

Hotel Room DB



safety...
durability



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Introduction

At **alfanar** we look for advanced solutions that provide safe electricity distribution, are convenient and save energy. Today, most hotels use high-tech hotel key cards which allow guests easy, secure access to their rooms and avoid excess energy consumption when the guests are not in the room. **alfanar** introduces the Hotel Room DB system that maximizes guest comfort and convenience, and provides hotel operators a cost-effective, energy savings solution.

Hotel Room DB is designed for reliable distribution and control of electrical power specifically for hotel rooms. When a guest enters the room and inserts the room key card into the key card holder the room enters the occupied mode, the electrical loads are activated and the power is automatically turned on, the guest is in full control of the system. Conversely, when the guest removes the card when leaving the room, the assigned electrical loads are automatically turned off. Specific circuits can be designated to remain on to supply power to air conditioners, mini-bars or power stations. This system is designed specifically to reduce energy consumption while guaranteeing the operation of the service circuits. **alfanar** Hotel Room DB is type tested as per SASO IEC 61439-3 and designed for DIN rail MCBs outgoing feeders for indoor applications, with the main MCB breaker type tested as per IEC 60898-1.



**HOTEL
ROOM DB**

SAVE Energy
Money
The Environment

Product Features

1. Power Saving

alfanar Hotel Room DB ensures reliable power savings by continuously connecting and protecting your service circuits, when protected secondary circuits are disconnected when you are not in the room. This can save up to 50% of the power.

2. Complete Solution

alfanar provides a complete solution; main breaker, contactor and branch breakers are readily assembled and internally connected, with flexibility to customize the branch breaker rating to cover the changing project requirements.

3. Design

a. Aesthetics

With its modern look and elegant design, the Hotel Room DB's has come a long way from what the boxy eyesore DBs used to be, and fits attractively in with your room decor.

b. Color

alfanar Hotel Room DB fresh color scheme was chosen to blend in with the wall colors of your hotel rooms in a stylish, unique and appealing way.

