# 1. Product Overview

## Product Scope

**Smart MCB**



NB2-40ZT
The RS485 communication address can be configured automatically via SMG



NB2-80ZT
The RS485 communication address can be configured automatically via SMG

**Smart RCBO**



NB2LE-40ZT
The RS485 communication address can only be configured manually



NB2LE-40ZT Auto
The RS485 communication address can be configured automatically via SMG



NB2LE-80ZT
The RS485 communication address can be configured automatically via SMG

**Gateway**



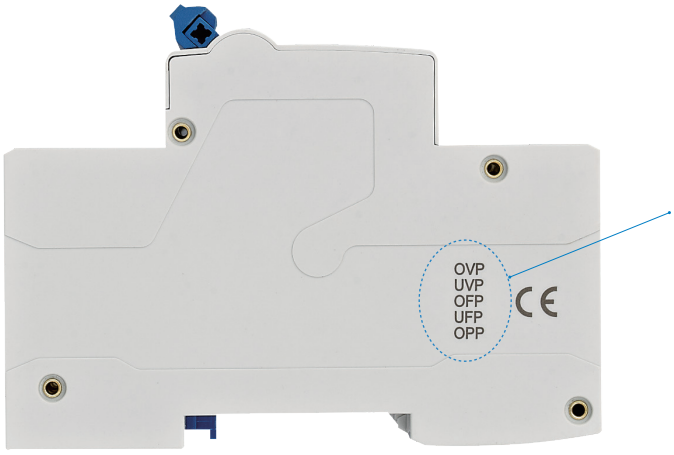
SMG-WL1SR

**Power Module**



PSU-3

## Protection Mark




OVP: Over-voltage Protection
UVP: Under-voltage Protection
OFP: Over-frequency Protection
UFP: Under-frequency Protection
OPP: Open-phase Protection

## Values and Highlights

### Safe

**Feature:** With overload, short circuit, over/under voltage, over/under frequency, phase open, leakage and other protection functions
**Advantage:** Multiple protection
**Benefit:** Diagnose different faults to ensure safety

**Feature:** Automatic fault alarm and early warning
**Advantage:** Maintenance personnel can deal with line faults faster
**Benefit:** Solve line faults in time and reduce safety hazards

**Feature:** With the automatic leakage self-check function
**Advantage:** Ensure that leakage protection is effective
**Benefit:** Avoid safety hazards caused by leakage failure

### Efficient

**Feature:** Built-in electric operation mechanism, can do remote controling
**Advantage:** Remote on-off function, reduce on-site manual operation
**Benefit:** Ideal for remote and scattered scenarios, saving labor and time

**Feature:** Real-time monitoring can be performed on smart platform, and statistical results can be displayed in charts
**Advantage:** Visualize the system status and energy consumption analysis results
**Benefit:** Provide users with visual data and more efficient system management

**Feature:** Electrical parameter measurement and energy metering functions, accuracy up to 0.5 degree
**Advantage:** Monitoring circuit status and energy consumption accurately
**Benefit:** Can replace electric meters for energy management

### Convenient

**Feature:** The width of 1P NB2 is only 18mm
**Advantage:** Compact size, integrated intelligent functions
**Benefit:** Can be used to replace traditional MCB, ideal for renovation projects

**Feature:** NB2 communicates via RS485, WL1SR gateway communicates via RS485/WIFI/4G
**Advantage:** Different communication modes and easy networking
**Benefit:** Can be widely used in various networking scenarios

# 2. Datasheet




## NB2-40ZT Smart Miniature Circuit Breaker

### 1. General

1.1 function

This product is mainly suitable for AC 50Hz, rated voltage 230V, rated current to 40A line, overload, short circuit, overvoltage, undervoltage protection, can also be used as infrequent line on and off under normal circumstances.

The product also features remote control, electrical parameter (voltage, current, power) measurement, and networking with external devices via RS485.

Main functions: overload protection, short circuit protection, overvoltage protection, undervoltage protection, electrical parameter measurement, remote opening and closing.

