



CANEL
Switchgear

Products Catalogue
2017-2018



Be Smart , Be Safe

معرفی گروه صنعتی لنا و محصولات کانل

گروه صنعتی لنا در راستای مدیریت و بهینه سازی مصرف انرژی در کشور و همچنین انتقال دانش فنی و تکنولوژی روز جهان، پس از تولید و ارائه تجهیزات روشنایی تحت لیسانس کمپانی ان وی سی انگلستان، اقدام به تولید و ارائه تجهیزات برق صنعتی تحت لیسانس کمپانی کانل کانادا در کارخانه خود واقع در شهرک صنعتی اشتهارد نموده است.

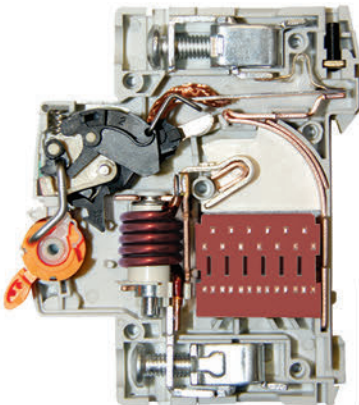
کالاهای تولیدی این شرکت علاوه بر تاییدیه های معتبر جهانی مانند SEMKO, CE و KEMA، دارای تاییدیه های مهم داخلی مانند نشان استاندارد ملی ایران و تاییدیه شرکت توانیر نیز می باشند.

کلید محصولات دارای ۵ سال ضمانت بوده و عبارتند از:

- کلیدهای مینیاتوری (MCB-AC)** از ۰/۵ آمپر الی ۱۲۵ آمپر در انواع یک پل تا چهار پل، تک فاز با نول (1P+N)، سه فاز با نول (3P+N)، در سه نوع روشنایی (B)، موتوری (C) و موتوری سنگین و خازنی (D) با قدرت قطع ۶ الی ۱۰ کیلو آمپر
- کلیدهای مینیاتوری (MCB-DC)** از یک آمپر الی ۶۳ آمپر در انواع یک پل و دو پل در دو تیپ روشنایی (B) و موتوری (C)
- کلیدهای اتوماتیک (MCCB)** از ۱۶ آمپر الی ۱۲۵۰ آمپر با قدرت قطع ۳۶ الی ۸۵ کیلو آمپر در انواع ثابت و قابل تنظیم
- کلیدهای جریان نشستی (RCCB)** جهت مصارف صنعتی و خانگی از ۱۶ آمپر الی ۱۰۰ آمپر با حساسیت ۱۰ الی ۳۰۰ میلی آمپر
- کلیدهای ترکیبی (RCBO)** از ۳ آمپر الی ۴۰ آمپر با حساسیت ۱۰ الی ۳۰۰ میلی آمپر
- سایر تجهیزات و لوازم جانبی شامل کنتاکت های کمکی، شانت تریپ و... قابل نصب بر روی کلید محصولات

ساختار داخلی و ویژگی های کلیدهای مینیاتوری کانل

- بدنه از جنس پلی آمید به همراه گلاس فایبر جهت حفاظت در برابر آتش سوزی
- استفاده از مگنت و بوبین متناسب با نوع و آمپرهای مختلف جهت عکس العمل مناسب و کاهش زمان قطع
- تنظیم بی متال توسط پیچ تنظیم متناسب با جریان کلید و لاک شدن در کارخانه به منظور افزایش دقت عملکرد کلید در اضافه بار
- استفاده از آلیاژ نقره در کنتاکت به منظور افزایش طول عمر و دستیابی به بهترین عملکرد
- استفاده از پرچ های برنجی به تعداد ۷ عدد در کلیدهای AC و DC به منظور اطمینان هر چه بیشتر از مقاومت کلید در زمان اتصال کوتاه و یا ضربه
- طراحی ویژه جر قه گیر با استفاده از صفحات مسی در ابعاد استاندارد متناسب با نوع AC و DC بودن محصول و جداسازی توسط عایق به منظور کوچک کردن جر قه های ایجاد شده و جلوگیری از بروز آتش سوزی
- استفاده از دو لایه محافظ در دو طرف جر قه گیر به منظور جلوگیری از آسیب حرارت ناشی از جر قه به پوسته
- استفاده از ترمینال های با کیفیت و آبکاری شده، مقاوم در برابر زنگ زدگی ناشی از رطوبت و اتصال به هادی ها
- ارائه انواع کلیدهای مینیاتوری AC از ۰/۵ تا ۱۲۵ آمپر در انواع یک پل تا چهار پل، تک فاز با نول، سه فاز با نول، در سه نوع روشنایی (B)، موتوری (C) و موتوری سنگین و خازنی (D)
- ارائه انواع کلیدهای مینیاتوری DC از ۱ تا ۶۳ آمپر در انواع یک پل و دو پل در دو تیپ روشنایی B، موتوری C رنگ بندی شاسی کلید متناسب با جریان نامی
- دارای محل نصب لیبل جهت نشان گذاری کلید در تابلو برق
- دارای نشانگر وضعیت قطع و وصل
- قابلیت نصب پلمب روی شستی کلید
- امکان اتصال کلید به ریل و باس بار
- امکان نصب انواع لوازم جانبی در هر دو طرف کلید
- دارای نشان استاندارد ملی ایران و تاییدیه شرکت توانیر
- دارای تاییدیه های معتبر بین المللی
- دارای ۵ سال گارانتی بدون قید و شرط



رنگ بندی شستی کلیدهای مینیاتوری کانل

| | | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| ۲۰ آمپر | ۲۲ آمپر | ۲۴ آمپر | ۲۶ آمپر | ۱۰ آمپر | ۱۶ آمپر | ۲۰ آمپر | ۲۵ آمپر | ۳۲ آمپر | ۴۰ آمپر | ۵۰ آمپر | ۶۳ آمپر |
| | | | | | | | | | | | |
| مشکی | صورتی | قهوه ای | سبز | قرمز | طوسی | آبی | نارنجی | بنفش | مشکی | سفید | مسی |

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| 15 ~ 17 | EP7R Series Residual Current Circuit Breaker (RCCB) (جریان نشتی) | کلیدهای محافظ جان (جریان نشتی) |
| 19 ~ 22 | EP7BL Series Residual Current Operated Circuit Breaker (RCBO) (ترکیبی) | کلیدهای کمباین (ترکیبی) |
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EP7series

