

# Raysan LOAD CENTERS





**PARTNERSHIP**

# **SAFETY**

**DURABILITY**

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# Introduction

Using the latest technology, **alfanar** designs and manufactures Raysan load centers to provide safe, reliable circuit protection and power distribution for residential and commercial premises. Our internationally type tested Raysan load centers are designed to take proactive steps to ensure your electrical system provides safe, uninterrupted power you can count on.

The load center, also known as a distribution board (DB), takes electricity supplied by utility companies and serves as the service entrance by distributing the electricity throughout residential, commercial and light industrial buildings. Load centers divide the electrical power feed into subsidiary circuits, while providing a protective circuit breaker for each circuit in a common enclosure.

**alfanar** load center type Raysan is designed for reliable distribution and control of electrical power at the service entry point in residential, commercial and light industrial premises. Raysan is type tested as per IEC 61439-3 and designed for plug-in MCBs outgoing feeder for indoor and outdoor applications, with main breakers as an MCB (IEC 60898-1) and MCCB up to 400A. (300-400A are covered under IEC 61439-2)



## Product Features

### 1. Design

#### a. Aesthetics

With its modern look and elegant design, the Raysan load center has come a long way from the boxy eyesore load centers used to be, and fits attractively in with your home decor.

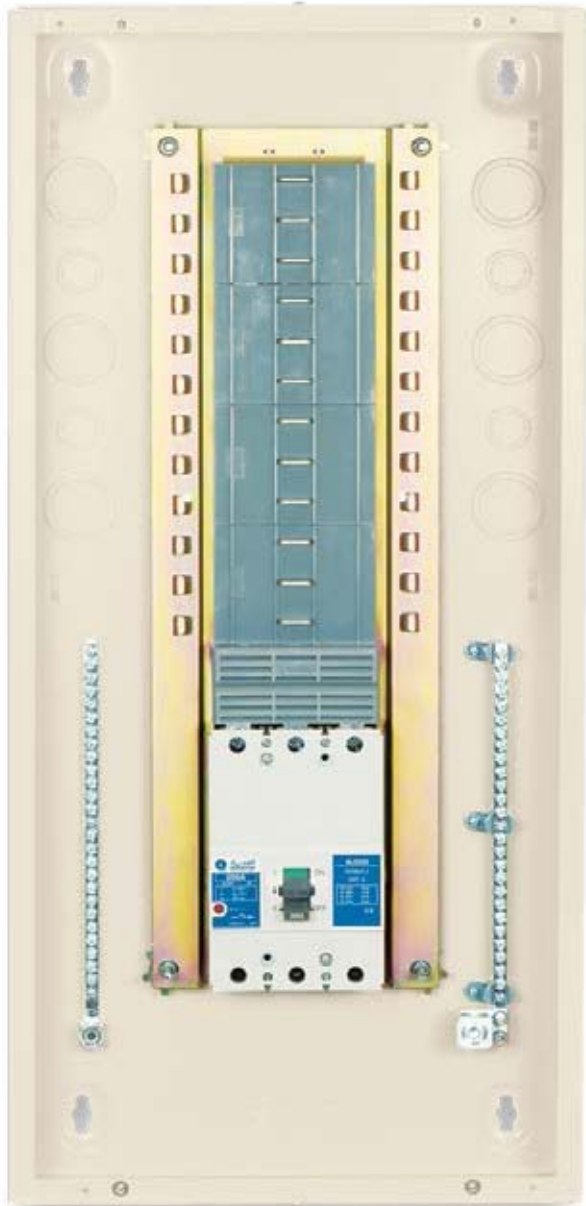
#### b. Color

The Raysan load center's fresh color scheme was chosen to blend in with the wall colors of your home without the need to repaint it.



# Product Features

## 2. Safety



### a. Protection against electric shock

Effective earth continuity is ensured on each panel during design and manufacturing to protect operators against any possible electrical shock when they touch the enclosure.



### b. Fully shrouded busbar system

The fully shrouded busbar system safeguards customers from accidental contact to the busbars while they are energized. The shrouded busbar system plays a very important role in preventing an internal arc because they will prevent any foreign object from entering and touching the busbars and cause a short.

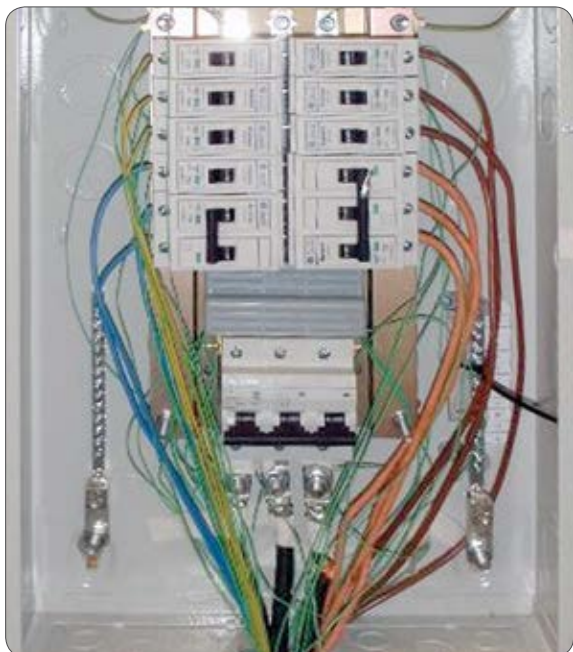
### c. Dead front cover

A dead front cover is installed on the panels to eliminate the possibility of people touching any of the live parts inside the panel during operation.



# Product Features

## 3. Performance



### a. Thermal stability

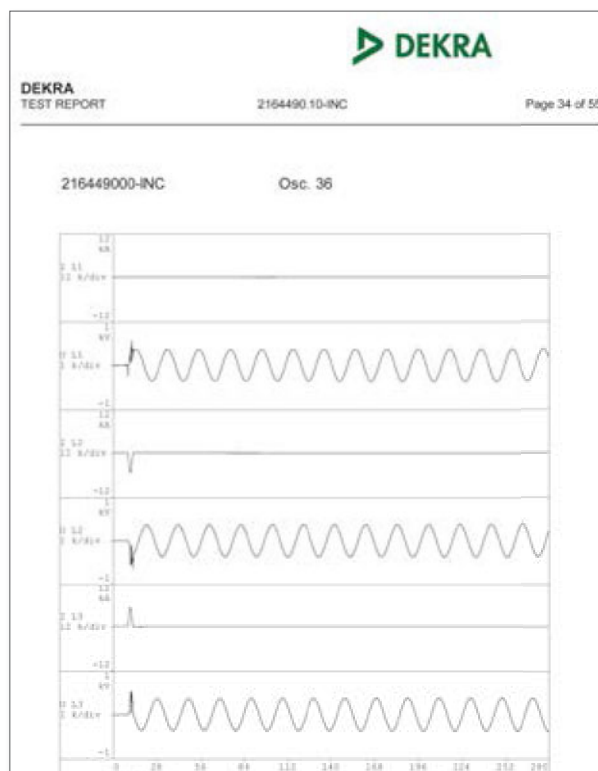
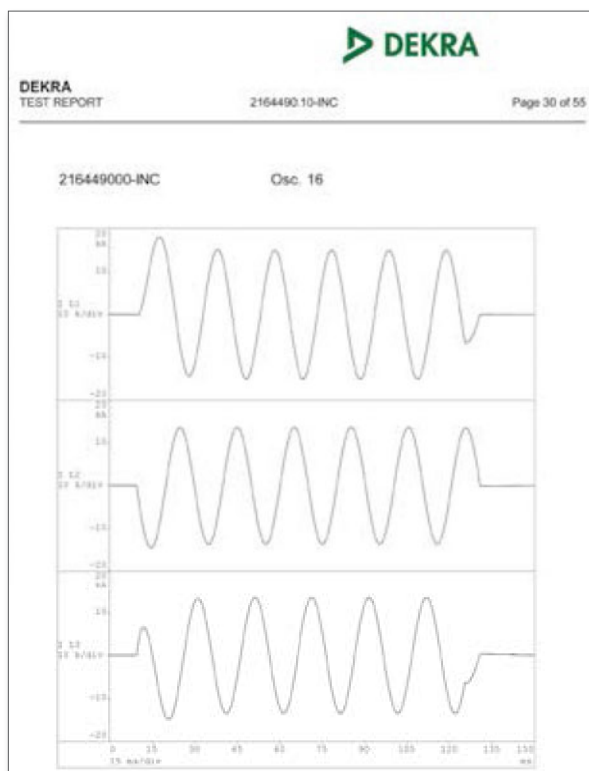
Thermal stability of our load centers is validated and ensured through a temperature rise test performed as per IEC 61439-3. This ensures that the product will keep working normally all day long at a steady temperature state.

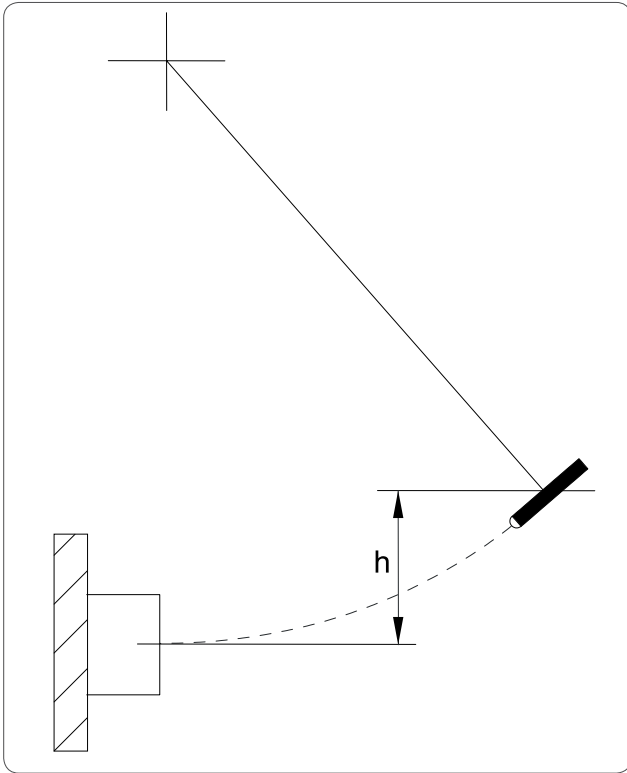
### b. Selectivity

Selectivity ensures that tripping happens only at the faulty branch circuit level and other branches will not be affected and complete blackout is avoided. This is achieved by our state of art main breaker.

### c. Short circuit strength

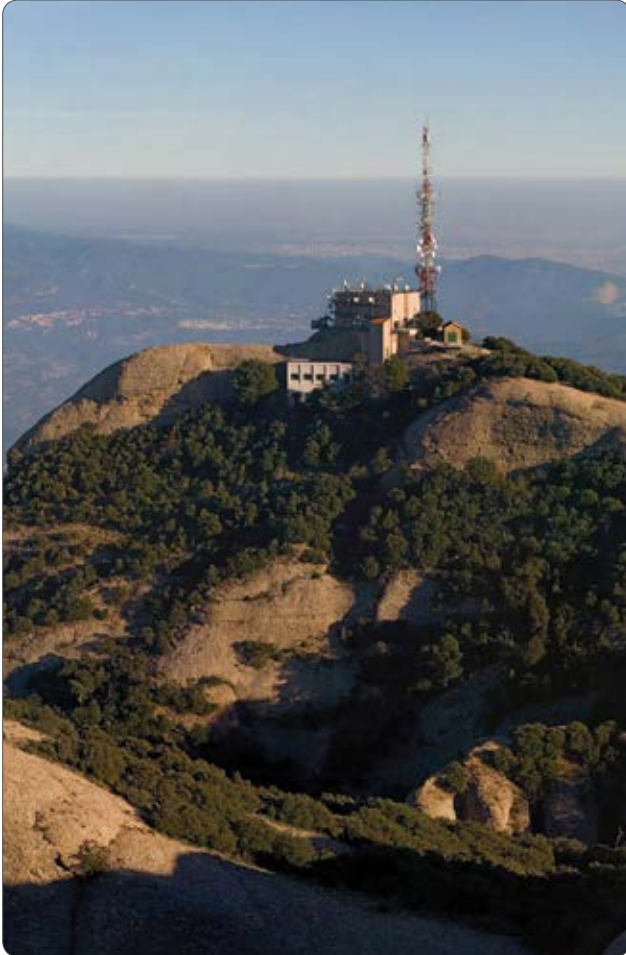
**alfanar** Raysan load center and busbar assembly has been validated for a short circuit performance of 10kA. Our busbar assembly has a short-time withstand of up to 25kA for 250mS.





#### d. Mechanical impact

**alfanar** Raysan load center is tested to withstand the impact load as per the international standard IEC 61439-3 to ensure the strength requirement of the application.



#### e. Altitude

DBs are rated for the altitude of 2000m without any derating to ensure you get all the performance regardless of the area of installation.



# Product Features

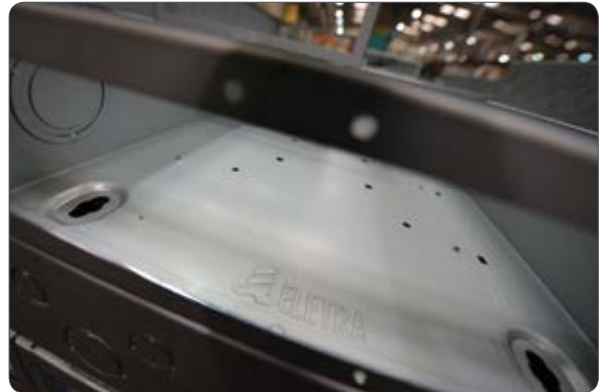
## 4. Reliability



### a. High corrosion resistant enclosure and internal parts

Double protection against corrosion is achieved by using an electrogalvanized steel sheet as the base material and powder-coating the same with Polyester powder.

