

# Raysan Load Center

## Type Plug-in



Design is Everything

safety...  
durability



# Raysan PI Catalogue Contents

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# Raysan PI Load Center

## Product Features

Removable top and bottom gland plates with various knockout sizes for easy cable entry

Keyholes for wall mounting

Short-time withstand of up to 20kA for 200mS

99.9% pure fully shrouded ETP copper busbars

Polycarbonate for busbar support and installation

Ample earth terminals

Matt finish polyester powder coated

Innovative mechanism for adjusting the depth of the mounting pan assembly with a certified patent under ID number SA 14145 B1 in SAIP.

Spacious enclosure for easy wiring

8 nos of cable lancing in the load center enclosure

Ample neutral terminals

Spirit level to maintain straight installation

Compact MCCB main breaker with 20kA rating



مختبرة وفق المواصفة  
Type tested as per  
IEC 61439-3





# Introduction

It's hard to imagine our life without electricity, and as much as electricity is an important part of our daily lives it must be treated with respect and handled safely. At alfanar, we want you and your loved ones to always be safe around electricity, so we have developed Raysan plug-in load centers that take proactive steps to ensure your electrical safety and give you peace of mind.

The **load center**, also known as a Distribution Board (DB), is a component of an electricity supply system that serves as the service entrance for residential, commercial and light industrial premises. Load centers divide an electrical power feed into subsidiary circuits, while providing a protective circuit breaker for each circuit in a common enclosure.

alfanar Load Center type Raysan PI is designed for reliable distribution and control of electrical power as the service entry point in residential, commercial and light industrial premises. Raysan PI is type tested as per IEC 61439-3 and designed for plug-in outgoing feeder MCBs for indoor and outdoor applications, with MCCB as main incomer having Icu up to 25kA as per IEC 60947-2. alfanar outgoing MCBs are certified as per IEC 60898-1 for 10kA short circuit rating, and alfanar RCBOs are certified as per IEC 69009-1 for 10kA short circuit rating. alfanar breakers are calibrated for 50°C to perform optimally for KSA weather conditions.



## Product Features

### 1. Design

#### a. Aesthetics

With its modern look, slim and elegant design, the Raysan PI 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 for repainting it.

# Product Features

## 2. Safety

### a. Protection against electric shock

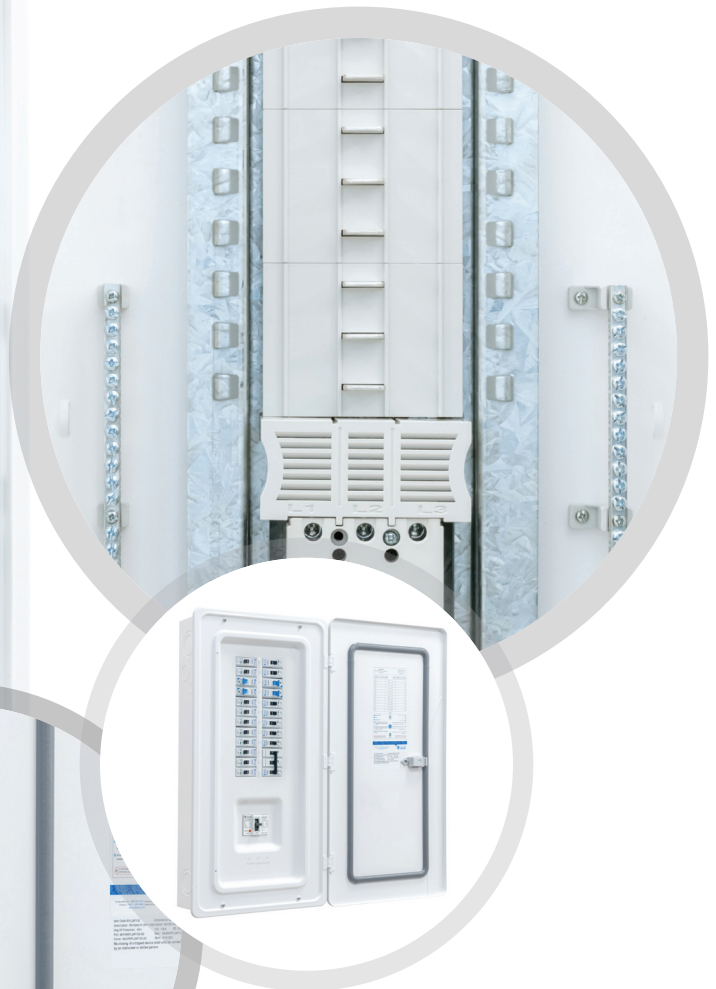
Effective earth continuity is ensured by each panel's unique design and manufacturing to protect operators against any possible electrical shock when they touch the enclosure.

### 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 prevent foreign objects from entering and touching the busbars and causing a short.

### c. Dead front cover

An earthed 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.





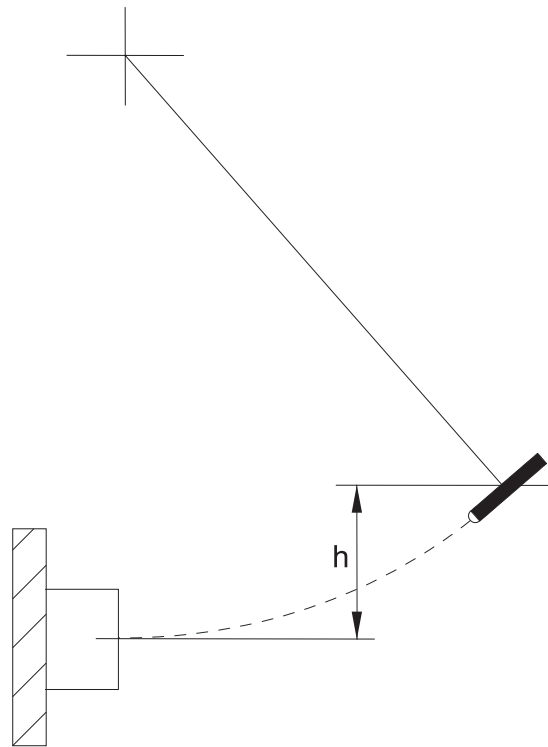


# Product Features

## 3. Performance

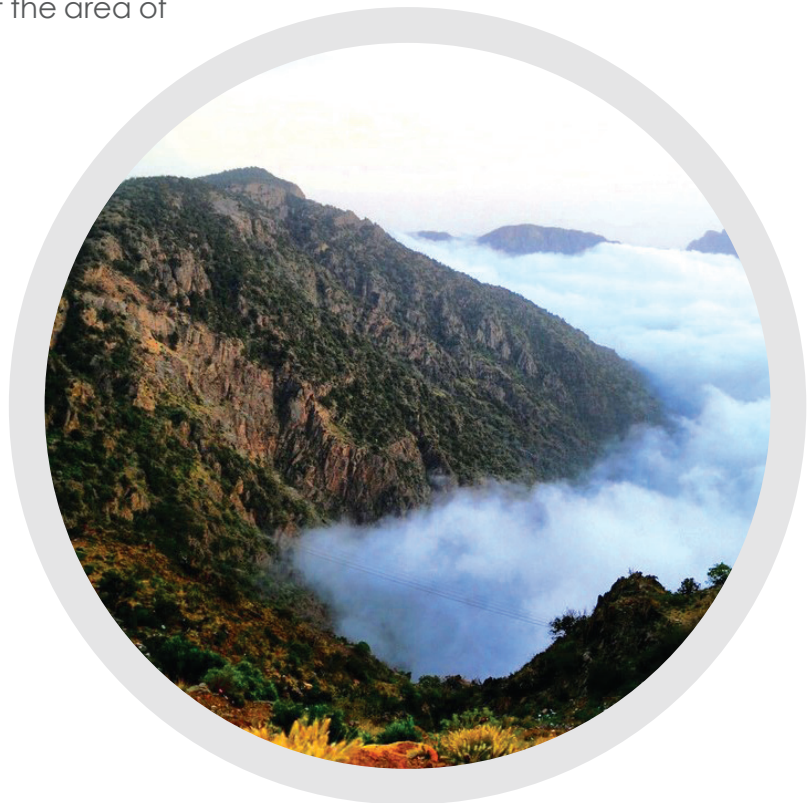
### d. Mechanical impact

The alfanar Raysan load center is tested to withstand the impact load as per the international standard IEC 61439-3 **IK 07** for indoor and **IK 08** for outdoor 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.



## 4. Reliability



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

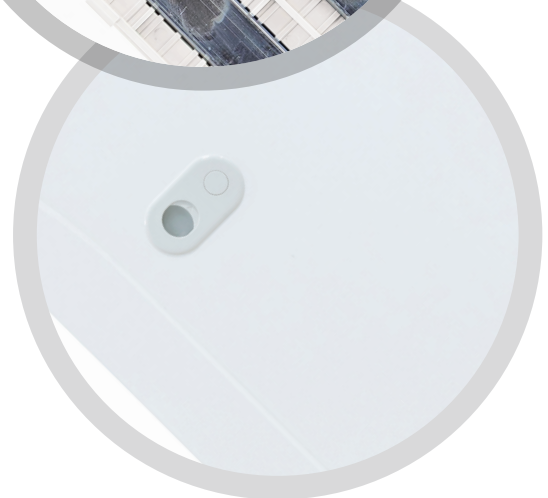
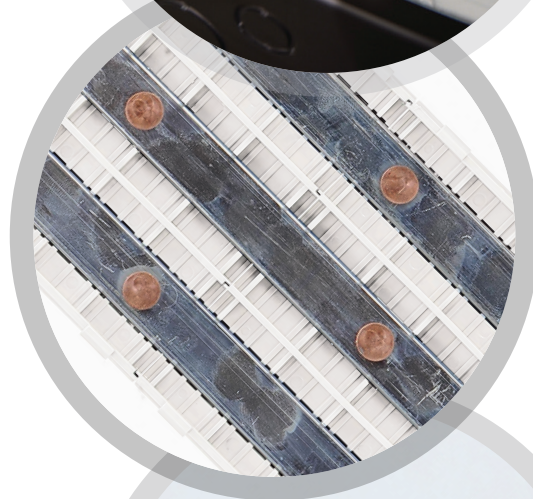
Double protection against corrosion is achieved by using an electrogalvanized steel sheet as the base material and powder-coated with Polyester powder. This process has been validated for 1000 hours using the Salt Spray test. This ensures the functionality of the load center under the worst atmospheric corrosive conditions.

### b. Pure copper busbars

99.9% pure copper is used to construct the busbars of alfanar Raysan PI load centers.

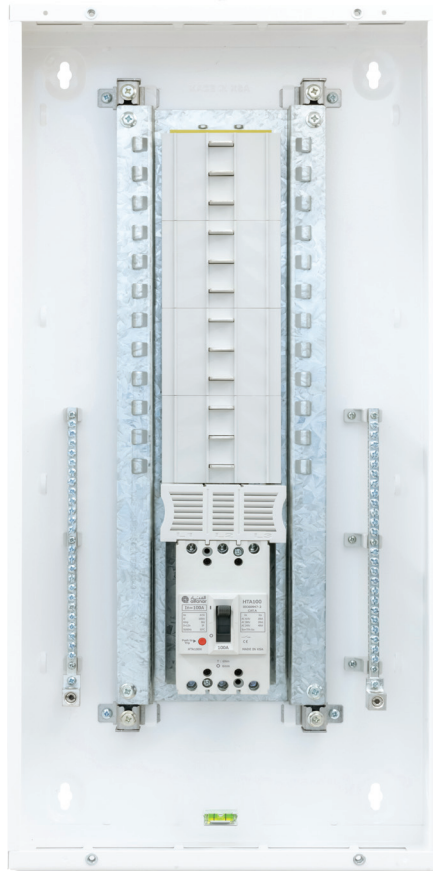
### c. Ingress protection

alfanar Raysan PI load centers are tested for **IP41** for indoor applications and **IP55** for outdoor applications to ensure the ingress protection rating for indoor and outdoor applications.



# Product Features

## 5. Installation



### a. Ample wiring space

The plug-in 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 easily opened and do not have sharp edges that might damage the conduits, wires or injure the user.



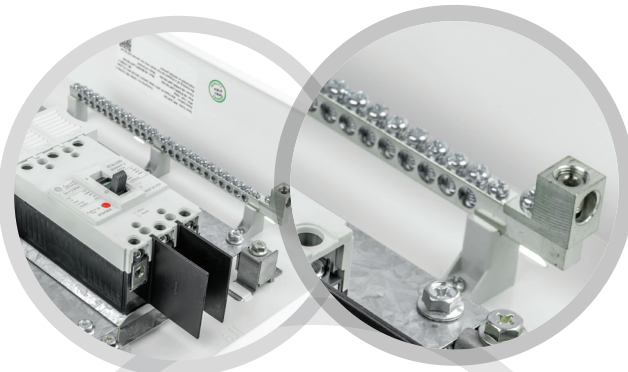
### c. Removable top and bottom gland plates

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



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

Novel circuit breakers mounting assembly adjustment mechanism ease the installation and adjustment of mounting assembly in flush installations and it ensures the breakers are aligned with dead front cover without any gap. Level can be adjusted with a simple screw driver and no additional tools are needed.



#### 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.



سنة ضمان  
Year Warranty



- الخطاء الخروفي والصنفي لتكميل والإصلاح قبل ٢٤ ساعة بالتمتع
- المبادرات الرئيسية مغطاة ومزودة بالتمتع
- قاب التوجه مزود بآلية التحميل المتساوي للتوازي مع سطح الجدار
- مزود بغطاء واقعي الخواص بطانة التحمل ٢٠ كيلو أمبير
- يعطى الأمانة بين القطع الرئيسي والفرع الفرعية وفقا لتوصيات الفنية المذكورة في الدليل الفني

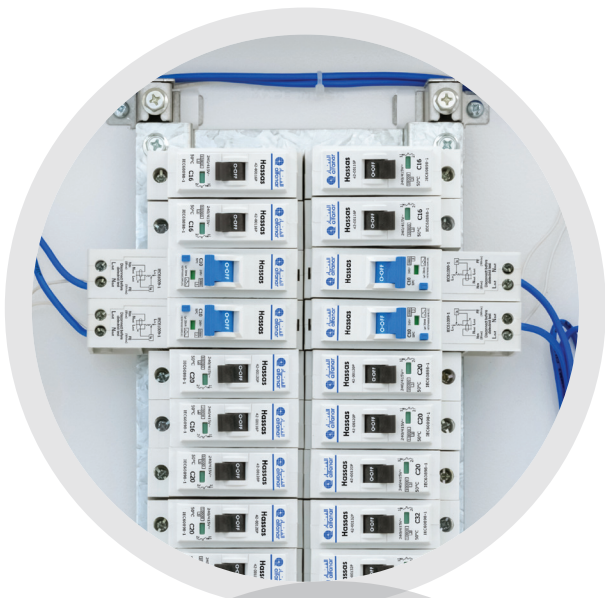
- REMOVABLE TOP & BOTTOM GLAND PLATES
- MAIN BUSBAR COVERED AND COMPLETELY SHROUDED
- PAN ASSEMBLY WITH ADJUSTABLE MECHANISM
- EQUIPPED WITH MCCB BREAKER, 10 KA BREAKING CAPACITY
- SCHEYE THE DISCRIMINATION BETWEEN THE MAIN BREAKER AND THE BRANCH BREAKERS AS PER THE TECHNICAL SPECIFICATIONS MENTIONED IN THE CATALOGUE

رقم خدمة العملاء  
Customer Service  
800-124-1333



www.alfanar.com

# Product Features



## 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.

## 6. Environment

RoHS compliant – All the components that are used in Raysan PI LC are 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 PI 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                                                                                | Pass   |
| 10.2.2             | Resistance to corrosion                                                                                       | Pass   |
| 10.2.3             | Properties of insulating materials                                                                            | Pass   |
| 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   |
| 10.2.8             | Mechanical operation                                                                                          | 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                                        | Pass   |
| 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                                                                                         | Pass   |
| 10.9.2             | Power-frequency withstand voltage                                                                             | Pass   |
| 10.9.3             | Impulse withstand voltage                                                                                     | Pass   |
| 10.10              | Verification of temperature rise                                                                              | Pass   |
| 10.10.2.3.5        | Verification of the complete assembly                                                                         | Pass   |
| 10.11              | Short-circuit withstand strength                                                                              | Pass   |
| 10.12              | Electromagnetic Compatibility (EMC)                                                                           | Pass   |



# TEST CERTIFICATE

Issued to: Alfancar Electrical Systems  
P.O. Box No. 564, 3rd Industrial City, 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: alfancar

Type/Model: Raysan PI 3PH 100A 12 to 54 Way MCCB IP41 Flush (100 A range),  
Raysan PI 3PH 100A 12 to 54 Way MCCB IP41 Surface (100 A range),  
Raysan PI 3PH 060A 06 to 48 Way MCCB IP41 Flush (100 A range),  
Raysan PI 3PH 060A 06 to 48 Way MCCB IP41 Surface (100 A range)

Ratings:  $I_{nA}$  60 A, 100 A  
 $U_e$  240 / 415 Vac,  $U_i$  500 V,  $U_{imp}$  6 kV for MBB+IC, 4 kV for OGs  
 $I_{cw}$  20 kA - 0,2 s (MBB)  
 $I_{cc}$  20 kA at 415 Vac  
IP41, IK 07  
For more details see annex

Manufactured by: Alfancar Electrical Systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383 Saudi Arabia

Subject: Design verification

Requirements: IEC 61439-3:2012 for use in conjunction with IEC 61439-1:2011  
Clauses 10.2.2, 10.2.3, 10.2.6, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9,  
10.10.2.3.5, 10.11, 10.12, 10.13

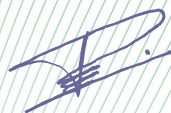
This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in report no. 3328314.01-INC issued on 30 January 2024.