Miniature Circuit Breaker

کلیدهای مینیاتوری AC



EP7 series Miniature Circuit Breaker

Technical Data

| | |
|--|--|
| Standard | Confirming to IEC/EN 60898-1-ISIRI2611 IEC/EN 60947-2 |
| Breaking capacity | 6KA-10KA |
| Protection | Against overload and short circuit |
| Rated current (In) | 0.5,1,2,3,4,6,10,16,20,25,32,40,50,63A |
| Rated voltage (Ue) | 1 pole,1p+N 240/415V AC 50/60Hz 2,3,3p+N, 4pole 415V AC 50/60Hz |
| Rated insulation voltage (Ui) | 500V |
| Rated impulse withstand voltage (Uimp) | 6000V |
| Selectivity class | 3 |
| Ambient temperature | -5°C to +45°C , Max 90% humidity |
| Characteristic | Thermal operating limit: (1.13-1.45) x In Magnetic operating: B: (3-5) x In C: (5-10) x In D: (10-20) x In |
| Number of poles | 1P, 1P+N,2P,3P,3P+N and 4P |
| Type of trip | Thermal / magnetic release |
| Type of terminal | Lug type and Pin type |
| Terminal capacity | 16mm ² Flexible or 25mm ² rigid up to 25A rating 25mm ² Flexible or 35mm ² rigid for 32A to 63A ratings |
| Protection degree | IP20 |
| Installation | Mounting on 35mm DIN rail |
| Width | 17.5mm per pole |
| Weight Per Pole (g) | ~107g |

Accessories:

- Auxiliary Contact (OF)
- Alarm Switch (SD)
- Shunt Tripper
- Over Voltage / Under Voltage Tripper
- * See Page 24

| Rated current (A) | B curve | C curve | D curve | Packing unit |
|-------------------|------------|------------|------------|--------------|
| 0.5 | EP7/1-B0.5 | EP7/1-C0.5 | EP7/1-D0.5 | 12 |
| 1 | EP7/1-B1 | EP7/1-C1 | EP7/1-D1 | 12 |
| 2 | EP7/1-B2 | EP7/1-C2 | EP7/1-D2 | 12 |
| 3 | EP7/1-B3 | EP7/1-C3 | EP7/1-D3 | 12 |
| 4 | EP7/1-B4 | EP7/1-C4 | EP7/1-D4 | 12 |
| 6 | EP7/1-B6 | EP7/1-C6 | EP7/1-D6 | 12 |
| 10 | EP7/1-B10 | EP7/1-C10 | EP7/1-D10 | 12 |
| 16 | EP7/1-B16 | EP7/1-C16 | EP7/1-D16 | 12 |
| 20 | EP7/1-B20 | EP7/1-C20 | EP7/1-D20 | 12 |
| 25 | EP7/1-B25 | EP7/1-C25 | EP7/1-D25 | 12 |
| 32 | EP7/1-B32 | EP7/1-C32 | EP7/1-D32 | 12 |
| 40 | EP7/1-B40 | EP7/1-C40 | EP7/1-D40 | 12 |
| 50 | EP7/1-B50 | EP7/1-C50 | EP7/1-D50 | 12 |
| 63 | EP7/1-B63 | EP7/1-C63 | EP7/1-D63 | 12 |

| | | | | |
|-----|-------------|-------------|-------------|---|
| 0.5 | EP7/1-B0.5N | EP7/1-C0.5N | EP7/1-D0.5N | 6 |
| 1 | EP7/1-B1N | EP7/1-C1N | EP7/1-D1N | 6 |
| 2 | EP7/1-B2N | EP7/1-C2N | EP7/1-D2N | 6 |
| 3 | EP7/1-B3N | EP7/1-C3N | EP7/1-D3N | 6 |
| 4 | EP7/1-B4N | EP7/1-C4N | EP7/1-D4N | 6 |
| 6 | EP7/1-B6N | EP7/1-C6N | EP7/1-D6N | 6 |
| 10 | EP7/1-B10N | EP7/1-C10N | EP7/1-D10N | 6 |
| 16 | EP7/1-B16N | EP7/1-C16N | EP7/1-D16N | 6 |
| 20 | EP7/1-B20N | EP7/1-C20N | EP7/1-D20N | 6 |
| 25 | EP7/1-B25N | EP7/1-C25N | EP7/1-D25N | 6 |
| 32 | EP7/1-B32N | EP7/1-C32N | EP7/1-D32N | 6 |
| 40 | EP7/1-B40N | EP7/1-C40N | EP7/1-D40N | 6 |
| 50 | EP7/1-B50N | EP7/1-C50N | EP7/1-D50N | 6 |
| 63 | EP7/1-B63N | EP7/1-C63N | EP7/1-D63N | 6 |

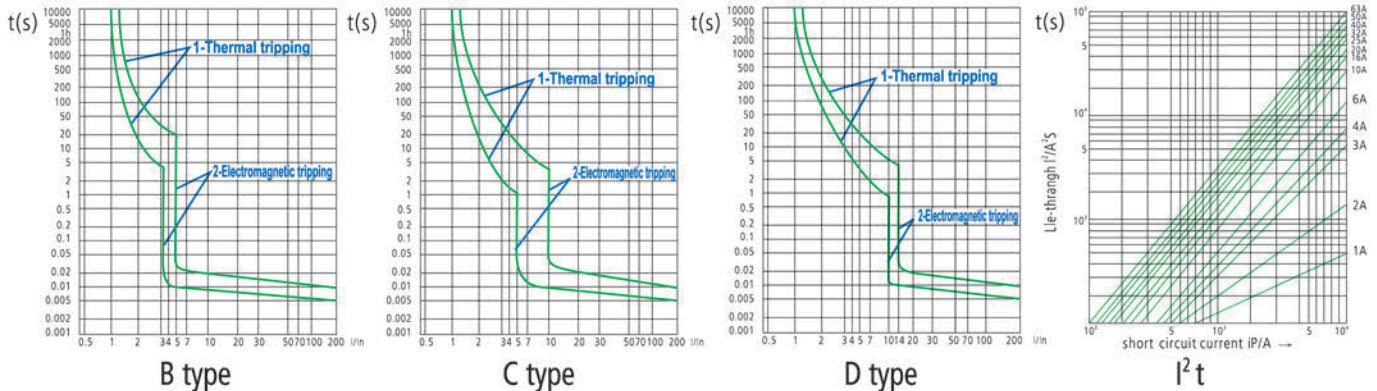
| | | | | |
|-----|------------|------------|------------|---|
| 0.5 | EP7/2-B0.5 | EP7/2-C0.5 | EP7/2-D0.5 | 6 |
| 1 | EP7/2-B1 | EP7/2-C1 | EP7/2-D1 | 6 |
| 2 | EP7/2-B2 | EP7/2-C2 | EP7/2-D2 | 6 |
| 3 | EP7/2-B3 | EP7/2-C3 | EP7/2-D3 | 6 |
| 4 | EP7/2-B4 | EP7/2-C4 | EP7/2-D4 | 6 |
| 6 | EP7/2-B6 | EP7/2-C6 | EP7/2-D6 | 6 |
| 10 | EP7/2-B10 | EP7/2-C10 | EP7/2-D10 | 6 |
| 16 | EP7/2-B16 | EP7/2-C16 | EP7/2-D16 | 6 |
| 20 | EP7/2-B20 | EP7/2-C20 | EP7/2-D20 | 6 |
| 25 | EP7/2-B25 | EP7/2-C25 | EP7/2-D25 | 6 |
| 32 | EP7/2-B32 | EP7/2-C32 | EP7/2-D32 | 6 |
| 40 | EP7/2-B40 | EP7/2-C40 | EP7/2-D40 | 6 |
| 50 | EP7/2-B50 | EP7/2-C50 | EP7/2-D50 | 6 |
| 63 | EP7/2-B63 | EP7/2-C63 | EP7/2-D63 | 6 |