This process has been validated for 1000 hours using the Salt Spray test. This ensures the functionality of the load center under the worst atmospheric corrosive conditions



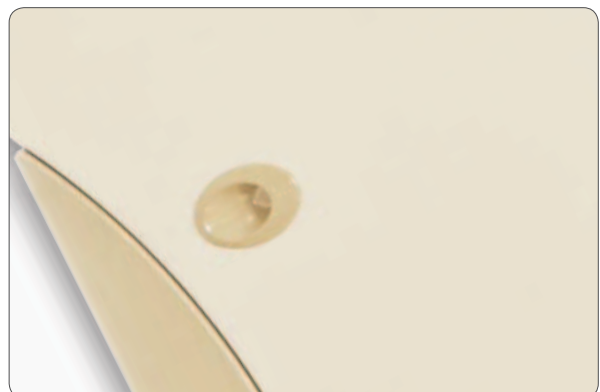
### b. Tin plated copper busbars

99.9% pure copper is used to construct the busbars of [alfanar](#) Raysan load centers. Busbars are tin plated to protect them against atmospheric corrosion.



### c. Ingress protection

[alfanar](#) Raysan load centers are tested for IP40 to ensure the ingress protection against solid particles in an indoor application. Raysan load centers are also available with IP54 rating to ensure protection against water and solid particles in an outdoor application.



## 5. Installation



### a. Ample wiring space

Compact busbar system and wide enclosure design provide more space for easier wiring even when wider components like RCBOs are used.



### b. Knockouts

Knockouts are designed to handle multiple sized conduits and glands of international standards which can be opened easily and do not have sharp edges that might damage the conduits, wires or injure the user.



### c. Removable top and bottom gland plates

Removable gland plates make the wiring and conduit installation a much easier process in tight spaces.

## Product Features



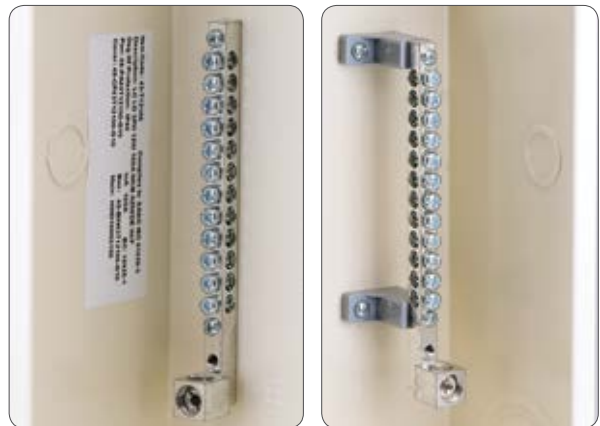
### d. Depth adjustability (pan assembly depth adjustability)

Pan assembly depth is adjustable to ensure the breakers are not recessed into the box and to eliminate the gaps between cover and breakers after the installation of the door.



### e. Ample earth and neutral terminals

Earth and neutral terminals are made from a solid piece of tin plated brass to prevent any series arc or loose connection. The quantity of earth and neutral terminals is equal to the number of outgoing circuits.

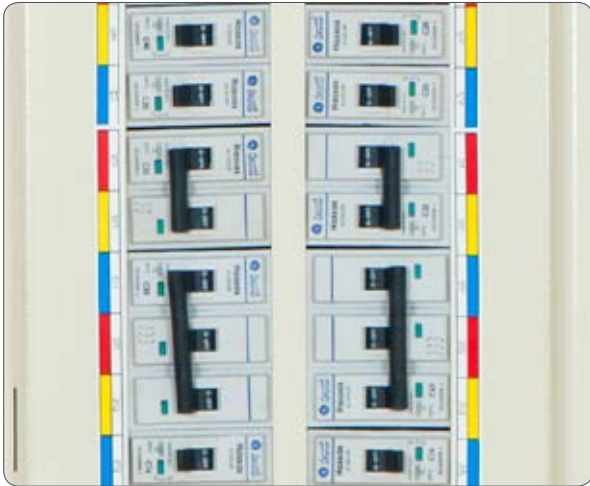


### f. Cement guard

Protects the product from cement deposit during installation and keeps the box clean for the installation of the pan assembly.







### g. Phase identification

Clear phase identification on the cover and on the directory helps the electrician in load balancing.



### h. Wiring directory

The wiring directory notes the connection information so that the user can identify and switch on a specific circuit during maintenance.



### i. Additional information

Batch code and spare parts information are clearly provided on the door of each panel.



### j. Easy cover fixing

The cover holding feature enables the user to align the dead front cover (DFC) properly. The entire weight of the DFC is borne by the box, so the user can support the cover with one hand and fix the screw with other hand without much effort.

# Product Features

## 6. Environment

All the components that are used in Raysan components are Environmentally friendly and RoHS compliant.



## 7. Type Testing

Extensive care is taken at several stages of the design and manufacturing processes of load centers and breakers to ensure end user safety. **alfanar** Raysan load centers are type tested as per the new standard IEC 61439-3 DBO (Distribution Boards intended to be operated by Ordinary Persons) to ensure a higher level of safety when used by consumers.

The following extensive tests are conducted:

IEC 61439-3 Clause	Clause description	Result
10.2	Strength of material and parts	
10.2.2	Resistance to corrosion	Pass
10.2.3	Properties of insulating materials	
10.2.3.1	Verification of thermal stability of enclosures	Pass
10.2.3.2	Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Pass
10.2.6	Mechanical impact	Pass
10.2.7	Marking	Pass
10.3	Degree of protection of assembly	Pass
10.4	Clearances and creepage distances	Pass
10.5	Protection against electric shock and integrity of protective circuits	
10.5.2	Effective earth continuity between the exposed conductive parts of the assembly and the protective circuit	Pass
10.5.3	Short-circuit withstand strength of the protective circuit	Pass
10.6	Incorporation of switching devices and components	Pass
10.7	Internal electrical circuits and connections	Pass
10.8	Terminals for external conductors	Pass
10.9	Dielectric properties	
10.9.2	Power-frequency withstand voltage	Pass
10.9.3	Impulse withstand voltage	Pass
10.10	Verification of temperature rise	
10.10.2.3.5	Verification of the complete assembly	Pass
10.11	Short-circuit withstand strength	Pass
10.12	Electromagnetic Compatibility (EMC)	Pass
10.13	Mechanical operation	Pass

## TEST CERTIFICATE

**Issued to:** Alfanar Electrical Systems  
Madinet alfanar,  
3rd Industrial City,  
P.O.Box 564, Riyadh 11383  
Saudi Arabia

**For the product:** Low-voltage switchgear and controlgear assembly -  
Distribution boards intended to be operated by ordinary persons (DBO)

**Trade name:** Alfanar/Eletra

**Type/Model:** Raysan 3Ph 200A Range MCCB Main with total selectivity between  
Main & Branches

**Ratings:**  $I_{nA}$  200 A,  $U_g$  240 V / 415 V,  $U_i$  500 V,  $U_{imp}$  4 kV,  
 $I_{cw}$  18 kA – 0,25 s (main busbar),  $I_{cc}$  10 kA at 415 V (Incoming unit),  
 $I_{cc}$  10 kA at 415 V (3P / 2P outgoing units 6-63A),  
 $I_{cc}$  10 kA at 240 V (1P outgoing units 6-63A).  
For more details see annex

**Manufactured by:** Alfanar Electrical Systems  
Madinet alfanar,  
3rd Industrial City,  
P.O.Box 564, Riyadh 11383  
Saudi Arabia

**Subject:** Design verification; Construction and performance

**Requirements:** IEC 61439-3, 1st ed. 2012-02  
Clauses 10.2.2, 10.2.3, 10.2.6, 10.2.7, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9,  
10.10, 10.11, 10.12, 10.13

**Remarks:** The product complies with the above requirements from the standard

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in report no. 2164490.04-INC, dated 9 February 2015.

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Arnhem, 9 February 2015

Number: 2164490.103

DEKRA Certification B.V.

  
H.F.M. Barends  
Certification Manager

© Integral publication of this certificate and adjoining reports is allowed

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem, The Netherlands  
T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Company registration 09085396



# Technical Specifications

## Technical Data – 1ph

Standard	SASO & IEC 61439-3
	Designed to be operated by an ordinary person

## Electrical

Busbar rating	100A
Busbar type	ETP copper, fully shrouded
Voltage range	110-240V AC 50/60 Hz
Rated current	32,40,50,63,80 & 100A
No. of ways	4, 6, 8,10,12
Icw for busbar	10 kA - 0.1 Sec
Ui / Uimp	500V / 4KV
Type	Indoor
Degree of protection	IP40
Mechanical impact	IK05
Mounting	Flush/Surface
Main breaker (Incomer)	AZM MCB, 2 Pole 32,40,50,63,80 & 100A Hassas 2 Pole MCB 32,40,50 & 63A
Branches	1 Pole Plug-in MCBs 6,10,16,20,25,32,40,50 & 63A eRCBO 1 Pole 6,10,16,20,25,32,40A (IΔn– 30 & 100 mA)

## Terminal Capacity

Main MCB frame size 100A	50 sq.mm
Branch MCB frame size 63A	35 sq.mm
Neutral terminal bar	Incoming 50 sq.mm Outgoing 16 sq.mm
Earth terminal bar	Incoming 50 sq.mm Outgoing 16 sq.mm
No. of outgoing terminals	≥ no. of ways

## Environmental/General

Average ambient temperature:	35°C
Operational temperature range:	-5°C to 40°C (without derating as per the standard IEC 61439-3)
Operational temperature range with derating:	Refer annexure

## Construction Features

Door lock	Sliding lock – RAL1001
Enclosure material	Electro-galvanized steel sheet (Corrosion resistant)
Steel thickness	Up to 1.0 mm
Knockout sizes	See details on page 17
Enclosure color	Polyester powder coated in RAL-1013 (Beige)
Dimensions	Refer annexure

## Technical Data – 2ph

Standard	SASO & IEC 61439-3
	Designed to be operated by an ordinary person

## Electrical

Busbar rating	100A
Busbar type	ETP copper tin plated, fully shrouded
Voltage range	110-415V AC 50/60 Hz
Rated current	32,40,50,63,80 & 100A
No. of ways	4, 6, 8
Icw for busbar	10 kA - 0.1 Sec
Ui / Uimp	500V / 4KV
Type	Indoor
Degree of protection	IP40
Mechanical impact	IK05
Mounting	Flush/Surface
Main breaker (Incomer)	AZM MCB, 2Pole 32,40,50,63,80 & 100A
Branches	2&1 Pole Plug-in MCBs 6,10,16,20,25,32,40,50 & 63A eRCBO 1 Pole 6,10,16,20,25,32,40A (IΔn– 30 & 100 mA)

## Terminal Capacity

Main MCB frame size 100A	50 sq.mm
Branch MCB frame size 63A	25 sq.mm
Neutral terminal bar	Incoming 50 sq.mm Outgoing 16 sq.mm
Earth terminal bar	Incoming 50 sq.mm Outgoing 16 sq.mm
No. of outgoing terminals	≥ no. of ways

## Environmental/General

Average ambient temperature:	35°C
Operational temperature range:	-5°C to 40°C (without derating as per the standard IEC 61439-3)
Operational temperature range with derating:	Refer annexure

## Construction Features

Door lock	Sliding lock – RAL1001
Enclosure material	Electro-galvanized steel sheet (corrosion resistant)
Steel thickness	Up to 1 mm
Knockout sizes	See details on page 17
Enclosure color	Polyester powder coated in RAL-1013 (Beige)
Dimensions	Refer annexure

# Technical Specifications

Technical Data – 3ph					
Standard	SASO & IEC 61439-3				
	Designed to be operated by an ordinary person				
Electrical					
Varieties	100A with MCB main	100A with MCCB main	225A with MCCB main	250A with MCCB main	400A with MCCB main
Busbar rating	100A	100A	225A	250A	400A
Icw for busbar	18 kA - 0.25 Sec	18 kA - 0.25 Sec	20 kA - 0.25 Sec	20 kA - 0.25 Sec	25 kA - 0.25 Sec
Rated current	32,40,50,63,80 & 100A	30,40,50,60,75 & 100A	125,150,175,200 & 225A	250A	300A, 400A
Main breaker (Incomer)	AZM MCB, 3Pole 32,40,50,63,80 & 100A / Hassas 3Pole MCB 32,40,50,63A	AF100N MCCB, 3Pole 30,40,50,60,75 & 100A	AF250N MCCB, 3Pole 125,150,175,200 & 225A	FE250AT MCCB 250A	AF400N 300A & 400A
Busbar type	ETP copper tin plated, fully shrouded				
Voltage range	110-415V AC 50/60 Hz				
No. of ways	6,9,12,18,24, 30,36,42	12,18,24,30,36,42	18,24,30,36,42 & 48	24,30,36,42 & 48	24,30,36,42 & 48
Ui / Uimp	500V / 4KV				
Type	Indoor				
Degree of protection	IP40 & IP54				
Mechanical impact	IK05				
Mounting	Flush/Surface				
Branches	1,2&3 Pole Plug-in MCBs 6,10,16,20,25,32,40,50 & 63A eRCBO 1 Pole 6,10,16,20,25,32,40A (IΔn– 30 & 100 mA)				
Terminal Capacity					
Main MCB/MCCB frame size 100A	50 sq.mm	50 sq.mm	120 sq.mm	185 sq.mm	300 sq.mm
Branch MCB frame size 63A	25 sq.mm	25 sq.mm	25 sq.mm	25 sq.mm	25 sq.mm
Neutral terminal bar	Incoming	50 sq.mm	50 sq.mm	120 sq.mm	120 sq.mm
	Outgoing	16 sq.mm	16 sq.mm	16 sq.mm	16 sq.mm
Earth terminal bar	Incoming	50 sq.mm	50 sq.mm	50 sq.mm	50 sq.mm
	Outgoing	16 sq.mm	16 sq.mm	16 sq.mm	16 sq.mm
No. of outgoing terminals	≥ no. of ways				
Environmental/General					
Average ambient temperature:	35°C				
Operational temperature range:	-5°C to 40°C (without derating as per the standard IEC 61439-3)				
Operational temperature range with derating:	Refer annexure				
Construction Features					
Door lock	Sliding lock – RAL1001				
Enclosure material	Electro-galvanized steel sheet (Corrosion resistant)				
Steel thickness	Up to 1.0 mm				
Knockout sizes	See details on page 17				
Enclosure color	Polyester powder coated in RAL-1013 (Beige)				
Dimensions	Refer annexure				

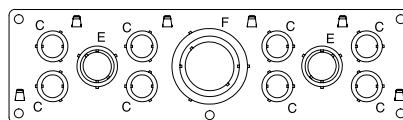


# Knockout Dimensions

Each of our products undergoes a strict quality control check as per routine verification mentioned in the standard.