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, 30 January 2024

Number: 3328314.100

DEKRA Certification B.V.



F.S. Strikwerda  
Certification Manager

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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



# TEST CERTIFICATE

Issued to: Alfano Electrical Systems  
P.O. Box No. 564, 3rd Industrial City, 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: alfano

Type/Model: Raysan PI 3PH 200A 24 to 54 Way MCCB IP41 Flush (200 A range),  
Raysan PI 3PH 200A 24 to 54 Way MCCB IP41 Surface (200 A range),  
Raysan PI 3PH 150A 18 to 54 Way MCCB IP41 Flush (200 A range),  
Raysan PI 3PH 150A 18 to 54 Way MCCB IP41 Surface (200 A range),  
Raysan PI 3PH 125A 12 to 54 Way MCCB IP41 Flush (200 A range),  
Raysan PI 3PH 125A 12 to 54 Way MCCB IP41 Surface (200 A range)

Ratings:  $I_{NA}$  125 A, 150 A, 200 A  
 $U_e$  240 / 415 Vac,  $U_i$  500 V,  $U_{imp}$  6 kV for MBB+IC, 4 kV for OGs  
 $I_{cw}$  20 kA - 0,2 s (MBB)  
 $I_{cc}$  20 kA at 415 Vac  
IP41, IK 07  
For more details see annex

Manufactured by: Alfano Electrical Systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383 Saudi Arabia

Subject: Design verification

Requirements: IEC 61439-3:2012 for use in conjunction with IEC 61439-1:2011  
Clauses 10.2.2, 10.2.3, 10.2.6, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9,  
10.10.2.3.5, 10.11, 10.12, 10.13

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in report no. 3328314.02-INC issued on 29 January 2024.

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, 29 January 2024

Number: 3328314.101

DEKRA Certification B.V.



F.S. Strikwerda  
Certification Manager

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# 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                                |          | 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                         |          | IP41                                                            |
| Mechanical impact                            |          | IK07                                                            |
| Mounting                                     |          | Flush                                                           |
| Main breaker (Incomer)                       |          | AZM MCB, 2Pole, 40, 50, 63, 80 & 100A                           |
|                                              |          | Hassas 40, 50 & 63A                                             |
| Branches                                     |          | 1 Pole plug-in MCBs 6, 10, 16, 20, 25, 32, 40, 50 & 63A         |
| 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 – RAL7035                                          |
| Enclosure material                           |          | Electro-galvanized steel sheet (Corrosion resistant)            |
| Steel thickness                              |          | Up to 1.0 mm                                                    |
| Knockout sizes                               |          | Refer to page 17                                                |
| Enclosure color                              |          | Polyester powder coated in RAL-9003, RAL-9010, or RAL-7035      |
| Dimensions                                   |          | Refer to Page 18                                                |



# Technical Specifications

## 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          | 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   | IP41                                                            |
| Mechanical impact      | IK07                                                            |
| Mounting               | Flush                                                           |
| Main breaker (Incomer) | AZM MCB, 2 Pole: 40, 50, 63, 80, or 100A                        |
| Branches               | 1 or 2 Pole plug-in MCBs: 6, 10, 16, 20, 25, 32, 40, 50, or 63A |

## Terminal Capacity

|                           |               |
|---------------------------|---------------|
| Main MCB frame size 100A  | 50 sq.mm      |
| Branch MCB frame size 63A | 25 sq.mm      |
| Neutral terminal bar      | 50 sq.mm      |
|                           | 16 sq.mm      |
| Earth terminal bar        | 50 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 – RAL7035                                      |
| Enclosure material | Electro-galvanized steel sheet (corrosion resistant)        |
| Steel thickness    | Up to 1mm                                                   |
| Knockout sizes     | Refer to Page 17                                            |
| Enclosure color    | Polyester powder coated in RAL-9003, RAL-9010, or RAL-7035. |
| Dimensions         | Refer to Page 18                                            |

| Technical Data – 3ph                         |                                                                                                                         |                                                                                                                           |                                                                            |                       |                   |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------|-------------------|
| Standard                                     | SASO IEC 61439-3                                                                                                        |                                                                                                                           |                                                                            |                       |                   |
|                                              | Designed to be operated by an ordinary person                                                                           |                                                                                                                           |                                                                            |                       |                   |
| Electrical                                   |                                                                                                                         |                                                                                                                           |                                                                            |                       |                   |
| Varieties                                    | 100A with MCCB main                                                                                                     | 200A with MCCB main                                                                                                       | 250A with MCCB main                                                        | 400A with MCCB main   |                   |
| Busbar rating                                | 100A                                                                                                                    | 200A                                                                                                                      | 250A                                                                       | 400A                  |                   |
| Icw for busbar                               | 20 kA - 0.2 Sec                                                                                                         | 20 kA - 0.2 Sec                                                                                                           | 30 kA - 0.2 Sec                                                            | 35 kA - 0.2 Sec       |                   |
| Rated current                                | 30,40,50,60,70,75,80, & 100A                                                                                            | 125,150,160,175, & 200A                                                                                                   | 250A                                                                       | 300A, 400A            |                   |
| 3 Pole MCCB Main breakers (Incomer)          | HTA100<br>30,40,50,60,70,75,80, & 100A                                                                                  | HTB200<br>125,150,160,175, & 200A                                                                                         | AF400N<br>250A                                                             | AF400N<br>300A & 400A |                   |
| Busbar type                                  | ETP copper tin plated, fully shrouded                                                                                   |                                                                                                                           |                                                                            |                       |                   |
| Voltage range                                | 240-415V AC 50/60 Hz                                                                                                    |                                                                                                                           |                                                                            |                       |                   |
| Ui / Uimp                                    | 500V / 4KV                                                                                                              |                                                                                                                           |                                                                            |                       |                   |
| No. of ways                                  | 6,12,18, 24, 30, 36, 42, 48, 54                                                                                         | 12, 18 ,24, 30, 36, 42, 48, 54                                                                                            | 30, 36, 42, 48, 54                                                         | 36, 42, 48, 54        |                   |
| Type                                         | Indoor/Outdoor                                                                                                          | Indoor/Outdoor                                                                                                            | Indoor/Outdoor                                                             | Indoor/Outdoor        |                   |
| Degree of protection                         | IP41/ IP55                                                                                                              | IP41/ IP55                                                                                                                | IP55                                                                       | IP55                  |                   |
| Mechanical impact                            | IK07/IK08                                                                                                               | IK07/IK08                                                                                                                 | IK08                                                                       | IK08                  |                   |
| Mounting                                     | Flush/Surface                                                                                                           | Flush/Surface                                                                                                             | Surface                                                                    | Surface               |                   |
| Branches (outgoing)                          | MCB 1,2, & 3 Pole: 6, 10, 16, 20, 25, 32, 40, 50, & 63A<br>RCBO 1 Pole: 6, 10, 16, 20, 25, 32, & 40A (IΔn– 30 & 100 mA) |                                                                                                                           |                                                                            |                       |                   |
| Terminal Capacity                            |                                                                                                                         |                                                                                                                           |                                                                            |                       |                   |
| Main MCCB frame size 100A/200A/400A          |                                                                                                                         | 100A<br>50 sq.mm                                                                                                          | 200A<br>120 sq.mm                                                          | 250A<br>300 sq.mm     | 400A<br>300 sq.mm |
| Branch MCB frame size 63A                    |                                                                                                                         | 25 sq.mm                                                                                                                  | 25 sq.mm                                                                   | 25 sq.mm              | 25 sq.mm          |
| Branch eRCBO frame size 40A                  |                                                                                                                         | 16 sq.mm                                                                                                                  | 16 sq.mm                                                                   | 16 sq.mm              | 16 sq.mm          |
| Neutral terminal bar                         | Incoming                                                                                                                | 50 sq.mm                                                                                                                  | 120 sq.mm                                                                  | 120 sq.mm             | 120 sq.mm         |
|                                              | Outgoing                                                                                                                | 16 sq.mm                                                                                                                  | 16 sq.mm                                                                   | 16 sq.mm              | 16,50 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 – RAL7035 for Indoor<br>Quarter turn lock - Black for Outdoor |                       |                   |
| Enclosure material                           |                                                                                                                         | Electro-galvanized steel sheet (Corrosion resistant)                                                                      |                                                                            |                       |                   |
| Steel thickness                              |                                                                                                                         | Up to 1.2 mm. For 250A,300A, & 400A Up to 1.5mm                                                                           |                                                                            |                       |                   |
| Knockout sizes                               |                                                                                                                         | Refer to page 17                                                                                                          |                                                                            |                       |                   |
| Enclosure color                              |                                                                                                                         | Polyester powder coated in RAL-9003, RAL-9010, or RAL-7035 for indoor<br>Polyester powder coated in RAL-7035 for outdoor. |                                                                            |                       |                   |
| Dimensions                                   |                                                                                                                         | Refer to page 18                                                                                                          |                                                                            |                       |                   |

## Knockout details

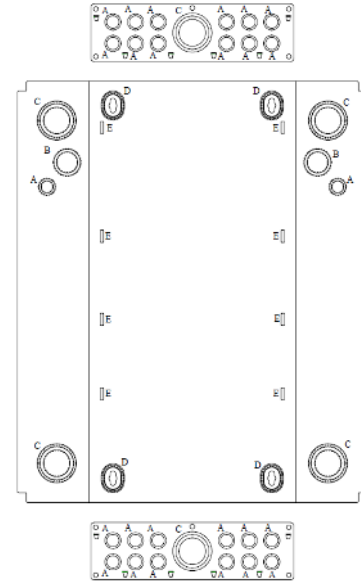
**A** - Ø20.5/Ø26.5 DOUBLE KNOCKOUT 26 NOS.

**B** - Ø35/Ø43.5 DOUBLE KNOCKOUT 2 NOS.

**C** - Ø44/Ø54.5/Ø64 TRIPLE KNOCKOUT 6 NOS.

**D** - WALL MOUNTING EMBOSS WITH KEYHOLE 4 NOS

**E** - CHORD LANCING FOR CABLE TIE 8 NOS



## Nomenclature

| RAYSAN ITEM CODE NOMENCLATURE 3 Phase |             |            |              |             |            |
|---------------------------------------|-------------|------------|--------------|-------------|------------|
| R                                     | P           | L          | 12           | F           | 100        |
| R: Raysan                             | P : Plug-In | L : MCCB   | 06 : 06 ways | F : Flush   | 030 : 30A  |
|                                       |             |            | 12 : 12 ways | S : Surface | 040 : 40A  |
|                                       |             |            | 18 : 18 ways |             | 050 : 50A  |
|                                       |             |            | 24 : 24 ways |             | 060 : 60A  |
|                                       |             |            | 30 : 30 ways |             | 070 : 70A  |
|                                       |             |            | 36 : 36 ways |             | 075 : 75A  |
|                                       |             |            | 42 : 42 ways |             | 080 : 80A  |
|                                       |             |            | 48 : 48 ways |             | 100 : 100A |
|                                       |             |            | 54 : 54 ways |             | 125 : 125A |
|                                       |             |            |              |             | 150 : 150A |
| R: Raysan                             | P: Plug-In  | Hassas MCB | 09: 09 ways  | F: Flush    | 040 : 40A  |
|                                       |             |            |              | S: Surface  | 050 : 50A  |
|                                       |             |            |              |             | 063 : 63A  |
|                                       |             |            |              |             | 200 : 200A |

| RAYSAN ITEM CODE NOMENCLATURE 2 PHASE |             |                         |             |           |            |            |
|---------------------------------------|-------------|-------------------------|-------------|-----------|------------|------------|
| R                                     | P           | T                       | 8           | F         | 100        | D          |
| R: Raysan                             | P : Plug-In | T: AZM MCB              | 04: 04 ways | F : Flush | 040 : 40A  | D: 2 Phase |
|                                       |             |                         | 06: 06 ways |           | 050 : 50A  |            |
|                                       |             |                         | 08: 08 ways |           | 063 : 063A |            |
|                                       |             |                         |             |           | 080 : 080A |            |
| R: Raysan                             | P : Plug-In | W: Without Main Breaker | 100 : 100A  |           |            | D: 2 Phase |
|                                       |             |                         | 04: 04 ways | F : Flush | 063 : 63A  |            |
|                                       |             |                         | 06: 06 ways |           | 080 : 80A  |            |
|                                       |             |                         | 08: 08 ways |           | 100 : 100A |            |

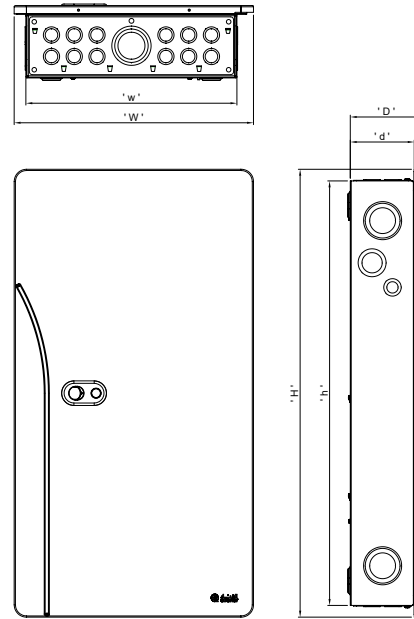
| RAYSAN ITEM CODE NOMENCLATURE 1 PHASE |             |               |              |           |            |            |
|---------------------------------------|-------------|---------------|--------------|-----------|------------|------------|
| R                                     | P           | M             | 12           | F         | 100        | S          |
| R: Raysan                             | P : Plug-In | T: AZM MCB    | 04 : 04 ways | F : Flush | 040 : 40A  | S: 1 Phase |
|                                       |             | M: Hassas MCB | 06 : 06 ways |           | 050 : 50A  |            |
|                                       |             |               | 08 : 08 ways |           | 063 : 63A  |            |
|                                       |             |               | 10 : 10 ways |           | 080 : 80A  |            |
|                                       |             |               | 12 : 12 ways |           | 100 : 100A |            |



