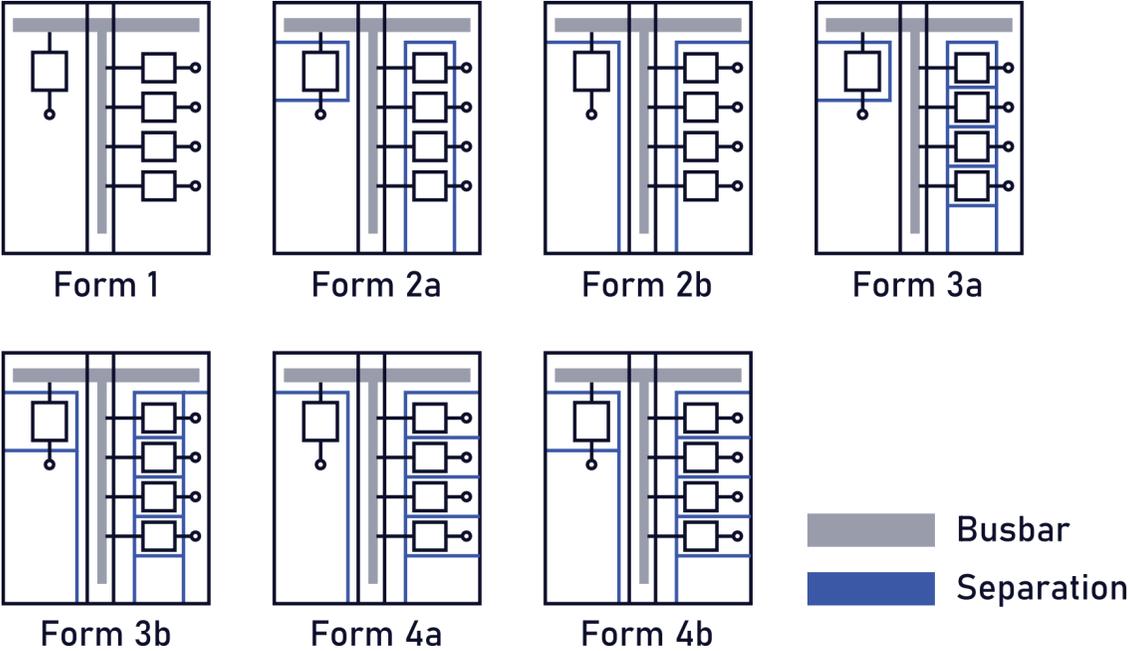
- Easy interchangeability of components
- Wall mounted and free standing designs
- Available in 2/14 way (3Pole) to 6/42 way (1 Pole) outgoing MCCB's
- Bare Copper / tin plated / silver plated / PVC sleeved copper busbars
- Available in stainless steel enclosures for outdoor applications
- Neutral and earth busbars can be rated up to 100% of the main busbar
- Internal separation up to Form-3a

Technical Data

Enclosure Name	FGECO		
Electrical Data	Rated voltage	Rated operating voltage Ue	Up to 690 V
		Rated insulation voltage Ui	Up to 800V
		Rated impulse withstand voltage Uimp	Up to 8 kV
		Overvoltage category	Up to IV
		Material group	IIIa
		Degree of pollution	3
		Rated frequency	50/60 Hz
	Rated current	Busbar type	Pure copper bars, with 99.9% conductivity
		Rated current for main distribution busbar In	Up to 630 A
		Conditional short circuit current Icc	50 kA @ 0.25PF
		Rated short-time withstand current Icw	50 kA @ 1 Sec
		Rated peak withstand current Ipk	105 kA
	Incoming and outgoing	Incoming feeders	Up to 630 A
		Distribution feeders	Up to 250 A
Direct contact protection	Form of separation	Up to 3a	
	Protection against electric shock	Yes	
-	Ventilation	Normal	
Mechanical Characteristics	-	Recommended depth	225 mm
	-	Skid base height	50 mm
	-	Number of ways	Up to 14
	-	External degree of protection IP	Up to IP66
	Steel components	Sheet metal material	AluZinc steel Electrogalvanized / Stainless Steel
		Sheet metal thickness	Up to 2 mm
	-	Surface protection	Electrostatic powder coating/ Epoxy
	-	Standard colors	RAL7035*
	-	Panel mounting	Wall mounted and free standing
	-	Mechanical impact	IK10
Genera	Installation environment	Ambient temperature (°C)	40*
		Relative humidity	max 50% at 40°C
		Maximum altitude	Up to 2000m*
	Busbar	Busbar system	3 PH, Neutral and PE
		Busbar insulating material	PVC sleeving
	Busbar plating material	Bare / tin / silver	