## Knockout Sizes

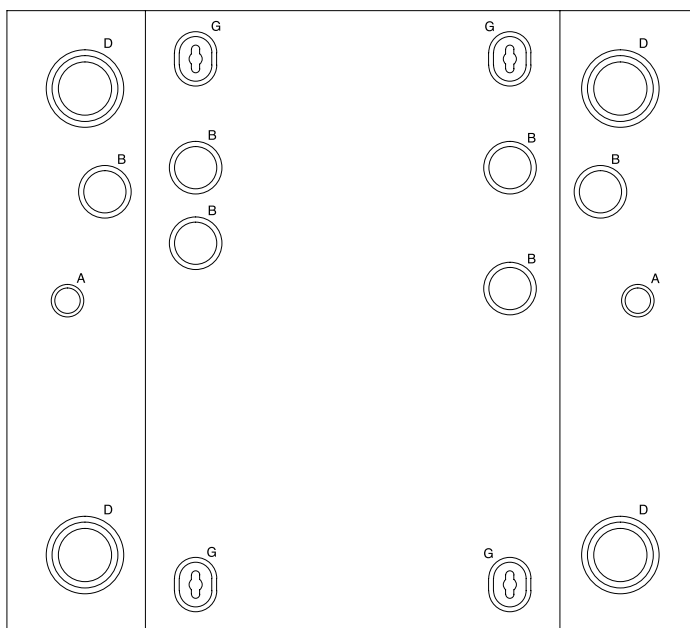
A - $\phi 21/\phi 27$	Double Knockout	2 Nos.
B - $\phi 38.5/\phi 44$	Double Knockout	6 Nos.
C - $\phi 19/\phi 25$	Double Knockout	16 Nos.
D - $\phi 44/\phi 54/\phi 64$	Triple Knockout	4 Nos.
E - $\phi 23/\phi 28/\phi 33$	Triple Knockout	4 Nos.
F - $\phi 44/\phi 50/\phi 60$	Triple Knockout	2 Nos.
G - Wall mounting emboss with key hole		4 Nos.



## Notes:

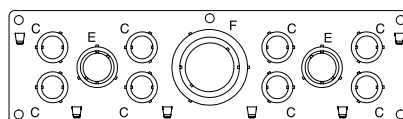
- All dimensions are in mm.
- The details in this drawing indicate dimensions and knockout positions for a typical Raysan load center.

Knockout details for other Load center types, shown in this catalogue, are available on request.



## CODING KEY

### 52 - L X X X X P F (for Raysan load center)



52	Code
L	MCCB Main Breaker, T for MCB Main Breaker, WPL & WPT for Outdoor type.
X X	Number of ways
X X X -	Ampere rating
PF	Raysan Type

For example:

Item code 52-L12100PF represents load center, 12-way, with 100AT main – Indoor type.

Item code 52-WPL12100PF represents load center, 12-way, with 100AT main – Outdoor type.

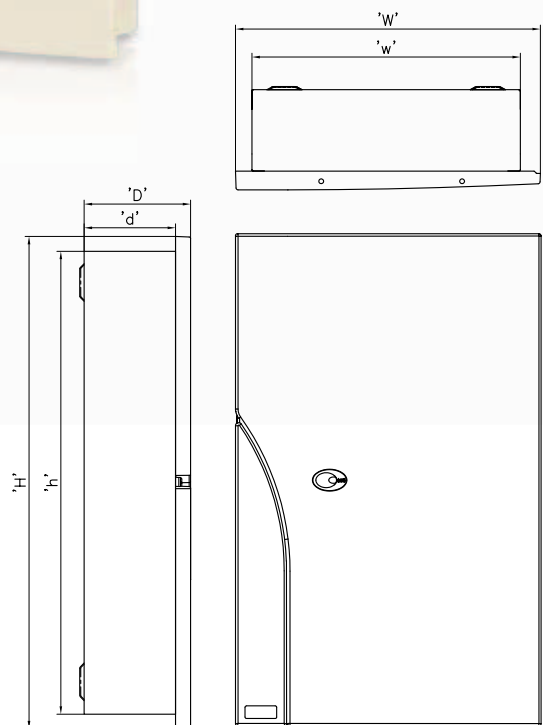
### 42 - 00 X X X P (for branch breaker)

42	Code
00	Branch Breaker
X	Number of Pole.
X X	Ampere rating
P	Hassas Type

For example, item code 42-00132P represents Hassas Branch Breaker, 1 Pole, and 32A.

# alfanar Raysan load Center

Indoor and Outdoor Types



# Ordering Information

## Indoor Type

Single Phase alfanar Raysan Load Center with MCB main Hassas 32-63 AT								
NO. OF WAYS	MAIN RATING	ITEM CODE	H	h	W	w	D	d
4	32A	52-T104032PF	387	350	270	220	120	98
4	40A	52-T104040PF	387	350	270	220	120	98
4	50A	52-T104050PF	387	350	270	220	120	98
4	63A	52-T104063PF	387	350	270	220	120	98
6	32A	52-T106032PF	387	350	270	220	120	98
6	40A	52-T106040PF	387	350	270	220	120	98
6	50A	52-T106050PF	387	350	270	220	120	98
6	63A	52-T106063PF	387	350	270	220	120	98
8	32A	52-T108032PF	387	350	270	220	120	98
8	40A	52-T108040PF	387	350	270	220	120	98
8	50A	52-T108050PF	387	350	270	220	120	98
8	63A	52-T108063PF	387	350	270	220	120	98
Single Phase alfanar Raysan Load Center with MCB main AZM 32-100 AT								
NO. OF WAYS	MAIN RATING	ITEM CODE	H	h	W	w	D	d
10	32A	52-T110032ZPF	534	500	270	220	120	98
10	40A	52-T110040ZPF	534	500	270	220	120	98
10	50A	52-T110050ZPF	534	500	270	220	120	98
10	63A	52-T110063ZPF	534	500	270	220	120	98
10	80A	52-T110080ZPF	534	500	270	220	120	98
10	100A	52-T110100ZPF	534	500	270	220	120	98
12	32A	52-T112032ZPF	585	550	270	220	120	98
12	40A	52-T112040ZPF	585	550	270	220	120	98
12	50A	52-T112050ZPF	585	550	270	220	120	98
12	63A	52-T112063ZPF	585	550	270	220	120	98
12	80A	52-T112080ZPF	585	550	270	220	120	98
12	100A	52-T112100ZPF	585	550	270	220	120	98
Two Phase alfanar Raysan Load Center with MCB main AZM 32-100 AT								
NO. OF WAYS	MAIN RATING	ITEM CODE	H	h	W	w	D	d
4	32A	52-0404032PF	387	350	270	220	120	98
4	40A	52-0404040PF	387	350	270	220	120	98
4	50A	52-0404050PF	387	350	270	220	120	98
4	63A	52-0404063PF	387	350	270	220	120	98
4	80A	52-0404080PF	387	350	270	220	120	98
4	100A	52-0404100PF	387	350	270	220	120	98
6	32A	52-0406032PF	387	350	270	220	120	98
6	40A	52-0406040PF	387	350	270	220	120	98
6	50A	52-0406050PF	387	350	270	220	120	98
6	63A	52-0406063PF	387	350	270	220	120	98
6	80A	52-0406080PF	387	350	270	220	120	98
6	100A	52-0406100PF	387	350	270	220	120	98
8	32A	52-0408032PF	387	350	270	220	120	98
8	40A	52-0408040PF	387	350	270	220	120	98
8	50A	52-0408050PF	387	350	270	220	120	98
8	63A	52-0408063PF	387	350	270	220	120	98
8	80A	52-0408080PF	387	350	270	220	120	98
8	100A	52-0408100PF	387	350	270	220	120	98

Note: All dimensions are in mm.

# Ordering Information

## Indoor Type

Two phase alfanar Raysan load center without main							
NO.OF WAYS	ITEM CODE	H	h	W	w	D	d
4	52-0304000PF	387	350	270	220	120	98
6	52-0306000PF	387	350	270	220	120	98
8	52-0308000PF	387	350	270	220	120	98

Three Phase alfanar Raysan Load Center with MCB main AZM 32-100 AT								
NO. OF WAYS	MAIN RATING	ITEM CODE	H	h	W	w	D	d
6	32A	52-T06032PF	558	515	390	343	131	104
6	40A	52-T06040PF	558	515	390	343	131	104
6	50A	52-T06050PF	558	515	390	343	131	104
6	63A	52-T06063PF	558	515	390	343	131	104
6	80A	52-T06080PF	558	515	390	343	131	104
6	100A	52-T06100PF	558	515	390	343	131	104
12	32A	52-T12032PF	558	515	390	343	131	104
12	40A	52-T12040PF	558	515	390	343	131	104
12	50A	52-T12050PF	558	515	390	343	131	104
12	63A	52-T12063PF	558	515	390	343	131	104
12	80A	52-T12080PF	558	515	390	343	131	104
12	100A	52-T12100PF	558	515	390	343	131	104
18	32A	52-T18032PF	634	591	390	343	131	104
18	40A	52-T18040PF	634	591	390	343	131	104
18	50A	52-T18050PF	634	591	390	343	131	104
18	63A	52-T18063PF	634	591	390	343	131	104
18	80A	52-T18080PF	634	591	390	343	131	104
18	100A	52-T18100PF	634	591	390	343	131	104
24	32A	52-T24032PF	710	667	390	343	131	104
24	40A	52-T24040PF	710	667	390	343	131	104
24	50A	52-T24050PF	710	667	390	343	131	104
24	63A	52-T24063PF	710	667	390	343	131	104
24	80A	52-T24080PF	710	667	390	343	131	104
24	100A	52-T24100PF	710	667	390	343	131	104
30	32A	52-T30032PF	786	743	390	343	131	104
30	40A	52-T30040PF	786	743	390	343	131	104
30	50A	52-T30050PF	786	743	390	343	131	104
30	63A	52-T30063PF	786	743	390	343	131	104
30	80A	52-T30080PF	786	743	390	343	131	104
30	100A	52-T30100PF	786	743	390	343	131	104
36	32A	52-T36032PF	891	848	390	343	131	104
36	40A	52-T36040PF	891	848	390	343	131	104
36	50A	52-T36050PF	891	848	390	343	131	104
36	63A	52-T36063PF	891	848	390	343	131	104
36	80A	52-T36080PF	891	848	390	343	131	104
36	100A	52-T36100PF	891	848	390	343	131	104
42	32A	52-T42032PF	973	930	390	343	131	104
42	40A	52-T42040PF	973	930	390	343	131	104
42	50A	52-T42050PF	973	930	390	343	131	104
42	63A	52-T42063PF	973	930	390	343	131	104
42	80A	52-T42080PF	973	930	390	343	131	104
42	100A	52-T42100PF	973	930	390	343	131	104