# Ordering Information

## Indoor Type – Flush Mounting

Indoor type flush mounting size



| SINGLE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCB MAIN HASSAS 40-63 AT INDOOR |             |            |     |     |     |     |     |    |
|---------------------------------------------------------------------------------|-------------|------------|-----|-----|-----|-----|-----|----|
| NO. OF WAYS                                                                     | MAIN RATING | ITEM CODE  | H   | h   | W   | w   | D   | d  |
| 4                                                                               | 40A         | RPM04F040S | 387 | 350 | 270 | 220 | 120 | 98 |
| 4                                                                               | 50A         | RPM04F050S | 387 | 350 | 270 | 220 | 120 | 98 |
| 4                                                                               | 63A         | RPM04F063S | 387 | 350 | 270 | 220 | 120 | 98 |
| 6                                                                               | 40A         | RPM06F040S | 387 | 350 | 270 | 220 | 120 | 98 |
| 6                                                                               | 50A         | RPM06F050S | 387 | 350 | 270 | 220 | 120 | 98 |
| 6                                                                               | 63A         | RPM06F063S | 387 | 350 | 270 | 220 | 120 | 98 |
| 8                                                                               | 40A         | RPM08F040S | 387 | 350 | 270 | 220 | 120 | 98 |
| 8                                                                               | 50A         | RPM08F050S | 387 | 350 | 270 | 220 | 120 | 98 |
| 8                                                                               | 63A         | RPM08F063S | 387 | 350 | 270 | 220 | 120 | 98 |
| SINGLE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCB MAIN AZM 40-100 AT INDOOR   |             |            |     |     |     |     |     |    |
| NO. OF WAYS                                                                     | MAIN RATING | ITEM CODE  | H   | h   | W   | w   | D   | d  |
| 10                                                                              | 40A         | RPT10F040S | 534 | 500 | 270 | 220 | 120 | 98 |
| 10                                                                              | 50A         | RPT10F050S | 534 | 500 | 270 | 220 | 120 | 98 |
| 10                                                                              | 63A         | RPT10F063S | 534 | 500 | 270 | 220 | 120 | 98 |
| 10                                                                              | 80A         | RPT10F080S | 534 | 500 | 270 | 220 | 120 | 98 |
| 10                                                                              | 100A        | RPT10F100S | 534 | 500 | 270 | 220 | 120 | 98 |
| 12                                                                              | 40A         | RPT12F040S | 585 | 550 | 270 | 220 | 120 | 98 |
| 12                                                                              | 50A         | RPT12F050S | 585 | 550 | 270 | 220 | 120 | 98 |
| 12                                                                              | 63A         | RPT12F063S | 585 | 550 | 270 | 220 | 120 | 98 |
| 12                                                                              | 80A         | RPT12F080S | 585 | 550 | 270 | 220 | 120 | 98 |
| 12                                                                              | 100A        | RPT12F100S | 585 | 550 | 270 | 220 | 120 | 98 |
| TWO PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCB MAIN AZM 40-100 AT INDOOR      |             |            |     |     |     |     |     |    |
| NO. OF WAYS                                                                     | MAIN RATING | ITEM CODE  | H   | h   | W   | w   | D   | d  |
| 4                                                                               | 40A         | RPT04F040D | 387 | 350 | 270 | 220 | 120 | 98 |
| 4                                                                               | 50A         | RPT04F050D | 387 | 350 | 270 | 220 | 120 | 98 |
| 4                                                                               | 63A         | RPT04F063D | 387 | 350 | 270 | 220 | 120 | 98 |
| 6                                                                               | 40A         | RPT06F040D | 387 | 350 | 270 | 220 | 120 | 98 |
| 6                                                                               | 50A         | RPT06F050D | 387 | 350 | 270 | 220 | 120 | 98 |

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

| TWO PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCB MAIN AZM 40-100 AT INDOOR |             |            |     |     |     |     |     |    |
|----------------------------------------------------------------------------|-------------|------------|-----|-----|-----|-----|-----|----|
| NO. OF WAYS                                                                | MAIN RATING | ITEM CODE  | H   | h   | W   | w   | D   | d  |
| 6                                                                          | 63A         | RPT06F063D | 387 | 350 | 270 | 220 | 120 | 98 |
| 6                                                                          | 80A         | RPT06F080D | 387 | 350 | 270 | 220 | 120 | 98 |
| 8                                                                          | 40A         | RPT08F040D | 387 | 350 | 270 | 220 | 120 | 98 |
| 8                                                                          | 50A         | RPT08F050D | 387 | 350 | 270 | 220 | 120 | 98 |
| 8                                                                          | 63A         | RPT08F063D | 387 | 350 | 270 | 220 | 120 | 98 |
| 8                                                                          | 80A         | RPT08F080D | 387 | 350 | 270 | 220 | 120 | 98 |
| 8                                                                          | 100A        | RPT08F100D | 387 | 350 | 270 | 220 | 120 | 98 |

| TWO PHASE ALFANAR RAYSAN LOAD CENTER WITHOUT MAIN INDOOR |            |  |     |     |     |     |     |     |
|----------------------------------------------------------|------------|--|-----|-----|-----|-----|-----|-----|
| NO. OF WAYS                                              | ITEM CODE  |  | H   | h   | W   | w   | D   | d   |
| 4                                                        | RPW04F063D |  | 387 | 350 | 270 | 220 | 126 | 104 |
| 6                                                        | RPW06F080D |  | 387 | 350 | 270 | 220 | 126 | 104 |
| 8                                                        | RPW08F100D |  | 387 | 350 | 270 | 220 | 126 | 104 |

| THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MAIN HASSAS 40-63 AT INDOOR |             |           |     |     |     |     |     |     |
|----------------------------------------------------------------------------|-------------|-----------|-----|-----|-----|-----|-----|-----|
| NO. OF WAYS                                                                | MAIN RATING | ITEM CODE | H   | h   | W   | w   | D   | d   |
| 9                                                                          | 40A         | RPM09F040 | 387 | 350 | 270 | 220 | 126 | 104 |
| 9                                                                          | 50A         | RPM09F050 | 387 | 350 | 270 | 220 | 126 | 104 |
| 9                                                                          | 63A         | RPM09F063 | 387 | 350 | 270 | 220 | 126 | 104 |

| THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 30-100 AT INDOOR |             |           |     |     |     |     |     |     |
|----------------------------------------------------------------------------------|-------------|-----------|-----|-----|-----|-----|-----|-----|
| NO. OF WAYS                                                                      | MAIN RATING | ITEM CODE | H   | h   | W   | w   | D   | d   |
| 6                                                                                | 30A         | RPL06F030 | 525 | 488 | 388 | 343 | 118 | 104 |
| 6                                                                                | 40A         | RPL06F040 | 525 | 488 | 388 | 343 | 118 | 104 |
| 6                                                                                | 50A         | RPL06F050 | 525 | 488 | 388 | 343 | 118 | 104 |
| 6                                                                                | 60A         | RPL06F060 | 525 | 488 | 388 | 343 | 118 | 104 |
| 12                                                                               | 30A         | RPL12F030 | 601 | 565 | 388 | 343 | 118 | 104 |
| 12                                                                               | 40A         | RPL12F040 | 601 | 565 | 388 | 343 | 118 | 104 |
| 12                                                                               | 50A         | RPL12F050 | 601 | 565 | 388 | 343 | 118 | 104 |
| 12                                                                               | 60A         | RPL12F060 | 601 | 565 | 388 | 343 | 118 | 104 |
| 12                                                                               | 70A         | RPL12F070 | 601 | 565 | 388 | 343 | 118 | 104 |
| 12                                                                               | 75A         | RPL12F075 | 601 | 565 | 388 | 343 | 118 | 104 |
| 12                                                                               | 80A         | RPL12F080 | 601 | 565 | 388 | 343 | 118 | 104 |
| 12                                                                               | 100A        | RPL12F100 | 601 | 565 | 388 | 343 | 118 | 104 |
| 18                                                                               | 30A         | RPL18F030 | 677 | 641 | 388 | 343 | 118 | 104 |
| 18                                                                               | 40A         | RPL18F040 | 677 | 641 | 388 | 343 | 118 | 104 |
| 18                                                                               | 50A         | RPL18F050 | 677 | 641 | 388 | 343 | 118 | 104 |
| 18                                                                               | 60A         | RPL18F060 | 677 | 641 | 388 | 343 | 118 | 104 |
| 18                                                                               | 70A         | RPL18F070 | 677 | 641 | 388 | 343 | 118 | 104 |
| 18                                                                               | 75A         | RPL18F075 | 677 | 641 | 388 | 343 | 118 | 104 |
| 18                                                                               | 80A         | RPL18F080 | 677 | 641 | 388 | 343 | 118 | 104 |
| 18                                                                               | 100A        | RPL18F100 | 677 | 641 | 388 | 343 | 118 | 104 |
| 24                                                                               | 30A         | RPL24F030 | 753 | 717 | 388 | 343 | 118 | 104 |
| 24                                                                               | 40A         | RPL24F040 | 753 | 717 | 388 | 343 | 118 | 104 |
| 24                                                                               | 50A         | RPL24F050 | 753 | 717 | 388 | 343 | 118 | 104 |
| 24                                                                               | 60A         | RPL24F060 | 753 | 717 | 388 | 343 | 118 | 104 |
| 24                                                                               | 70A         | RPL24F070 | 753 | 717 | 388 | 343 | 118 | 104 |
| 24                                                                               | 75A         | RPL24F075 | 753 | 717 | 388 | 343 | 118 | 104 |
| 24                                                                               | 80A         | RPL24F080 | 753 | 717 | 388 | 343 | 118 | 104 |
| 24                                                                               | 100A        | RPL24F100 | 753 | 717 | 388 | 343 | 118 | 104 |
| 30                                                                               | 30A         | RPL30F030 | 878 | 842 | 388 | 343 | 118 | 104 |
| 30                                                                               | 40A         | RPL30F040 | 878 | 842 | 388 | 343 | 118 | 104 |
| 30                                                                               | 50A         | RPL30F050 | 878 | 842 | 388 | 343 | 118 | 104 |
| 30                                                                               | 60A         | RPL30F060 | 878 | 842 | 388 | 343 | 118 | 104 |
| 30                                                                               | 70A         | RPL30F070 | 878 | 842 | 388 | 343 | 118 | 104 |
| 30                                                                               | 75A         | RPL30F075 | 878 | 842 | 388 | 343 | 118 | 104 |
| 30                                                                               | 80A         | RPL30F080 | 878 | 842 | 388 | 343 | 118 | 104 |
| 30                                                                               | 100A        | RPL30F100 | 878 | 842 | 388 | 343 | 118 | 104 |
| 36                                                                               | 40A         | RPL36F040 | 954 | 918 | 388 | 343 | 118 | 104 |

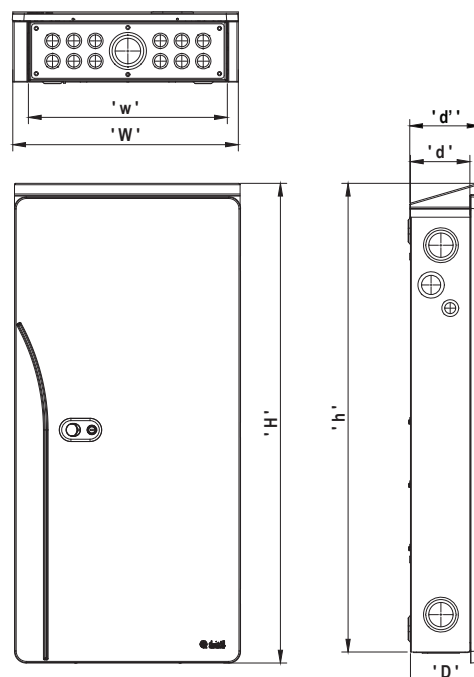
**Note:** All dimensions are in mm.

| THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 30-100 AT INDOOR  |             |           |      |      |     |     |     |     |
|-----------------------------------------------------------------------------------|-------------|-----------|------|------|-----|-----|-----|-----|
| NO. OF WAYS                                                                       | MAIN RATING | ITEM CODE | H    | h    | W   | w   | D   | d   |
| 36                                                                                | 50A         | RPL36F050 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 60A         | RPL36F060 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 70A         | RPL36F070 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 75A         | RPL36F075 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 80A         | RPL36F080 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 100A        | RPL36F100 | 954  | 918  | 388 | 343 | 118 | 104 |
| 42                                                                                | 50A         | RPL42F050 | 998  | 960  | 388 | 343 | 118 | 104 |
| 42                                                                                | 60A         | RPL42F060 | 998  | 960  | 388 | 343 | 118 | 104 |
| 42                                                                                | 70A         | RPL42F070 | 998  | 960  | 388 | 343 | 118 | 104 |
| 42                                                                                | 75A         | RPL42F075 | 998  | 960  | 388 | 343 | 118 | 104 |
| 42                                                                                | 80A         | RPL42F080 | 998  | 960  | 388 | 343 | 118 | 104 |
| 42                                                                                | 100A        | RPL42F100 | 998  | 960  | 388 | 343 | 118 | 104 |
| 48                                                                                | 60A         | RPL48F060 | 1074 | 1036 | 388 | 343 | 118 | 104 |
| 48                                                                                | 70A         | RPL48F070 | 1074 | 1036 | 388 | 343 | 118 | 104 |
| 48                                                                                | 75A         | RPL48F075 | 1074 | 1036 | 388 | 343 | 118 | 104 |
| 48                                                                                | 80A         | RPL48F080 | 1074 | 1036 | 388 | 343 | 118 | 104 |
| 48                                                                                | 100A        | RPL48F100 | 1074 | 1036 | 388 | 343 | 118 | 104 |
| 54                                                                                | 70A         | RPL54F070 | 1150 | 1112 | 388 | 343 | 118 | 104 |
| 54                                                                                | 75A         | RPL54F075 | 1150 | 1112 | 388 | 343 | 118 | 104 |
| 54                                                                                | 80A         | RPL54F080 | 1150 | 1112 | 388 | 343 | 118 | 104 |
| 54                                                                                | 100A        | RPL54F100 | 1150 | 1112 | 388 | 343 | 118 | 104 |
| THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 125-200 AT INDOOR |             |           |      |      |     |     |     |     |
| NO. OF WAYS                                                                       | MAIN RATING | ITEM CODE | H    | h    | W   | w   | D   | d   |
| 12                                                                                | 125A        | RPL12F125 | 652  | 614  | 389 | 343 | 118 | 104 |
| 18                                                                                | 125A        | RPL18F125 | 728  | 690  | 389 | 343 | 118 | 104 |
| 18                                                                                | 150A        | RPL18F150 | 728  | 690  | 389 | 343 | 118 | 104 |
| 24                                                                                | 125A        | RPL24F125 | 802  | 766  | 388 | 343 | 118 | 104 |
| 24                                                                                | 150A        | RPL24F150 | 802  | 766  | 388 | 343 | 118 | 104 |
| 24                                                                                | 160A        | RPL24F160 | 802  | 766  | 388 | 343 | 118 | 104 |
| 24                                                                                | 175A        | RPL24F175 | 802  | 766  | 388 | 343 | 118 | 104 |
| 24                                                                                | 200A        | RPL24F200 | 802  | 766  | 388 | 343 | 118 | 104 |
| 30                                                                                | 125A        | RPL30F125 | 878  | 842  | 388 | 343 | 118 | 104 |
| 30                                                                                | 150A        | RPL30F150 | 878  | 842  | 388 | 343 | 118 | 104 |
| 30                                                                                | 160A        | RPL30F160 | 878  | 842  | 388 | 343 | 118 | 104 |
| 30                                                                                | 175A        | RPL30F175 | 878  | 842  | 388 | 343 | 118 | 104 |
| 30                                                                                | 200A        | RPL30F200 | 878  | 842  | 388 | 343 | 118 | 104 |
| 36                                                                                | 125A        | RPL36F125 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 150A        | RPL36F150 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 160A        | RPL36F160 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 175A        | RPL36F175 | 954  | 918  | 388 | 343 | 118 | 104 |
| 36                                                                                | 200A        | RPL36F200 | 954  | 918  | 388 | 343 | 118 | 104 |
| 42                                                                                | 125A        | RPL42F125 | 1033 | 995  | 388 | 343 | 118 | 104 |
| 42                                                                                | 150A        | RPL42F150 | 1033 | 995  | 388 | 343 | 118 | 104 |
| 42                                                                                | 160A        | RPL42F160 | 1033 | 995  | 388 | 343 | 118 | 104 |
| 42                                                                                | 175A        | RPL42F175 | 1033 | 995  | 388 | 343 | 118 | 104 |
| 42                                                                                | 200A        | RPL42F200 | 1033 | 995  | 388 | 343 | 118 | 104 |
| 48                                                                                | 125A        | RPL48F125 | 1109 | 1071 | 388 | 343 | 118 | 104 |
| 48                                                                                | 150A        | RPL48F150 | 1109 | 1071 | 388 | 343 | 118 | 104 |
| 48                                                                                | 160A        | RPL48F160 | 1109 | 1071 | 388 | 343 | 118 | 104 |
| 48                                                                                | 175A        | RPL48F175 | 1109 | 1071 | 388 | 343 | 118 | 104 |
| 48                                                                                | 200A        | RPL48F200 | 1109 | 1071 | 388 | 343 | 118 | 104 |
| 54                                                                                | 125A        | RPL54F125 | 1185 | 1147 | 388 | 343 | 118 | 104 |
| 54                                                                                | 150A        | RPL54F150 | 1185 | 1147 | 388 | 343 | 118 | 104 |
| 54                                                                                | 160A        | RPL54F160 | 1185 | 1147 | 388 | 343 | 118 | 104 |
| 54                                                                                | 175A        | RPL54F175 | 1185 | 1147 | 388 | 343 | 118 | 104 |
| 54                                                                                | 200A        | RPL54F200 | 1185 | 1147 | 388 | 343 | 118 | 104 |



