powerbox®

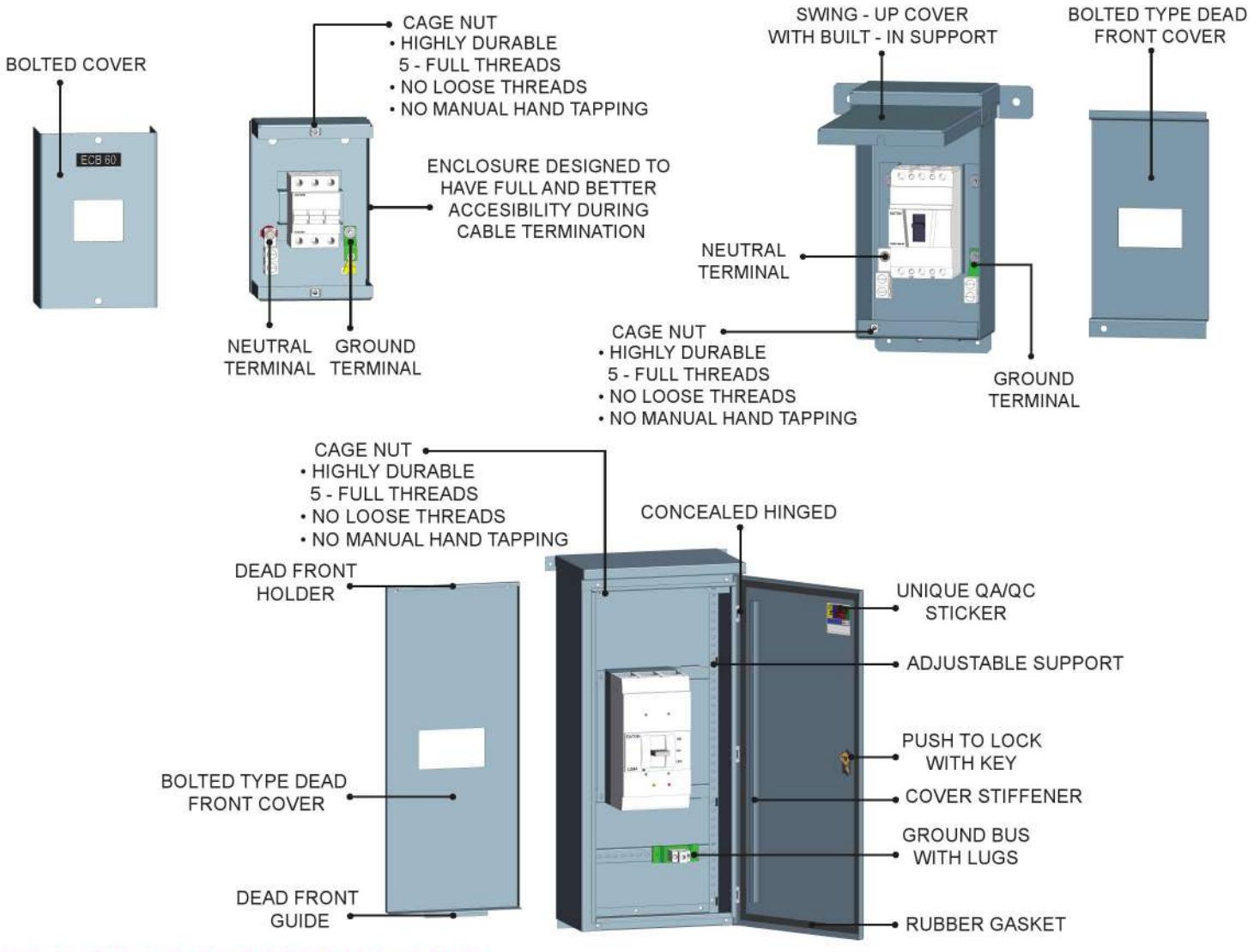
ENCLOSED CIRCUIT BREAKER

- 100% Galvanized Materials, offers better resistance to corrosion.
- Manufactured using State-of-the-Art CNC Machines for precise and accurate punching, cutting, and bending of metal parts.
- Painted finish using fully-conveyorized powder coating system.