| Rated current (A) | B curve | C curve | D curve | Packing unit |
|-------------------|-------------|-------------|-------------|--------------|
| 0.5 | EP7/3-B0.5 | EP7/3-C0.5 | EP7/3-D0.5 | 4 |
| 1 | EP7/3-B1 | EP7/3-C1 | EP7/3-D1 | 4 |
| 2 | EP7/3-B2 | EP7/3-C2 | EP7/3-D2 | 4 |
| 3 | EP7/3-B3 | EP7/3-C3 | EP7/3-D3 | 4 |
| 4 | EP7/3-B4 | EP7/3-C4 | EP7/3-D4 | 4 |
| 6 | EP7/3-B6 | EP7/3-C6 | EP7/3-D6 | 4 |
| 10 | EP7/3-B10 | EP7/3-C10 | EP7/3-D10 | 4 |
| 16 | EP7/3-B16 | EP7/3-C16 | EP7/3-D16 | 4 |
| 20 | EP7/3-B20 | EP7/3-C20 | EP7/3-D20 | 4 |
| 25 | EP7/3-B25 | EP7/3-C25 | EP7/3-D25 | 4 |
| 32 | EP7/3-B32 | EP7/3-C32 | EP7/3-D32 | 4 |
| 40 | EP7/3-B40 | EP7/3-C40 | EP7/3-D40 | 4 |
| 50 | EP7/3-B50 | EP7/3-C50 | EP7/3-D50 | 4 |
| 63 | EP7/3-B63 | EP7/3-C63 | EP7/3-D63 | 4 |
| <hr/> | | | | |
| 0.5 | EP7/3-B0.5N | EP7/3-C0.5N | EP7/3-D0.5N | 3 |
| 1 | EP7/3-B1N | EP7/3-C1N | EP7/3-D1N | 3 |
| 2 | EP7/3-B2N | EP7/3-C2N | EP7/3-D2N | 3 |
| 3 | EP7/3-B3N | EP7/3-C3N | EP7/3-D3N | 3 |
| 4 | EP7/3-B4N | EP7/3-C4N | EP7/3-D4N | 3 |
| 6 | EP7/3-B6N | EP7/3-C6N | EP7/3-D6N | 3 |
| 10 | EP7/3-B10N | EP7/3-C10N | EP7/3-D10N | 3 |
| 16 | EP7/3-B16N | EP7/3-C16N | EP7/3-D16N | 3 |
| 20 | EP7/3-B20N | EP7/3-C20N | EP7/3-D20N | 3 |
| 25 | EP7/3-B25N | EP7/3-C25N | EP7/3-D25N | 3 |
| 32 | EP7/3-B32N | EP7/3-C32N | EP7/3-D32N | 3 |
| 40 | EP7/3-B40N | EP7/3-C40N | EP7/3-D40N | 3 |
| 50 | EP7/3-B50N | EP7/3-C50N | EP7/3-D50N | 3 |
| 63 | EP7/3-B63N | EP7/3-C63N | EP7/3-D63N | 3 |
| <hr/> | | | | |
| 0.5 | EP7/4-B0.5 | EP7/4-C0.5 | EP7/4-D0.5 | 3 |
| 1 | EP7/4-B1 | EP7/4-C1 | EP7/4-D1 | 3 |
| 2 | EP7/4-B2 | EP7/4-C2 | EP7/4-D2 | 3 |
| 3 | EP7/4-B3 | EP7/4-C3 | EP7/4-D3 | 3 |
| 4 | EP7/4-B4 | EP7/4-C4 | EP7/4-D4 | 3 |
| 6 | EP7/4-B6 | EP7/4-C6 | EP7/4-D6 | 3 |
| 10 | EP7/4-B10 | EP7/4-C10 | EP7/4-D10 | 3 |
| 16 | EP7/4-B16 | EP7/4-C16 | EP7/4-D16 | 3 |
| 20 | EP7/4-B20 | EP7/4-C20 | EP7/4-D20 | 3 |
| 25 | EP7/4-B25 | EP7/4-C25 | EP7/4-D25 | 3 |
| 32 | EP7/4-B32 | EP7/4-C32 | EP7/4-D32 | 3 |
| 40 | EP7/4-B40 | EP7/4-C40 | EP7/4-D40 | 3 |
| 50 | EP7/4-B50 | EP7/4-C50 | EP7/4-D50 | 3 |
| 63 | EP7/4-B63 | EP7/4-C63 | EP7/4-D63 | 3 |

1. Curves



2. Endurance(operations)

| Category | Operations | Operation frequency | Rated current (A) |
|----------------------|------------|---------------------|-------------------|
| Electrical endurance | 4000 | 240/h | 0.5~32 |
| | | 120/h | 40~63 |
| Mechanical endurance | 10000 | 240/h | 0.5~63 |

3. Please refer to table below for temperature compensation correction

| In A | Temperature compensation coefficient under various operational temperature | | | | | | | | |
|-------|--|------|------|------|------|------|------|------|------|
| | -10°C | 0°C | 10°C | 20°C | 30°C | 40°C | 50°C | 55°C | 60°C |
| 0.5~6 | 1.20 | 1.14 | 1.09 | 1.05 | 1.00 | 0.96 | 0.80 | 0.75 | 0.70 |
| 10~32 | 1.18 | 1.12 | 1.08 | 1.04 | 1.00 | 0.96 | 0.92 | 0.88 | 0.84 |
| 40~63 | 1.16 | 1.12 | 1.08 | 1.03 | 1.00 | 0.9 | 0.87 | 0.83 | 0.80 |

4. Wiring

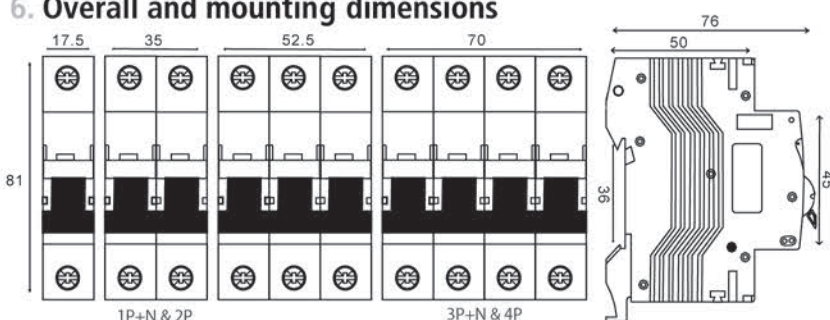
The suitable conductors should be used for connection, see table for relative parameters.

| Rated current In(A) | Nominal cross section area (mm ²) | Tightening torque (N.m) |
|---------------------|---|-------------------------|
| 0.5~6 | 1 | 2 |
| 10 | 1.5 | 2 |
| 16, 20 | 2.5 | 2 |
| 25 | 4 | 2 |
| 32 | 6 | 2 |
| 40, 50 | 10 | 2 |
| 63 | 16 | 2 |