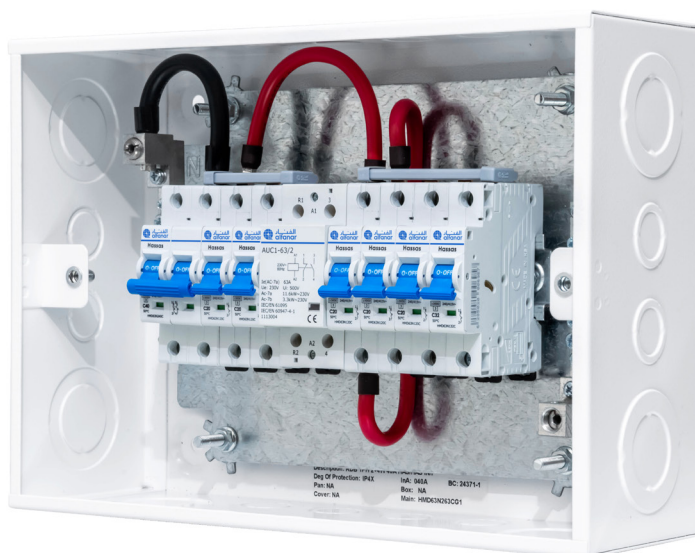
Product Features



4. Safety

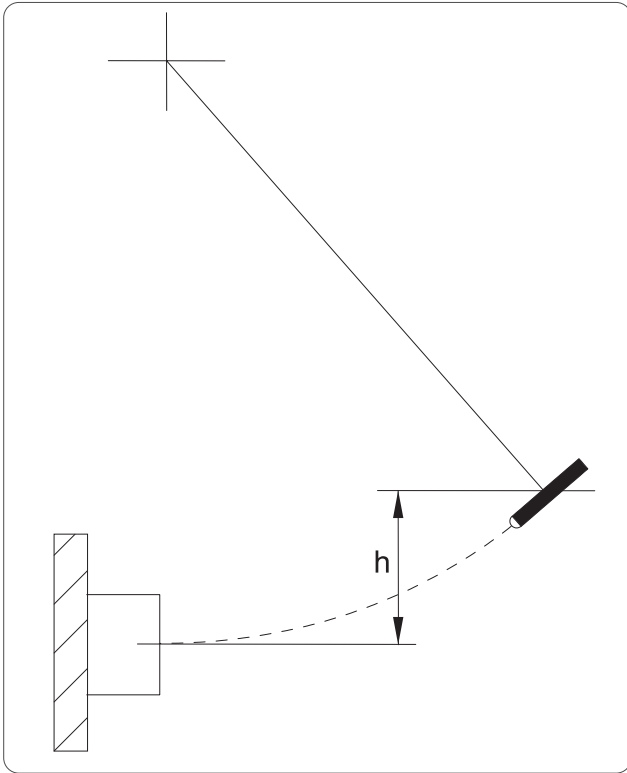
a. Protection against electric shock

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



b. Dead front cover

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



c. Mechanical impact

The **alfanar** Hotel Room DB is tested to withstand the impact load as per the international standard SASO IEC 61439-3 to ensure the strength requirement of the application.



d. Altitude

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

Product Features

6. Reliability



a. High corrosion resistant enclosure and internal parts

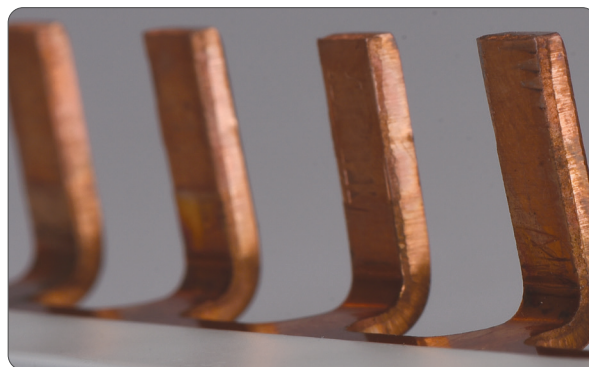
Double protection against corrosion is achieved by using an electrogalvanized steel sheet as the base material and powder-coated with Polyester powder.

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. Copper busbars

99.9% pure copper comb busbars are used to construct the busbars of **alfanar** Hotel Room DB load centers. Busbar assembly is rated at 100A and finger safe insulated.

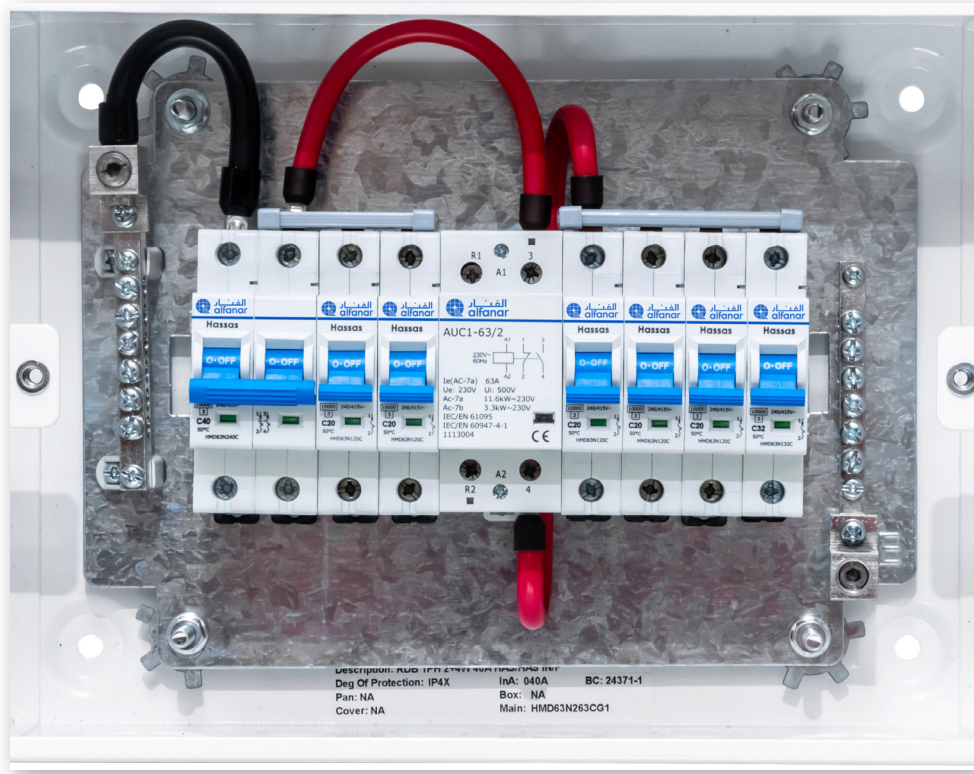


c. Ingress protection

alfanar Hotel Room DBs are tested for IP40 to ensure the ingress protection against solid particles in an indoor application.