CERTIFICATION INTERNATIONAL

ISO 9001:2008
CERTIFIED COMPANY

ENCLOSED CIRCUIT BREAKER



TECHNICAL SPECIFICATIONS

Degree of Protection	: IP41 / IP53 / IP54
Rated Current	: Up to 1600 Amps.
Circuit Breaker Number of Pole	: 1P / 2P / 3P / 4P
Mounting Type	: Wall Mounted
Materials	: 100% Galvanized steel sheet
Sheet Metal Thickness	: 1.5 mm/1.2 mm thick
Paint Finish	: Powder coated finish with pure polyester paint
Paint Coated Thickness	: 80 microns
Paint Texture	: Spattered / Smooth
Color	: RAL 9002 Beige RAL 7001 Gray

FEATURES

Enclosure (100% Galvanized Steel Sheet)

GALVANIZED STEEL SHEET HAS A COATING OF ZINC AND ALUMINUM, COMBINING THE BEST PROPERTIES AND OFFERS BETTER RESISTANCE AGAINST RUST AND CORROSION, EVEN IN SALINE ENVIRONMENTS.

Powder Coating

FULLY-CONVEYORIZED POWDER COATING SYSTEM OFFERS AN ADVANCE METHOD OF APPLYING COAT AND PROTECTIVE FINISH TO ALL METAL PARTS. PURE POLYESTER POWDER PAINT IS ELECTROSTATICALLY SPRAYED ON THE METAL PARTS / SURFACE TO BE COATED. THE CHARGED POWDER PARTICLES ADHERE TO THE ELECTRICALLY GROUNDED METAL SURFACE, HEATED AT 200°C IN THE CURING OVEN FOR AT LEAST 20 MINUTES, RESULTING IN A UNIFORM 80 MICRONS COATING THAT OFFERS HIGH RESISTANCE AGAINST ENVIRONMENTAL CORROSION AND ABRASION.

ECB's for Indoor Application

TECHNICAL SPECIFICATION:	FIGURE 1	FIGURE 2	FIGURE 3
SUITABLE FOR	Din Rail type MCB	100AF MCCB type	250AF MCCB type
DEGREE OF PROTECTION	IP41	IP41	IP41
DIMENSIONS (mm)	200 H x 130 W x 80 D	300 H x 150 W x 80 D	400 H x 225 W x 110 D
RATED CURRENT	Up to 125 Amps	Up to 100 Amps	Up to 250 Amps
MCB/MCCB NUMBER OF POLES	1P / 2P / 3P	1P / 2P / 3P	2P / 3P
MOUNTING TYPE	Wall mounted	Wall mounted	Wall mounted
ENCLOSURE MATERIALS	100% Galvanized Steel Sheets	100% Galvanized Steel Sheets	100% Galvanized Steel Sheets