5. Features

The breaker is characterized by compact design, light weight, elegant appearance, high breaking capacity, swift releasing, long service life, Different handle color for different rated current, with contactor condition indicator. Two-way junction of the auxiliary contacts

6. Overall and mounting dimensions





EP7DC series

Miniature Circuit Breaker

کلیدهای مینیاتوری DC

EP7DC series

Miniature Circuit Breaker

EP7DC-MCB-DC

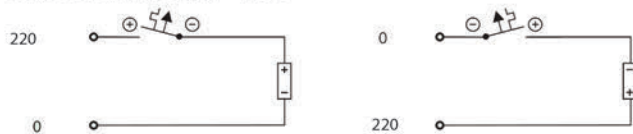
Technical Data

| | |
|--------------------------------------|--|
| Standard | Confirming to IEC/EN 60898-2-ISIRI2611 IEC/EN 60947-2 |
| Breaking capacity | 3KA-6KA |
| Protection | Against overload and short circuit |
| Rated current (In) | 1,2,3,4,6,10,16,20,25,32,40,50,63A |
| Rated voltage (Ue) | 240V-DC Per Pole |
| Operational Voltage (VDC) | Min: 12 / Max: 1P 250 2P 500 |
| Rated insulation voltage Ui | 500V |
| Rated impulse withstand voltage Uimp | 2000V |
| Selectivity class | 3 |
| Ambient temperature | -5°C to +45°C Pursuant to EN / IEC60898 |
| Characteristic | Thermal operating limit: (1.13-1.45) x In Magnetic operating: B: (4-7) x In C: (7-15) x In |
| Number of poles | 1P, 2P |
| Type of trip | Thermal / magnetic release |
| Type of terminal | Lug type and Pin type |
| Terminal capacity | 16mm ² Flexible or 25mm ² rigid up to 25A rating 25mm ² Flexible or 35mm ² rigid for 32A to 63A ratings |
| Protection degree | IP20 |
| Installation | Mounting on 35mm DIN rail |
| Width | 17.5mm per pole |

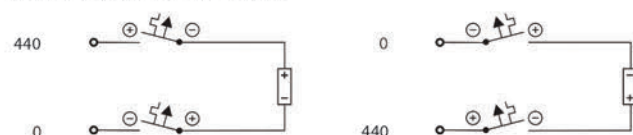
Accessories

- Auxiliary Contact (OF)
- Alarm Switch (SD)
- Shunt Tripper
- Over Voltage / Under Voltage Tripper
- * See Page 26

Connection example at 220V = 1-pole



Connection example at 440V = 2-pole

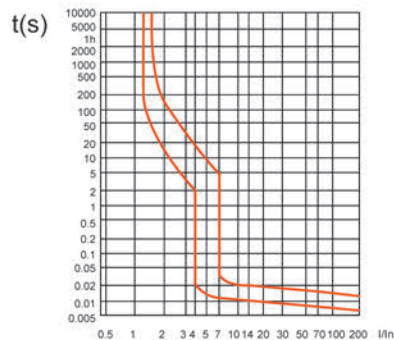




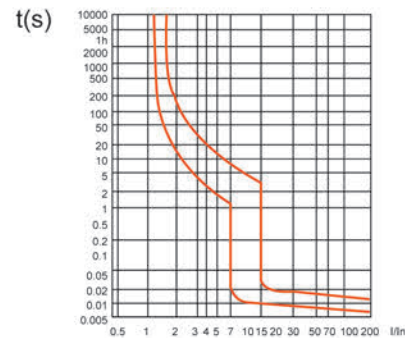
| Rated current (A) | B curve | C curve | Packing unit |
|-------------------|-------------|-------------|--------------|
| 1 | EP7DC/1-B1 | EP7DC/1-C1 | 12 |
| 2 | EP7DC/1-B2 | EP7DC/1-C2 | 12 |
| 3 | EP7DC/1-B3 | EP7DC/1-C3 | 12 |
| 4 | EP7DC/1-B4 | EP7DC/1-C4 | 12 |
| 6 | EP7DC/1-B6 | EP7DC/1-C6 | 12 |
| 10 | EP7DC/1-B10 | EP7DC/1-C10 | 12 |
| 16 | EP7DC/1-B16 | EP7DC/1-C16 | 12 |
| 20 | EP7DC/1-B20 | EP7DC/1-C20 | 12 |
| 25 | EP7DC/1-B25 | EP7DC/1-C25 | 12 |
| 32 | EP7DC/1-B32 | EP7DC/1-C32 | 12 |
| 40 | EP7DC/1-B40 | EP7DC/1-C40 | 12 |
| 50 | EP7DC/1-B50 | EP7DC/1-C50 | 12 |
| 63 | EP7DC/1-B63 | EP7DC/1-C63 | 12 |
| <hr/> | | | |
| 2 | EP7DC/2-B2 | EP7DC/2-C2 | 6 |
| 3 | EP7DC/2-B3 | EP7DC/2-C3 | 6 |
| 4 | EP7DC/2-B4 | EP7DC/2-C4 | 6 |
| 6 | EP7DC/2-B6 | EP7DC/2-C6 | 6 |
| 10 | EP7DC/2-B10 | EP7DC/2-C10 | 6 |
| 16 | EP7DC/2-B16 | EP7DC/2-C16 | 6 |
| 20 | EP7DC/2-B20 | EP7DC/2-C20 | 6 |
| 25 | EP7DC/2-B25 | EP7DC/2-C25 | 6 |
| 32 | EP7DC/2-B32 | EP7DC/2-C32 | 6 |
| 40 | EP7DC/2-B40 | EP7DC/2-C40 | 6 |
| 50 | EP7DC/2-B50 | EP7DC/2-C50 | 6 |
| 63 | EP7DC/2-B63 | EP7DC/2-C63 | 6 |



1. Curves



B type



C type

2. Endurance(operations)

| Category | Operations | Operation frequency | Rated current (A) |
|----------------------|------------|---------------------|-------------------|
| Electrical endurance | 4000 | 240/h | 1.0~32 |
| | | 120/h | 40~63 |
| Mechanical endurance | 10000 | 240/h | 1.0~63 |

3. Please refer to table below for temperature compensation correction

| I _n A | Temperature compensation coefficient under various operational temperature | | | | | | | | |
|------------------|--|------|------|------|------|------|------|------|------|
| | -10°C | 0°C | 10°C | 20°C | 30°C | 40°C | 50°C | 55°C | 60°C |
| 1~6 | 1.20 | 1.14 | 1.09 | 1.05 | 1.00 | 0.96 | 0.80 | 0.75 | 0.70 |
| 10~32 | 1.18 | 1.12 | 1.08 | 1.04 | 1.00 | 0.96 | 0.92 | 0.88 | 0.84 |
| 40~63 | 1.16 | 1.12 | 1.08 | 1.03 | 1.00 | 0.9 | 0.87 | 0.83 | 0.80 |

4. Wiring

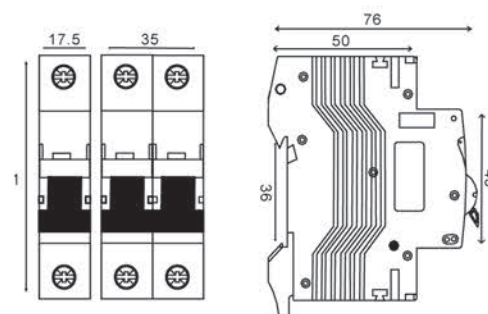
The suitable conductors should be used for connection, see table for relative parameters.

| Rated current I _n (A) | Nominal cross section area (mm ²) | Tightening torque (N.m) |
|----------------------------------|---|-------------------------|
| 1~6 | 1 | 2 |
| 10 | 1.5 | 2 |
| 16, 20 | 2.5 | 2 |
| 25 | 4 | 2 |
| 32 | 6 | 2 |
| 40, 50 | 10 | 2 |
| 63 | 16 | 2 |

5. Features

The breaker is characterized by compact design, light weight, elegant appearance, high breaking capacity, swift releasing, long service life, Different handle color for different rated current, with contactor condition indicator.

