

# Usage Manual



## RCCB with Overcurrent Protection EKL9-40 (RCBO)

No.288th. Wei 17 Road, Economic Development  
Zone, Yueqing City Zhejiang China.  
Tel: 0086-577-62718777 Fax: 0086-577-62774090  
Email: [sales@etek-china.com](mailto:sales@etek-china.com)

Thank you for choosing EK Series RCCB with Overcurrent Protection.  
Please read this manual before installation, operation and maintenance.

## STANDARD AND QUALITY CERTIFICATES

**IEC/EN61009-1**  **RoHS**

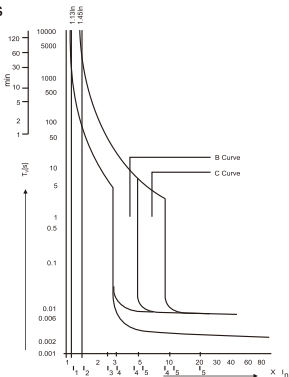
### Technical Data

|                                                        |                           |
|--------------------------------------------------------|---------------------------|
| Mode                                                   | Electronic                |
| Type                                                   | AC,A                      |
| Rated current $I_n$                                    | 6,8,10,13,16,20,25,32,40A |
| Poles                                                  | 1P+N                      |
| Rated voltage $U_e$                                    | 240V~                     |
| Insulation voltage $U_i$                               | 500V                      |
| Rated frequency                                        | 50/60Hz                   |
| Rated residual operating current<br>( $I_{\Delta n}$ ) | 10,30,100,300mA           |
| Break time under $I_{\Delta n}$                        | $\leq 0.1s$               |
| Rated breaking capacity                                | 6,000A                    |
| Energy limiting class                                  | 3                         |
| Rated impulse withstand voltage<br>(1.5/50) $U_{imp}$  | 4,000V                    |

|                                                                        |                                                           |
|------------------------------------------------------------------------|-----------------------------------------------------------|
| Dielectric test voltage at ind.Freq.<br>for 1min                       | 2kV                                                       |
| Pollution degree                                                       | 2                                                         |
| Thermo-magnetic release<br>characteristic                              | B,C                                                       |
| Electrical life                                                        | 4,000 Cycles                                              |
| Mechanical life                                                        | 10,000 Cycles                                             |
| Contact position indicator                                             | Yes                                                       |
| Protection degree                                                      | IP20                                                      |
| Reference temperature for setting<br>of thermal element                | 30°C                                                      |
| Ambient temperature<br>(with daily average $\leq 35^{\circ}\text{C}$ ) | -5°C~+40°C                                                |
| Storage temperature                                                    | -25°C~+70°C                                               |
| Terminal connection type                                               | Cable/Pin-type busbar<br>/U-type busbar                   |
| Terminal size top/bottom for cable                                     | 16mm <sup>2</sup> 18-5AW                                  |
| Terminal size top/bottom for busbar                                    | 16mm <sup>2</sup> 18-5AW G                                |
| Tightening torque                                                      | 2.5Nm 22In-lbs                                            |
| Mounting                                                               | On DIN rail EN60715(35mm)<br>by means of fast clip device |

|                             |         |
|-----------------------------|---------|
| Auxiliarycontact            | EKM2-OF |
| Alarmcontact                | EKM2-FB |
| Shuntrelease                | EKM2-MX |
| Overvoltageprotection       | Yes     |
| Undervoltageprotection      | Yes     |
| Over/Undervoltageprotection | Yes     |

## Char acteristics Curves



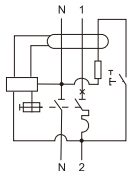
## Characteristics

| Type | Tripping current $I\Delta/A$         |                                                |                                              |
|------|--------------------------------------|------------------------------------------------|----------------------------------------------|
| AC   | $0.5I\Delta_n < I\Delta < I\Delta_n$ |                                                |                                              |
| A    | Lagging Angle                        | $I\Delta_n > 0.01A$                            | $I\Delta_n \leq 0.01A$                       |
|      | 0°                                   | $0.35I\Delta_n \leq I\Delta \leq 1.4I\Delta_n$ | $0.35I\Delta_n \leq I\Delta \leq 2I\Delta_n$ |
|      | 90°                                  | $0.25I\Delta_n \leq I\Delta \leq 1.4I\Delta_n$ | $0.25I\Delta_n \leq I\Delta \leq 2I\Delta_n$ |
|      | 135°                                 | $0.11I\Delta_n \leq I\Delta \leq 1.4I\Delta_n$ | $0.11I\Delta_n \leq I\Delta \leq 2I\Delta_n$ |

## CHARACTERISTICS CURVES

| IEC/EN61009-1 |                     |                   |               | 30~35°C           |                 |               |
|---------------|---------------------|-------------------|---------------|-------------------|-----------------|---------------|
|               | Thermal Tripping    |                   |               | Magnetic Tripping |                 |               |
|               | No tripping current | Tripping current  | Time Limits t | Hold current      | Trip current    | Time Limits t |
| B Curve       | $1.13 \times I_N$   |                   | $\geq 1h$     | $3 \times I_N$    |                 | $\geq 0.1s$   |
|               |                     | $1.45 \times I_N$ | $< 1h$        |                   | $5 \times I_N$  | $< 0.1s$      |
| C Curve       | $1.13 \times I_N$   |                   | $\geq 1h$     | $5 \times I_N$    |                 | $\geq 0.1s$   |
|               |                     | $1.45 \times I_N$ | $< 1h$        |                   | $10 \times I_N$ | $< 0.1s$      |

## CircuitDiagram



## Overall and Installation Dimension(mm)