## Indoor Type - Surface Mounting

Indoor type surface mounting size



| THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 30-100 AT INDOOR |             |           |     |     |     |     |     |     |     |
|----------------------------------------------------------------------------------|-------------|-----------|-----|-----|-----|-----|-----|-----|-----|
| NO. OF WAYS                                                                      | MAIN RATING | ITEM CODE | H   | h   | W   | w   | D   | d   | d'  |
| 6                                                                                | 30A         | RPL06S030 | 526 | 531 | 388 | 343 | 118 | 104 | 121 |
| 6                                                                                | 40A         | RPL06S040 | 526 | 531 | 388 | 343 | 118 | 104 | 121 |
| 6                                                                                | 50A         | RPL06S050 | 526 | 531 | 388 | 343 | 118 | 104 | 121 |
| 6                                                                                | 60A         | RPL06S060 | 526 | 531 | 388 | 343 | 118 | 104 | 121 |
| 12                                                                               | 30A         | RPL12S030 | 601 | 607 | 388 | 343 | 118 | 104 | 121 |
| 12                                                                               | 40A         | RPL12S040 | 601 | 607 | 388 | 343 | 118 | 104 | 121 |
| 12                                                                               | 50A         | RPL12S050 | 601 | 607 | 388 | 343 | 118 | 104 | 121 |
| 12                                                                               | 60A         | RPL12S060 | 601 | 607 | 388 | 343 | 118 | 104 | 121 |
| 12                                                                               | 70A         | RPL12S070 | 601 | 607 | 388 | 343 | 118 | 104 | 121 |
| 12                                                                               | 75A         | RPL12S075 | 601 | 607 | 388 | 343 | 118 | 104 | 121 |
| 12                                                                               | 80A         | RPL12S080 | 601 | 607 | 388 | 343 | 118 | 104 | 121 |
| 12                                                                               | 100A        | RPL12S100 | 601 | 607 | 388 | 343 | 118 | 104 | 121 |
| 18                                                                               | 30A         | RPL18S030 | 677 | 683 | 388 | 343 | 118 | 104 | 121 |
| 18                                                                               | 40A         | RPL18S040 | 677 | 683 | 388 | 343 | 118 | 104 | 121 |
| 18                                                                               | 50A         | RPL18S050 | 677 | 683 | 388 | 343 | 118 | 104 | 121 |
| 18                                                                               | 60A         | RPL18S060 | 677 | 683 | 388 | 343 | 118 | 104 | 121 |
| 18                                                                               | 70A         | RPL18S070 | 677 | 683 | 388 | 343 | 118 | 104 | 121 |
| 18                                                                               | 75A         | RPL18S075 | 677 | 683 | 388 | 343 | 118 | 104 | 121 |
| 18                                                                               | 80A         | RPL18S080 | 677 | 683 | 388 | 343 | 118 | 104 | 121 |
| 18                                                                               | 100A        | RPL18S100 | 677 | 683 | 388 | 343 | 118 | 104 | 121 |
| 24                                                                               | 30A         | RPL24S030 | 753 | 759 | 388 | 343 | 118 | 104 | 121 |
| 24                                                                               | 40A         | RPL24S040 | 753 | 759 | 388 | 343 | 118 | 104 | 121 |
| 24                                                                               | 50A         | RPL24S050 | 753 | 759 | 388 | 343 | 118 | 104 | 121 |
| 24                                                                               | 60A         | RPL24S060 | 753 | 759 | 388 | 343 | 118 | 104 | 121 |
| 24                                                                               | 70A         | RPL24S070 | 753 | 759 | 388 | 343 | 118 | 104 | 121 |
| 24                                                                               | 75A         | RPL24S075 | 753 | 759 | 388 | 343 | 118 | 104 | 121 |
| 24                                                                               | 80A         | RPL24S080 | 753 | 759 | 388 | 343 | 118 | 104 | 121 |
| 24                                                                               | 100A        | RPL24S100 | 753 | 759 | 388 | 343 | 118 | 104 | 121 |
| 30                                                                               | 30A         | RPL30S030 | 878 | 884 | 388 | 343 | 118 | 104 | 121 |
| 30                                                                               | 40A         | RPL30S040 | 878 | 884 | 388 | 343 | 118 | 104 | 121 |
| 30                                                                               | 50A         | RPL30S050 | 878 | 884 | 388 | 343 | 118 | 104 | 121 |
| 30                                                                               | 60A         | RPL30S060 | 878 | 884 | 388 | 343 | 118 | 104 | 121 |
| 30                                                                               | 70A         | RPL30S070 | 878 | 884 | 388 | 343 | 118 | 104 | 121 |
| 30                                                                               | 75A         | RPL30S075 | 878 | 884 | 388 | 343 | 118 | 104 | 121 |

**THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 30-100 AT INDOOR**

| NO. OF WAYS | MAIN RATING | ITEM CODE | H    | h    | W   | w   | D   | d   | d'  |
|-------------|-------------|-----------|------|------|-----|-----|-----|-----|-----|
| 30          | 80A         | RPL30S080 | 878  | 884  | 388 | 343 | 118 | 104 | 121 |
| 30          | 100A        | RPL30S100 | 878  | 884  | 388 | 343 | 118 | 104 | 121 |
| 36          | 40A         | RPL36S040 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 50A         | RPL36S050 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 60A         | RPL36S060 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 70A         | RPL36S070 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 75A         | RPL36S075 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 80A         | RPL36S080 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 100A        | RPL36S100 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 42          | 50A         | RPL42S050 | 998  | 1002 | 388 | 343 | 118 | 104 | 121 |
| 42          | 60A         | RPL42S060 | 998  | 1002 | 388 | 343 | 118 | 104 | 121 |
| 42          | 70A         | RPL42S070 | 998  | 1002 | 388 | 343 | 118 | 104 | 121 |
| 42          | 75A         | RPL42S075 | 998  | 1002 | 388 | 343 | 118 | 104 | 121 |
| 42          | 80A         | RPL42S080 | 998  | 1002 | 388 | 343 | 118 | 104 | 121 |
| 42          | 100A        | RPL42S100 | 988  | 1002 | 388 | 343 | 118 | 104 | 121 |
| 48          | 60A         | RPL48S060 | 1074 | 1078 | 388 | 343 | 118 | 104 | 121 |
| 48          | 70A         | RPL48S070 | 1074 | 1078 | 388 | 343 | 118 | 104 | 121 |
| 48          | 75A         | RPL48S075 | 1074 | 1078 | 388 | 343 | 118 | 104 | 121 |
| 48          | 80A         | RPL48S080 | 1074 | 1078 | 388 | 343 | 118 | 104 | 121 |
| 48          | 100A        | RPL48S100 | 1074 | 1078 | 388 | 343 | 118 | 104 | 121 |
| 54          | 70A         | RPL54S070 | 1150 | 1154 | 388 | 343 | 118 | 104 | 121 |
| 54          | 75A         | RPL54S075 | 1150 | 1154 | 388 | 343 | 118 | 104 | 121 |
| 54          | 80A         | RPL54S080 | 1150 | 1154 | 388 | 343 | 118 | 104 | 121 |
| 54          | 100A        | RPL54S100 | 1150 | 1154 | 388 | 343 | 118 | 104 | 121 |

**THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 125-200 AT INDOOR**

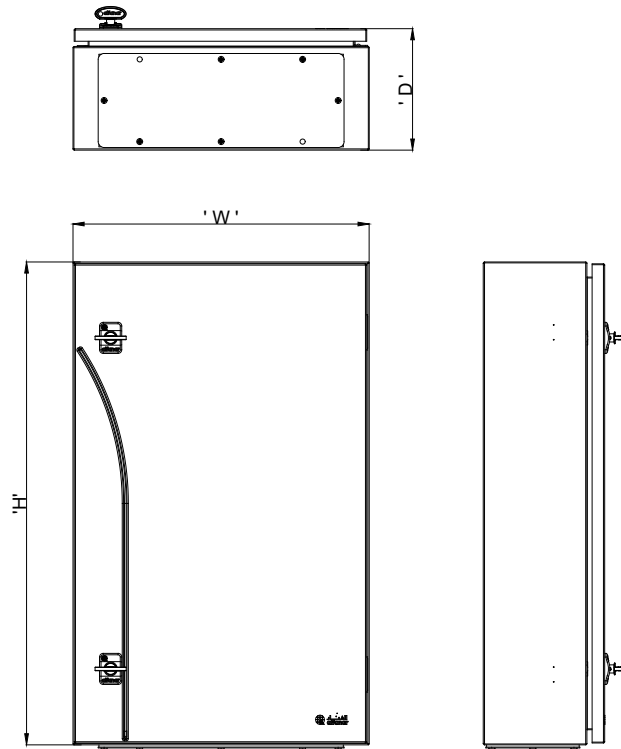
| NO. OF WAYS | MAIN RATING | ITEM CODE | H    | h    | W   | w   | D   | d   | d'  |
|-------------|-------------|-----------|------|------|-----|-----|-----|-----|-----|
| 12          | 125A        | RPL12S125 | 652  | 656  | 388 | 343 | 118 | 104 | 121 |
| 18          | 125A        | RPL18S125 | 728  | 732  | 388 | 343 | 118 | 104 | 121 |
| 18          | 150A        | RPL18S150 | 728  | 732  | 388 | 343 | 118 | 104 | 121 |
| 24          | 125A        | RPL24S125 | 802  | 808  | 388 | 343 | 118 | 104 | 121 |
| 24          | 150A        | RPL24S150 | 802  | 808  | 388 | 343 | 118 | 104 | 121 |
| 24          | 160A        | RPL24S160 | 802  | 808  | 388 | 343 | 118 | 104 | 121 |
| 24          | 175A        | RPL24S175 | 802  | 808  | 388 | 343 | 118 | 104 | 121 |
| 24          | 200A        | RPL24S200 | 802  | 808  | 388 | 343 | 118 | 104 | 121 |
| 30          | 125A        | RPL30S125 | 878  | 884  | 388 | 343 | 118 | 104 | 121 |
| 30          | 150A        | RPL30S150 | 878  | 884  | 388 | 343 | 118 | 104 | 121 |
| 30          | 160A        | RPL30S160 | 878  | 884  | 388 | 343 | 118 | 104 | 121 |
| 30          | 175A        | RPL30S175 | 878  | 884  | 388 | 343 | 118 | 104 | 121 |
| 30          | 200A        | RPL30S200 | 878  | 884  | 388 | 343 | 118 | 104 | 121 |
| 36          | 125A        | RPL36S125 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 150A        | RPL36S150 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 160A        | RPL36S160 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 175A        | RPL36S175 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 36          | 200A        | RPL36S200 | 954  | 960  | 388 | 343 | 118 | 104 | 121 |
| 42          | 125A        | RPL42S125 | 1033 | 1037 | 388 | 343 | 118 | 104 | 121 |
| 42          | 150A        | RPL42S150 | 1033 | 1037 | 388 | 343 | 118 | 104 | 121 |
| 42          | 160A        | RPL42S160 | 1033 | 1037 | 388 | 343 | 118 | 104 | 121 |
| 42          | 175A        | RPL42S175 | 1033 | 1037 | 388 | 343 | 118 | 104 | 121 |
| 42          | 200A        | RPL42S200 | 1033 | 1037 | 388 | 343 | 118 | 104 | 121 |
| 48          | 125A        | RPL48S125 | 1109 | 1113 | 388 | 343 | 118 | 104 | 121 |
| 48          | 150A        | RPL48S150 | 1109 | 1113 | 388 | 343 | 118 | 104 | 121 |
| 48          | 160A        | RPL48S160 | 1109 | 1113 | 388 | 343 | 118 | 104 | 121 |
| 48          | 175A        | RPL48S175 | 1109 | 1113 | 388 | 343 | 118 | 104 | 121 |
| 48          | 200A        | RPL48S200 | 1109 | 1113 | 388 | 343 | 118 | 104 | 121 |
| 54          | 125A        | RPL54S125 | 1185 | 1189 | 388 | 343 | 118 | 104 | 121 |
| 54          | 150A        | RPL54S150 | 1185 | 1189 | 388 | 343 | 118 | 104 | 121 |
| 54          | 160A        | RPL54S160 | 1185 | 1189 | 388 | 343 | 118 | 104 | 121 |
| 54          | 175A        | RPL54S175 | 1185 | 1189 | 388 | 343 | 118 | 104 | 121 |
| 54          | 200A        | RPL54S200 | 1185 | 1189 | 388 | 343 | 118 | 104 | 121 |

| THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 250-400 AT INDOOR |             |               |      |     |     |
|-----------------------------------------------------------------------------------|-------------|---------------|------|-----|-----|
| NO. OF WAYS                                                                       | MAIN RATING | ITEM CODE     | H    | W   | D   |
| 30                                                                                | 250A        | 52-L30250PFG3 | 1150 | 500 | 195 |
| 36                                                                                | 250A        | 52-L36250PFG3 | 1150 | 500 | 195 |
| 36                                                                                | 300A        | 52-L36300PFG3 | 1150 | 500 | 195 |
| 36                                                                                | 400A        | 52-L36400PFG3 | 1150 | 500 | 195 |
| 42                                                                                | 250A        | 52-L42250PFG3 | 1310 | 500 | 195 |
| 42                                                                                | 300A        | 52-L42300PFG3 | 1310 | 500 | 195 |
| 42                                                                                | 400A        | 52-L42400PFG3 | 1310 | 500 | 195 |
| 48                                                                                | 250A        | 52-L48250PFG3 | 1310 | 500 | 195 |
| 48                                                                                | 300A        | 52-L48300PFG3 | 1310 | 500 | 195 |
| 48                                                                                | 400A        | 52-L48400PFG3 | 1310 | 500 | 195 |
| 54                                                                                | 250A        | 52-L54250PFG3 | 1390 | 500 | 195 |
| 54                                                                                | 300A        | 52-L54300PFG3 | 1390 | 500 | 195 |
| 54                                                                                | 400A        | 52-L54400PFG3 | 1390 | 500 | 195 |