6. Overall and mounting dimensions





EP7R series

Residual Current Circuit Breaker

کلیدهای محافظ جان (جریان نشتی)

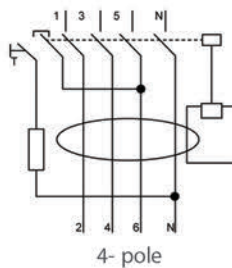
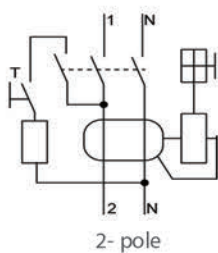
EP7R series



Residual Current Circuit Breaker

Technical Data

| | |
|---|---|
| Standard | Confirming to EN / IEC61008-1 |
| Rated conditional short-circuit current, I_{nc} | 6KA,10KA |
| Protection | Ground fault |
| Rated current, I_n | 16,25,32,40,50,63,80A |
| Number of poles | 2(1+N),4(3+N)pole |
| Rated sensitivity currents, $I_{\Delta n}$ | 10,30,100,300mA |
| sensitivity | AC and Pulsating DC (Type A) |
| Rated residual non-operating current, $I_{\Delta no}$ | $0.5 \times I_{\Delta n}$ |
| Rated impulse withstand voltage U_{imp} | 6000V |
| Rated voltages | 2pole: 230VAC 4pole: 230/400VAC |
| Ambient temperature | -25°C~+45°C, Max.95%humidity |
| Residual current off-time at $I_{\Delta n}$ | $\leq 0.1s$ |
| Rated residual current making & breaking capacity, $I_{\Delta m}$ | 500A for $I_n=16,25,32,40A$ 630A for $I_n=63A$ 800A for $I_n=80A$ |
| Type of trip | Electro-magnetic release |
| Type of terminal | Lug type and Pin type |
| Terminal capacity | Cables up to 35mm ² |
| protection degree | IP20 |
| Installation | 35mm DIN rail |

Connection Diagrams



| Rated current (A) | $I_{\Delta n}$ | Type AC  | Type A  | Packing unit |
|-------------------|----------------|---|--|--------------|
| 16 | 10mA | EP7R2/16/10 | EP7R2/16/10-A | 1 |
| 25 | | EP7R2/25/10 | EP7R2/25/10-A | 1 |
| 16 | 30mA | EP7R2/16/30 | EP7R2/16/30-A | 1 |
| 25 | | EP7R2/25/30 | EP7R2/25/30-A | 1 |
| 32 | | EP7R2/32/30 | EP7R2/32/30-A | 1 |
| 40 | | EP7R2/40/30 | EP7R2/40/30-A | 1 |
| 50 | | EP7R2/50/30 | EP7R2/50/30-A | 1 |
| 63 | | EP7R2/63/30 | EP7R2/63/30-A | 1 |
| 80 | | EP7R2/80/30 | EP7R2/80/30-A | 1 |
| 16 | 100mA | EP7R2/16/100 | EP7R2/16/100-A | 1 |
| 25 | | EP7R2/25/100 | EP7R2/25/100-A | 1 |
| 32 | | EP7R2/32/100 | EP7R2/32/100-A | 1 |
| 40 | | EP7R2/40/100 | EP7R2/40/100-A | 1 |
| 50 | | EP7R2/50/100 | EP7R2/50/100-A | 1 |
| 63 | | EP7R2/63/100 | EP7R2/63/100-A | 1 |
| 80 | | EP7R2/80/100 | EP7R2/80/100-A | 1 |
| 16 | 300mA | EP7R2/16/300 | EP7R2/16/300-A | 1 |
| 25 | | EP7R2/25/300 | EP7R2/25/300-A | 1 |
| 32 | | EP7R2/32/300 | EP7R2/32/300-A | 1 |
| 40 | | EP7R2/40/300 | EP7R2/40/300-A | 1 |
| 50 | | EP7R2/50/300 | EP7R2/50/300-A | 1 |
| 63 | | EP7R2/63/300 | EP7R2/63/300-A | 1 |
| 80 | | EP7R2/80/300 | EP7R2/80/300-A | 1 |
| 16 | 10mA | EP7R4/16/10 | EP7R4/16/10-A | 1 |
| 25 | | EP7R4/25/10 | EP7R4/25/10-A | 1 |
| 16 | 30mA | EP7R4/16/30 | EP7R4/16/30-A | 1 |
| 25 | | EP7R4/25/30 | EP7R4/25/30-A | 1 |
| 32 | | EP7R4/32/30 | EP7R4/32/30-A | 1 |
| 40 | | EP7R4/40/30 | EP7R4/40/30-A | 1 |
| 50 | | EP7R4/50/30 | EP7R4/50/30-A | 1 |
| 63 | | EP7R4/63/30 | EP7R4/63/30-A | 1 |
| 80 | | EP7R4/80/30 | EP7R4/80/30-A | 1 |
| 16 | 100mA | EP7R4/16/100 | EP7R4/16/100-A | 1 |
| 25 | | EP7R4/25/100 | EP7R4/25/100-A | 1 |
| 32 | | EP7R4/32/100 | EP7R4/32/100-A | 1 |
| 40 | | EP7R4/40/100 | EP7R4/40/100-A | 1 |
| 50 | | EP7R4/50/100 | EP7R4/50/100-A | 1 |
| 63 | | EP7R4/63/100 | EP7R4/63/100-A | 1 |
| 80 | | EP7R4/80/100 | EP7R4/80/100-A | 1 |
| 16 | 300mA | EP7R4/16/300 | EP7R4/16/300-A | 1 |
| 25 | | EP7R4/25/300 | EP7R4/25/300-A | 1 |
| 32 | | EP7R4/32/300 | EP7R4/32/300-A | 1 |
| 40 | | EP7R4/40/300 | EP7R4/40/300-A | 1 |
| 50 | | EP7R4/50/300 | EP7R4/50/300-A | 1 |
| 63 | | EP7R4/63/300 | EP7R4/63/300-A | 1 |
| 80 | | EP7R4/80/300 | EP7R4/80/300-A | 1 |