**Note:** All dimensions are in mm.



# Ordering Information

## Indoor Type

Three Phase alfanar Raysan Load Center with MCCB main Hassas 32-63 AT								
NO. OF WAYS	MAIN RATING	ITEM CODE	H	h	W	w	D	d
9	32A	52-T09032PF	387	350	270	220	126	104
9	40A	52-T09040PF	387	350	270	220	126	104
9	50A	52-T09050PF	387	350	270	220	126	104
9	63A	52-T09063PF	387	350	270	220	126	104
Three Phase alfanar Raysan Load Center with MCCB main AF100N 30-100 AT								
NO. OF WAYS	MAIN RATING	ITEM CODE	H	h	W	w	D	d
12	30A	52-L12030PF	634	591	390	343	131	104
12	40A	52-L12040PF	634	591	390	343	131	104
12	50A	52-L12050PF	634	591	390	343	131	104
12	60A	52-L12060PF	634	591	390	343	131	104
12	75A	52-L12075PF	634	591	390	343	131	104
12	100A	52-L12100PF	634	591	390	343	131	104
18	30A	52-L18030PF	710	667	390	343	131	104
18	40A	52-L18040PF	710	667	390	343	131	104
18	50A	52-L18050PF	710	667	390	343	131	104
18	60A	52-L18060PF	710	667	390	343	131	104
18	75A	52-L18075PF	710	667	390	343	131	104
18	100A	52-L18100PF	710	667	390	343	131	104
24	30A	52-L24030PF	786	743	390	343	131	104
24	40A	52-L24040PF	786	743	390	343	131	104
24	50A	52-L24050PF	786	743	390	343	131	104
24	60A	52-L24060PF	786	743	390	343	131	104
24	75A	52-L24075PF	786	743	390	343	131	104
24	100A	52-L24100PF	786	743	390	343	131	104
30	30A	52-L30030PF	891	848	390	343	131	104
30	40A	52-L30040PF	891	848	390	343	131	104
30	50A	52-L30050PF	891	848	390	343	131	104
30	60A	52-L30060PF	891	848	390	343	131	104
30	75A	52-L30075PF	891	848	390	343	131	104
30	100A	52-L30100PF	891	848	390	343	131	104
36	30A	52-L36030PF	973	930	390	343	131	104
36	40A	52-L36040PF	973	930	390	343	131	104
36	50A	52-L36050PF	973	930	390	343	131	104
36	60A	52-L36060PF	973	930	390	343	131	104
36	75A	52-L36075PF	973	930	390	343	131	104
36	100A	52-L36100PF	973	930	390	343	131	104
42	30A	52-L42030PF	1053	1010	390	343	131	104
42	40A	52-L42040PF	1053	1010	390	343	131	104
42	50A	52-L42050PF	1053	1010	390	343	131	104
42	60A	52-L42060PF	1053	1010	390	343	131	104
42	75A	52-L42075PF	1053	1010	390	343	131	104
42	100A	52-L42100PF	1053	1010	390	343	131	104

Note: All dimensions are in mm.

# Ordering Information

## Indoor Type

Three Phase alfanar Raysan Load Center with MCCB main AF250N 125-225 AT								
NO. OF WAYS	MAIN RATING	ITEM CODE	H	h	W	w	D	d
18	125A	52-L18125PF	710	667	390	343	131	104
18	150A	52-L18150PF	710	667	390	343	131	104
18	175A	52-L18175PF	710	667	390	343	131	104
18	200A	52-L18200PF	710	667	390	343	131	104
18	225A	52-L18225PF	710	667	390	343	131	104
24	125A	52-L24125PF	786	743	390	343	131	104
24	150A	52-L24150PF	786	743	390	343	131	104
24	175A	52-L24175PF	786	743	390	343	131	104
24	200A	52-L24200PF	786	743	390	343	131	104
24	225A	52-L24225PF	786	743	390	343	131	104
30	125A	52-L30125PF	891	848	390	343	131	104
30	150A	52-L30150PF	891	848	390	343	131	104
30	175A	52-L30175PF	891	848	390	343	131	104
30	200A	52-L30200PF	891	848	390	343	131	104
30	225A	52-L30225PF	891	848	390	343	131	104
36	125A	52-L36125PF	973	930	390	343	131	104
36	150A	52-L36150PF	973	930	390	343	131	104
36	175A	52-L36175PF	973	930	390	343	131	104
36	200A	52-L36200PF	973	930	390	343	131	104
36	225A	52-L36225PF	973	930	390	343	131	104
42	125A	52-L42125PF	1053	1010	390	343	131	104
42	150A	52-L42150PF	1053	1010	390	343	131	104
42	175A	52-L42175PF	1053	1010	390	343	131	104
42	200A	52-L42200PF	1053	1010	390	343	131	104
42	225A	52-L42225PF	1053	1010	390	343	131	104
48	125A	52-L48125PF	1133	1090	390	343	131	104
48	150A	52-L48150PF	1133	1090	390	343	131	104
48	175A	52-L48175PF	1133	1090	390	343	131	104
48	200A	52-L48200PF	1133	1090	390	343	131	104
48	225A	52-L48225PF	1133	1090	390	343	131	104

**Note:** All dimensions are in mm.

# Ordering Information

## Indoor Type

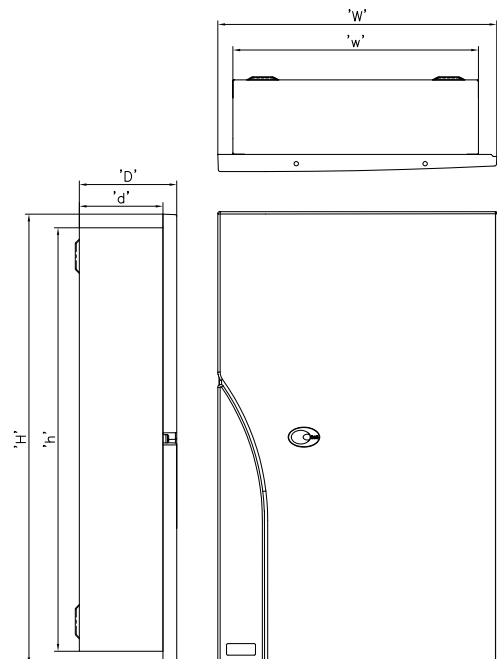
### Three phase alfanar Raysan load center with MCCB main FE 250 AT

NO.OF WAYS	MAIN RATING	ITEM CODE	H	W	D
24	250A	52-L24250PF	1150	500	195
30	250A	52-L30250PF	1150	500	195
36	250A	52-L36250PF	1150	500	195
42	250A	52-L42250PF	1310	500	195
48	250A	52-L48250PF	1310	500	195

### Three phase alfanar Raysan load center with MCCB main AF400N 300-400 AT

NO.OF WAYS	MAIN RATING	ITEM CODE	H	W	D
24	300A	52-L24300PF	1150	500	195
24	400A	52-L24400PF	1150	500	195
30	300A	52-L30300PF	1150	500	195
30	400A	52-L30400PF	1150	500	195
36	300A	52-L36300PF	1150	500	195
36	400A	52-L36400PF	1150	500	195
42	300A	52-L42300PF	1310	500	195
42	400A	52-L42400PF	1310	500	195
48	300A	52-L48300PF	1310	500	195
48	400A	52-L48400PF	1310	500	195

**Note:** All dimensions are in mm.



# Ordering Information

## Outdoor Type

Three phase alfanar Raysan load center with MCB main AZM 32-100 AT					
NO.OF WAYS	MAIN RATING	ITEM CODE	H	W	D
12	32A	52-WPT12032PF	565	400	160
12	40A	52-WPT12040PF	565	400	160
12	50A	52-WPT12050PF	565	400	160
12	63A	52-WPT12063PF	565	400	160
12	80A	52-WPT12080PF	565	400	160
12	100A	52-WPT12100PF	565	400	160
18	32A	52-WPT18032PF	641	400	160
18	40A	52-WPT18040PF	641	400	160
18	50A	52-WPT18050PF	641	400	160
18	63A	52-WPT18063PF	641	400	160
18	80A	52-WPT18080PF	641	400	160
18	100A	52-WPT18100PF	641	400	160
24	32A	52-WPT24032PF	717	400	160
24	40A	52-WPT24040PF	717	400	160
24	50A	52-WPT24050PF	717	400	160
24	63A	52-WPT24063PF	717	400	160
24	80A	52-WPT24080PF	717	400	160
24	100A	52-WPT24100PF	717	400	160
30	32A	52-WPT30032PF	793	400	160
30	40A	52-WPT30040PF	793	400	160
30	50A	52-WPT30050PF	793	400	160
30	63A	52-WPT30063PF	793	400	160
30	80A	52-WPT30080PF	793	400	160
30	100A	52-WPT30100PF	793	400	160
36	32A	52-WPT36032PF	898	400	160
36	40A	52-WPT36040PF	898	400	160
36	50A	52-WPT36050PF	898	400	160
36	63A	52-WPT36063PF	898	400	160
36	80A	52-WPT36080PF	898	400	160
36	100A	52-WPT36100PF	898	400	160
42	32A	52-WPT42032PF	980	400	160
42	40A	52-WPT42040PF	980	400	160
42	50A	52-WPT42050PF	980	400	160
42	63A	52-WPT42063PF	980	400	160
42	80A	52-WPT42080PF	980	400	160
42	100A	52-WPT42100PF	980	400	160
Three phase alfanar Raysan load center with MCB main Hassas 32-63 AT					
NO.OF WAYS	MAIN RATING	ITEM CODE	H	W	D
9	32A	52- WPT09032PF	490	400	160
9	40A	52- WPT09040PF	490	400	160
9	50A	52- WPT09050PF	490	400	160
9	63A	52- WPT09063PF	490	400	160

**Note:** All dimensions are in mm.



# Ordering Information

## Outdoor Type

Three phase alfanar Raysan load center with MCCB main AF100N 30-100 AT					
NO.OF WAYS	MAIN RATING	ITEM CODE	H	W	D
12	30A	52-WPL12030PF	641	400	160
12	40A	52-WPL12040PF	641	400	160
12	50A	52-WPL12050PF	641	400	160
12	60A	52-WPL12060PF	641	400	160
12	75A	52-WPL12075PF	641	400	160
12	100A	52-WPL12100PF	641	400	160
18	30A	52-WPL18030PF	717	400	160
18	40A	52-WPL18040PF	717	400	160
18	50A	52-WPL18050PF	717	400	160
18	60A	52-WPL18060PF	717	400	160
18	75A	52-WPL18075PF	717	400	160
18	100A	52-WPL18100PF	717	400	160
24	30A	52-WPL24030PF	793	400	160
24	40A	52-WPL24040PF	793	400	160
24	50A	52-WPL24050PF	793	400	160
24	60A	52-WPL24060PF	793	400	160
24	75A	52-WPL24075PF	793	400	160
24	100A	52-WPL24100PF	793	400	160
30	30A	52-WPL30030PF	898	400	160
30	40A	52-WPL30040PF	898	400	160
30	50A	52-WPL30050PF	898	400	160
30	60A	52-WPL30060PF	898	400	160
30	75A	52-WPL30075PF	898	400	160
30	100A	52-WPL30100PF	898	400	160
36	30A	52-WPL36030PF	980	400	160
36	40A	52-WPL36040PF	980	400	160
36	50A	52-WPL36050PF	980	400	160
36	60A	52-WPL36060PF	980	400	160
36	75A	52-WPL36075PF	980	400	160
36	100A	52-WPL36100PF	980	400	160
42	30A	52-WPL42030PF	1060	400	160
42	40A	52-WPL42040PF	1060	400	160
42	50A	52-WPL42050PF	1060	400	160
42	60A	52-WPL42060PF	1060	400	160
42	75A	52-WPL42075PF	1060	400	160
42	100A	52-WPL42100PF	1060	400	160

Note: All dimensions are in mm.

# Ordering Information

## Outdoor Type

Three phase alfanar Raysan load center with MCCB main AF250N 125-225 AT					
NO.OF WAYS	MAIN RATING	ITEM CODE	H	W	D
18	125A	52-WPL18125PF	717	400	160
18	150A	52-WPL18150PF	717	400	160
18	175A	52-WPL18175PF	717	400	160
18	200A	52-WPL18200PF	717	400	160
18	225A	52-WPL18225PF	717	400	160
24	125A	52-WPL24125PF	793	400	160
24	150A	52-WPL24150PF	793	400	160
24	175A	52-WPL24175PF	793	400	160
24	200A	52-WPL24200PF	793	400	160
24	225A	52-WPL24225PF	793	400	160
30	125A	52-WPL30125PF	898	400	160
30	150A	52-WPL30150PF	898	400	160
30	175A	52-WPL30175PF	898	400	160
30	200A	52-WPL30200PF	898	400	160
30	225A	52-WPL30225PF	898	400	160
36	125A	52-WPL36125PF	980	400	160
36	150A	52-WPL36150PF	980	400	160
36	175A	52-WPL36175PF	980	400	160
36	200A	52-WPL36200PF	980	400	160
36	225A	52-WPL36225PF	980	400	160
42	125A	52-WPL42125PF	1060	400	160
42	150A	52-WPL42150PF	1060	400	160
42	175A	52-WPL42175PF	1060	400	160
42	200A	52-WPL42200PF	1060	400	160
42	225A	52-WPL42225PF	1060	400	160
48	125A	52-WPL48125PF	1183	400	160
48	150A	52-WPL48150PF	1183	400	160
48	175A	52-WPL48175PF	1183	400	160
48	200A	52-WPL48200PF	1183	400	160
48	225A	52-WPL48225PF	1183	400	160

**Note:** All dimensions are in mm.

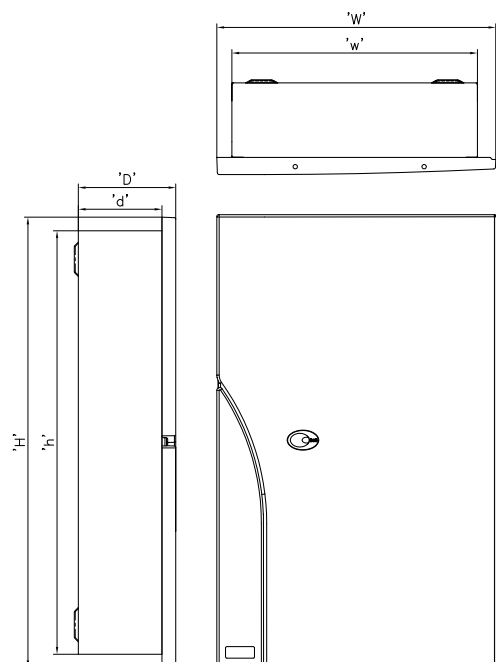
# Ordering Information

## Outdoor Type

Three phase alfanar Raysan load center with MCCB main FE 250 AT					
NO.OF WAYS	MAIN RATING	ITEM CODE	H	W	D
24	250A	52- WPL24250PF	1150	500	195
30	250A	52- WPL30250PF	1150	500	195
36	250A	52-WPL36250PF	1150	500	195
42	250A	52-WPL42250PF	1310	500	195
48	250A	52-WPL48250PF	1310	500	195

Three phase alfanar Raysan load center with MCCB main AF400N 300-400 AT					
NO.OF WAYS	MAIN RATING	ITEM CODE	H	W	D
24	300A	52-WPL24300PF	1150	500	195
24	400A	52-WPL24400PF	1150	500	195
30	300A	52-WPL30300PF	1150	500	195
30	400A	52-WPL30400PF	1150	500	195
36	300A	52-WPL36300PF	1150	500	195
36	400A	52-WPL36400PF	1150	500	195
42	300A	52-WPL42300PF	1310	500	195
42	400A	52-WPL42400PF	1310	500	195
48	300A	52-WPL48300PF	1310	500	195
48	400A	52-WPL48400PF	1310	500	195

**Note:** All dimensions are in mm.



# Hassas Branch Breakers

## alfanar Miniature Circuit Breaker

alfanar Raysan Load centers are supplied with a fitted main breaker and the branch MCBs are sold separately to provide flexibility of selection based on the application and customer requirements.