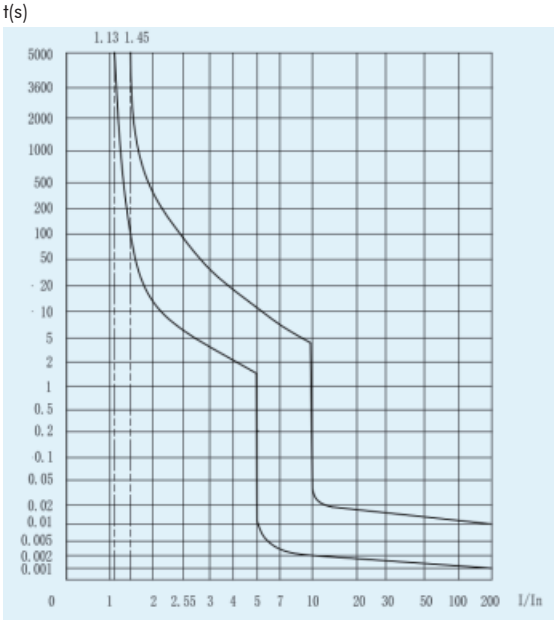
1.2 approvals and certificate

Standard: IEC/EN 60898-1

Certification: CE, RoHS, REACH

### 2. Technical data

2.1 curve

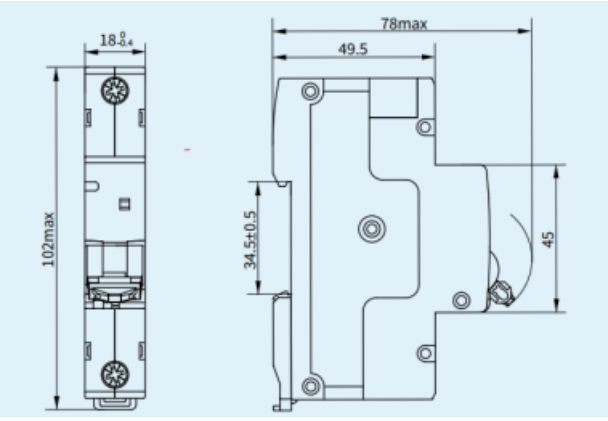



C curve

2.2 Technical parameter

| Product | | NB2-40ZT | | |
|---|---|---|---|---|
| Rated current(A) | | 6,10,16,20,25,32,40 | | |
| Rated voltage (V) | | AC230 | | |
| Rated frequency (Hz) | | 50 | | |
| Poles | | 1P | | |
| Thermo-magnetic release characteristic | | Type C | | |
| Mechanical life | | 10,000 | | |
| Electrical life | | 6,000 | | |
| Rated breaking capacity (kA) | | 6 | | |
| Rated insulation voltage (V) | | 690 | | |
| Rated impulse withstand voltage (kV) | | 4 | | |
| Dielectric test voltage (kV) | | 2 | | |
| Installation | Terminal connection type | Cable/Pin type busbar | | |
| | Minimum cross-sectional area of the wiring(mm2) | 1 | | |
| | Maximum cross-sectional area of the wiring (mm2) | 16 | | |
| | Tightening torque(N·m) | 2.5 | | |
| | Connection | From top | | |
| | Mounting | Type TH35-7.5 Standard DIN rails | | |
| Reference temperature(°C) | | 30 | | |
| Working ambient temperature (°C) | | -25-70 | | |
| Storage temperature (° C) | | -40-70 | | |
| Applicable altitude (m) | | ≤2000 | | |
| Overvoltage and undervoltage protection (parameters can be set, and the factory default values are in the table) | | overvoltage action threshold range 280V±5V | | |
| | | overvoltage recovery threshold range 250V±5V | | |
| | | overvoltage minimum no-drive time 3s | | |
| | | undervoltage action threshold range 165V±5V | | |
| | | undervoltage recovery threshold range 190V±5V | | |
| | | undervoltage minimum non-driving time 3s | | |
| | | overvoltage recovery time≥10s | | |
| Communication function | | Communication protocols: Modbus-RTU | | |
| | | RS485; A,B | | |
| Electrical parameter measurement function | Current | 1A≤I<0.1In | | ±1.0% |
| | | 0.1In≤1.0 In | | ±0.5% |
| | Voltage | 1A≤I<0.1In | | ±0.5% |
| | Power | 1A≤I<0.1In | 0.9Ue≤U≤1.1Ue | ±1.5% |
| | | 0.1In≤I≤1.0In | | ±1.0% |
| Flame retardant grade | | V-0 | | |
| Pollution degree | | 2 | | |
| Protection degree | | IP20 | | |
| Assembled accessories | | None | | |
| Weight(kg) | | 0.14 | | |

## 3. Overall and mounting dimensions (mm)



| NB2-40ZT | 1P | C | 6 | 6kA | |
|---|---|---|---|---|---|
| **Frame** | **Poles** | **Curve** | **Current(In)** | **Breaking capacity** | **Notes mark** |
| NB2-40ZT | 1P | C | 6A~40A | 6kA | Blank: Supports automatic networking through SMG |

| Diagram | Curve | Poles | In(A) | Icu(kA) | Ue(V) | Description | Code |
|---|---|---|---|---|---|---|---|
|  | C | 1P | 6 | 6 | AC230 | NB2-40ZT 1P C6 6kA | 448250 |
| | C | 1P | 10 | 6 | AC230 | NB2-40ZT 1P C10 6kA | 448244 |
| | C | 1P | 16 | 6 | AC230 | NB2-40ZT 1P C16 6kA | 448245 |
| | C | 1P | 20 | 6 | AC230 | NB2-40ZT 1P C20 6kA | 448246 |
| | C | 1P | 25 | 6 | AC230 | NB2-40ZT 1P C25 6kA | 448247 |
| | C | 1P | 32 | 6 | AC230 | NB2-40ZT 1P C32 6kA | 448248 |
| | C | 1P | 40 | 6 | AC230 | NB2-40ZT 1P C40 6kA | 448249 |