1. Life

| In | Operating cycles | | Operating frequency (operations/h) |
|----------|--------------------------|---------------------------|------------------------------------|
| | On-load operating cycles | Off-load operating cycles | |
| 16,25,32 | 2000 | 2000 | 240 |
| 40,63,80 | 2000 | 1000 | 120 |

2. Breaking time of residual current

| In (A) | I _{Δn} (A) | Breaking time of residual current | | | | |
|----------------------------|----------------------|-----------------------------------|----------------------|----------------------|---------------------------------------|--------------------|
| | | I _{Δn} (A) | 2I _{Δn} (A) | 5I _{Δn} (A) | 5A, 10A, 20A, 50A 100A, 200A, 500A | Max. Breaking time |
| 16, 25, 32, 40, 50, 63, 80 | 0.01, 0.03, 0.1, 0.3 | 0.1s | 0.08s | 0.04s | 0.04s | |

3. Wiring

The suitable conductors should be used for connection, see table below for relative parameters.

| Rated current In (A) | Nominal cross section area of lead (mm ²) | Tightening torque (N·m) |
|----------------------|---|-------------------------|
| 16 | 2.5 | 2.5 |
| 25 | 4 | 2.5 |
| 32 | 6 | 2.5 |
| 40 | 10 | 2.5 |
| 50 | 12 | 2.5 |
| 63 | 16 | 2.5 |
| 80 | 25 | 2.5 |

4. Features

When designing residual current devices, manufacturing technology and type of routine tests, the IEC / EN 61008 standards were considered. Important features are:

Up to date design

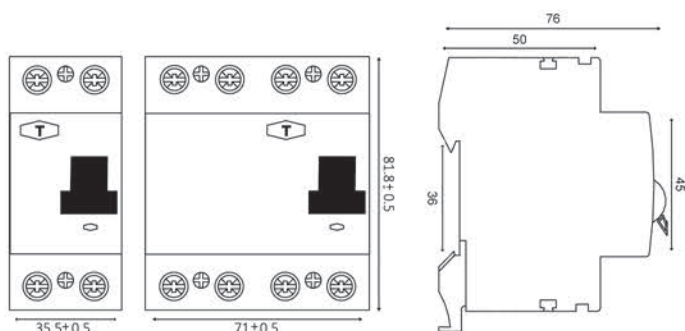
User-friendly connection of conductors and busbars

Resistance to current surges; unwanted tripping excluded

Simple and solid fixing to a 35 mm mounting rail in compliance with EN 60715

Additional colour display of main contacts position (red:contacts closed, green:contacts open)

5. Overall and mounting dimensions





EP7BLseries

Residual Current Operated
Circuit Breaker (RCBO)

کلیدهای کمباین (ترکیبی)

EP7BL series

(Electro Magnetic)

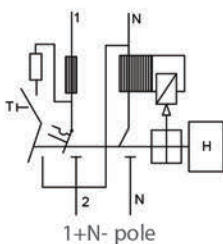
Residual Current Operated

Circuit Breaker





Technical Data





| | |
|--|--|
| Standard | EN / IEC61009-1 |
| Breaking capacity | 6KA,10KA |
| Protection | Ground fault, overcurrent and short circuit |
| Rated current, I _n | 3,6,10,16,20,25,32,40A |
| Rated sensitivity currents, I _{Δn} | 10,30,100,300mA |
| Rated voltage | 230VAC |
| Rated Frequency | 50/60 |
| Characteristic | B.C |
| Rated residual current operated making & breaking capacity I _{Δm} | 500A |
| Rated residual non-operated current I _{Δno} | 0.5I _{Δn} |
| Rated impulse withstand voltage U _{imp} | 4000V |
| Number of poles | 1P+N |
| Ambient temperature | -25°C~+45°C,Max.95% humidity |
| Residual current off-time | ≤ 0.1 sec. |
| Type of trip | Ground fault Over current |
| | Electronic/Electro-magnetic Thermal-magnetic |
| Protection degree | IP20 |
| Installation | 35mm DIN rail |
| Width | 2 modules (35mm) |
| Type of Terminal | Lug type and Pin type |
| Terminal capacity | 10mm ² flexible/16mm ² rigid |

Connection Diagram





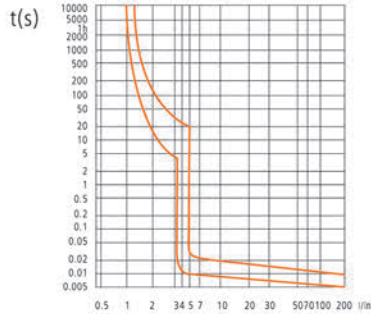
| Rated current (A) | $I_{\Delta n}$ | B curve | C curve | Packing unit |
|-------------------|---|---------------|---------------|--------------|
| 3 | AC  10mA | EP7BL-B3/10 | EP7BL-C3/10 | 6 |
| 6 | | EP7BL-B6/10 | EP7BL-C6/10 | 6 |
| 10 | | EP7BL-B10/10 | EP7BL-C10/10 | 6 |
| 16 | | EP7BL-B16/10 | EP7BL-C16/10 | 6 |
| 20 | | EP7BL-B20/10 | EP7BL-C20/10 | 6 |
| 25 | | EP7BL-B25/10 | EP7BL-C25/10 | 6 |
| 32 | | EP7BL-B32/10 | EP7BL-C32/10 | 6 |
| 40 | | EP7BL-B40/10 | EP7BL-C40/10 | 6 |
| 3 | AC  30mA | EP7BL-B3/30 | EP7BL-C3/30 | 6 |
| 6 | | EP7BL-B6/30 | EP7BL-C6/30 | 6 |
| 10 | | EP7BL-B10/30 | EP7BL-C10/30 | 6 |
| 16 | | EP7BL-B16/30 | EP7BL-C16/30 | 6 |
| 20 | | EP7BL-B20/30 | EP7BL-C20/30 | 6 |
| 25 | | EP7BL-B25/30 | EP7BL-C25/30 | 6 |
| 32 | | EP7BL-B32/30 | EP7BL-C32/30 | 6 |
| 40 | | EP7BL-B40/30 | EP7BL-C40/30 | 6 |
| 3 | AC  100mA | EP7BL-B3/100 | EP7BL-C3/100 | 6 |
| 6 | | EP7BL-B6/100 | EP7BL-C6/100 | 6 |
| 10 | | EP7BL-B10/100 | EP7BL-C10/100 | 6 |
| 16 | | EP7BL-B16/100 | EP7BL-C16/100 | 6 |
| 20 | | EP7BL-B20/100 | EP7BL-C20/100 | 6 |
| 25 | | EP7BL-B25/100 | EP7BL-C25/100 | 6 |
| 32 | | EP7BL-B32/100 | EP7BL-C32/100 | 6 |
| 40 | | EP7BL-B40/100 | EP7BL-C40/100 | 6 |
| 3 | AC  300mA | EP7BL-B3/300 | EP7BL-C3/300 | 6 |
| 6 | | EP7BL-B6/300 | EP7BL-C6/300 | 6 |
| 10 | | EP7BL-B10/300 | EP7BL-C10/300 | 6 |
| 16 | | EP7BL-B16/300 | EP7BL-C16/300 | 6 |
| 20 | | EP7BL-B20/300 | EP7BL-C20/300 | 6 |
| 25 | | EP7BL-B25/300 | EP7BL-C25/300 | 6 |
| 32 | | EP7BL-B32/300 | EP7BL-C32/300 | 6 |
| 40 | | EP7BL-B40/300 | EP7BL-C40/300 | 6 |