## Ordering Information

### Outdoor Type

Outdoor type load center size



| THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCB MAIN HASSAS 32-63 AT OUTDOOR |             |                 |     |     |     |
|---------------------------------------------------------------------------------|-------------|-----------------|-----|-----|-----|
| NO. OF WAYS                                                                     | MAIN RATING | ITEM CODE       | H   | W   | D   |
| 9                                                                               | 32A         | 52-WPT09032PFG3 | 525 | 400 | 160 |
| 9                                                                               | 40A         | 52-WPT09040PFG3 | 525 | 400 | 160 |
| 9                                                                               | 50A         | 52-WPT09050PFG3 | 525 | 400 | 160 |
| 9                                                                               | 63A         | 52-WPT09063PFG3 | 525 | 400 | 160 |

| THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 30-100 AT OUTDOOR |             |                 |      |     |     |
|-----------------------------------------------------------------------------------|-------------|-----------------|------|-----|-----|
| NO. OF WAYS                                                                       | MAIN RATING | ITEM CODE       | H    | W   | D   |
| 6                                                                                 | 30A         | 52-WPL06030PFG3 | 525  | 400 | 160 |
| 6                                                                                 | 40A         | 52-WPL06040PFG3 | 525  | 400 | 160 |
| 6                                                                                 | 50A         | 52-WPL06050PFG3 | 525  | 400 | 160 |
| 6                                                                                 | 60A         | 52-WPL06060PFG3 | 525  | 400 | 160 |
| 12                                                                                | 30A         | 52-WPL12030PFG3 | 601  | 400 | 160 |
| 12                                                                                | 40A         | 52-WPL12040PFG3 | 601  | 400 | 160 |
| 12                                                                                | 50A         | 52-WPL12050PFG3 | 601  | 400 | 160 |
| 12                                                                                | 60A         | 52-WPL12060PFG3 | 601  | 400 | 160 |
| 12                                                                                | 70A         | 52-WPL12070PFG3 | 601  | 400 | 160 |
| 12                                                                                | 75A         | 52-WPL12075PFG3 | 601  | 400 | 160 |
| 12                                                                                | 80A         | 52-WPL12080PFG3 | 601  | 400 | 160 |
| 12                                                                                | 100A        | 52-WPL12100PFG3 | 601  | 400 | 160 |
| 18                                                                                | 30A         | 52-WPL18030PFG3 | 677  | 400 | 160 |
| 18                                                                                | 40A         | 52-WPL18040PFG3 | 677  | 400 | 160 |
| 18                                                                                | 50A         | 52-WPL18050PFG3 | 677  | 400 | 160 |
| 18                                                                                | 60A         | 52-WPL18060PFG3 | 677  | 400 | 160 |
| 18                                                                                | 70A         | 52-WPL18070PFG3 | 677  | 400 | 160 |
| 18                                                                                | 75A         | 52-WPL18075PFG3 | 677  | 400 | 160 |
| 18                                                                                | 80A         | 52-WPL18080PFG3 | 677  | 400 | 160 |
| 18                                                                                | 100A        | 52-WPL18100PFG3 | 677  | 400 | 160 |
| 24                                                                                | 30A         | 52-WPL24030PFG3 | 753  | 400 | 160 |
| 24                                                                                | 40A         | 52-WPL24040PFG3 | 753  | 400 | 160 |
| 24                                                                                | 50A         | 52-WPL24050PFG3 | 753  | 400 | 160 |
| 24                                                                                | 60A         | 52-WPL24060PFG3 | 753  | 400 | 160 |
| 24                                                                                | 70A         | 52-WPL24070PFG3 | 753  | 400 | 160 |
| 24                                                                                | 75A         | 52-WPL24075PFG3 | 753  | 400 | 160 |
| 24                                                                                | 80A         | 52-WPL24080PFG3 | 753  | 400 | 160 |
| 24                                                                                | 100A        | 52-WPL24100PFG3 | 753  | 400 | 160 |
| 30                                                                                | 30A         | 52-WPL30030PFG3 | 829  | 400 | 160 |
| 30                                                                                | 40A         | 52-WPL30040PFG3 | 829  | 400 | 160 |
| 30                                                                                | 50A         | 52-WPL30050PFG3 | 829  | 400 | 160 |
| 30                                                                                | 60A         | 52-WPL30060PFG3 | 829  | 400 | 160 |
| 30                                                                                | 70A         | 52-WPL30070PFG3 | 829  | 400 | 160 |
| 30                                                                                | 75A         | 52-WPL30075PFG3 | 829  | 400 | 160 |
| 30                                                                                | 80A         | 52-WPL30080PFG3 | 829  | 400 | 160 |
| 30                                                                                | 100A        | 52-WPL30100PFG3 | 829  | 400 | 160 |
| 36                                                                                | 40A         | 52-WPL36040PFG3 | 905  | 400 | 160 |
| 36                                                                                | 50A         | 52-WPL36050PFG3 | 905  | 400 | 160 |
| 36                                                                                | 60A         | 52-WPL36060PFG3 | 905  | 400 | 160 |
| 36                                                                                | 70A         | 52-WPL36070PFG3 | 905  | 400 | 160 |
| 36                                                                                | 75A         | 52-WPL36075PFG3 | 905  | 400 | 160 |
| 36                                                                                | 80A         | 52-WPL36080PFG3 | 905  | 400 | 160 |
| 36                                                                                | 100A        | 52-WPL36100PFG3 | 905  | 400 | 160 |
| 42                                                                                | 50A         | 52-WPL42050PFG3 | 981  | 400 | 160 |
| 42                                                                                | 60A         | 52-WPL42060PFG3 | 981  | 400 | 160 |
| 42                                                                                | 70A         | 52-WPL42070PFG3 | 981  | 400 | 160 |
| 42                                                                                | 75A         | 52-WPL42075PFG3 | 981  | 400 | 160 |
| 42                                                                                | 80A         | 52-WPL42080PFG3 | 981  | 400 | 160 |
| 42                                                                                | 100A        | 52-WPL42100PFG3 | 981  | 400 | 160 |
| 48                                                                                | 60A         | 52-WPL48060PFG3 | 1057 | 400 | 160 |
| 48                                                                                | 70A         | 52-WPL48070PFG3 | 1057 | 400 | 160 |
| 48                                                                                | 75A         | 52-WPL48075PFG3 | 1057 | 400 | 160 |
| 48                                                                                | 80A         | 52-WPL48080PFG3 | 1057 | 400 | 160 |
| 48                                                                                | 100A        | 52-WPL48100PFG3 | 1057 | 400 | 160 |
| 54                                                                                | 70A         | 52-WPL54070PFG3 | 1133 | 400 | 160 |
| 54                                                                                | 75A         | 52-WPL54075PFG3 | 1133 | 400 | 160 |
| 54                                                                                | 80A         | 52-WPL54080PFG3 | 1133 | 400 | 160 |
| 54                                                                                | 100A        | 52-WPL54100PFG3 | 1133 | 400 | 160 |



**THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 125-200 AT OUTDOOR**

| NO. OF WAYS | MAIN RATING | ITEM CODE       | H    | W   | D   |
|-------------|-------------|-----------------|------|-----|-----|
| 12          | 125A        | 52-WPL12125PFG3 | 652  | 400 | 160 |
| 18          | 125A        | 52-WPL18125PFG3 | 728  | 400 | 160 |
| 18          | 150A        | 52-WPL18150PFG3 | 728  | 400 | 160 |
| 24          | 125A        | 52-WPL24125PFG3 | 804  | 400 | 160 |
| 24          | 150A        | 52-WPL24150PFG3 | 804  | 400 | 160 |
| 24          | 160A        | 52-WPL24160PFG3 | 804  | 400 | 160 |
| 24          | 175A        | 52-WPL24175PFG3 | 804  | 400 | 160 |
| 24          | 200A        | 52-WPL24200PFG3 | 804  | 400 | 160 |
| 30          | 125A        | 52-WPL30125PFG3 | 880  | 400 | 160 |
| 30          | 150A        | 52-WPL30150PFG3 | 880  | 400 | 160 |
| 30          | 160A        | 52-WPL30160PFG3 | 880  | 400 | 160 |
| 30          | 175A        | 52-WPL30175PFG3 | 880  | 400 | 160 |
| 30          | 200A        | 52-WPL30200PFG3 | 880  | 400 | 160 |
| 36          | 125A        | 52-WPL36125PFG3 | 956  | 400 | 160 |
| 36          | 150A        | 52-WPL36150PFG3 | 956  | 400 | 160 |
| 36          | 160A        | 52-WPL36160PFG3 | 956  | 400 | 160 |
| 36          | 175A        | 52-WPL36175PFG3 | 956  | 400 | 160 |
| 36          | 200A        | 52-WPL36200PFG3 | 956  | 400 | 160 |
| 42          | 125A        | 52-WPL42125PFG3 | 1032 | 400 | 160 |
| 42          | 150A        | 52-WPL42150PFG3 | 1032 | 400 | 160 |
| 42          | 160A        | 52-WPL42160PFG3 | 1032 | 400 | 160 |
| 42          | 175A        | 52-WPL42175PFG3 | 1032 | 400 | 160 |
| 42          | 200A        | 52-WPL42200PFG3 | 1032 | 400 | 160 |
| 48          | 125A        | 52-WPL48125PFG3 | 1108 | 400 | 160 |
| 48          | 150A        | 52-WPL48150PFG3 | 1108 | 400 | 160 |
| 48          | 160A        | 52-WPL48160PFG3 | 1108 | 400 | 160 |
| 48          | 175A        | 52-WPL48175PFG3 | 1108 | 400 | 160 |
| 48          | 200A        | 52-WPL48200PFG3 | 1108 | 400 | 160 |
| 54          | 125A        | 52-WPL54125PFG3 | 1184 | 400 | 160 |
| 54          | 150A        | 52-WPL54150PFG3 | 1184 | 400 | 160 |
| 54          | 160A        | 52-WPL54160PFG3 | 1184 | 400 | 160 |
| 54          | 175A        | 52-WPL54175PFG3 | 1184 | 400 | 160 |
| 54          | 200A        | 52-WPL54200PFG3 | 1184 | 400 | 160 |

**THREE PHASE ALFANAR RAYSAN PI LOAD CENTER WITH MCCB MAIN HASSAS 250-400 AT OUTDOOR**

| NO. OF WAYS | MAIN RATING | ITEM CODE       | H    | W   | D   |
|-------------|-------------|-----------------|------|-----|-----|
| 30          | 250A        | 52-WPL30250PFG3 | 1150 | 500 | 195 |
| 36          | 250A        | 52-WPL36250PFG3 | 1150 | 500 | 195 |
| 36          | 300A        | 52-WPL36300PFG3 | 1150 | 500 | 195 |
| 36          | 400A        | 52-WPL36400PFG3 | 1150 | 500 | 195 |
| 42          | 250A        | 52-WPL42250PFG3 | 1310 | 500 | 195 |
| 42          | 300A        | 52-WPL42300PFG3 | 1310 | 500 | 195 |
| 42          | 400A        | 52-WPL42400PFG3 | 1310 | 500 | 195 |
| 48          | 250A        | 52-WPL48250PFG3 | 1310 | 500 | 195 |
| 48          | 300A        | 52-WPL48300PFG3 | 1310 | 500 | 195 |
| 48          | 400A        | 52-WPL48400PFG3 | 1310 | 500 | 195 |
| 54          | 250A        | 52-WPL54250PFG3 | 1390 | 500 | 195 |
| 54          | 300A        | 52-WPL54300PFG3 | 1390 | 500 | 195 |
| 54          | 400A        | 52-WPL54400PFG3 | 1390 | 500 | 195 |

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

| COLOR OPTIONS   |              |            |            |
|-----------------|--------------|------------|------------|
| Available Color | Signal White | Light Gray | Pure White |
| RAL Code        | 9003         | 7035       | 9010       |

| LOCK & KEY OPTION |                       |                   |
|-------------------|-----------------------|-------------------|
| Item Code         | Description           | Fitment           |
| RXL-KL            | Lock & Key Kit Raysan | All Raysan Ranges |

| BLANK SPACER OPTION |                               |
|---------------------|-------------------------------|
| Item Code           | Description                   |
| 1234062             | Plug-In LC Blank Spacer R7035 |



| Selectivity Table                 |     |                     |     |     |     |     |      |                |      |      |      |      |
|-----------------------------------|-----|---------------------|-----|-----|-----|-----|------|----------------|------|------|------|------|
| Upstream Breaker MCCB             |     | HTA100              |     |     |     |     |      | HTB200         |      |      |      |      |
|                                   |     | (Icu/Ics=20kA/15kA) |     |     |     |     |      | (Icu=Ics=20kA) |      |      |      |      |
| Downstream Breaker                |     | 50A                 | 60A | 70A | 75A | 80A | 100A | 125A           | 150A | 160A | 175A | 200A |
| Selectivity Limit Current Is [kA] |     |                     |     |     |     |     |      |                |      |      |      |      |
| Hassas PI MCB<br>10kA - 1P        | C10 | 1.5                 | 1.5 | 3   | 3   | 3   | 3.5  | T              | T    | T    | T    | T    |
|                                   | C16 | 1                   | 1   | 2   | 2   | 2   | 3.5  | T              | T    | T    | T    | T    |
|                                   | C20 | 0.6                 | 0.6 | 1.5 | 1.5 | 1.5 | 3.5  | T              | T    | T    | T    | T    |
|                                   | C25 | 0.6                 | 0.6 | 1.5 | 1.5 | 1.5 | 3    | T              | T    | T    | T    | T    |
|                                   | C32 | 0.6                 | 0.6 | 1.5 | 1.5 | 1.5 | 3    | T              | T    | T    | T    | T    |
|                                   | C40 |                     |     | 1   | 1   | 1   | 1.5  | 6              | 6    | 6    | 6    | 9    |
|                                   | C50 |                     |     | 1   | 1   | 1   | 1.5  | 6              | 6    | 6    | 6    | 9    |
|                                   | C63 |                     |     | 1   | 1   | 1   | 1.5  | 6              | 6    | 6    | 6    | 9    |
| Hassas PI RCBO<br>10kA – 1P+N     | C10 | 1.5                 | 1.5 | 3   | 3   | 3   | 3.5  | 9              | 9    | T    | T    | T    |
|                                   | C16 | 1                   | 1   | 2   | 2   | 2   | 3.5  | 8              | 8    | 9    | 9    | T    |
|                                   | C20 | 1                   | 1   | 2   | 2   | 2   | 3.5  | 8              | 8    | 9    | 9    | T    |
|                                   | C25 | 0.6                 | 0.6 | 1.5 | 1.5 | 1.5 | 3    | 7              | 7    | 9    | 9    | T    |
|                                   | C32 | 0.6                 | 0.6 | 1.5 | 1.5 | 1.5 | 3    | 7              | 7    | 9    | 9    | T    |
|                                   | C40 |                     |     | 1.5 | 1.5 | 1.5 | 3    | 6              | 6    | 6    | 6    | 6    |

\* T: total discrimination.

# Hassas Branch MCB

## 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. 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 a controlled temperature and dust free environment.
12. ON/OFF positions are marked on the handle and indicator shows the true contact position of MCB.
13. Unique identification through bar code system for traceability of internal testing results of individual breakers.