### Hassas Features

1. Let-through energy is considerably less than the requirements of energy limiting class 3 of EN/IEC standard resulting in enhanced lifespan of electrical installation.
2. Rapid closing design for higher rating ensures less let through energy.
3. Uniform box terminals for connecting cables up to 25 mm<sup>2</sup> for input terminals for 6-63A MCB range
4. Positive gripping features are provided on input terminals for cable termination.
5. Finger proof protection (IP20) for termination.
6. A superior quality silver graphite tips are used for fixed contacts that extend the contact life and prevent early wearing out and contact welding.
7. Trip-free mechanism.
8. Critical operating mechanism parts are made of special engineering plastics/Alloy steel with superior mechanical thermal properties facilitating accurate operation of MCBs during its service life.
9. Suitable for Busbar connection for I/C terminals.
10. Critical parts are manufactured in-house with statistical process controls.
11. Assembly, calibration, and testing are done in controlled temperature and dust free environment.
12. ON/OFF positions are marked on handle and indicator show true contact position of MCB.
13. Unique identification through bar code system for traceability of internal testing result for individual breakers.



# Hassas Ordering Information

## Hassas Plug-In 1P 10kA

SL. No.	Item Code	Description
1	42-00106P	<b>alfanar</b> Hassas MCB Plug-In 1P 06A 10KA C
2	42-00110P	<b>alfanar</b> Hassas MCB Plug-In 1P 10A 10KA C
3	42-00116P	<b>alfanar</b> Hassas MCB Plug-In 1P 16A 10KA C
4	42-00120P	<b>alfanar</b> Hassas MCB Plug-In 1P 20A 10KA C
5	42-00125P	<b>alfanar</b> Hassas MCB Plug-In 1P 25A 10KA C
6	42-00132P	<b>alfanar</b> Hassas MCB Plug-In 1P 32A 10KA C
7	42-00140P	<b>alfanar</b> Hassas MCB Plug-In 1P 40A 10KA C
8	42-00150P	<b>alfanar</b> Hassas MCB Plug-In 1P 50A 10KA C
9	42-00163P	<b>alfanar</b> Hassas MCB Plug-In 1P 63A 10KA C



## Hassas Plug-In 2P 10kA

SL. No.	Item Code	Description
1	42-00206P	<b>alfanar</b> Hassas MCB Plug-In 2P 06A 10KA C
2	42-00210P	<b>alfanar</b> Hassas MCB Plug-In 2P 10A 10KA C
3	42-00216P	<b>alfanar</b> Hassas MCB Plug-In 2P 16A 10KA C
4	42-00220P	<b>alfanar</b> Hassas MCB Plug-In 2P 20A 10KA C
5	42-00225P	<b>alfanar</b> Hassas MCB Plug-In 2P 25A 10KA C
6	42-00232P	<b>alfanar</b> Hassas MCB Plug-In 2P 32A 10KA C
7	42-00240P	<b>alfanar</b> Hassas MCB Plug-In 2P 40A 10KA C
8	42-00250P	<b>alfanar</b> Hassas MCB Plug-In 2P 50A 10KA C
9	42-00263P	<b>alfanar</b> Hassas MCB Plug-In 2P 63A 10KA C



## Hassas Plug-In 3P 10kA

SL. No.	Item Code	Description
1	42-00306P	<b>alfanar</b> Hassas MCB Plug-In 3P 06A 10KA C
2	42-00310P	<b>alfanar</b> Hassas MCB Plug-In 3P 10A 10KA C
3	42-00316P	<b>alfanar</b> Hassas MCB Plug-In 3P 16A 10KA C
4	42-00320P	<b>alfanar</b> Hassas MCB Plug-In 3P 20A 10KA C
5	42-00325P	<b>alfanar</b> Hassas MCB Plug-In 3P 25A 10KA C
6	42-00332P	<b>alfanar</b> Hassas MCB Plug-In 3P 32A 10KA C
7	42-00340P	<b>alfanar</b> Hassas MCB Plug-In 3P 40A 10KA C
8	42-00350P	<b>alfanar</b> Hassas MCB Plug-In 3P 50A 10KA C
9	42-00363P	<b>alfanar</b> Hassas MCB Plug-In 3P 63A 10KA C

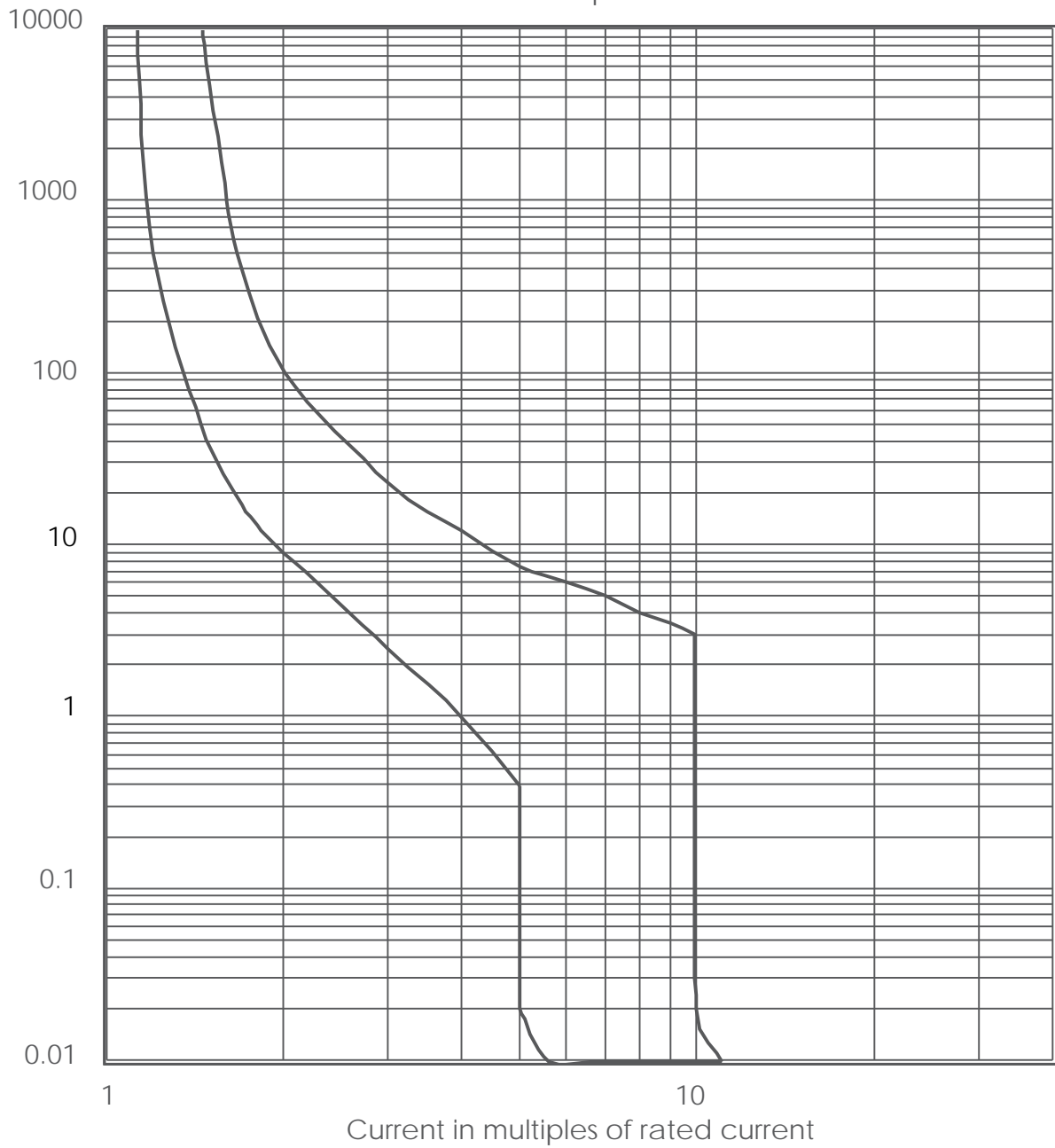


# Hassas Technical Data

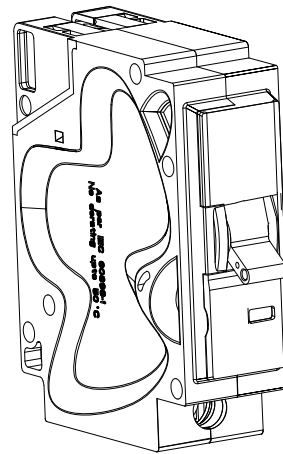
Technical Data		
Product standard		IEC 60898-1
Tripping characteristics		C Curve
Electrical		
Rated current range (A)		6, 10, 16, 20, 25, 32, 40, 50, 63
Number of poles		1P, 2P, 3P
Rated operational voltage (Ue) V AC	Single pole Multi pole	240 415
Rated insulation voltage (Ui) V AC		500
Rated impulse voltage (Uimp) kV		4
Rated ultimate short circuit breaking capacity Icn (A) at 415V AC		10000
Rated service short circuit breaking capacity Ics (A) at 415V AC		7500
Rated frequency (Hz)		50/60
Suitability for isolation		Yes
Thermal tripping characteristics		> 1 hour @ 1.13 In @ 50°C
		< 1 hour @ 1.45 In @ 50°C
Electrical endurance (Number of operation cycles)		≥10000
Environmental/General		
Energy limiting class		3
Reference ambient air temperature		50°C
Operating temperature range		- 5°C to + 70°C
Storage temperature range		- 5°C to + 70°C
Mechanical		
Protection degree	For Housing	IP 40
	For Terminals	IP 20
Terminal capacity (mm <sup>2</sup> )		25
Tightening torque (Nm)		2.4
Mounting type		Plug-in
Type of termination incoming		Busbar Plug-in
Type of termination outgoing		Cables / Busbar
Frame width (mm)		24.8 mm per pole
Dimensions 1 Pole (W × H × D) (mm)		(24.8 × 80 × 74.6)
Dimensions 2 Pole (W × H × D) (mm)		(49.6 × 80 × 76.1)
Dimensions 3 Pole (W × H × D) (mm)		(74.4 × 80 × 76.1)

# Hassas I-T Characteristics

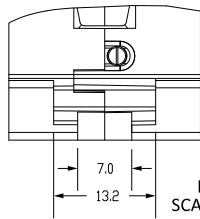
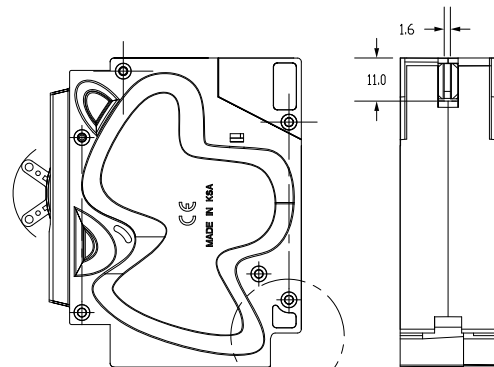
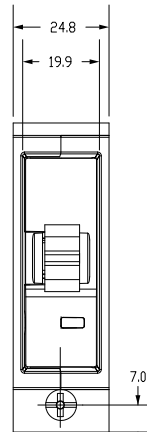
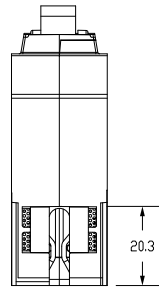
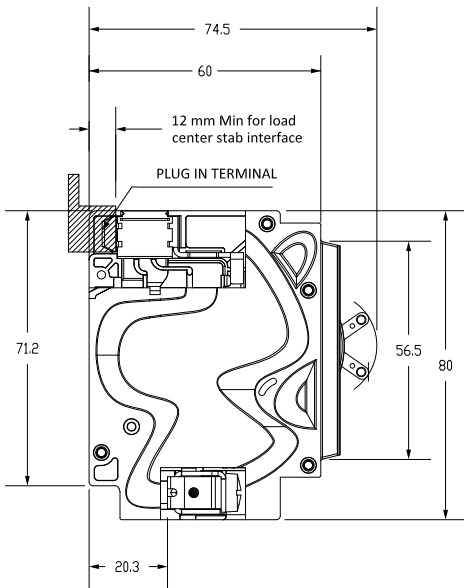
MCB C-curve Time Current Characteristics  
Calibration temperature 50°C