| Rated current (A) | $I_{\Delta n}$ | B curve | C curve | Packing unit |
|-------------------|--|-----------------|-----------------|--------------|
| 6 | AC/DC  10mA | EP7BL-B6/10-A | EP7BL-C6/10-A | 6 |
| 10 | | EP7BL-B10/10-A | EP7BL-C10/10-A | 6 |
| 16 | | EP7BL-B16/10-A | EP7BL-C16/10-A | 6 |
| <hr/> | | | | |
| 6 | AC/DC  30mA | EP7BL-B6/30-A | EP7BL-C6/30-A | 6 |
| 10 | | EP7BL-B10/30-A | EP7BL-C10/30-A | 6 |
| 16 | | EP7BL-B16/30-A | EP7BL-C16/30-A | 6 |
| 20 | | EP7BL-B20/30-A | EP7BL-C20/30-A | 6 |
| 25 | | EP7BL-B25/30-A | EP7BL-C25/30-A | 6 |
| 32 | | EP7BL-B32/30-A | EP7BL-C32/30-A | 6 |
| 40 | | EP7BL-B40/30-A | EP7BL-C40/30-A | 6 |
| <hr/> | | | | |
| 6 | AC/DC  100mA | EP7BL-B6/100-A | EP7BL-C6/100-A | 6 |
| 10 | | EP7BL-B10/100-A | EP7BL-C10/100-A | 6 |
| 16 | | EP7BL-B16/100-A | EP7BL-C16/100-A | 6 |
| 20 | | EP7BL-B20/100-A | EP7BL-C20/100-A | 6 |
| 25 | | EP7BL-B25/100-A | EP7BL-C25/100-A | 6 |
| 32 | | EP7BL-B32/100-A | EP7BL-C32/100-A | 6 |
| 40 | | EP7BL-B40/100-A | EP7BL-C40/100-A | 6 |
| <hr/> | | | | |
| 6 | AC/DC  300mA | EP7BL-B6/300-A | EP7BL-C6/300-A | 6 |
| 10 | | EP7BL-B10/300-A | EP7BL-C10/300-A | 6 |
| 16 | | EP7BL-B16/300-A | EP7BL-C16/300-A | 6 |
| 20 | | EP7BL-B20/300-A | EP7BL-C20/300-A | 6 |
| 25 | | EP7BL-B25/300-A | EP7BL-C25/300-A | 6 |
| 32 | | EP7BL-B32/300-A | EP7BL-C32/300-A | 6 |
| 40 | | EP7BL-B40/300-A | EP7BL-C40/300-A | 6 |

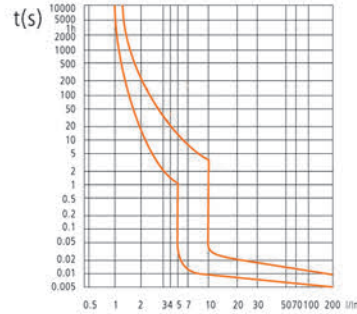


EP7BL-RCBO

1. Curves



B type



C type

2. Breaking time of residual current

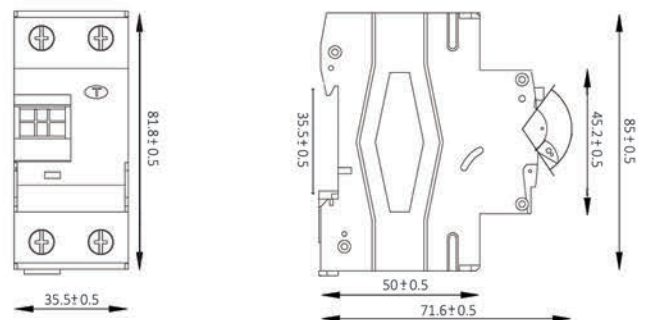
| I _n (A) | I _{Δn} (A) | Max. Breaking times | | | |
|--------------------|---------------------|---------------------|------------------|------------------|--------------------------------|
| | | I _{Δn} | 2I _{Δn} | 5I _{Δn} | 5A, 10A, 20A, 50A, 100A, 200A, |
| 6~40 | 0.01,0.03,0.1,0.3 | 0.3s | 0.15s | 0.04s | 0.04s |

3. Wiring

The suitable conductors should be used for connection, see table below for relative parameters.

| Rated current I _n (A) | Cross section area S (mm ²) | Tightening torque (N . m) |
|----------------------------------|---|---------------------------|
| 3~6 | 1 | 2 |
| 10 | 1.5 | 2 |
| 16~20 | 2.5 | 2 |
| 25 | 4 | 2 |
| 32 | 6 | 2 |
| 40 | 10 | 2 |

4. Overall and mounting dimensions





EP7BA series

Circuit Breaker Accessories

لوازم جانبی



EP7BA series Circuit Breaker Accessories

Technical Data

| | |
|--------------------------|---------------------------------|
| Standard | Confirming to EN / IEC60947-5-1 |
| Rated insulation voltage | Ui 500V |
| Rated voltage | 230V AC |
| Rated frequency(Hz) | 50/60Hz |
| Utilization category | AC14, AC15 |
| Ambient temperature(°C) | -5~+40°C, Max 95%humidity |
| Storage temperature(°C) | -40~+75°C |
| Electric endurance | 30000 |
| Mechanical endurance | 40000 |
| Dielectric strength | 2000V/1min |
| Protection degree | IP20 |

OF Auxiliary Contact

| Type code | Rated voltage (V) | Rated current (A) |
|-----------|-------------------|-------------------|
| OF | 240 AC | 6 |
| OF | 415 AC | 3 |
| OF | 24 DC | 6 |
| OF | 48 DC | 2 |

Dielectric strength: 24kV/1min

Electro-mechanical endurance: ≥ 5000

Mounted on the left side of the MCB EP7, indicating "ON", "OFF" status of combined MCB.

Terminal Connection Height: H1=31mm H2=16mm H3=1.3mm

SD Alarm Switch

| Type code | Rated voltage (V) | Rated current (A) |
|-----------|-------------------|-------------------|
| SD | 240AC | 6 |
| SD | 415 AC | 3 |
| SD | 24 DC | 6 |
| SD | 48 DC | 2 |

Rated insulating voltage (Ui):500V

Operate voltage range: 70~100% Us

Dielectric strength:2kV/1min

Electro-mechanical endurance:≥ 4000

Is used to connect ON/OFF auxiliary contact, work as circuit breaker ON/OFF indicator in case of faulty (tripping)

MX Shunt Tripper

| Type code | Rated voltage (V) |
|-----------|-------------------|
| MX | 100-415 AC |
| MX | 415 AC |
| MX | 24 DC |
| MX | 110-130DC |

Rated insulating voltage(Ui):500V

Operate voltage range: 70~100% Us

Contact capacity: AC:3A/400V, AC:6A/230V, AC:9A/125V

Dielectric strength: 2kV/1min

Electro-mechanical endurance:≥ 4000

Mounting on the right/left side of MCB, used to trip the combined MCB by remote controlling device.