# Hassas Ordering Information

## Hassas Plug-In 1P 10kA

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



## Hassas Plug-In 2P 10kA

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



## Hassas Plug-In 3P 10kA

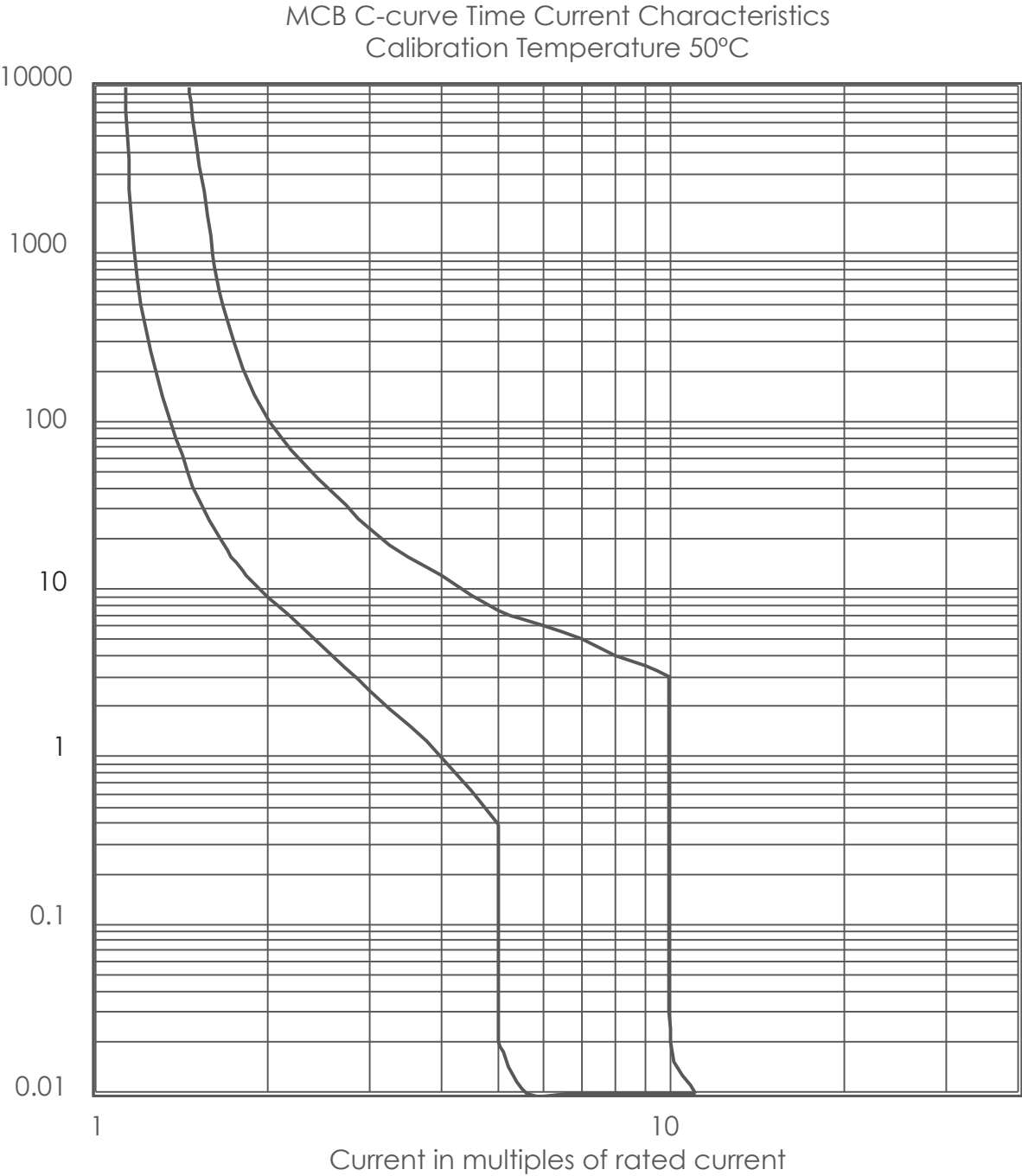
| SL. No. | Item Code | Description                                     |
|---------|-----------|-------------------------------------------------|
| 1       | 42-00310P | <b>alfanar</b> Hassas MCB Plug-In 3P 10A 10KA C |
| 2       | 42-00316P | <b>alfanar</b> Hassas MCB Plug-In 3P 16A 10KA C |
| 3 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



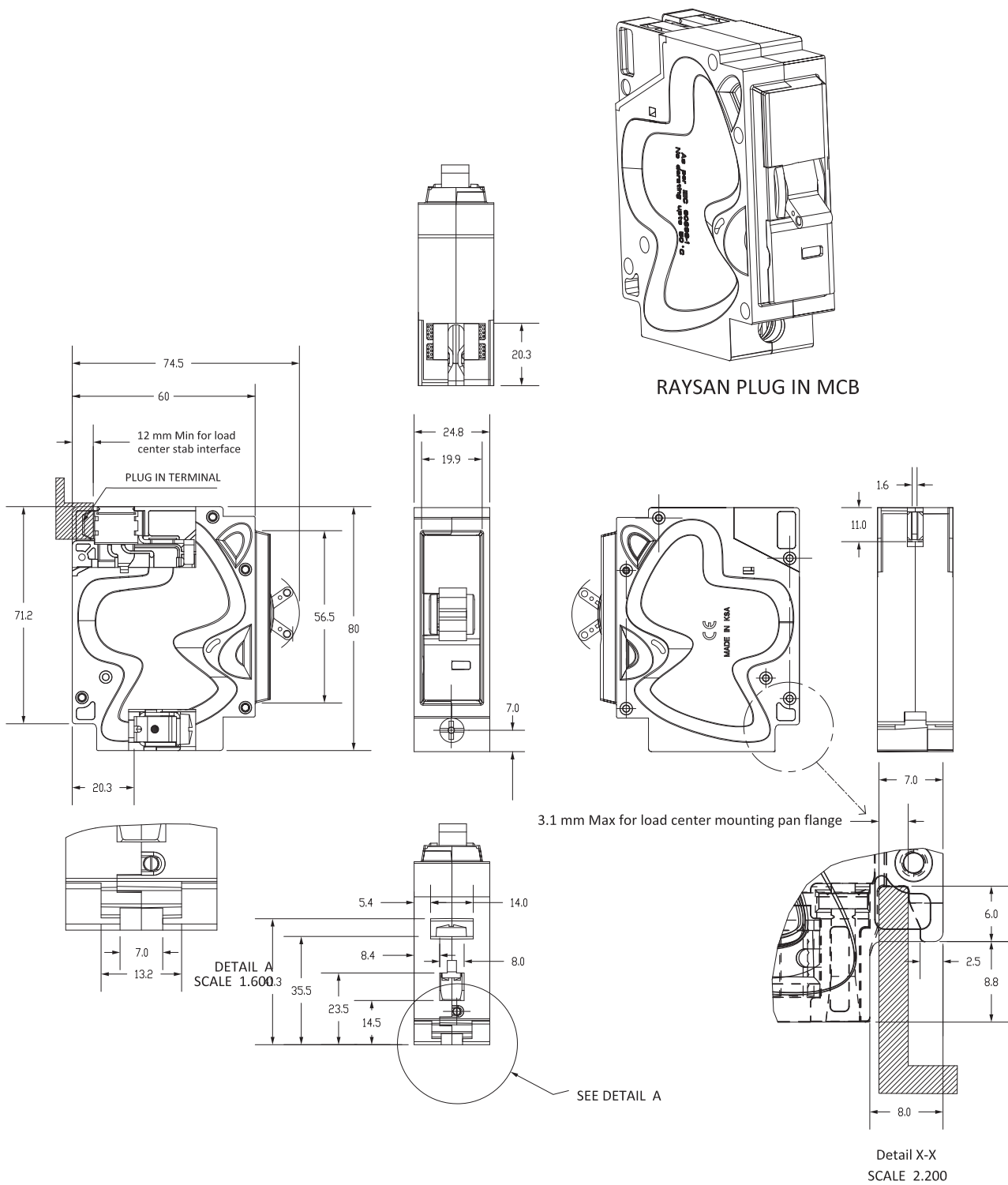


| Technical Data                                                    |               |                                |
|-------------------------------------------------------------------|---------------|--------------------------------|
| Product standard                                                  |               | IEC 60898-1                    |
| Tripping characteristics                                          |               | C Curve                        |
| Electrical                                                        |               |                                |
| Rated current range (A)                                           |               | 10, 16, 20, 25, 32, 40, 50, 63 |
| Number of poles                                                   |               | 1P, 2P, 3P                     |
| Rated operational voltage (Ue) V AC                               | Single pole   | 240                            |
|                                                                   | Multi pole    | 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 (mm²)                                           |               | 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



## Hassas Model Drawing



## 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 |

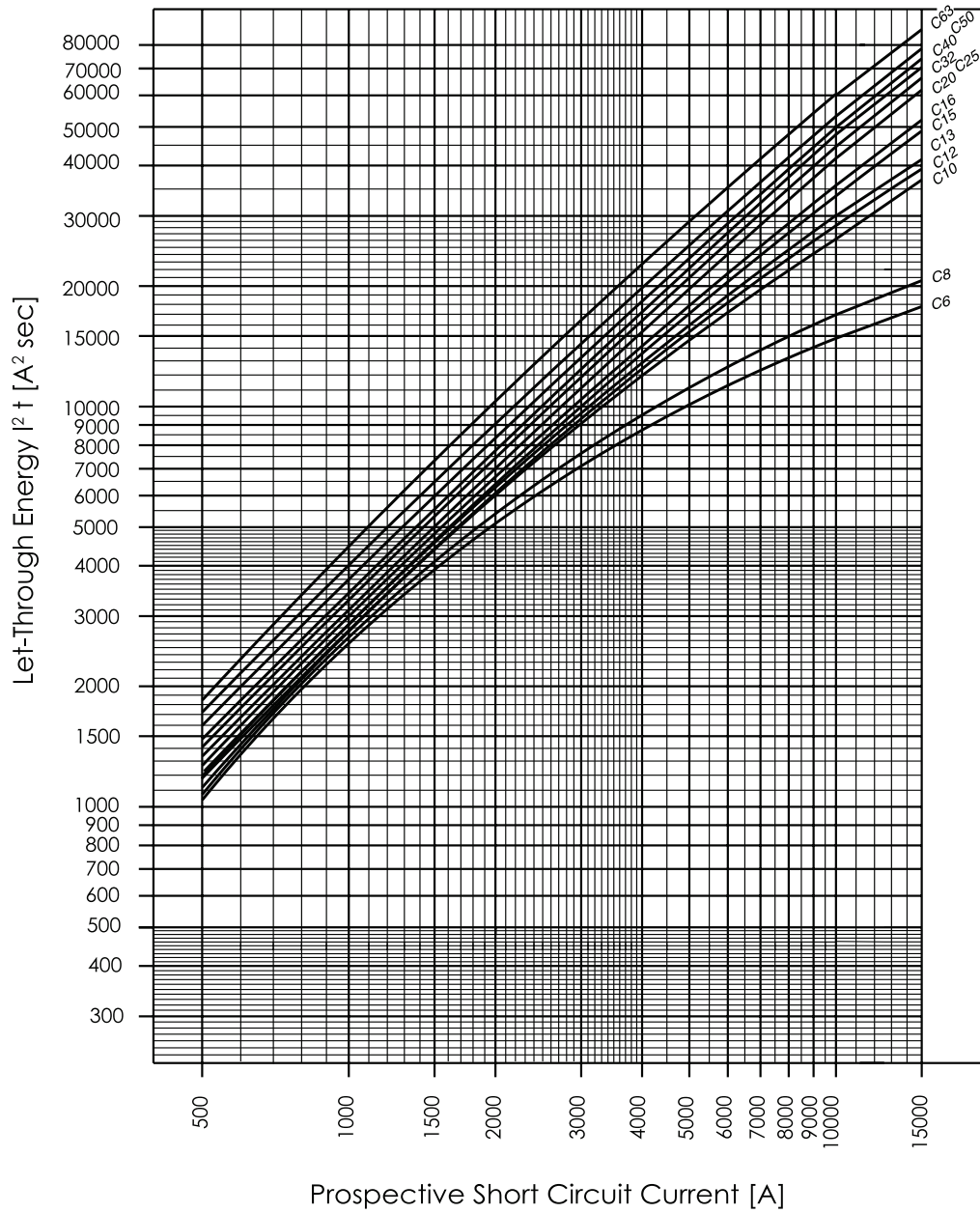
## Hassas Power Loss

| MCB Rating     | 6A   | 10A  | 16A  | 20A  | 25A  | 32A   | 40A   | 50A   | 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)



# Hassas RCBO



## Hassas RCBO Features

- Protects people from electric shock
- 30mA sensitivity for people protection
- 100mA sensitivity for protection against fire caused by leakage current
- Safe & effective method for locking out circuit breakers in ON & OFF position
- Finger proof protection (IP20) for termination
- Let-through energy is considerably less resulting in enhanced lifespan of electrical installation
- ON/OFF positions are marked on the handle and indicator to show the true contact position of MCB
- Better heat dissipation ensures the product is suitable for 50 C ambient temperature
- Patented tripping arrangement improves the short circuit performance
- Trip-free mechanism
- World class terminal reliability
- Conforms to International Standards
- Excellent temperature performance
- New and unique alfanar industrial design
- Uniform box terminals for connecting cables up to 25 mm<sup>2</sup> for input and output terminals
- Terminal shutter prevents the wrong insertion and termination of cables
- Two position Din clip facilitates easy mounting and removal of MCB from Dinrail
- Incoming and outgoing terminal are suitable for busbar and cable

# Performance and Technical Specifications

| RCBO Technical Data                                             |      |                              |
|-----------------------------------------------------------------|------|------------------------------|
| Product standard                                                |      | IEC 61009-1                  |
| Tripping characteristics                                        |      | C Curve                      |
| Electrical                                                      |      |                              |
| Rated current range $I_n$ (A)                                   |      | 6, 10, 16, 20, 25, 32, 40    |
| Rated leakage current $I_{\Delta n}$ (mA)                       |      | 30,100                       |
| Number of poles                                                 |      | 1P+N                         |
| Type                                                            |      | AC, A                        |
| Rated frequency (Hz)                                            |      | 50/60                        |
| Rated voltage ( $U_n$ )                                         |      | 240V                         |
| Rated insulation voltage ( $U_i$ ) V AC                         |      | 500                          |
| Rated impulse voltage ( $U_{imp}$ ) kV                          |      | 4                            |
| Protection degree                                               |      | IP20                         |
| Rated short circuit capacity $I_{cn}$ (kA)                      |      | 10kA                         |
| Rated service short circuit breaking capacity $I_{cs}$ (A)      |      | 7.5kA                        |
| Rated residual making and breaking capacity $I_{\Delta m}$ (kA) |      | 6kA                          |
| Suitability for isolation                                       |      | Yes                          |
| Thermal tripping characteristics                                |      | > 1 hour @ 1.13 $I_n$ @ 50°C |
|                                                                 |      | < 1 hour @ 1.45 $I_n$ @ 50°C |
| Endurance                                                       |      | As per IEC 61009-1           |
| Mechanical                                                      |      |                              |
| Protection degree                                               |      | IP 20                        |
| Maximum terminal capacity (mm²)                                 | Line | Plugin terminal              |
|                                                                 | Load | 16                           |
| Tightening torque (Nm)                                          | Line | Plugin terminal              |
|                                                                 | Load | 1.2-1.5 Nm                   |
| Method of connection                                            |      | Cables                       |
| 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              |

# General Characteristics

The electronic residual current circuit breakers with overcurrent protection (RCBO) meet the demand for devices that fully protect modern installations against short circuit currents, overloads, earth fault currents, and indirect contacts, providing additional protection against direct contacts.

Each RCBO is fitted with a functional earth wire to guarantee the highest level of safety, even in case of loss of neutral.

