Switch Disconnectors

Definition

Switch

mechanical switching device capable of making, carrying and breaking currents under normal circuit conditions which may include specified operating overload conditions and also carrying for a specified time currents under specified abnormal circuit conditions such as those of short circuit

Disconnector

Mechanical switching device which, in the open position, complies with the requirements specified for the isolating function.

Compliance to international standards, any maintenance operations on installation are prohibited unless circuits have been previously disconnected.

Fuse-disconnector

Disconnector in which a fuse-link or fuse-carrier with fuse-link forms the moving contact. Refer to this definition not all of the fuse holders are disconnector, so they must meet the requirements of IEC60947-3 standard.

Fuse-switch-disconnector

Switch-disconnector in which a fuse-link or fuse-carrier with fuse-link forms the moving contact. Refer IEC 60947-3 standard definition, and utilization category of AC22-B identified in table 2, a fuse-switch-disconnector with these characteristics can be switched under load.

Characteristics

- Due to AC-22 utilization category, according to IEC60947-3 standard, RBI and RFH10 is designed for switching under load.

IEC 60947-3 Utilization Categories

Nature of current	Utilization categories		Typical applications
	Category A	Category B	
Alternating current	AC-20A[a] AC-21A AC-22A AC-23A	AC-20B[a] AC-21B AC-22B AC-23B	• Connecting and disconnecting under no-load conditions • Switching of resistive loads including moderate overloads • Switching of mixed resistive and inductive loads, including moderate overloads • Switching of motor loads or other highly inductive loads
Direct current	DC-20A[a] DC-21A DC-22A DC-23A	DC-20B[a] DC-21B DC-22B DC-23B	• Connecting and disconnecting under no-load conditions • Switching of resistive loads including moderate overloads • Switching of mixed resistive and inductive loads, including moderate overloads (e.g. shunt motors) • Switching of highly inductive loads (e.g. series motors)

- The RB/I and RFH10 can be used in automation switchboards for switching of mixed resistive and inductive loads. The protection of control circuits, primary and secondary of transformers, motors and other resistive or inductive loads is advantages of using RFH10.

Switch-disconnector (ISOLATOR) RB/I

Switch-disconnector (isolator) is applicable to all buildings and all industrial command and control circuits. They can be used as the master switch of terminal apparatus. This product does not provide any protection and is only used to isolate the circuit.

RAAD Switch-disconnectors have the utilization category AC-22A type and are suitable for switching mixed resistive and inductive loads, including moderate overloads.

RAAD Isolators are produced in two types of 1P and 3P with nominal currents from 32A to 63A.

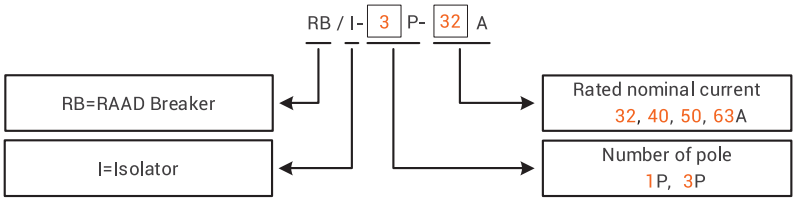
Rated short-time withstands current (Icw) in RAAD Isolators are 12Ie for 1 second.

The electrical and mechanical life of RAAD Isolators are 2,000 and 10,000 cycles, respectively.

RAAD Isolators are made in full compliance with the international standard IEC 60947-3.

All Isolators have a unique hologram for the product's authenticity and a text message number informing the customer.