7. Installation



a. Ample wiring space

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



b. Knockouts

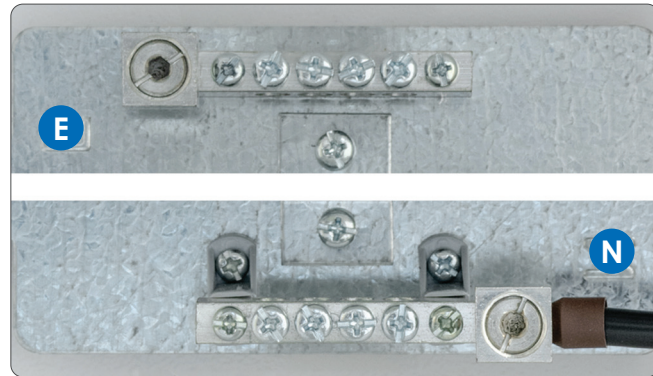
Knockouts are designed to handle multiple sized conduits and glands of international standards which can be opened easily and do not have sharp edges that might damage the conduits, wires or injure the user.



c. Depth adjustability (pan assembly depth adjustability)

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

Product Features



d. 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 connections. The quantity of earth and neutral terminals is equal to the number of outgoing circuits.



e. Phase identification

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

f. Wiring directory

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

g. Additional information

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

8. Environment

All the components that are used in **alfanar** Hotel Room DB are environmentally friendly and RoHS compliant.



9. Type Testing

Extensive care is taken at several stages of the design and manufacturing processes of **alfanar** Hotel Room DB to ensure end user safety.

alfanar Hotel Room DBs are type tested as per the new standard IEC 61439-3 DBO (Distribution Boards intended to be operated by non-technical persons) to ensure a higher level of safety when used by consumers.

The following extensive tests are conducted:

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



Letter No. CDL23-0001

Date 24/10/2023

Compliance Declaration Letter

This is to certify that the product (s) below passed the tests conducted at alfanar and/or third-party testing laboratory and found to be in conformity with the relevant standard (s).

Product	: Room DB 1PH & 3PH STD IN/F Main breaker: MCB 63AF
Name and address of the manufacturer	: Alfanar Electrical Systems, 3rd Industrial City, New Alkharj Road, P.O.Box: 564, Riyadh 11383, Kingdom of Saudi Arabia (KSA)
Ratings and principal characteristics	: Indoor, 240 V 1PH, 240/415 V 3PH, Main Breaker: MCB 63AF, IP4X, 50/60 Hz, Icw= 10 kA at 0.1 sec.
Trademark (if any)	: alfanar
Model / Type Ref.	: RDB1XSXCG2, RDB3XSXCG2
Additional information (if necessary may also be reported on page 2)	: List of item code provided in Annex-1
A sample of the product was tested and found to be in conformity with	: SASO/IEC 61439-3:2012
Test Report Ref. No. which forms part of this Declaration letter	: 1200/2022 & 228/2023
Date of issuing the Test Report (s)	: 22/10/2023 & 12/10/2023