In only one module width, these electronic residual current circuit breakers with overcurrent protection offers a technologically advanced and comprehensive range with outstanding features, sizes and tripping characteristics.

The electronic RCBOs share the same profile as Hassas MCB, offering a smart retrofit solution for space constrained applications.

These electronic RCBOs can be installed in countries where the use of 1P+N RCBO with functional earth is consolidated.

## Working of RCBO

RCBO is an abbreviation for "Residual Current Breaker with integral Overcurrent protection". Basically, it is a technical combination of two products, namely the MCB and RCCB.

That means one product can provide all protection functions:

- Overcurrent protection for overloads and short circuits, same as MCB
- Fault protection with residual current behavior, the same as RCCB
- Additional protection in case of direct contact with live parts, the same as RCCB with 30mA rated residual current.

## Residual Leakage Tripping

When the load is connected to the supply through the RCBO, the line and neutral conductors are connected through primary windings on a toroidal transformer. In this arrangement the secondary winding is used as a sensing coil and is electrically connected to a sensitive relay or solid state switching device, the operation of which triggers the tripping mechanism.

When the line and neutral currents are balanced, as in a healthy circuit, they produce equal and opposite magnetic fluxes in the transformer core with the result that there is no current generated in the sensing coil. When the line and neutral currents are not balanced they create an out-of-balance flux. This will induce a current in the secondary winding which is used to operate the tripping mechanism. It is important to note that both the line and neutral conductors pass through the toroid.

## Thermal Release

To protect against fault arising due to overloading or increase in temperature, a bimetallic strip is used. The thermal action of the RCBO is achieved with a bimetallic strip whenever continuous overcurrent flows through RCBO, the bimetallic strip is heated and bends the trip. This deflection of the bimetallic strip releases a latch. As this mechanical latch is attached to the operating mechanism, it causes the miniature circuit breaker contacts to open.

The thermal release consists of a bimetallic strip which becomes deformed when heated beyond the normal operating values, releasing the latch that holds the contacts. The reaction time of a bimetallic strip is inversely proportional to the intensity of the current. As a result of its thermal inertia, the bimetallic strip reacts faster when a second overload follows the first in quick succession.

# General Characteristics

## Magnetic Release

The RCBO functions by interrupting the continuity of electrical flow through the circuit once a fault occurs and hence overcurrent is detected. Simply stated, the RCBO is a switch which automatically turns off when the current flowing through it passes the maximum allowable limit.

There are two contacts in the RCBO

- Fixed contact
- Moving contact

When the current exceeds its pre-determined value, the solenoid forces the moveable contact to open and the RCBO turns off, discontinuing the current flow to the circuit. To resume the flow of the current, the RCBO needs to be turned on manually. This protects the circuit from faulty current flowing due to overload and overcurrent.

During a short circuit condition, there is a sudden rise of current; which causes the electromechanical movement of the plunger that is connected with a tripping coil or solenoid of RCBO. The plunger strikes the trip lever causing instant release of the latch mechanism subsequently opening the circuit breaker contacts.

An energy limiting class number denotes the maximum  $I^2t$  let-through energy by a circuit breaker under short circuit or earth fault conditions. This information may be used by the electrical installation designer for the same purposes as the information obtained from the  $I^2t$  characteristic. Class 3 is the highest current limiting classification and may be used to offer protection to cables having a smaller cross-sectional area.

## Rated Operational Voltage ( $U_e$ )

This is the voltage(s) at which the circuit breaker can be used. The value indicated is usually the maximum value. At lower voltages, certain characteristics may differ, or even be improved, such as the breaking capacity.

## Rated Insulation Voltage ( $U_i$ )

This value acts as a reference for the insulation performance of the device. The insulation test voltages are determined based on this value.

## Rated Impulse Withstand Voltage ( $U_{imp}$ )

This value characterizes the ability of the device to withstand transient overvoltage such as lightning (standard impulse 1.2/50  $\mu s$ ).

## Rated Current ( $I_n$ )

This is the maximum current value the circuit breaker can withstand on a permanent basis. This value is always given for an ambient temperature around the device of 30°C in accordance with Standard IEC 61009-1. alfanar products go beyond this standard by offering no derating up to 50°C. If this temperature is higher, a derating factors tables must be used to select the suitable breaker.

## Rated Short Circuit Capacity ( $I_{cn}$ )

In Standard IEC 61009-1, the breaking capacity of the device is tested in a similar way but is called  $I_{cn}$ . After the test, the circuit breaker must retain its dielectric properties and be able to trip in accordance with the specifications in the standard.

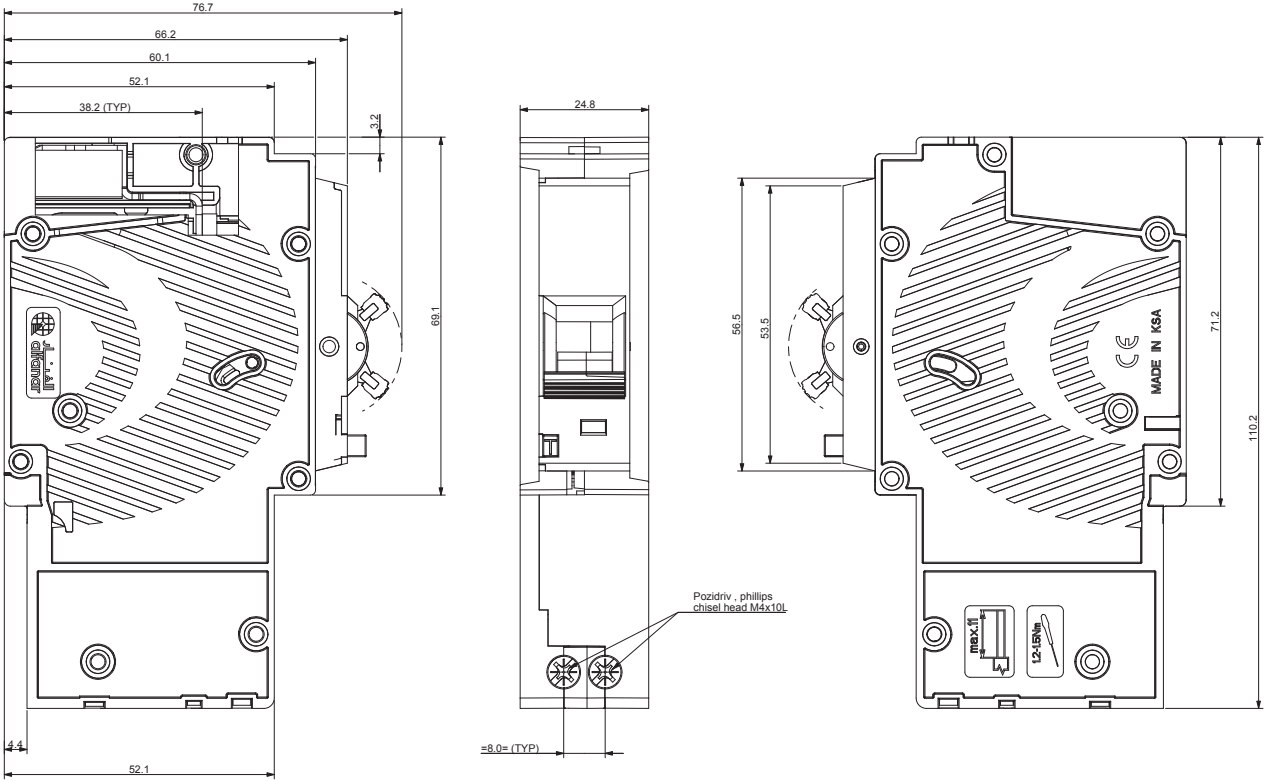
## Rated Service Short Circuit Capacity ( $I_{cs}$ )

This is the value expressed as a percentage of  $I_{cn}$ . It will be one of the following values: 25% (category A only), 50%, 75% or 100%. The circuit breaker must be capable of operating normally after breaking the  $I_{cs}$  current several times using the sequence O-CO-CO.



# RCBO Dimensions

## Hassas RCBO Plug-In type



## Ordering Data

### Hassas RCBO Plug-In type

| Ampere | Leakage current | Description                           | Item code      |
|--------|-----------------|---------------------------------------|----------------|
| 10A    | 30mA            | AeRCBO Plugin Type-A 10A 30mA 10KA C  | HERP40N030M10C |
| 16A    | 30mA            | AeRCBO Plugin Type-A 16A 30mA 10KA C  | HERP40N030M16C |
| 20A    | 30mA            | AeRCBO Plugin Type-A 20A 30mA 10KA C  | HERP40N030M20C |
| 25A    | 30mA            | AeRCBO Plugin Type-A 25A 30mA 10KA C  | HERP40N030M25C |
| 32A    | 30mA            | AeRCBO Plugin Type-A 32A 30mA 10KA C  | HERP40N030M32C |
| 40A    | 30mA            | AeRCBO Plugin Type-A 40A 30mA 10KA C  | HERP40N030M40C |
| 6A     | 100mA           | AeRCBO Plugin Type-A 6A 100mA 10KA C  | HERP40N100M06C |
| 10A    | 100mA           | AeRCBO Plugin Type-A 10A 100mA 10KA C | HERP40N100M10C |
| 16A    | 100mA           | AeRCBO Plugin Type-A 16A 100mA 10KA C | HERP40N100M16C |
| 20A    | 100mA           | AeRCBO Plugin Type-A 20A 100mA 10KA C | HERP40N100M20C |
| 25A    | 100mA           | AeRCBO Plugin Type-A 25A 100mA 10KA C | HERP40N100M25C |
| 32A    | 100mA           | AeRCBO Plugin Type-A 32A 100mA 10KA C | HERP40N100M32C |
| 40A    | 100mA           | AeRCBO Plugin Type-A 40A 100mA 10KA C | HERP40N100M40C |

# HTA100/HTB200 Series Circuit Breaker, Type MCCB

alfanar HTA100/HTB200 series of molded case circuit breakers are designed for circuit protection of low voltage distribution systems.

Available in 3 poles of various frame sizes and interrupting ratings for voltages rated up to 415 V and rated for currents up to 200 A.

HTA100/HTB200 molded case circuit breakers protect electrical feeders, circuits and connected devices against overloads and short circuit.



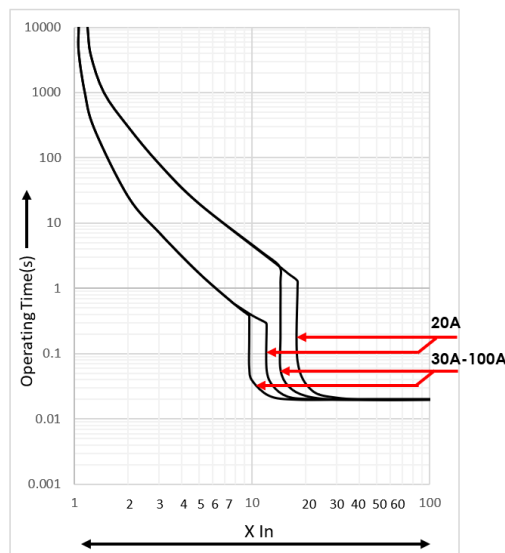
## FEATURES

- 1 - Handle is protected for IP40 protection where >1 mm wires are unable to enter inside the breaker and touch live parts.
- 2 - MCCB can be easily identified for "OFF", "ON" and "Tripped" positions.
- 3 - Trip Free Mechanism – The breaker trips in case of fault and ensures safety even if a padlock is used to hold the handle in the ON position.
- 4 - All positions of circuit breakers are suitable for isolation as defined in IEC standard 60947-2.
- 5 - MCCB arc chamber is specially designed 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 - Accelerate movable contact speed by arcing extinguishing gas generated from the special resin located close 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 the 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, or flat on their back without any de-rating of characteristics.
- 12 - Box clamps made of higher strength material, more than the standard specification, to withstand higher torque values.
- 13 - 100 A and 200 A MCCB grub screw fitted with box clamp assembly ensure they can't get lost.
- 14 - Higher electrical and mechanical life than specified in the standard.
- 15 - Low watt loss through optimally designed current carrying path.

# Technical Specifications for HTA100 Series MCCB

| HTA100                                                     |                                                               |
|------------------------------------------------------------|---------------------------------------------------------------|
| Product standard                                           | IEC 60947-2                                                   |
| Frame size (AF)                                            | HTA100                                                        |
| Rated current range (A)                                    | 30, 40, 50, 60, 70, 75, 80, 100                               |
| Number of poles                                            | 3P                                                            |
| Rated operational voltage (Ue) V                           | 415                                                           |
| Rated insulation voltage (Ui) V AC                         | 1000                                                          |
| 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):   |                                                               |
| @ 380V, 400V, 415V                                         | 20                                                            |
| @ 230V, 240V                                               | 40                                                            |
| Rated service short circuit breaking capacity Ics (% Icu): |                                                               |
| @ 380V, 400V, 415V                                         | %75 Icu                                                       |
| @ 230V, 240V                                               | %75 Icu                                                       |
| Trip release type                                          | Fixed - Thermal & Magnetic                                    |
| Magnetic release setting (In)                              | 12In ± %20, (15In ± %20 for 20A)                              |
| Electrical endurance life (No. of operations cycles)       | 4000                                                          |
| Mechanical endurance life (No. of operations cycles)       | 10000                                                         |
| Phase barrier                                              | Yes                                                           |
| Operating temperature range (without de-rating)            | - 5 °C to + 55 °C                                             |
| Storage temperature range                                  | - 5 °C to + 75 °C                                             |
| Method of connection                                       | Cables / Busbar                                               |
| Box clamp screw size (mm)/ Tightening torque (N.m)         | Allen key 6 / 4 (40A to 100A)<br>Allen key 3 / 4 (20A to 30A) |
| Maximum terminal capacity - Copper cable (mm²)             | 50                                                            |
| Weight of the breaker (kg)                                 | 0.9 Approx.                                                   |
| Dimensions (W × H × D) (mm) (max.)                         | 75 x 130 x 82                                                 |

## HTA100 MCCB IT Curve



IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product

Moulded-Case Circuit-Breaker

Name and address of the applicant

alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia

Name and address of the manufacturer

alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia

Name and address of the factory

Note: When more than one factory, please report on page 2

alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia

☐ Additional information on page 2

Ratings and principal characteristics

Ue: 230 Vac / 240 Vac / 380 Vac / 400 Vac / 415 Vac, 50 / 60 Hz  
Ui: 1000 V, Uimp: 8 kV, 3P  
In: 20 A, 30 A, 40 A, 50 A, 60 A, 70 A, 75 A, 80 A, 100 A  
Reference temperature: 30 °C or 55 °C  
Icu:  
HTA100: 20 kA at 380 Vac / 400 Vac / 415 Vac, 40 kA at 230 Vac / 240 Vac  
HSA100: 15 kA at 380 Vac / 400 Vac / 415 Vac, 30 kA at 230 Vac / 240 Vac  
Ics:  
HTA100: 75% Icu  
HSA100: 100% Icu  
See annex for further ratings

Trademark / Brand (if any)



alfanar, Contactum and Kopp

Customer's Testing Facility (CTF) Stage used

Model / Type Ref.