RAAD isolator product selection guide is shown below:

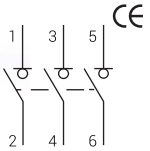


RB/I-1P

CE

RB/I-3P

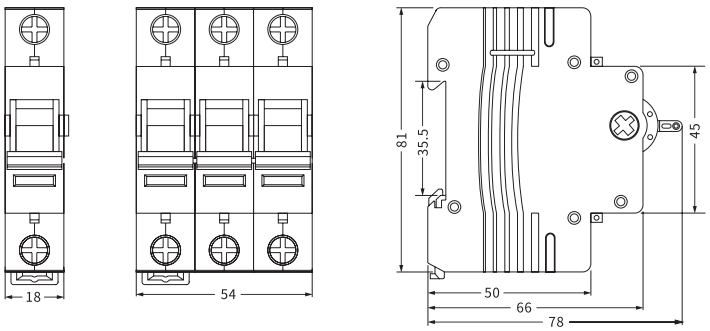
CE



Technical data	RB/I-1P	RB/I-3P
Pole	1P	3P
Rated voltage Ue (V)	230/400	400
Rated current Ie (A)	32, 40, 50, 63	

IEC 60947-3 rated data	
Insulation voltage Ui (V)	500
Rated frequency (Hz)	50/60
Rated short-time withstand current Icw	12Ie, t=1s
Rated making and breaking capacity	3Ie, 1.05Ue, cosφ=0.65
Rated short circuit making capacity	20Ie, t=0.1s
Utilization category	AC-22A
Rated impulse withstand (kV)	4
Dielectric voltage for 1 minute (kV)	2
Mechanical Features	
Electrical life (Cycles)	2,000
Mechanical life (Cycles)	10,000
Protection degree	IP20
Installation	
Terminal connection type	Cable, Pin- type busbar, U- type busbar
Connection capacity for cable/busbar (mm^2)	0.75 - 50
Connection capacity for cable/busbar (AWG)	18 - 2
Striping length (mm)	16
Tightening torque (N.m)	3.5
Mounting	DIN 35 (according IEC 60715)
Connection	Power supply from top and bottom

Overall and Installation Dimension (mm) :



Fuse-Switch-Disconnector

RAAD fuse switch-disconnector introduces a new level of safety, special for 10.3×38, AC fuses.

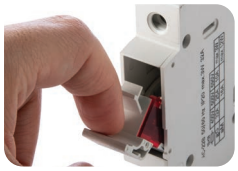
The design of RAAD fuse- holders, in compliance with the IEC 60947-3 standard, has distinguished this type of product for switching under load, to ensure protection from any undesirable damaging currents.

RFH10, is mountable on TH 35-15,TH 35-7.5 DIN rails in accordance with IEC60715 and make high level of finger touch protection, while changing fuses.

Utilization of durable self-extinguish thermoplastic material with extra resistance to high current in body of RFH10 and on the other hand silver plated copper for its contact is strong proof to evidence the quality of this product.

RAAD fuse holders are available in 1, 2, 3 or 4 poles; with or without LED-indicator.

Easy installing and high level of protection

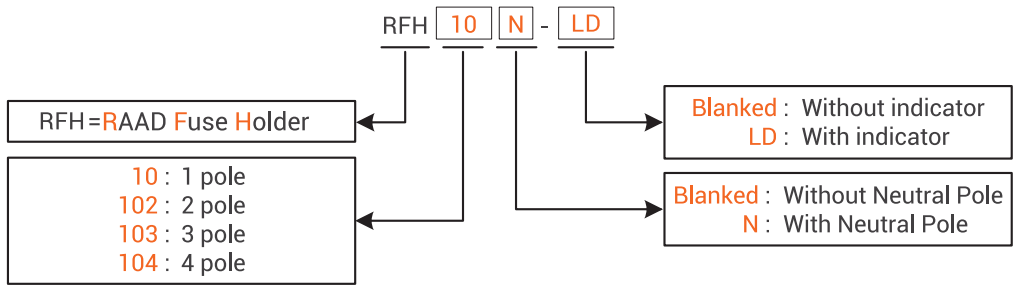


The design of RFH10 is space-saving and allows you to easily insert or replace fuses by flipping the hinge of knob.

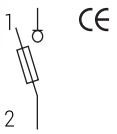
RFH10 has a safe design for finger-touch protection and not accessible to live parts, in accordance with international protection standards.