Authorized Signatory

Mahmoud Sawalhi

Electrical Laboratories Manager

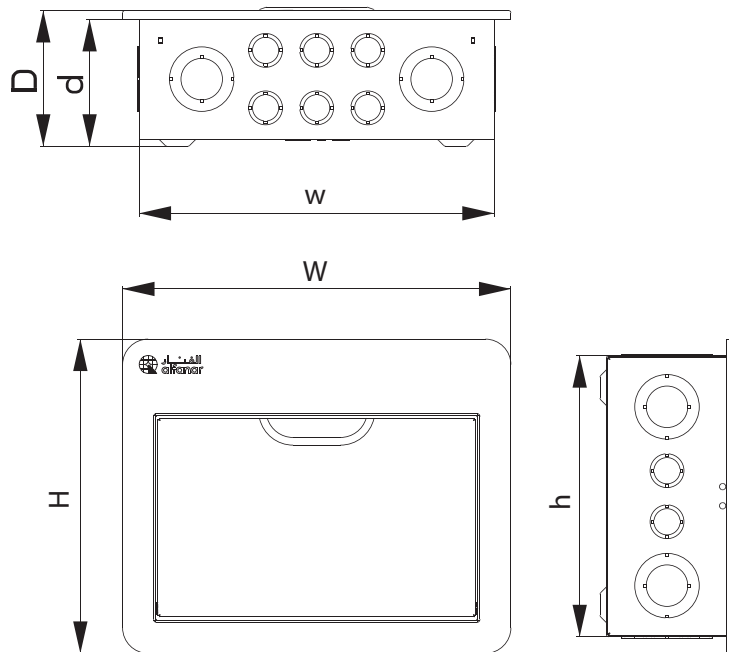
Technical Specifications

Item	DESCRIPTION
Standard	SASO IEC 61439-3
Busbar rating	100A
Busbar type	Standard Comb Busbar
Voltage rating	110-415V AC 50/60 Hz
No. of ways	1PH: 2+2W; 2+4W; 2+6W; 2+7W; 2+8W, 3PH: 3+6W; 3+9W
Ui / Uimp	500V / 4kV
Degree of protection	IP40
Enclosure material	Electro-galvanized steel sheet (Corrosion resistant)
Steel thickness	Up to 1.2 mm
Knockout sizes	See details on page 15
Enclosure color	Polyester powder coated in RAL 9003
Main breaker (Incomer)	MCB (10-63A/2P); (10-63A/3P)
Branch-Service	1, 2 & 3 Poles (6 to 63A) DIN Rail MCBs
Contactora	63A/2P/4P, 1NO+1NC, Coil operates @ 230V
Branch- Contactor-Controlled	1, 2 & 3 Poles (6 to 63A) DIN Rail MCBs
Terminal capacity	Main/Branch MCB frame size 63A : 25 sq.mm
Neutral terminal bar	Incoming cable lug : 50 sq.mm,
	Outgoing terminals : 16 sq.mm
	No. of outgoing terminals : ≥ no. of ways
Earth terminal bar	Incoming cable lug : 50 sq.mm
	Outgoing terminals : 16 sq.mm
	No. of outgoing terminals : ≥ no. of ways

Nomenclature

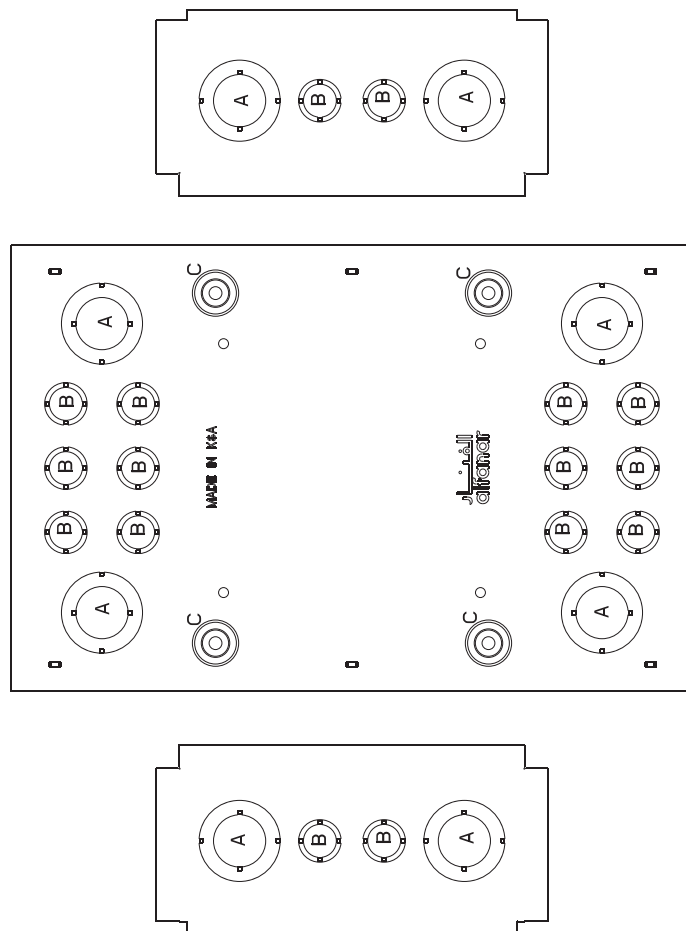
RDB	3	3S	6C	63
	3 : Three Phase	2S : 2 service	2C : 2 control	32 : 32A
		3S : 3 service	3C : 3 control	40 : 40A
		4S : 4 service	4C : 4 control	50 : 50A
		5S : 5 service	5C : 5 control	Blank : 63A
		6S : 6 service	6C : 6 control	