Separation Forms

Technical Data



Form	IEC Standard Definition	Specific Recommendations
1	No Internal separation	Protection over busbar for customer safety
2a	Separation of busbars from the functional units	Terminals not separated from busbars
2b	Separation of busbars from the functional units	Terminals separated from busbars
3a	Separation of busbars from the functional units and of all functional units from each other	Terminals not separated from busbars
3b	Separation of busbars from the functional units and of all functional units from each other	Terminals separated from busbars
4a	Separation of busbars from the functional units and of all functional units from each other, also separation of terminals from any functional unit	Terminals in the same compartment as associated functional units
4b	Separation of busbars from the functional units and of all functional units from each other, also separation of terminals from any functional unit	Terminals are not in the same compartment as the associated functional units

Ingress Protection (IP)

Standard IEC 60529 (February 2001) indicates the degree of protection provided by electrical equipment enclosures against accidental direct contact with live parts and against the ingress of solid foreign objects or water.

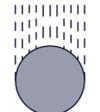
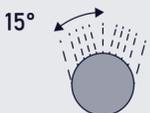
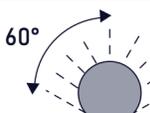
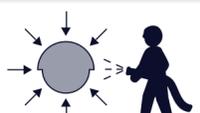
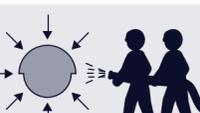
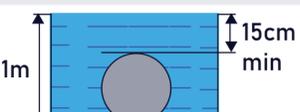
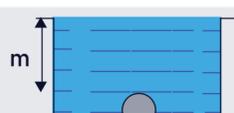
The IP code comprises 2 characteristic numerals and may include an additional letter when the actual protection of persons against direct contact with live parts is better than that indicated by the first numeral.

The first numeral characterizes the protection of the equipment against penetration of solid objects and the protection of people. The second numeral characterizes the protection of the equipment against penetration of water with harmful effects.

Protection Against Solid Bodies Data Table

Protection of Equipment		Protection of Persons	
No.	Tests	Non-protected	Non-protected
1	$\Phi 50\text{mm}$ 	Protected against the penetration of solid objects having a diameter greater than or equal to 50 mm	Protected against direct contact with the back of the hand (accidental contacts).
2	$\Phi 12.5\text{mm}$ 	Protected against the penetration of solid objects having a diameter greater than or equal to 12.5 mm.	Protected against direct finger contact.
3	$\Phi 2.5\text{mm}$ 	Protected against the penetration of solid objects having a diameter greater than or equal to 2.5 mm.	Protected against direct contact with a $\Phi 2.5\text{ mm}$ tool.
4	$\Phi 1\text{mm}$ 	Protected against the penetration of solid objects having a diameter greater than or equal to 1 mm.	Protected against direct contact with a $\Phi 1\text{ mm}$ wire.
5		Dust protected (no harmful deposits).	Protected against direct contact with a $\Phi 1\text{ mm}$ wire.
6		Dust tight.	Protected against direct contact with a $\Phi 1\text{ mm}$ wire.

Protection Against Liquids Data Table

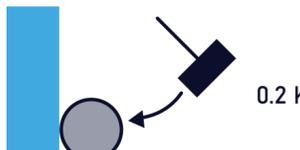
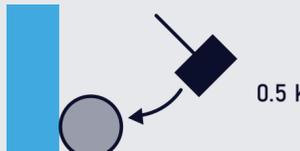
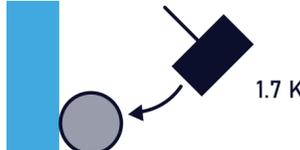
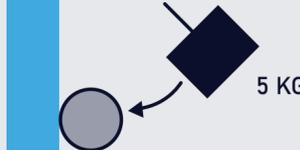
No.	Tests	Non-protected
1		Protected against vertical dripping water, (condensation).
2		Protected against dripping water at an angle of up to 15°.
3		Protected against rain at an angle of up to 60°.
4		Protected against splashing water in all directions.
5		Protected against water jets in all directions.
6		Protected against powerful jets of water and waves.
7		Protected against the effects of temporary immersion.
8		Protected against the effects of prolonged immersion under specified conditions.

Protected Against Access To Hazardous Parts With

Level	Tests
A	With the back of the hand.
B	With the finger.
B	With a ϕ 2.5 mm tool.
C	With a ϕ 1 mm tool.

IK Code “Mechanical Impact Test”

The European standard EN 50102/IEC 62262 defines a coding system (IK code) for indicating the degree of protection provided by electrical equipment enclosures against external mechanical impact.

No.	Tests	Non-protected	
		H (cm)	Energy (J)
01		7.5	0.15
02		10	0.2
03		17.5	0.35
04		25	0.5
05		35	0.7
06		20	1
07		40	2
08		30	5
09		20	10
10		40	20

Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.

Practical guide UTE C 15-103 contains tables showing the specifications required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.