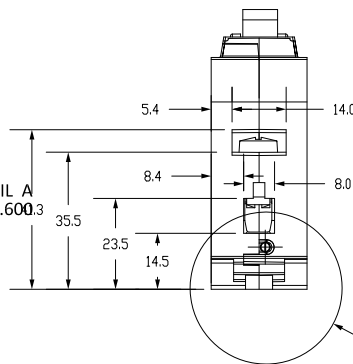
# Hassas Model Drawing



**RAYSAN PLUG IN MCB**

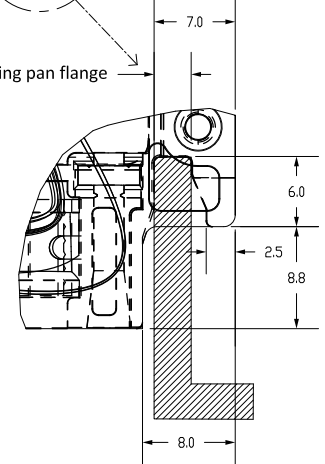


**DETAIL A  
SCALE 1.600.3**



SEE DETAIL A

3.1 mm Max for load center mounting pan flange



**Detail X-X  
SCALE 2.200**



## Hassas De-rating

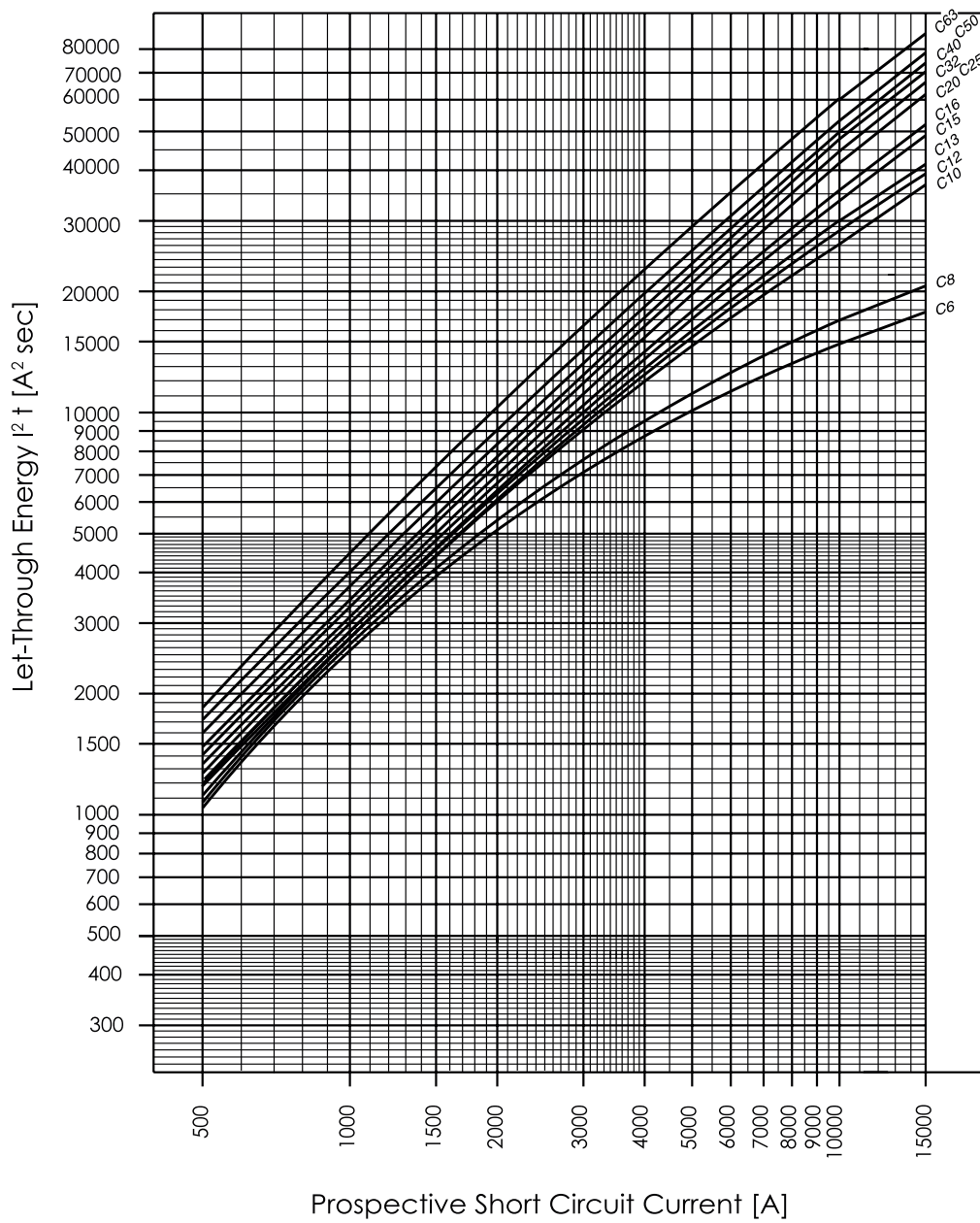
MCB rating in (A)	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C
10	12.00	11.75	11.50	11.25	11.00	10.75	10.50	10.25	10.00	9.75	9.50	9.25
16	19.20	18.80	18.40	18.00	17.60	17.20	16.80	16.40	16.00	15.60	15.20	14.80
20	24.00	23.50	23.00	22.50	22.00	21.50	21.00	20.50	20.00	19.50	19.00	18.50
25	30.00	29.40	28.75	28.10	27.50	26.90	26.25	25.30	25.00	24.40	23.75	23.10
32	38.40	37.60	36.80	36.00	35.20	34.40	33.60	32.80	32.00	31.20	30.40	29.60
40	48.00	47.00	46.00	45.00	44.00	43.00	42.00	41.00	40.00	39.00	38.00	37.00
50	60.00	58.75	57.50	56.20	55.00	53.75	52.50	51.25	50.00	48.75	47.50	46.25
63	75.60	74.00	72.45	70.90	69.30	67.70	66.15	64.60	63.00	61.40	59.85	58.30

## Hassas Power Loss

MCB Rating	6A	10A	16A	20A	25A	32A	40A	SOA	63A
1 Pole (Watts)	1.80	2.10	2.00	2.90	3.10	3.10	4.20	4.60	5.30
2 Pole (Watts)	3.60	4.20	4.20	6.10	6.50	6.80	9.20	10.10	11.70
3 Pole (Watts)	5.50	6.40	6.20	9.00	9.60	10.20	13.90	15.20	17.50

# Hassas C Type IEC60898 let-through energy

## HASSAS MCB Type C (IEC60898-1)



# AZM Main MCB

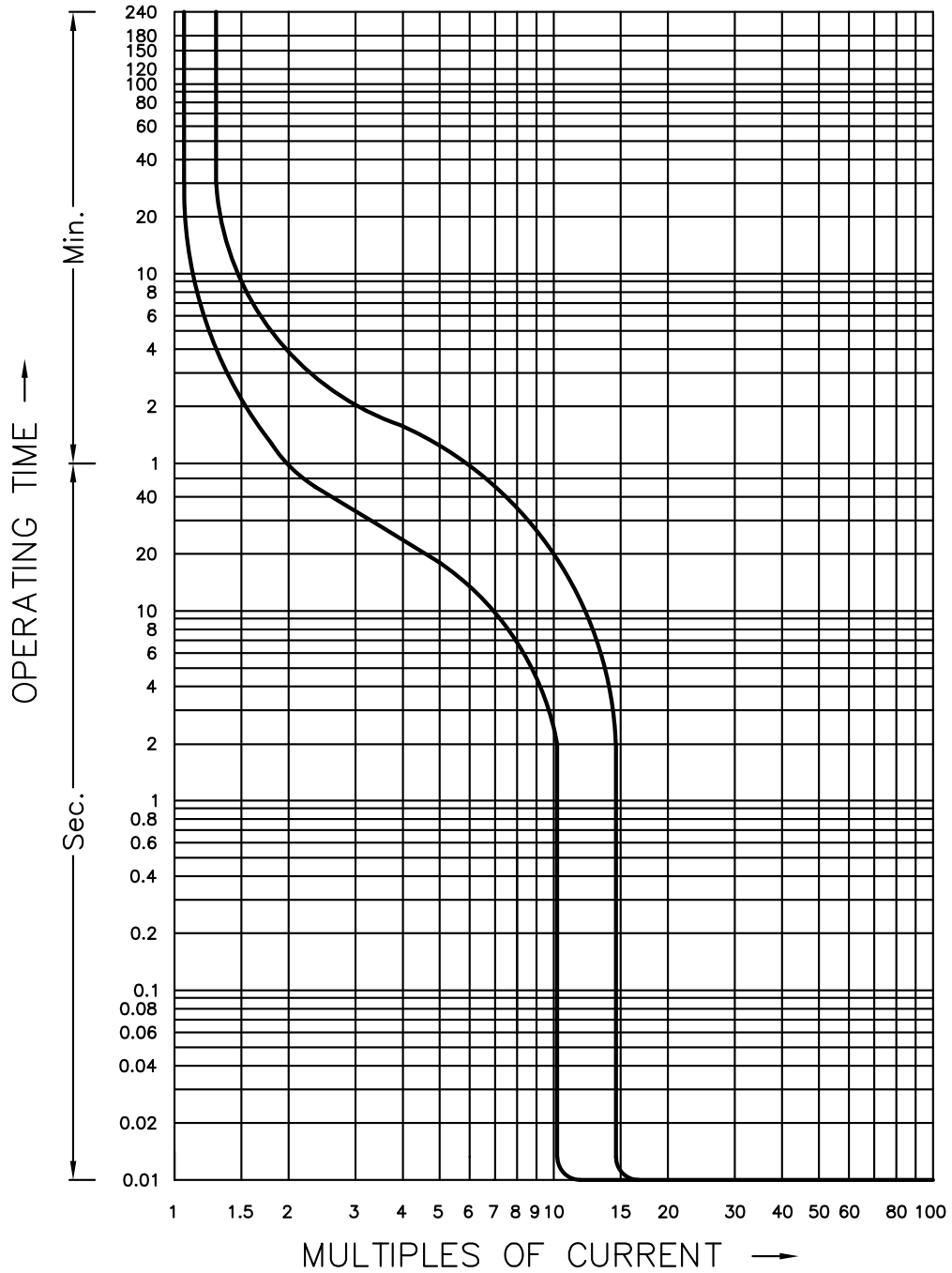


## AZM Features

1. Let-through energy is considerably less resulting in enhanced lifespan of electrical installation.
2. Rapid closing design for quick make operation.
3. Uniform box terminals for connecting cables up to 50 mm<sup>2</sup> for input and output terminals for 32-100A MCB range.
4. Positive gripping features are provided on input terminals for cable termination.
5. Finger proof protection (IP20) for termination
6. Trip-free mechanism.
7. Critical operating mechanism parts and assemblies are made of special engineering plastics / Alloy steel with superior mechanical thermal properties facilitating accurate operation of MCBs during its service life.
8. Suitable for Busbar connection for incomer terminals.
9. Critical parts and assemblies are manufactured in-house with statistical process controls.
10. Assembly, calibration, and testing are done in controlled temperature and dust free environment.
11. ON/OFF positions are marked on handle and indicator show true contact position of MCB.
12. Unique identification through bar code system for traceability of internal testing result for individual breakers.
13. New and unique **alfanar** industrial design.
14. Seamless integration with **alfanar** load center.
15. Provide short circuit and overload protection for residential as well as commercial installations.