FIG. 1

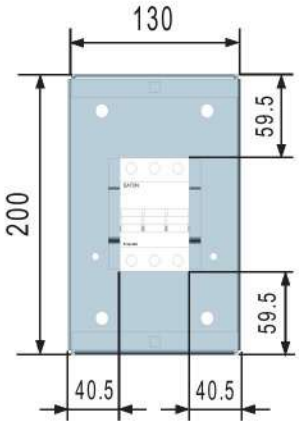


FIG. 2

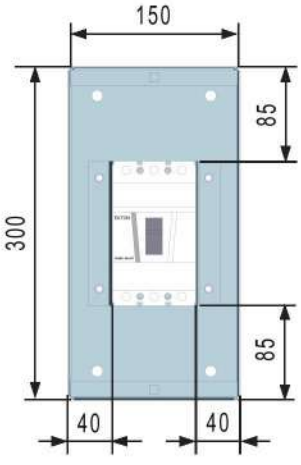
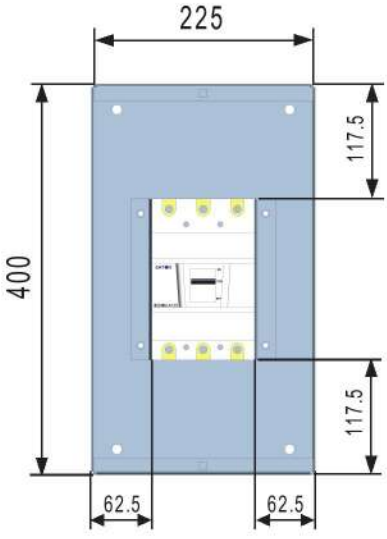


FIG. 3



TECHNICAL SPECIFICATION:	FIGURE 4	FIGURE 5	FIGURE 6
SUITABLE FOR	400AF MCCB type	630AF MCCB type	1600AF MCCB type
DEGREE OF PROTECTION	IP41	IP41	IP41
DIMENSIONS (mm)	800 H x 450 W x 250 D	800 H x 450 W x 250 D	1100 H x 500 W x 300 D
RATED CURRENT	Up to 400 Amps	Up to 630 Amps	Up to 1600 Amps
MCCB NUMBER OF POLES	3P	3P	3P
MOUNTING TYPE	Wall mounted	Wall mounted	Wall mounted
ENCLOSURE MATERIALS	100% Galvanized Steel Sheets	100% Galvanized Steel Sheets	100% Galvanized Steel Sheets