Dimensions



Number of ways, Ordering number, Phase and Dimension (mm)									
	Item Code	Phase	Module	W	w	H	h	D	d
2+2W	RDB12S2CG2	1	08	304	278	246	220	106	99
2+4W	RDB12S4CG2	1	10	340	314	246	220	106	99
2+6W	RDB12S6CG2	1	12	376	350	246	220	106	99
2+7W	RDB12S7CG2	1	14	412	386	246	220	106	99
2+8W	RDB12S8CG2	1	14	412	386	246	220	106	99
3+6W	RDB33S6CG2	3	15	430	402	296	270	106	99
3+9W	RDB33S9CG2	3	18	484	456	296	270	106	99

Knockouts Sizes



Notation	Size	Type	RDB BOX - Modules					
			08	10	12	14	15	18
A	Ø50.5/Ø32.5	Double Knockout	8	8	8	8	8	8
B	Ø26.5/Ø20.5	Double Knockout	16	20	24	28	34	38
C	M6 Wall Mounting		4	4	4	4	4	4

- All dimensions are in mm.
- The details in this drawing indicate dimensions and knockout positions for a typical Hotel Room DB. Knockout details for projects shown in this catalogue are available upon request.

Hassas

alfanar Miniature Circuit Breaker

alfanar Hotel Room DBs are supplied with a fitted main and branch MCBs installed and internally wired for your convenience, with the possibility of changing breaker ratings as per project requirements.



Hassas Features

- 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 handle and indicator to show true contact position of MCB
- Better heat dissipation and ensures the product is suitable for 50°C Ambient temperature
- Patented Tripping Arrangement to improve the short circuit Performance
- Trip-free mechanism
- World Class terminal reliability
- Conforms to major International Standards
- Excellence temperature performance
- New and unique **alfanar** industrial design
- Uniform box terminals for connecting cables up to 25 mm² 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

Hassas Technical Data

Technical Data		
Product standard	IEC 60898-1	
Tripping characteristics	C Curve	
Electrical		
Rated current range (A)	6, 10, 16, 20, 25, 32, 40, 50, 63	
Number of poles	1P, 2P, 3P	
Rated operational voltage (Ue) V AC	Single pole	240
	Multi pole	415
Rated insulation voltage (Ui) V AC	500	
Rated impulse voltage (Uimp) kV	4	
Rated ultimate short circuit	10kA,6kA	
Rated service short circuit breaking capacity Ics (A) at 415V AC	7.5kA, 6kA	
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	
Mechanical		
Protection degree	IP 20	
Maximum terminal capacity (mm ²)	35	
Tightening torque (Nm)	2.8	
Mounting type	DIN rail 35 mm acc. to EN 60715	
Method of connection	Cables / Busbar / Cables+Busbar	
Frame width (mm) (max.)	17.7 mm per pole	
Dimensions 1 Pole (W × H × D) (mm) (max.)	17.7 x 83.2 x 68.3	
Dimensions 2 Pole (W × H × D) (mm) (max.)	35.4 x 83.2 x 70.1	
Dimensions 3 Pole (W × H × D) (mm) (max.)	53.1 x 83.2 x 70.1	
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	

Hassas General Characteristics

Power Loss

The power (watt) loss is calculated on the basis of the voltage drop across the main terminals measured at the device rated current.