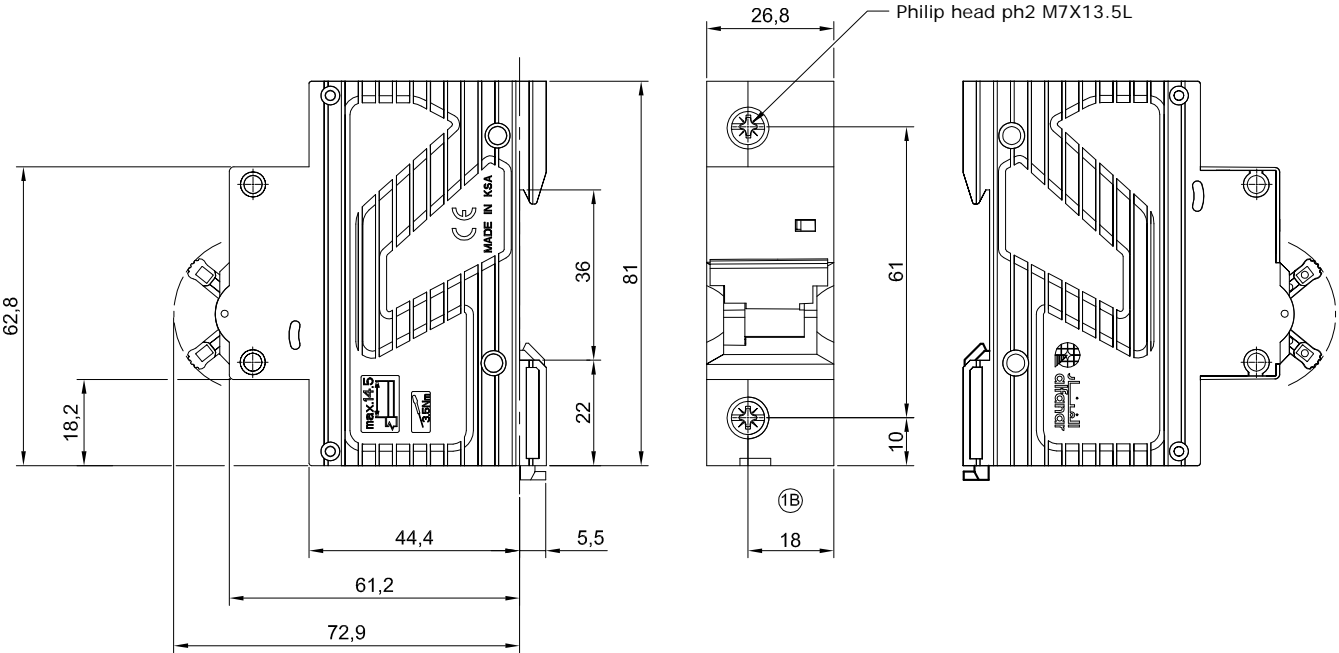
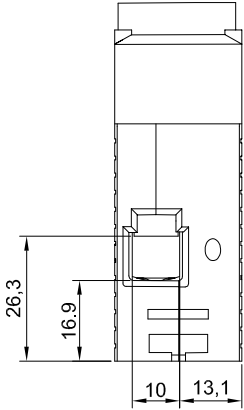
AZM Technical data		
Product standard	IEC 60898-1	
Tripping characteristics	C Curve	
Electrical		
Rated current range (A)	32, 40, 50, 63, 80, 100	
Number of poles	2P, 3P	
Rated operational voltage (Ue) V AC	415	
Rated insulation voltage (Ui) V AC	600	
Rated impulse voltage (Uimp) kV	4	
Rated ultimate short circuit breaking capacity Icn (A) at 415V AC	10000	
Rated service short circuit breaking capacity Ics (A) at 415V AC	7500	
Rated frequency (Hz)	50/60	
Suitability for isolation	Yes	
Thermal tripping characteristics	> 2 hour @ 1.13 In @ 50°C	
	< 2 hour @ 1.45 In @ 50°C	
Magnetic operating limit	(5-10)×In	
Endurance (Number of operations cycles)	Mechanical	10000
	Electrical	4000
Environmental/General		
Reference ambient air temperature	50°C	
Operating temperature range	- 5°C to + 65°C	
Storage temperature range	- 5°C to + 70°C	
Mechanical		
Protection degree	For Housing	IP 40
	For Terminals	IP 20
Terminal capacity (mm <sup>2</sup> )	50	
Tightening torque (Nm)	3.5	
Mounting type	Din Rail	
Type of termination incoming	Cables, Busbar	
Type of termination outgoing	Cables, Busbar	
Frame width (mm)	27 mm per pole	
Dimensions 2 Pole (W × H × D) (mm)	(53.7 × 80.5 × 83.5)	
Dimensions 3 Pole (W × H × D) (mm)	(80.4 × 80.5 × 83.5)	
Weight 2P (g)	335	
Weight 3P (g)	500	

# AZM I-T Characteristics



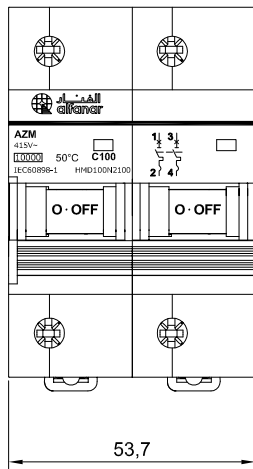


# AZM Dimensions

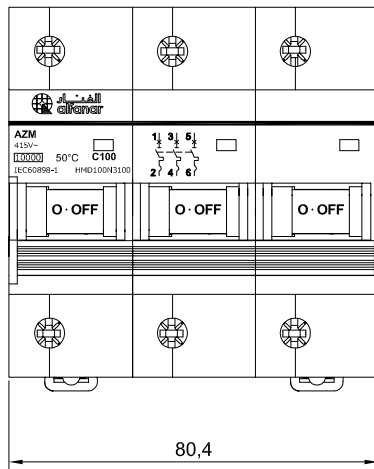


Single Pole Details

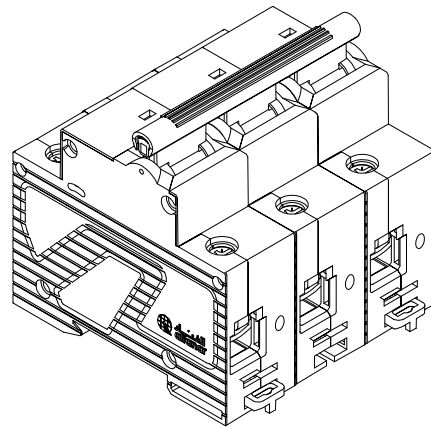
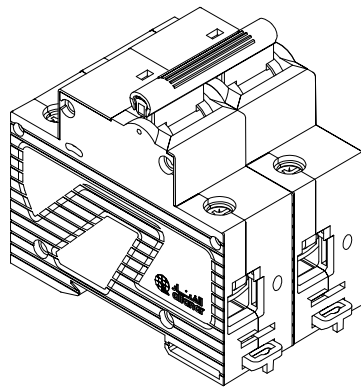
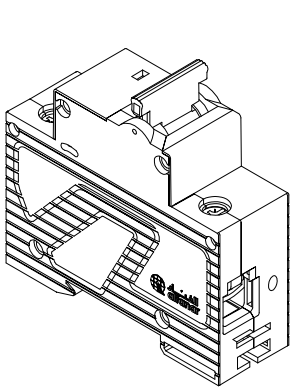
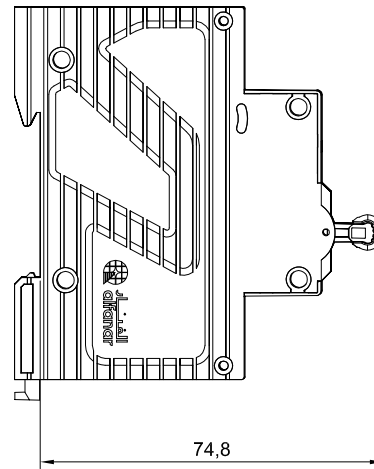
2 POLE



3 POLE



2 POLE / 3 POLE



# AF series MCCBs



# AF series MCCBs

## AF Series MCCB Features

- 1 - Handle is protected for IP40 protection where >1mm wires unable to enter inside breaker and touches to live parts
- 2 - MCCB can easily identified for the “OFF”, “ON” and “Tripped” positions
- 3 - Trip Free Mechanism – The breaker trips in case of fault and ensure safety even if padlock used to hold handle in ON position
- 4 - All Position of circuit breakers are suitable for isolation as defined in IEC standard 60947-2
- 5 - MCCB arc chamber is specially designed with an arc channel as a flow guide to Improve the capability of extinguishing the arc and reducing the arc distance.
- 6 - Arc chutes are designed for efficient and faster arc quenching.
- 7 - Optimized arc runner profile for effective arc pulling
- 8 - Fixed contacts with serrations for better grip Accelerate movable contact speed by arcing gas generated from Special resin located closely to movable contact.
- 9 - Line Load Reversibility – Incoming supply can be connected to both upper and lower side and load to the opposite side without compromising on breaking capacity and isolation
- 10 - Current limiting Breaker - Low let through energy
- 11 - MCCB's are designed for easy installation in the various types of switchboards. They can be mounted vertically/ horizontally / Flat on their back without any de-rating of characteristics.
- 12 - Box clamps made of higher strength material which withstand 40% Higher torque values More than standard specification
- 13 - Fixed contacts with serrations for better grip
- 14 - 100A & 250A MCCB grub screw rivets with box clamp assembly, no possibility of missing from product
- 15 - Higher Electrical & Mechanical life – (Ensured Minimum 2 times higher than specified in the standard)
- 16 - Low watt loss through optimally designed current carrying path

# AF series Technical Data

AF100N	
Product standard	IEC 60947-2
Frame size (AF)	AF100N
Rated current range (A)	30, 40,50,60,75,100
Number of poles	3P
Rated operational voltage (Ue) V	415
Rated insulation voltage (Ui) V AC	690
Rated impulse voltage (Uimp) kV	8
Ambient temperature (°C)	55
Rated frequency (Hz)	50/60
Utilization category	Cat. A
Pollution degree	3
Rated Ultimate short circuit breaking capacity Icu (kA)	
@ 415 V	15
@ 230 V	25
Rated Service short circuit breaking capacity Ics (A)	
@ 415V	75 % Icu
@ 230V	75 % Icu
Trip Release type	Fixed - Thermal & Magnetic
Magnetic release setting (In)	12In ± 20%
Electrical endurance life (No. of operations cycles)	1500
Mechanical endurance life (No. of operations cycles)	8500
Phase Barrier	Yes
Operating temperature range (without de-rating)	- 5°C to + 55°C
Storage temperature range	- 5°C to + 70°C
Method of connection	Cables / Bus bar
Terminal width for flat copper connection (mm)	16
Screw size for flat bar / Tightening torque (N.m)	M8 / 6
Box clamp screw size (mm) / Tightening torque (N.m)	Allen key 4 / 7
Maximum Terminal capacity - Copper cable (mm <sup>2</sup> )	50
Weight of the breaker (kg)	1.2
Dimensions (W × H × D) (mm) (max.)	91 x 150 x 66



**AF250N**

Product standard	IEC 60947-2
Frame size (AF)	AF250N
Rated current range (A)	125,150,175, 200, 225, 250
Number of poles	3P
Rated operational voltage (Ue) V	415
Rated insulation voltage (Ui) V AC	690
Rated impulse voltage (Uimp) kV	8
Ambient temperature (°C)	55
Rated frequency (Hz)	50/60
Utilization category	Cat. A
Pollution degree	3

