

# NB3LE-AFD

Arc fault detection circuit-breaker  
with residual current operated function



# NB3LE-AFD

## 1. General

### 1.1 Function

NB3LE-AFD arc fault detection circuit-breaker with residual current operated function applies to circuits with frequency of 50Hz, rated voltage AC 240V, and rated current up to 32A. It provides overload, short circuit, leakage protection and arc fault detection, and can also be used for infrequent switching of the circuit under normal circumstances.

### 1.2 Selection

#### RCD type

Type A - Tripping is ensured for sinusoidal, alternating residual currents as well as for pulsed DC residual currents, whether they be quickly applied or slowly increase.

#### Tripping curve

B curve (3-5 I<sub>n</sub>) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

C curve (5-10 I<sub>n</sub>) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

### 1.3 On-off indication

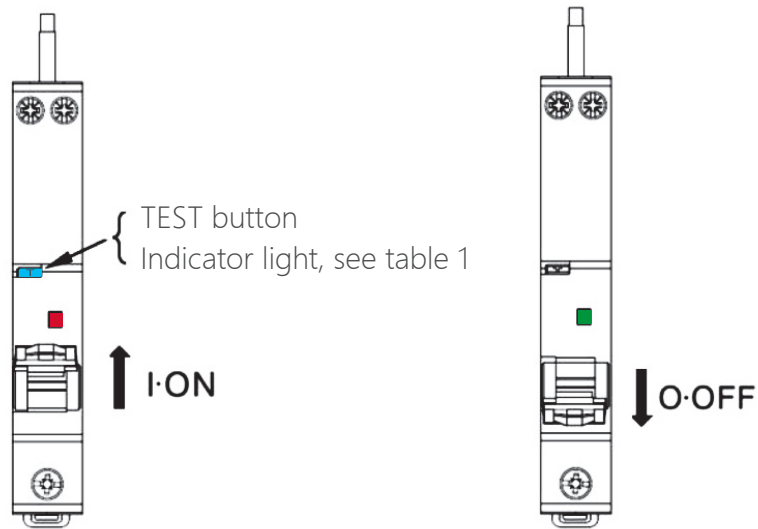


Table 1 Indicator light status display

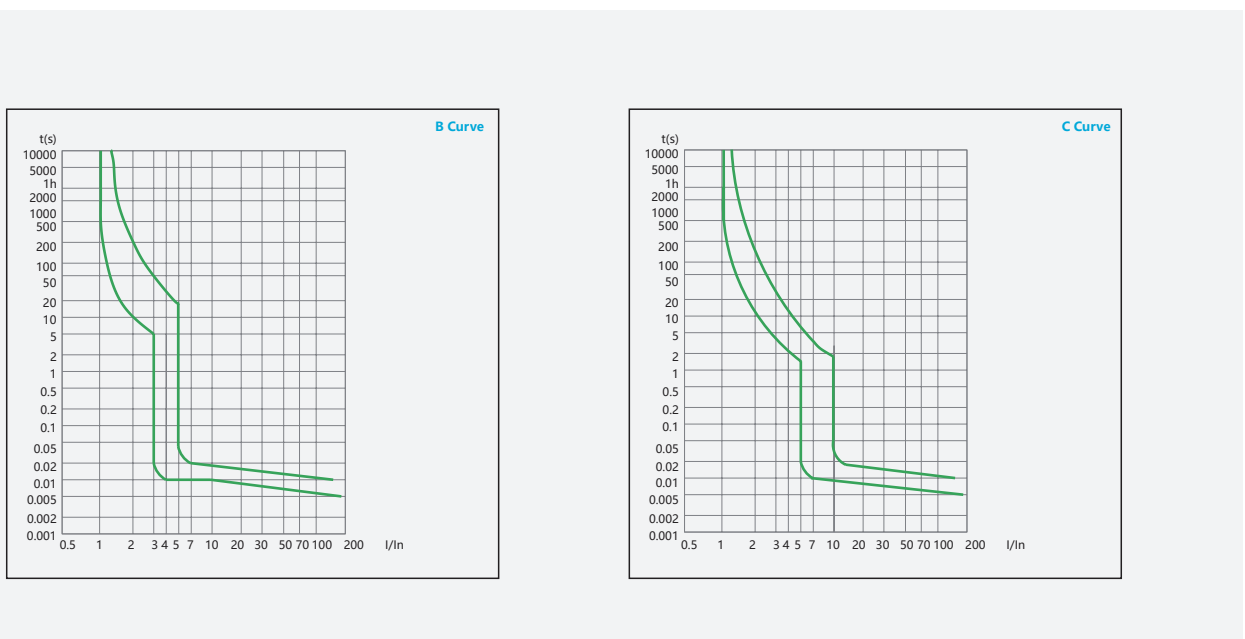
Breaker status	Indicator light color	Instruction
'On' position	Blue always bright	Normal working
'On' after tripping	Red flashing 10s	Residual current fault
	Red and blue flashing alternately 10s	Arc fault

### 1.4 Certificates

CE, CB, UKCA

## 2. Technical data

### 2.1 Curve



## 2.2

	Standard		BS-EN 61009-1,BS-EN 62606
Electrical features	Type (wave form of the earth leakage sensed)		A
	Thermo-magnetic release characteristic		B, C
	Rated current $I_n$	A	6A,10A,13A,16A,20A,25A,32A
	Poles		1P+N
	Rated voltage $U_e$	V	240
	Rated sensitivity $I_{\Delta n}$	A	0.01,0.03
	Rated residual making and breaking capacity $I_{\Delta m}$	A	500
	Rated short-circuit capacity $I_{cn}$	A	6,000
	Break time under $I_{\Delta n}$	s	$\leq 0.1$
	Rated frequency	Hz	50
	Rated impulse withstand voltage (1.2/50) $U_{imp}$	V	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage $U_i$	V	500
	Pollution degree		2
Mechanical features	Electrical life		4,000
	Mechanical life		10,000
	Fault indicator light		Yes
	Protection degree		IP20
	Ambient temperature (with daily average $\leq 35^\circ\text{C}$ )	$^\circ\text{C}$	-25...+40
	Storage temperature	$^\circ\text{C}$	-25...+70
Installation	Terminal connection type		Cable/ U-type/Pin-type busbar
	Terminal size top/bottom for cable	$\text{mm}^2$	16
		AWG	18-5
	Terminal size top/bottom for busbar	$\text{mm}^2$	6
		AWG	18-10
	Tightening torque	N·m	2 for bottom,1.2 for top
		In-lbs.	18
Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device	
Connection		Bottom electrical feeding	

## 2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

**Table 1 Indicator light status display**

Temperature	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Temperature compensation coefficient of rated current	1.27	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.83

### 3. Overall and mounting dimensions (mm)