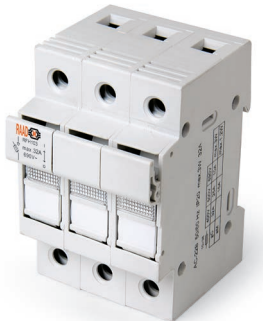
Detecting the defective phase and blown fuses is simply achieved by indicator light LED

RAAD isolator product selection guide is shown below:

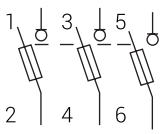


RFH10-LD



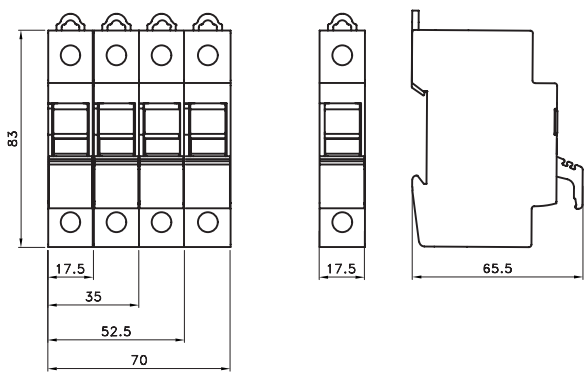


RFH103



Technical data		RFH10					
Pole		1P	2P	3P	4P	1P+N	3P+N
Qty.		12	6	4	3	6	3
Rated operational voltage Ue (V)		690					
Rated operational current Ie (A)		32					
IEC 60947-3 rated data							
Insulation voltage Ui (V)		690					
Rated frequency (Hz)		50					
Rated impulse withstand (kV)		6					
Method of operation		Manual					
Utilization category		AC-22B 500V					
Rated conditional short circuit		100kA at 400V					
Over voltage category		III					
Kind of protective device		10.3×38 cylindrical fuse-link					
Maximum rated current of fuse links	690V	10A gG					
	500V	25A gG / 16A aM					
	400V	32A gG					
Max power dissipation of fuse-link (W)		gG: 3 aM: 1.2					
Insulation material		PA					
Protection degree		IP 20					
Indicator status		With LED Without LED					
Installation							
Terminal connection type		Cable, Pin- type busbar					
Connection capacity for cable/busbar (mm^2)		0.5 - 16					
Connection capacity for cable/busbar (AWG)		20 - 6					
Striping length (mm)		12.3					
Tightening torque (N.m)		2.5					
Mounting		DIN 35 (according IEC 60715)					
Connection		Power supply from top and bottom					

Overall and Installation Dimension (mm) :



1 - Pole

Rated operational voltage(v)	Rated Current (A)	Type	Dimension B(mm)	Ordering No.	Indicator	Qty.
690	32	RFH10	17.5	6050101001	-	12
		RFH10-LD		6050201001	LED	12

1 - Pole+N

Rated operational voltage(v)	Rated Current (A)	Type	Dimension B(mm)	Ordering No.	Indicator	Qty.
690	32	RFH10N	35	6050102001	-	6
		RFH10N-LD		6050202001	LED	6

2 - Pole

Rated operational voltage(v)	Rated Current (A)	Type	Dimension B(mm)	Ordering No.	Indicator	Qty.
690	32	RFH102	35	6050101002	-	6
		RFH102-LD		6050201002	LED	6

3 - Pole

Rated operational voltage(v)	Rated Current (A)	Type	Dimension B(mm)	Ordering No.	Indicator	Qty.
690	32	RFH103	52.5	6050101003	-	4
		RFH103-LD		6050201003	LED	4

3 - Pole+N

Rated operational voltage(v)	Rated Current (A)	Type	Dimension B(mm)	Ordering No.	Indicator	Qty.
690	32	RFH103N	70	6050102003	-	3
		RFH103N-LD		6050202003	LED	3

4 - Pole

Rated operational voltage(v)	Rated Current (A)	Type	Dimension B(mm)	Ordering No.	Indicator	Qty.
690	32	RFH104	70	6050101004	-	3
		RFH104-LD		6050201004	LED	3