**Rated Ultimate short circuit breaking capacity Icu (kA)**

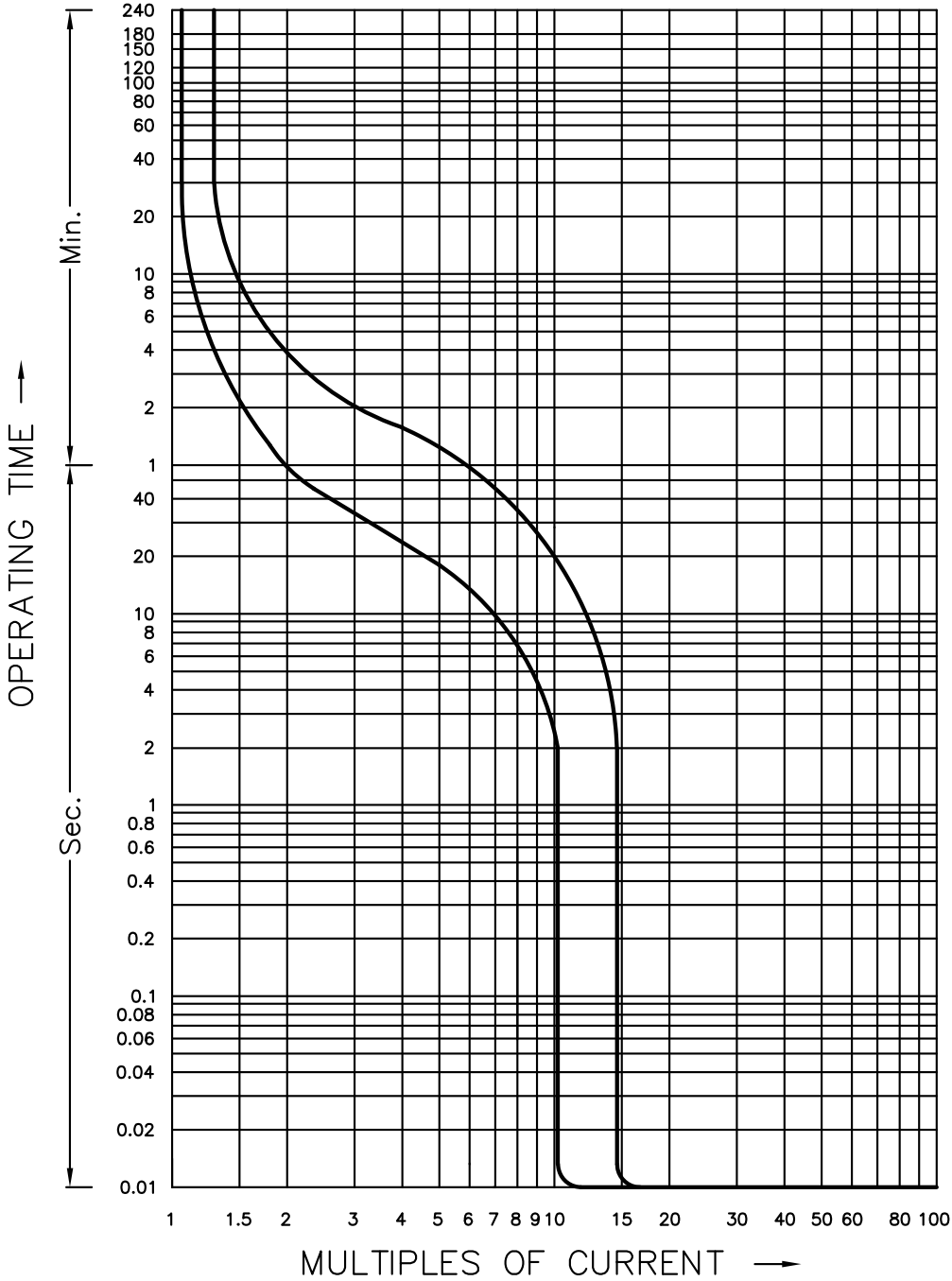
@ 415 V	15
@ 230 V	25

**Rated Service short circuit breaking capacity Ics (A)**

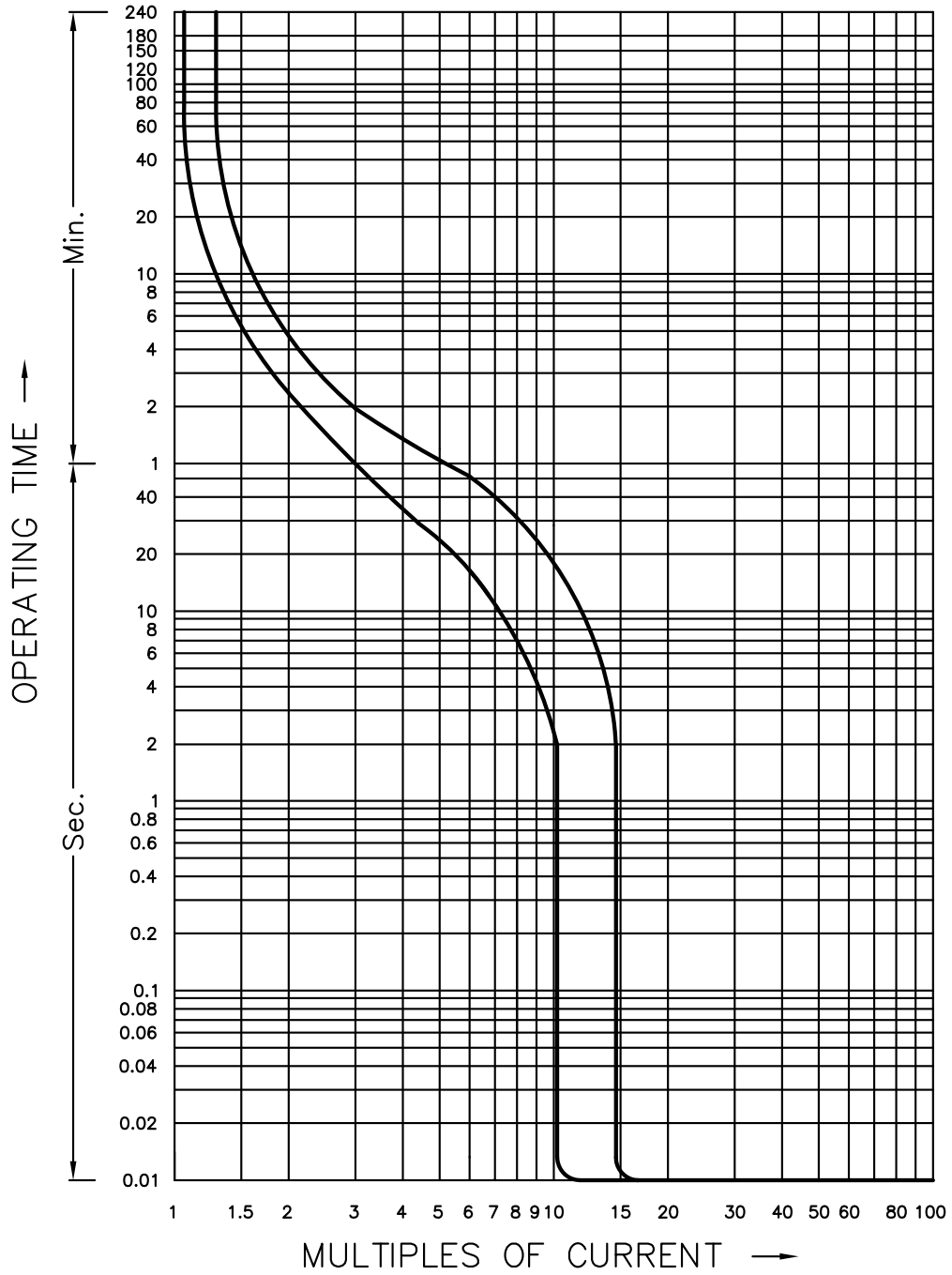
@ 415V	75 % Icu
@ 230V	75 % Icu
Trip Release type	Fixed - Thermal & Magnetic
Magnetic release setting (In)	12In ± 20%
Electrical endurance life (No. of operations cycles)	1000
Mechanical endurance life (No. of operations cycles)	7000
Phase Barrier	Yes
Operating temperature range (without de-rating)	- 5°C to + 55°C
Storage temperature range	- 5°C to + 70°C
Method of connection	Cables / Bus bar
Terminal width for flat copper connection (mm)	25
Screw size for flat bar / Tightening torque (N.m)	M8 / 6
Box clamp screw size (mm) / Tightening torque (N.m)	Allen key 5 / 12
Maximum Terminal capacity - Copper cable (mm <sup>2</sup> )	120
Weight of the breaker (kg)	1.9
Dimensions (W × H × D) (mm) (max.)	106 165 x 104

# AF series I-T Characteristics

AF100N

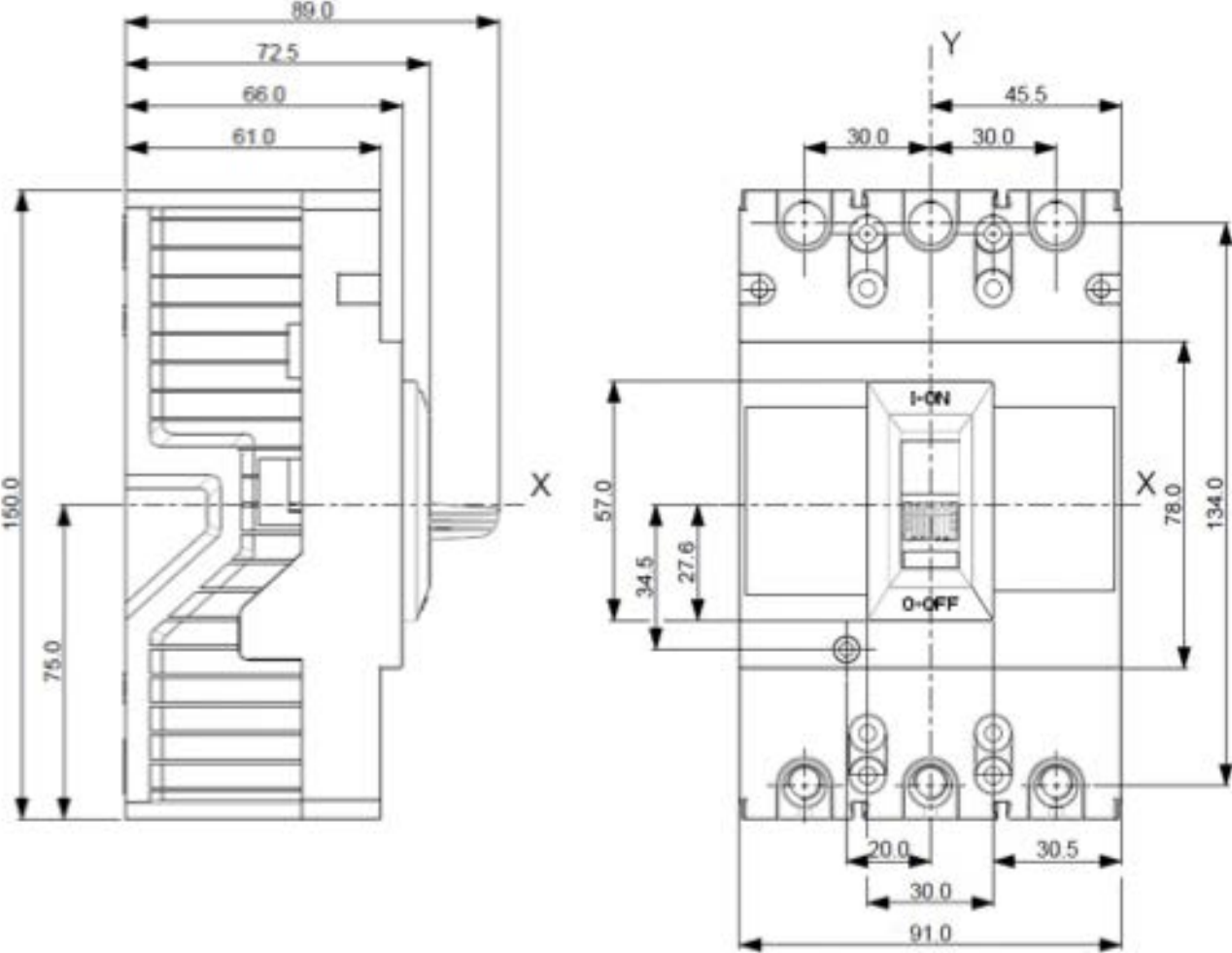


# AF250N

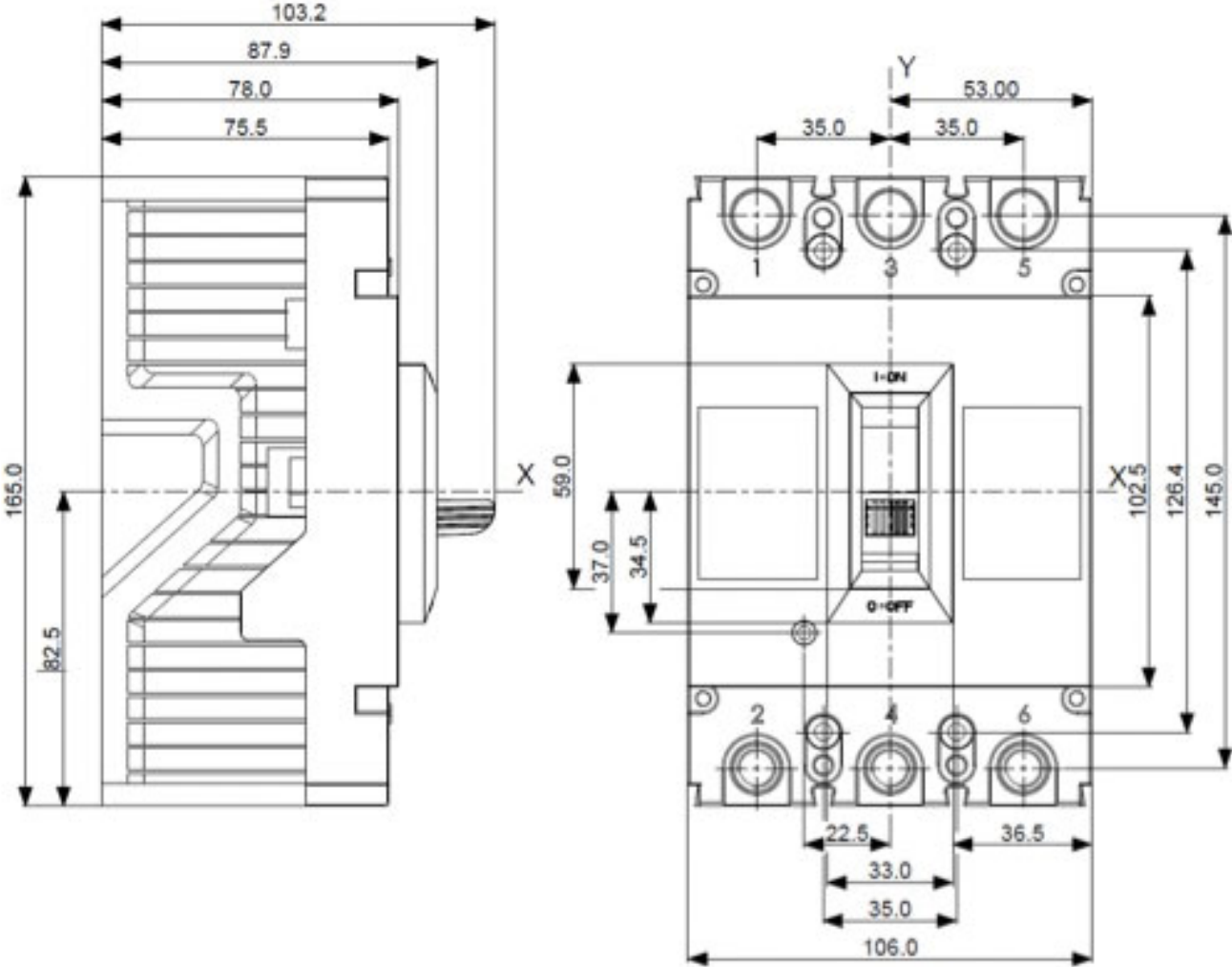


# AF series Dimensions

## AF100N Dimensions



# AF250N Dimensions





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