HTA100 and HSA100

Additional information (if necessary may also be reported on page 2)

☐ Additional information on page 2

A sample of the product was tested and found to be in conformity with

IEC 60947-2:2016, IEC 60947-2:2016/AMD1:2019

National differences:

SA

As shown in the Test Report Ref. No. which forms part of this Certificate

3326179.50

This CB Test Certificate is issued by the National Certification Body

DEKRA Certification B.V.  
Meander 1051  
Arnhem, 6825 MJ  
Netherlands



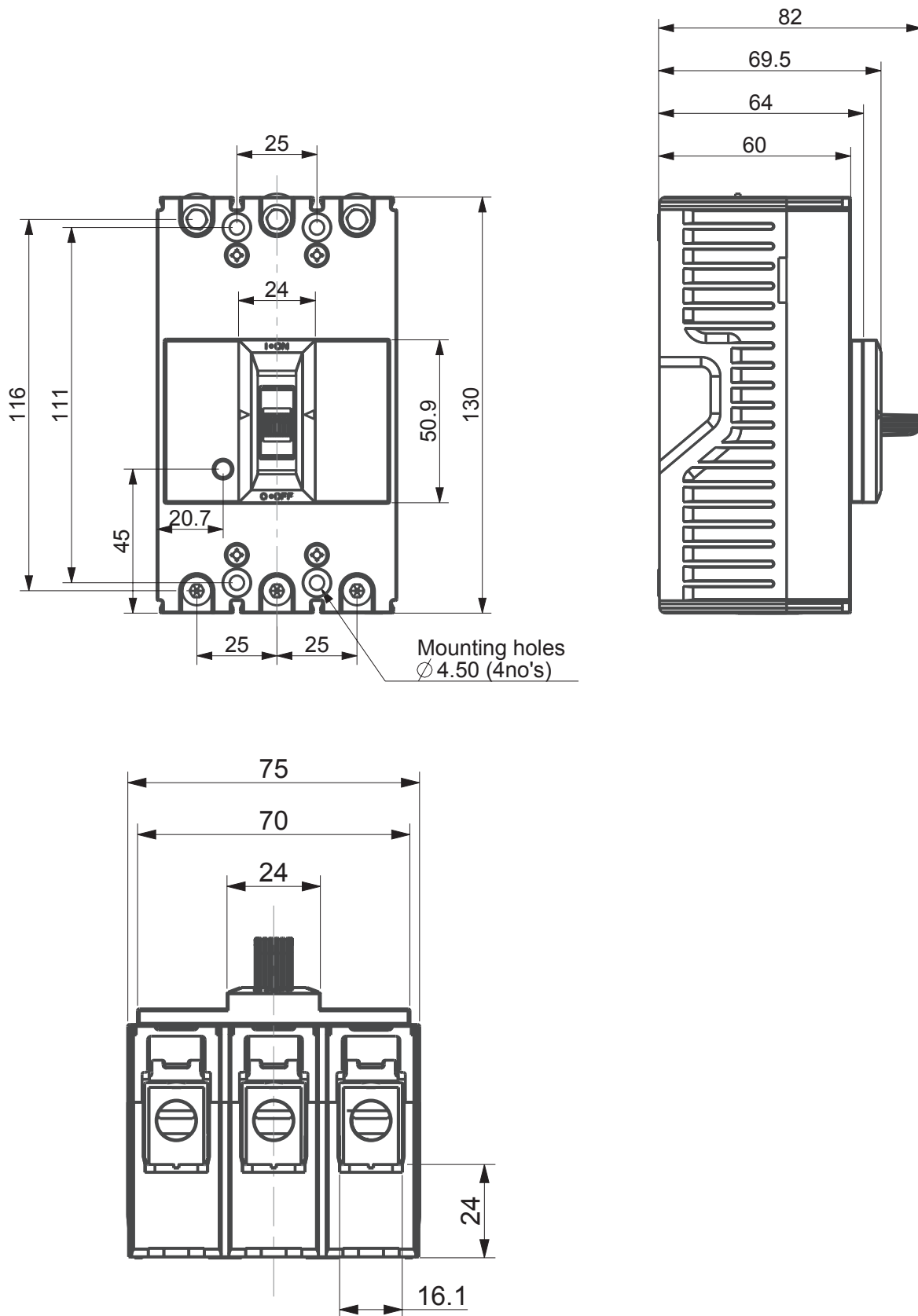
Date: 2022-12-26

Signature: H.L. Schendstok



# Dimension Drawings for HTA100 Series MCCB

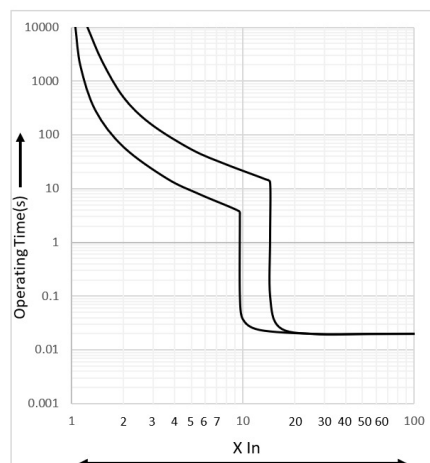
## HTA100 DIMENSIONS



# Technical Specifications for HTB200 Series MCCB

| HTB200                                                     |                            |
|------------------------------------------------------------|----------------------------|
| Product standard                                           | IEC 60947-2                |
| Frame size (AF)                                            | HTB200                     |
| Rated current range (A)                                    | 125, 150, 160, 175, 200    |
| Number of poles                                            | 3P                         |
| Rated operational voltage (Ue) V                           | 415                        |
| Rated insulation voltage (Ui) V AC                         | 1000                       |
| 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):   |                            |
| @ 380V, 400V, 415V                                         | 20                         |
| @ 230V, 240V                                               | 36                         |
| Rated service short circuit breaking capacity Ics ( % Icu) |                            |
| @ 380V, 400V, 415V                                         | %100 Icu                   |
| @ 230V, 240V                                               | %100 Icu                   |
| Trip release type                                          | Fixed - Thermal & Magnetic |
| Magnetic release setting (In)                              | 12In ± %20                 |
| Electrical endurance life (No. of operations cycles)       | 2000                       |
| Mechanical endurance life (No. of operations cycles)       | 10000                      |
| Phase barrier                                              | Yes                        |
| Operating temperature range (without de-rating)            | - 5 °C to + 55 °C          |
| Storage temperature range                                  | - 5 °C to + 75 °C          |
| Method of connection                                       | Cables                     |
| Box clamp screw size (mm) / Tightening torque (N.m)        | Allen key 12 / 5           |
| Maximum terminal capacity - Copper cable (mm²)             | 120                        |
| Weight of the breaker (kg)                                 | 1.9 Approx.                |
| Dimensions (W × H × D) (mm) (max.)                         | 105 x 165 x 101            |

## HTB200 MCCB IT Curve



IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB  
SCHEME

## CB TEST CERTIFICATE

## Product

Moulded-Case Circuit-Breaker

## Name and address of the applicant

alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia

## Name and address of the manufacturer

alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia

## Name and address of the factory

Note: When more than one factory, please report on page 2

alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia☐ Additional information on page 2

## Ratings and principal characteristics

Ue: 230 Vac / 240 Vac / 380 Vac / 400 Vac / 415 Vac, 50 / 60 Hz  
Ui: 1000 V, Uimp: 8 kV, 3P  
In: 125 A, 150 A, 160 A, 175 A, 200 A  
Reference temperature: 30 °C or 55 °C  
Icu:  
HUB200: 25 kA at 380 Vac / 400 Vac / 415 Vac, 50 kA at 230 Vac / 240 Vac  
HTB100: 20 kA at 380 Vac / 400 Vac / 415 Vac, 36 kA at 230 Vac / 240 Vac  
Ics:  
HUB200: 75% Icu  
HTB200: 100% Icu  
See annex for further ratings

## Trademark / Brand (if any)



alfanar, Contactum and Kopp

## Customer's Testing Facility (CTF) Stage used

## Model / Type Ref.

HUB200 and HTB200

Additional information (if necessary may also be reported on page 2)

☐ Additional information on page 2

A sample of the product was tested and found to be in conformity with

IEC 60947-2:2016, IEC 60947-2:2016/AMD1:2019

National differences:

SA

As shown in the Test Report Ref. No. which forms part of this Certificate

3326180.50

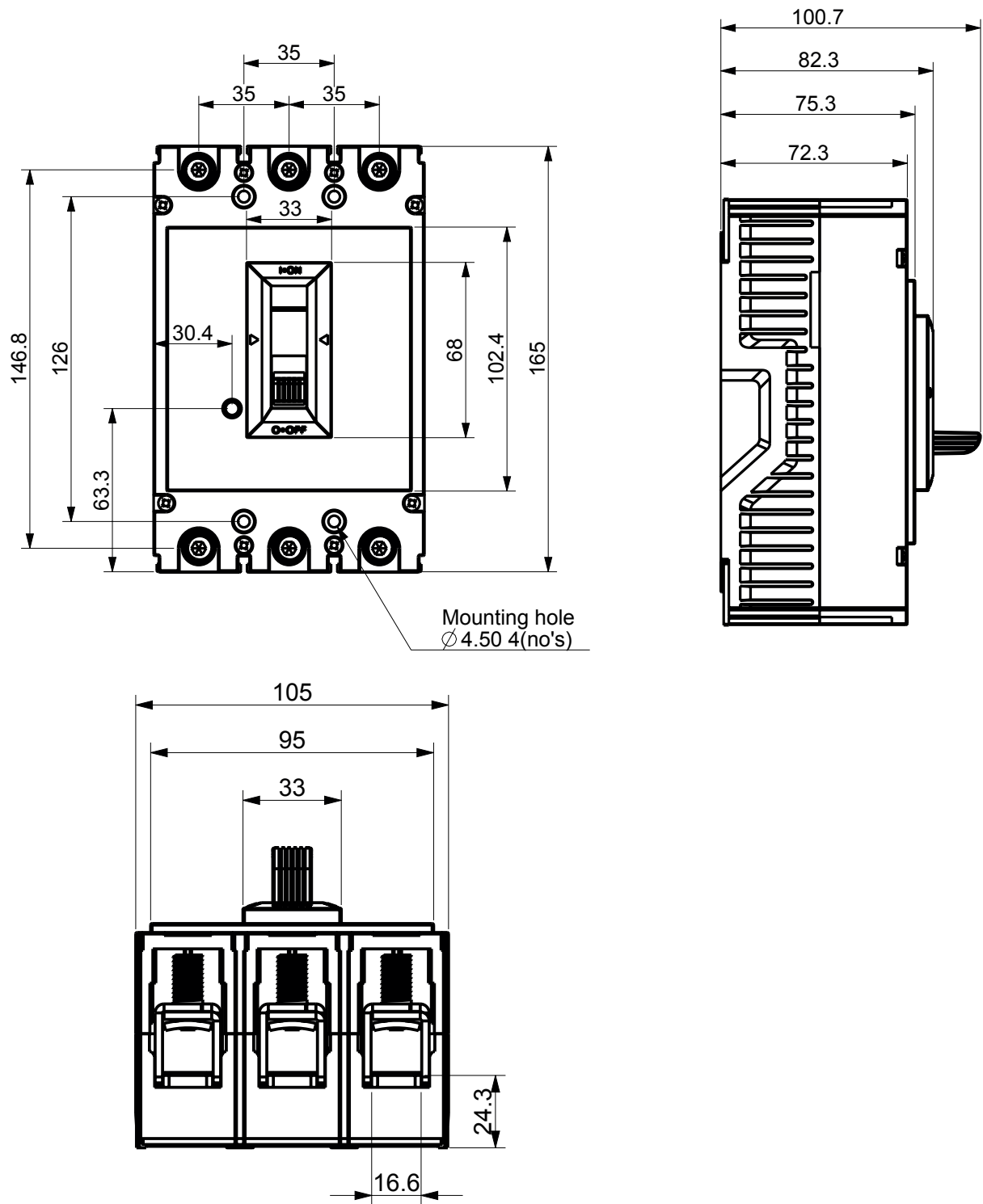
This CB Test Certificate is issued by the National Certification Body

DEKRA Certification B.V.  
Meander 1051  
Arnhem, 6825 MJ  
Netherlands

Date: 2023-01-17

Signature: H.L. Schendstok

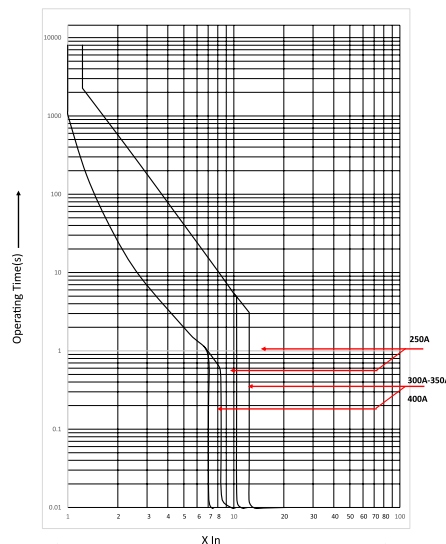
# HTB200 DIMENSIONS



# Technical Specifications for AF400N Series MCCB

| AF400N                                                       |                                    |
|--------------------------------------------------------------|------------------------------------|
| Product standard                                             | IEC 60947-2                        |
| Frame size (AF)                                              | AF400N                             |
| Rated current range (A)                                      | 250, 300, 350, 400                 |
| 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):     |                                    |
| @ 380V, 400V, 415V                                           | 25                                 |
| @ 230V, 240V                                                 | 50                                 |
| Rated Service short circuit breaking capacity Ics (A)        |                                    |
| @ 380V, 400V, 415V                                           | 100% Icu                           |
| @ 230V, 240V                                                 | 100% Icu                           |
| Trip Release type                                            | Fixed - Thermal & Magnetic         |
| Magnetic release setting (In)                                | "10In ± 20% (12In ± 20% for 250A)" |
| Electrical endurance life (No. of operations cycles)         | 1000                               |
| Mechanical endurance life (No. of operations cycles)         | 4000                               |
| Phase Barrier                                                | Yes                                |
| Operating temperature range (without de-rating)              | - 5°C to + 75°C                    |
| Storage temperature range                                    | - 5°C to + 85°C                    |
| Method of connection                                         | Cables / Bus bar                   |
| Lock                                                         | Yes                                |
| Terminal width for flat copper connection (mm)               | 25                                 |
| Screw size for flat bar(mm) / Tightening torque (N.m)        | M8 / 25                            |
| Box clamp screw size (mm) / Tightening torque (N.m)          | Allen key 10 / 25                  |
| Maximum Terminal capacity - Copper cable (mm²)               | 240                                |
| Weight of the breaker (kg)                                   | 4.5kg Approx.                      |
| Over all dimensions (W × H × D) (mm) without terminals cover | 140 x 257 x 142                    |

## AF400N MCCB IT Curve







Ref. Certif. No.

NL-82846

## IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

## CB TEST CERTIFICATE

Product

Moulded-Case Circuit-Breaker

Name and address of the applicant

alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia

Name and address of the manufacturer

alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia

Name and address of the factory

*Note: When more than one factory, please report on page 2*alfanar electrical systems  
P.O. Box No. 564, 3rd Industrial City, Riyadh, 11383  
Saudi Arabia☐ Additional information on page 2

Ratings and principal characteristics

Ue: 230 Vac / 240 Vac / 380 Vac / 400 Vac / 415 Vac, 50 / 60 Hz  
Ui: 690 V / 1000 V, Uimp: 8 kV, 3P  
In: 250 A, 300 A, 350 A, 400 A  
Reference temperature: 55 °C  
Icu:  
20 kA at 400 Vac,  
25 kA at 230 Vac / 380 Vac / 400 Vac / 415 Vac,  
50 kA at 230 Vac / 240 Vac  
Ics = 100% Icu  
See annex for further ratings

Trademark / Brand (if any)

alfanar

Customer's Testing Facility (CTF) Stage used

Model / Type Ref.

AF400N

Additional information (if necessary may also be reported on page 2)

☐ Additional information on page 2

A sample of the product was tested and found to be in conformity with

IEC 60947-2:2016, IEC 60947-2:2016/AMD1:2019

National differences:

SA

As shown in the Test Report Ref. No. which forms part of this Certificate

3324237.50

This CB Test Certificate is issued by the National Certification Body

DEKRA Certification B.V.  
Meander 1051  
Arnhem, 6825 MJ  
Netherlands

Date: 2022-10-05

Signature: H.L. Schendstok





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## Notes





## Notes



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