MCB rated Current (A)	10	16	20	25	32	40	50	63
Watts loss per pole (W)	1.7	1.8	2.4	2.6	3.8	3.8	4	6

Temperature Derating

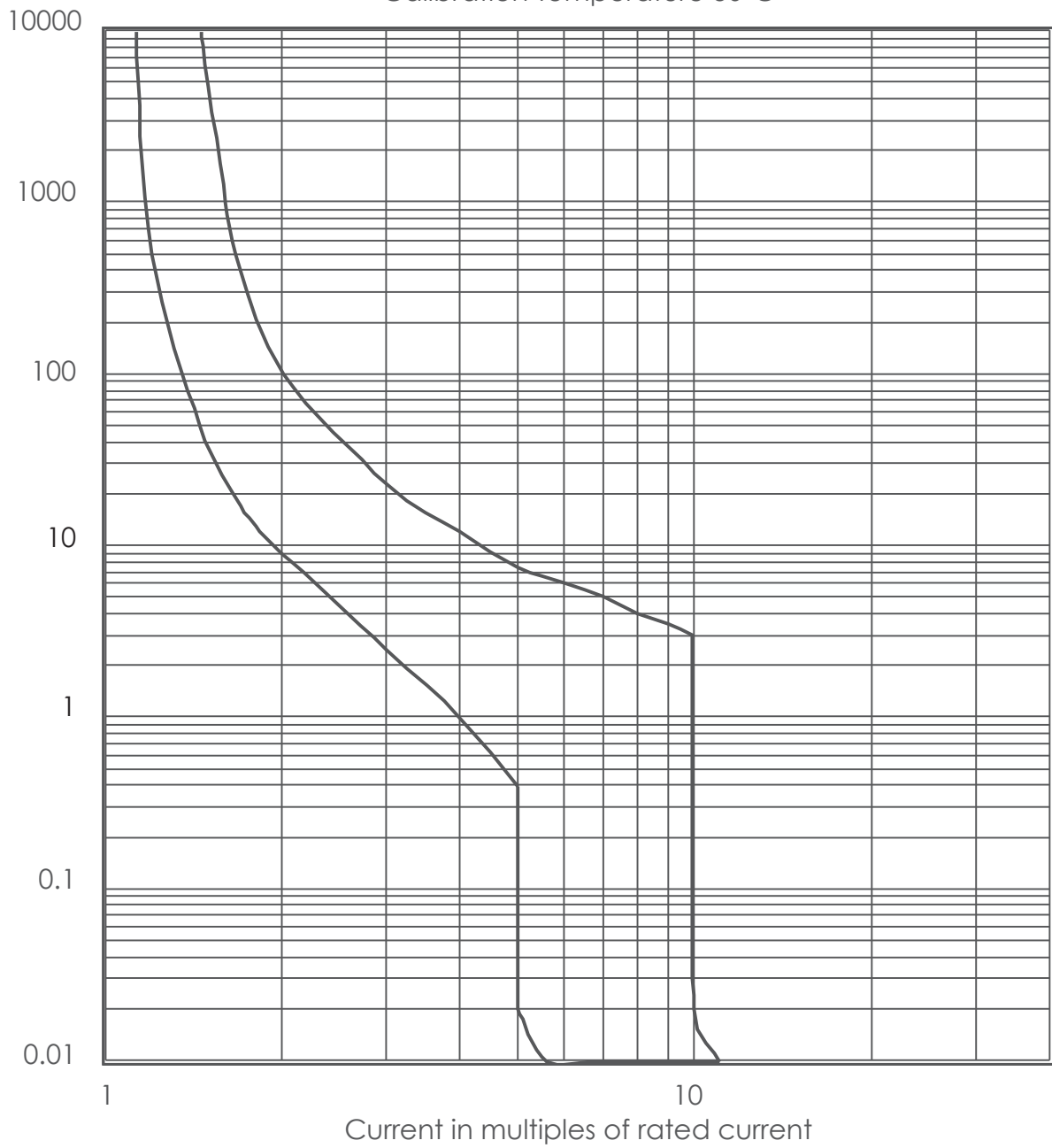
MCBs are designed and calibrated to carry their rated current and to operate within their designated thermal time/current zone at 50°C.