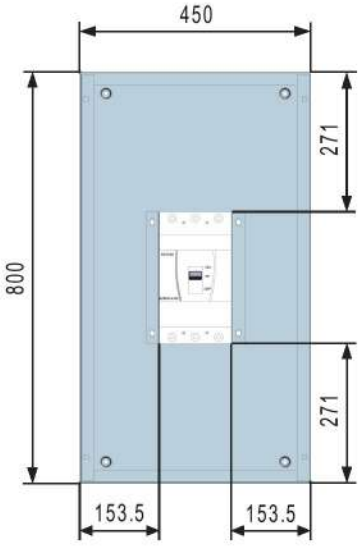


FIG. 4

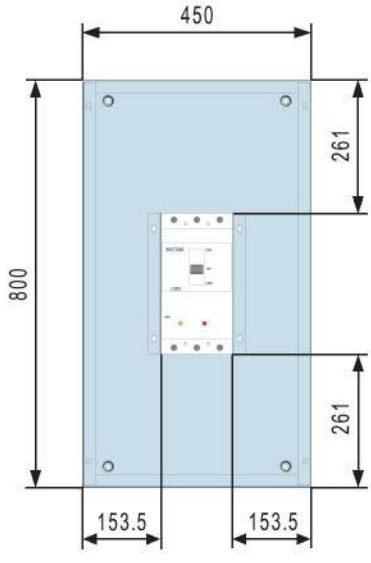


FIG. 5

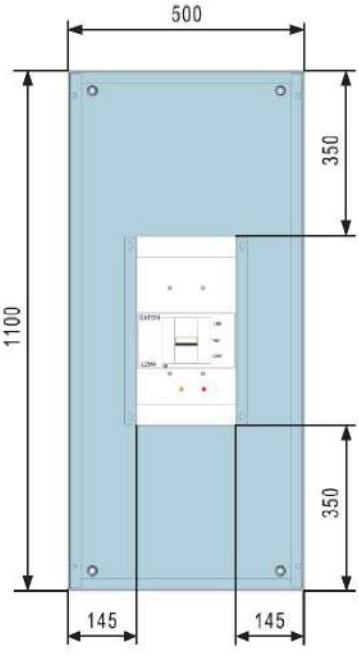
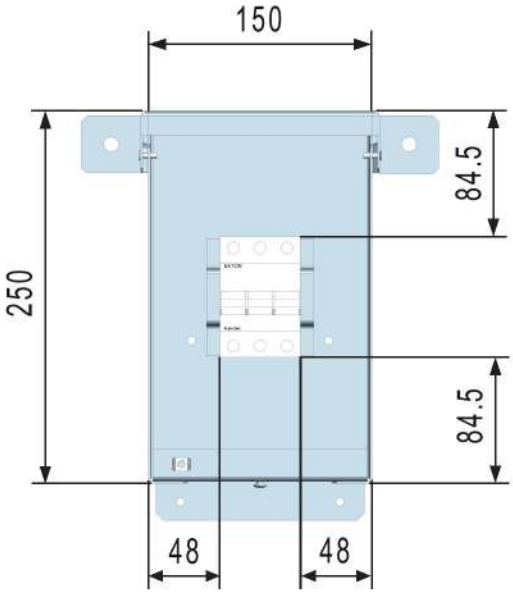


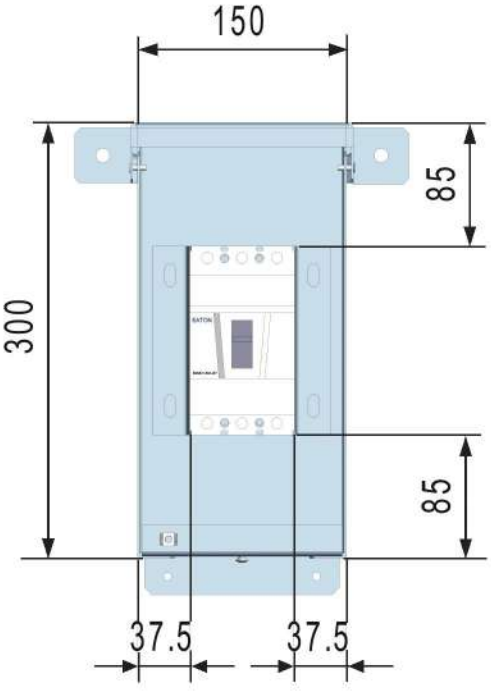
FIG. 6

ECB's for Outdoor Application



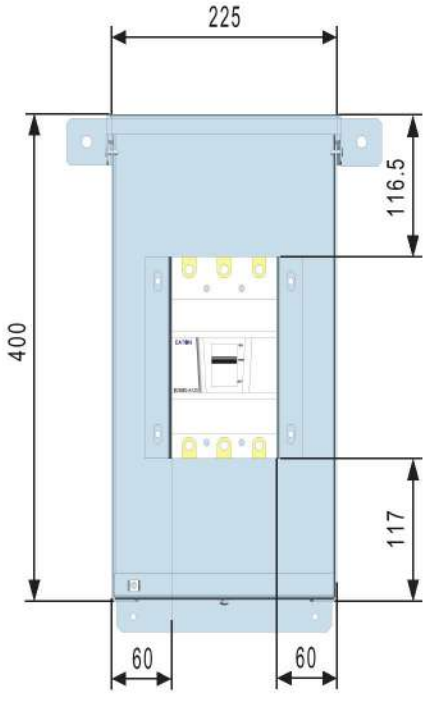
TECHNICAL SPECIFICATION:

SUITABLE FOR	Din Rail type MCB
DEGREE OF PROTECTION	IP53
DIMENSION (mm)	250 H x 150 W x 110 D
RATED CURRENT	Up to 125 Amps
MCB NUMBER OF POLES	1P / 2P / 3P
MOUNTING TYPE	Wall mounted
ENCLOSURE MATERIALS	100% Galvanized Steel Sheets



TECHNICAL SPECIFICATION:

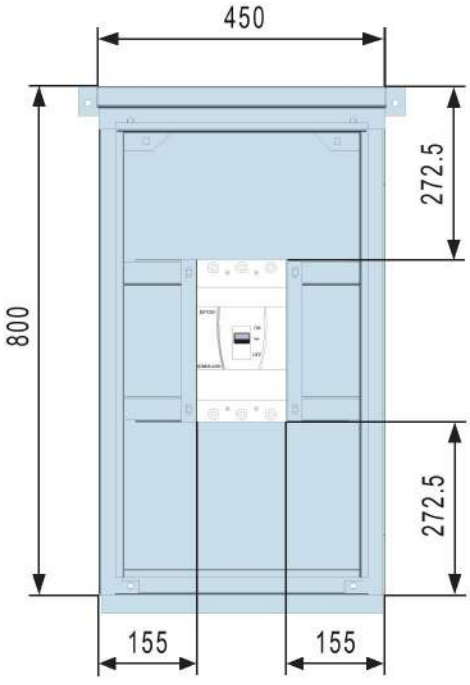
SUITABLE FOR	100AF MCCB type
DEGREE OF PROTECTION	IP53
DIMENSION (mm)	300 H x 150 W x 110 D
RATED CURRENT	Up to 100 Amps
MCCB NUMBER OF POLES	1P / 2P / 3P
MOUNTING TYPE	Wall mounted
ENCLOSURE MATERIALS	100% Galvanized Steel Sheets



TECHNICAL SPECIFICATION:

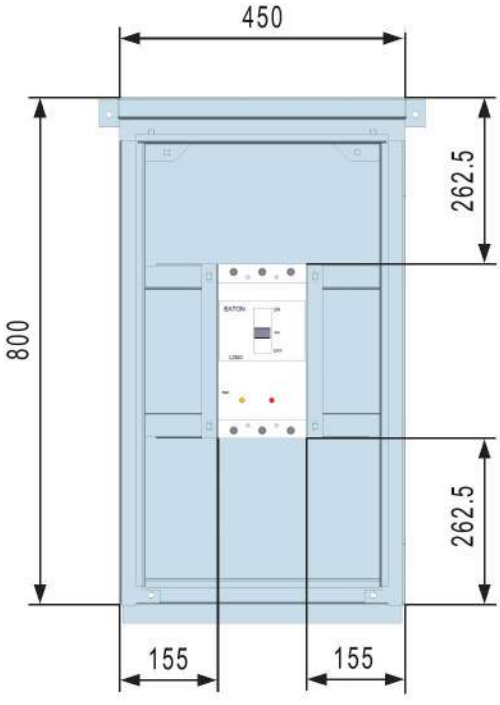
SUITABLE FOR	250 AF MCCB type
DEGREE OF PROTECTION	IP53
DIMENSION (mm)	400 H x 225 W x 125 D
RATED CURRENT	Up to 250 Amps
MCCB NUMBER OF POLES	2P / 3P
MOUNTING TYPE	Wall mounted
ENCLOSURE MATERIALS	100% Galvanized Steel Sheets

ECB's for Outdoor Application



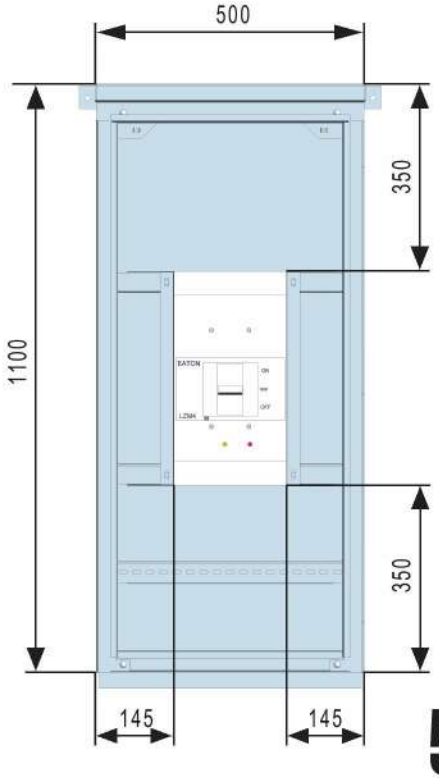
TECHNICAL SPECIFICATION:

SUITABLE FOR	400AF MCCB type
DEGREE OF PROTECTION	IP54
DIMENSION (mm)	800 H x 450 W x 250 D
RATED CURRENT	Up to 400 Amps
MCCB NUMBER OF POLES	3P / 4P
MOUNTING TYPE	Wall mounted
ENCLOSURE MATERIALS	100% Galvanized Steel Sheets



TECHNICAL SPECIFICATION:

SUITABLE FOR	630AF MCCB type
DEGREE OF PROTECTION	IP54
DIMENSION (mm)	800 H x 450 W x 250 D
RATED CURRENT	Up to 630 Amps
MCCB NUMBER OF POLES	3P / 4P
MOUNTING TYPE	Wall mounted
ENCLOSURE MATERIALS	100% Galvanized Steel Sheets



TECHNICAL SPECIFICATION:

SUITABLE FOR	1600AF MCCB type
DEGREE OF PROTECTION	IP54
DIMENSION (mm)	1100 H x 500 W x 300 D
RATED CURRENT	Up to 1600 Amps
MCCB NUMBER OF POLES	3P / 4P
MOUNTING TYPE	Wall mounted
ENCLOSURE MATERIALS	100% Galvanized Steel Sheets

EATON MOELLER SERIES MCCBs
BZM , LZM, NZM

BZM Series Molded Case Circuit Breaker

Compact

Simple

Safe

Switching capacity

		BZME1	BZMB1	BZMB2	BZMC2
Rated short-circuit breaking capacity					
I_{cu} to IEC/EN 60947 operating sequence					
0-t-CO,400/415V 50/60Hz	I_{cu}	18	25	25	36
I_{cs} to IEC/EN 60947 operating sequence					
0-t-CO-t-CO,400/415V 50/60Hz	I_{cs}	9	12.5	12.5	9

			BZMB3	BZMC3	BZMN3
Rated short-circuit breaking capacity					
I_{cu} to IEC/EN 60947 operating sequence					
0-t-CO 240 V 50/60Hz	I_{cu}	kA	50	85	100
0-t-CO,400/415V 50/60Hz	**I_{cu}**	**kA**	**25**	**36**	**50**
0-t-CO,400 V 50/60Hz	I_{cu}	kA	20	25	36
I_{cs} to IEC/EN 60947 operating sequence					
0-t-CO, 240 V 50/60Hz	I_{cs}	kA	25	42.5	50
0-t-CO-t-CO,400/415V 50/60Hz	**I_{cs}**	**kA**	**12.5**	**18**	**25**
0-t-CO-t-CO,400 V 50/60Hz	I_{cs}	kA	10	12.5	18

LZM Series Molded Case Circuit Breaker

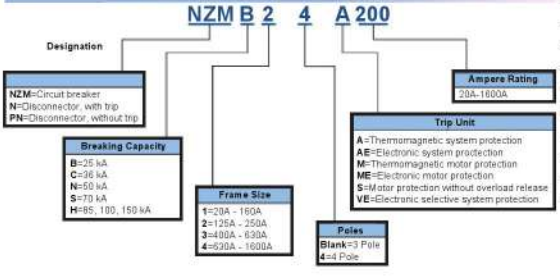
Switching capacity

Comfort switching capacity		**LZMC1-A**		**LZMC2-A**		**LZMC3-A**	
400/415 V	kA/cos Φ	36	0.25	36	0.25	36	0.25
440 V	kA/cos Φ	30	0.25	30	0.25	30	0.25
525 V	kA/cos Φ	12	0.5	12	0.5	12	0.5
690 V	kA/cos Φ	8	0.5	8	0.5	8	0.5

