

## NB1-63G Miniature Circuit Breaker





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### 1. General

#### 1.1 Function

protection of circuits against short-circuit currents,  
protection of circuits against overload currents,  
switch,  
isolation,

NB1-63G circuit-breakers are used in domestic installation,  
as well as in commercial and industry electrical  
distribution systems.

#### 1.2 Selection

Technical data of the network at the point considered:  
short-circuit current at the circuit-breaker installation point,  
which must always be less than the breaking capacity of  
this device,

Network normal voltage.

Tripping curves:

##### **B curve (3-5I<sub>n</sub>)**

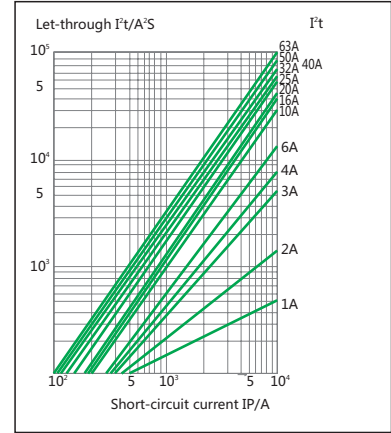
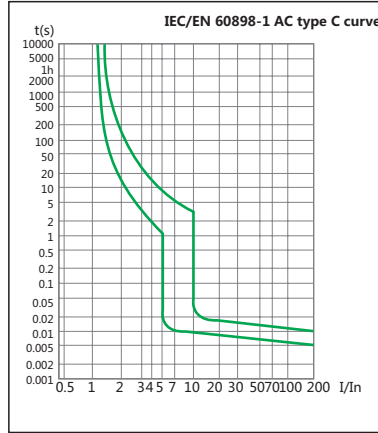
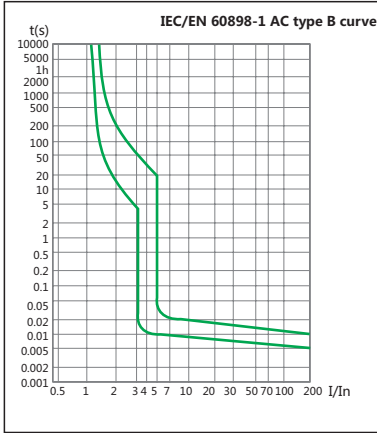
protection for people and big length cables in TN and IT  
systems.

##### **C curve (5-10I<sub>n</sub>)**

protection for resistive and inductive loads with low inrush  
current.

## 2. Technical data

### 2.1 Curves



### 2.2

	Standard		IEC/EN 60898-1
Electrical features	Rated current In	A	1, 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63
	Poles		1P, 2P, 3P, 4P
	Rated voltage Ue	V	230/400
	Insulation voltage Ui	V	500
	Rated frequency		50/60Hz
	Rated breaking capacity	A	6000
	Energy limiting class		3
	Rated impulse withstand voltage(1.2/50) Uimp	V	4000
	Dielectric test voltage at ind. Freq. for 1 min	kV	2
	Pollution degree		2
Power loss per pole		Rated current (A)	Max power loss per pole (W)
		1, 2, 3, 4, 6, 10	2
		16, 20, 25, 32	3.5
		40, 50, 63	5
	Thermo-magnetic release characteristic		B, C
Mechanical features	Electrical life		4, 000
	Mechanical life		20, 000
	Contact position indicator		Yes
	Protection degree		IP20
	Reference temperature for setting of thermal element	°C	30
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top/bottom for cable	mm²	25
		AWG	18-4
	Terminal size top/bottom for busbar	mm²	10
		AWG	18-8
	Tightening torque	N-m	2.5
		In-lbs.	22
Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device	
Connection		From top and bottom	
Combination with accessories	Auxiliary contact		Yes
	Shunt release		Yes
	Under voltage release		Yes
	Alarm contact		Yes



2.3 Selectivity

	In (A)	Power supply side: RT36-00 (fuse)								
		20	25	36	50	63	80	100	125	160
		Is (kA)								
Load side: NB1-63G	≤2	1.2	4	>12	>12	>12	>12	>12	>12	>12
	3	0.7	1.2	3.8	5.3	6	6	6	6	6
	4	0.6	0.9	2.5	3.8	6	6	6	6	6
	6	0.5	0.8	1.9	2.5	4.5	5	6	6	6
	10		0.7	1.4	2.2	3.2	3.6	6	6	6
	16			1.2	1.8	2.6	3	5.6	6	6
	20				1.5	2.2	2.5	4.6	6	6
	25				1.3	2	2.2	4.1	5.5	6
	32					1.7	1.9	3.8	4.5	6
	40						1.7	3	4	5
	50						1.5	2.6	3.5	4.5
	63							2.4	3.3	4.5

	In (A)	Power supply side: NM8-100S/H/R								
		16	20	25	32	40	50	63	80	100
		Is (kA)								
Load side: NB1-63G	≤10	0.19	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8
	16			0.3	0.4	0.5	0.5	0.5	0.63	0.8
	20					0.5	0.5	0.5	0.63	0.8
	25						0.5	0.5	0.63	0.8
	32							0.5	0.63	0.8
	40								0.63	0.8
	50									0.8
	63									

2.4 Backup protection

	In (A)	Power supply side: RT16 series						
		40	50	63	80	100	125	160
		Is (kA)						
Load side: NB1-63G	1~6	40	40	40	40	40	40	40
	8~10	40	40	40	40	40	40	40
	13	40	40	40	40	35	35	35
	16	40	40	40	40	30	30	30
	20	40	40	40	40	30	30	30
	25	40	40	40	40	30	30	30
	32	40	40	40	40	30	30	30
	40	40	40	40	40	30	30	30
	50	30	30	30	30	30	30	30
	63	20	20	20	20	15	15	15

	In (A)	Power supply side: NM8					
		NM8-125S	NM8-125H	NM8-125R	NM8-250S	NM8-250H	NM8-250R
		Is (kA)					
Load side: NB1-63G	1~6	15	18	18	15	15	15
	10~20	12	15	15	12	12	12
	32~40	12	15	15	12	12	12
	50~60	12	15	15	12	12	12