Testing is carried out with the breaker mounted singly in a vertical plane in a controlled environment. Therefore, if the circuit breaker is required to operate in conditions which differ from the reference conditions, certain factors must be applied to the standard data. For instance, if the circuit breaker is required to operate in a higher ambient temperature other than 50°C it will require progressively less current to trip within the designated time/current zone.

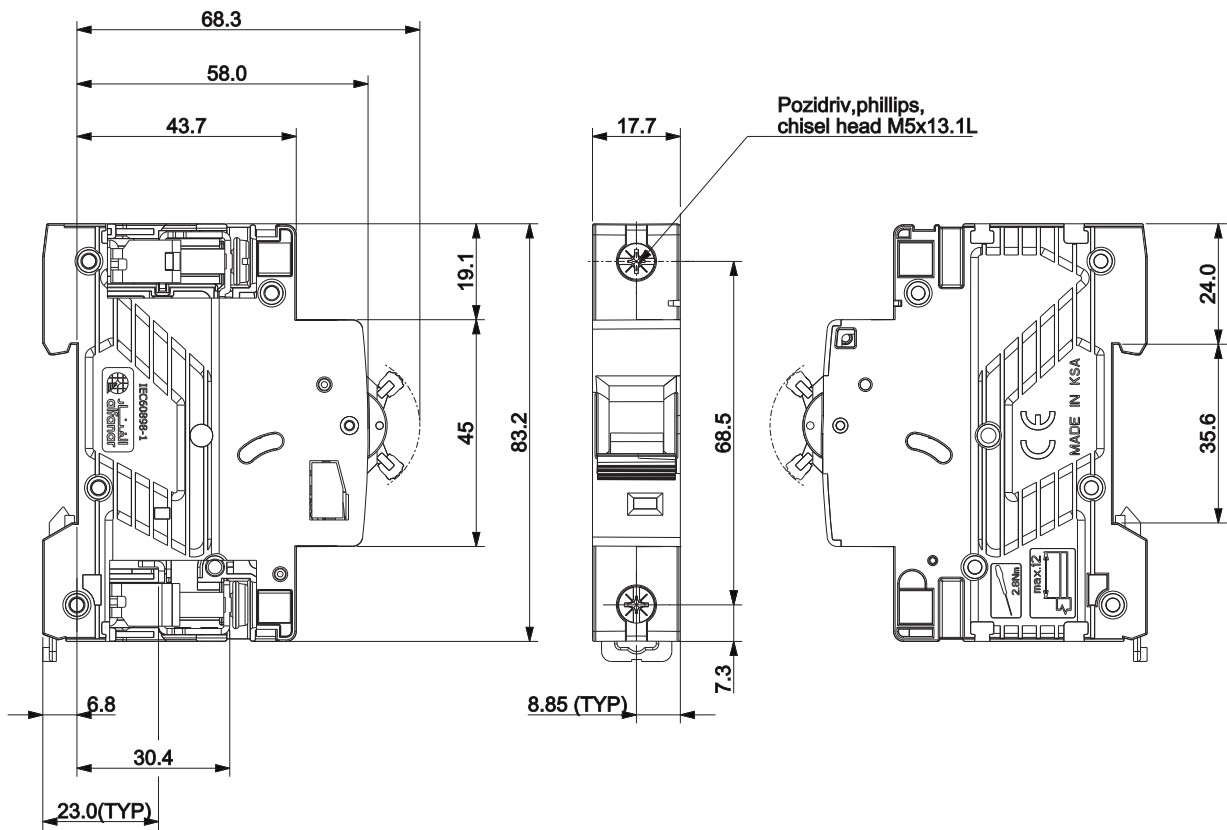
In(A)	-5 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C
10.0	12.9	12.7	12.2	11.7	11.2	10.6	10.0	9.4	8.7
16.0	20.2	19.9	19.2	18.4	17.7	16.8	16.0	15.1	14.2
20.0	24.3	24.0	23.2	22.5	21.7	20.9	20.0	19.1	18.2
25.0	29.1	28.8	28.0	27.3	26.6	25.8	25.0	24.2	23.3
32.0	39.1	38.5	37.3	36.0	34.7	33.4	32.0	30.5	29.0
40.0	50.3	49.4	47.7	45.9	44.0	42.1	40.0	37.8	35.5
50.0	61.2	60.3	58.4	56.4	54.3	52.2	50.0	47.7	45.3
63.0	77.1	75.9	73.5	71.0	68.5	65.8	63.0	60.1	57.0