Normal switching capacity		**LZMN1-A**		**LZMN2-A**		**LZMN3-A**		**LZMN3-E**		**LZMN4-E**	
400/415 V	kA/cos Φ	50	0.25	50	0.25	50	0.25	50	0.25	50	0.25
440 V	kA/cos Φ	35	0.25	35	0.25	35	0.25	35	0.25	35	0.25
525 V	kA/cos Φ	20	0.30	20	0.25	25	0.25	25	0.25	25	0.25
690 V	kA/cos Φ	10	0.5	20	0.30	20	0.30	20	0.30	20	0.30

Strong switching capacity		**LZMS1-A**		**LZMS2-A**		**LZMS3-A**		**LZMS3-E**		**LZMS4-E**	
400/415 V	kA/cos Φ	70	0.20	70	0.20	70	0.20	70	0.20	70	0.20
440 V	kA/cos Φ	35	0.25	65	0.20	65	0.20	65	0.20	65	0.20
525 V	kA/cos Φ	20	0.30	36	0.25	36	0.25	36	0.25	36	0.25
690 V	kA/cos Φ	10	0.5	20	0.30	25	0.30	25	0.30	35	0.25

Notes The started switching capacity values are rated ultimate short-circuit breaking capacities (I_{cu})



Switching capacity

Switching Capacity C		**NZMC1-A**		**NZMC2-A**	
400/415 V	kA/cos Φ	36	0.25	36	0.25
440 V	kA/cos Φ	30	0.25	30	0.25
525 V	kA/cos Φ	12	0.5	12	0.5
690 V	kA/cos Φ	8	0.5	8	0.5

Switching Capacity N		**NZMN1-A**		**NZMN2-A**		**NZMN2-E**		**NZMN3-E**		**NZMN4-E**	
400/415 V	kA/cos Φ	50	0.25	50	0.25	50	0.25	50	0.25	50	0.25
440 V	kA/cos Φ	35	0.25	35	0.25	35	0.25	35	0.25	35	0.25
525 V	kA/cos Φ	20	0.30	25	0.25	25	0.25	25	0.25	25	0.25
690 V	kA/cos Φ	10	0.5	20	0.30	20	0.30	20	0.30	20	0.30

Switching Capacity S		**NZMS1-A**		**NZMS2-A**		**NZMS2-E**		**NZMS3-E**	
400/415 V	kA/cos Φ	70	0.25	70	0.25	70	0.20	70	0.20
440 V	kA/cos Φ	35	0.25	65	0.25	65	0.20	65	0.20
525 V	kA/cos Φ	20	0.30	36	0.25	36	0.25	36	0.25
690 V	kA/cos Φ	10	0.5	20	0.30	20	0.30	20	0.30

Switching Capacity H		**NZMH1-A**		**NZMH2-A**		**NZMH3-E**		**NZMH3-E**		**NZMH4-E**	
400/415 V	kA/cos Φ	100	0.20	150	0.20	150	0.20	150	0.20	150	0.20
440 V	kA/cos Φ	35	0.25	130	0.20	130	0.20	130	0.20	130	0.20
525 V	kA/cos Φ	20	0.30	50	0.25	50	0.25	50	0.25	50	0.25
690 V	kA/cos Φ	10	0.5	20	0.30	20	0.30	25	0.25	35	0.25