Hassas I-T Characteristics

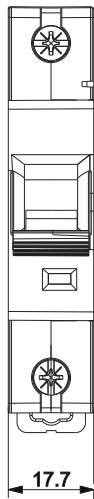
MCB C-curve Time Current Characteristics
Calibration Temperature 50°C



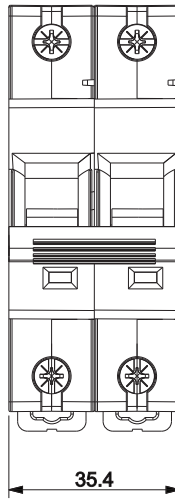
Hassas Dimensions



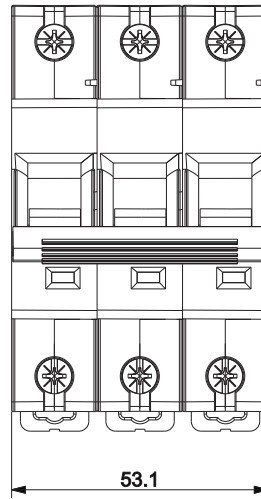
1 POLE



2 POLE



3 POLE



AUC6 (Modular AC Contactor)

Product Description

Technical Specifications

Modular Contactor Technical Specifications		
Rating (Module)	AUC1-63A/4P	AUC1-63A/2P
General		
Standards	IEC60947-4-1, IEC 61095	
Nominal operating voltage 1- Phase (Ue)	230V	230V
Nominal operating voltage 3- Phase (Ue)	400V	-
Mechanical endurance (Switching cycles)	3,000,000,000	3,000,000,000
Ambient temperature	-5 to + 55°C	-5 to + 55°C
Protection degree	IP 20	IP 20
Consumption (230Vac)	≤ 1.55	≤ 1.55
Contact Rating		
Rated insulation voltage Ui	500 V	500 V
Rated impulse withstands voltage Uimp	4kV	4kV
Frequency	50/60 Hz	50/60 Hz
Conventional thermal current (Ith)	63A	63A
AC1 / AC7a Rated current operational current (Ie)	63A	63A
AC1 / AC7a Rated current operational current at Ue=230Vac	Pmax= 24 kW	-
AC1 / AC7a Rated current operational current at Ue=400Vac	Pmax= 40 kW	Pmax= 11.6 kW
AC3 / AC7b Rated current operational current at Ue=230Vac	Pmax= 8.5 kW	-
AC3 / AC7b Rated current operational current at Ue=400Vac	Pmax= 15 kW	Pmax= 3.3 kW
Electrical Endurance		
Maximum operating cycles at AC1/AC7a application	250,000	250,000
Maximum operating cycles at AC1/AC7b application	250,000	250,000
Maximum back-up fuse	80A gl	63A gl
Terminals for Main and Auxiliary Contacts		
Terminal capacity-line standard wire	1-1.6 mm ²	1-1.6 mm ²
Terminal capacity-solid wire	1-2.5 mm ²	1-2.5 mm ²
Terminal screw size	M5	M5
Maximum torque	2.0 N.m	2.0 N.m
Terminals for Operating Coil		
Terminal capacity - line standard wire	1-2.5 mm ²	1-2.5 mm ²
Terminal capacity - solid wire	1-2.5 mm ²	1-2.5 mm ²
Terminal screw size	M3	M3
Maximum torque	0.6 N.m	0.6 N.m
Other Parameters		
Length (L1)	82.5 ± 0.3	-
Width (L2)	54 ± 0.3	-
Height (L3)	66 ± 0.33	-
Mounting dimensions	35 ± 0.25	-
Contact Parameters		
The main contact distance	≤ 1.8mm	-
The main contact overtravel	≤ 1.0mm	-
The main end pressures	≤ 0.6N	-
Electrical Clearance and Creepage Distance		
Clearance	≤ 3mm	-
The creepage distance	≤ 4mm	-

Free Maintenance Service for alfanar Products

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