PLS..., PLHT Miniature Circuit Breaker

Coloured Toggles per Rating

6A	
10A	
13A	
16A	
20A	
25A	
32A	
40A	
50A	
63A	

Safety Wire Guides

Leads for ON/Off Position

TECHNICAL SPECIFICATIONS

	PLS6	PLSM	PLS6-DC	PLHT
Electrical				
Design according to	IEC / EN 60898	IEC / EN 60898	IEC / EN 60947-2	IEC / EN 60947-2
Rated Voltage = AC	230 / 400V	230 / 400V	-	230 / 400V
Rated Voltage = DC (per pole)	48V	48V	250V	60V
Rated Frequency	50 / 60Hz	50 / 60Hz	50 / 60Hz	50 / 60Hz
Endurance (operating cycles)	>8,000	>8,000	>8,000	>20,000
Characteristics	B,C,D	B,C,D	C	B,C,D
Rated breaking capacity according to IEC / EN 60898	6 kA	10 kA	6 kA	
Ultimate Short circuit breaking capacity according to IEC / EN 60947-2				
Characteristics B,C				
In = 20-63A	10 kA			25 kA
In = 80-100A				20 kA
In = 125A				15 kA

PFIM Residual Current Circuit Breaker

NSP Surge Protection Device

NSP 30 M 4 385 TNS R

Designation
NSP=New surge protection device

Nominal Discharge Current (8/20) ps I_n
20=20kA, 40kA
30=30kA, 60kA
40=40kA, 60kA
60=60kA, 120kA

Technology Type
M=M0V
S=Dual-M0V or Spark-gap
G=Gas Discharge tube
H=Hybrid type

Module Number
Blank=Insert module
1=1P
2=2P or 1P+N
3=3P
4=4P or 3P+N

Maximum Continuos Operating Voltage $U_{c(Vac)}$
385=385Vac

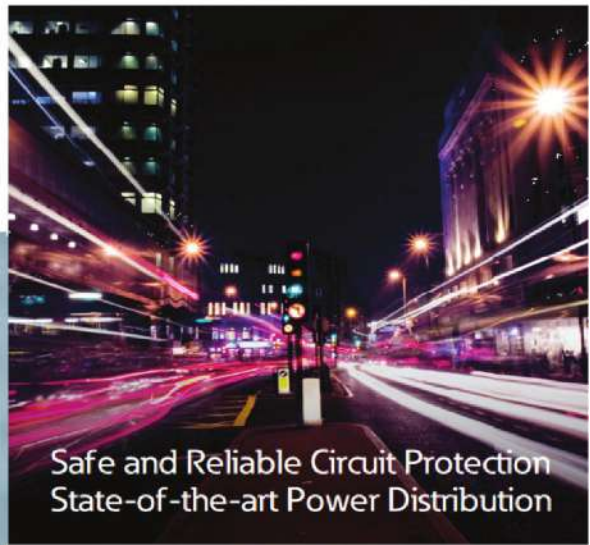
System Power Type
IEC=Single module
TN=TN system (2P)
TNC=TNC system (3P)
TNS=TNS system (4P)
TT=TT system(1P+N or 3P+N)

Remote Signaling
Blank=None
R=With remote signaling

TECHNICAL SPECIFICATIONS PFIM

Electrical	
Design according to	IEC / EN 61008
Rated Voltage Un	230 / 400V , 50Hz
Rated tripping current In	30, 100, 300, 500mA
Sensitivity	AC and pulsating DC
Endurance	
Electrical comp.	>4,000 operating cycles
Mechanical comp.	>20,000 operating cycles
Mechanical	
Tripping temperature	-25°C to +40°C
Degree of protection, built-in	IP40

Protect People and Property



Simply Better

Think Safety, Think powerbox®

MANUFACTURING PLANT ADDRESS

TOTAL POWER BOX SOLUTION INC.
CAVITE LIGHT INDUSTRIAL PARK
BRGY. MAGUYAM, SILANG, CAVITE PHILS. 4118

CUSTOMER CARE SERVICE HOTLINE

TEL: (02) 806 9716
(046) 686 5446

TECHNICAL SERVICE HOTLINE

MOBILE: 0922 - 874 - 5355
0922 - 811 - 8120
0922 - 812 - 3619

WEBSITE

WWW.POWERBOXSOLUTIONS.COM

PB-1115-003-R3-EM