Terminal Connection Height:19mm

MN Over-voltage/Under-voltage Tripper

| Type code | Rated voltage (V) |
|-----------|-------------------|
| MN23A | 240 AC |

Rated insulating voltage (Ui): 500V

Over-voltage tripping range: 280V ± 5%

Under-voltage tripping range: 170V ± 5%

Electro-mechanical endurance: ≥ 4000

Mounted on the right/leftside of circuit breaker, actuate the combined device to trip in case of under-voltage or over-voltage, effectively prevent the device from closing operation under abnormal power voltage condition.





EP7M3series

Molded Case Circuit Breaker

کلیدهای اتوماتیک

EP7M3 series Molded Case Circuit Breaker

■ Range of application and Standard

■ Range of application

EP7M3 series (MCCB) is supplied with rated insulation voltage 800V and used for circuit of AC 50/60Hz, rated operating voltage AC 400V, rated ampere 16A-1250A. Equipped with the protection devices for over-current, short circuit and under voltage, the product is capable of preventing damage of circuits and supplying units the product according to IEC 60947-2.

■ Function

EP7M3 series (MCCB) can be connected with the shunt release, under voltage release, Auxiliary contact, Alarm contact, Electric operation mechanism, Rotary handle operating mechanism etc. Auxiliary product for MCCB.

- 1) Under voltage release use for circuits and power supply's under voltage protection
- 2) Shunt release use to trip the combined MCCB by remote controlling device.
- 3) Auxiliary contact use for MCCB to control circuit and signal circuit for automatic control.
- 4) Alarm contact use to overload, short circuit protection and under voltage trip for the MCCB'S Protect device.
- 5) Electric operation mechanism is used to automatic and remote control the "ON" or "OFF" for the MCCB
- 6) Rotary handle operating mechanism is used for operating out of distribution box and used for mechanical interlock when the mccb in the switch on state.

■ Working operation requirement

■ Altitude of installation

Altitude of installation shall be less than 2000m, and the capacity reduction is adopted for being used at +2000m

■ Condition of the atmosphere

The relative temperature of the atmosphere is not more than 50% when the highest temperature is +40 °C, and the relative temperature is higher under lower temperature (e.g. 90% at +20°C), and the condensation formed on the surface of the products for temperature change shall be considered.

■ Installation conditions

Any installation place of the external magnetic field direction should not exceed 5 times of the geomagnetic field, Vertical installation, handle up to position, turning on the power supply installation area should be no significant impact and vibration.

■ Mode of connection

Using screw terminals, fasten the screw to fix the wire.





EP7M3 series

Molded Case Circuit Breaker

Technical Data

| MCCB Ajustable/fix | | | |
|--|--------------------------------------|--|----------------------------------|
| Technical Data | | | |
| standards IEC/EN 60947-2 | | | |
| Frame size | 125 | 160 | 250 |
| Number of poles | 3p | 3p | 3p |
| Breaking Capacity Level | L | M | M |
| Rated Ultimate Short-circuit Breaking Capacity 400/415V Icu(KA rms) | 36 | 50 | 50 |
| Rated Service Short-circuit Breaking Capacity 400/415V Ics(KA rms) | 27 | 36 | 36 |
| Utilization category to IEC/EN 60947-2 | A | A | A |
| Lifespan,mechanical operation | 8500 | 7000 | 7000 |
| Maximum operating frequency ops/h | 120 | 120 | 120 |
| Lifespan,electrical AC-1 400/415V 50/60 Hz | 1500 | 1000 | 1000 |
| Rated current(A) In | 16/20/25/32/40/ 50/63/80/100/125A | 16/20/25/32/40/50/ 63/80/100/125/160A | 100/125/160/180/ 200/225/250A |
| setting range | | | |
| overload release (Ir) | - | 0.8-1.0In | 0.8-1.0In |
| short-circuit release (Ii) | 10In | 10In | 10In |
| ambient temperature | | | |
| storage | -25...+70 °C | -25...+70 °C | -25...+70 °C |
| operation | -5...+40 °C | -5...+40 °C | -5...+40 °C |
| Degree of protection | IP20 | IP20 | IP20 |
| Rated impulse withstand voltage. Uimp(V) | | | |
| main contacts | 8000 | 8000 | 8000 |
| Auxiliary contacts | 4000 | 4000 | 4000 |
| Rated operational voltage (Ue) | 415VAC | 415VAC | 415VAC |
| Overvoltage category/pollution degree | III/3 | III/3 | III/3 |
| Rated insulation voltage(Ui) | 800V | 800V | 800V |
| weight(kg/set) | 0.86 | 1.55 | 2.25 |
| total opening delay at short-circuit(ms) | ≤200ms | ≤200ms | ≤200ms |
| Accessories: | | | |
| Indication Accessories | | | |
| OF | * | * | * |
| SD | * | * | * |
| Control Accessories | | | |
| MX(AC400,230V,DC 220V) | * | * | * |
| MN(AC 400,230V) | * | * | * |
| Extended Rotary Handle (Round and Square) | * | * | * |
| AC Motor Mechanism (AC400,230V) | * | * | * |
| Mechanical Interlock | - | * | * |
| Mounting&Connection | | | |
| Fixed,Front Connection | * | * | * |
| Fixed,Rear Connection | * | * | * |
| Plug-in , Rear Connection | * | * | * |
| Plug-in ,Front Connection | * | - | * |
| Drawer-out ,Rear Connection | - | - | - |
| Connection | | | |
| Spreader | * | * | * |
| Protection | | | |
| phase Barrier | * | * | * |
| Electronic type | - | - | - |
| * " " shows it has this option. | | | |
| "-" means it has no this option. | | | |

EP7M3 series

Molded Case Circuit Breaker

Technical Data

| MCCB Adjustable | | | |
|---|--------------|-----------------------|------------------------|
| Technical Data | | | |
| standards IEC/EN 60947-2 | | | |
| Frame size | 630 | 800 | 1250 |
| Number of poles | 3p | 3p | 3p |
| Breaking Capacity Level | M | M | M |
| Rated Ultimate Short-circuit Breaking Capacity 400/415V Icu(KA rms) | 85 | 85 | 80 |
| Rated Service Short-circuit Breaking Capacity 400/415V Ics(KA rms) | 60 | 55 | 50 |
| Utilization category to IEC/EN 60947-2 | A | A | A |
| Lifespan,mechanical operation | 4000 | 2500 | 2500 |
| Maximum operating frequency ops/h | 60 | 20 | 20 |
| Lifespan,electrical AC-1 400/415V 50/60 Hz | 1000 | 500 | 500 |
| Rated current(A) In | 400/500/630A | 400/500/630 /700/800A | 700/800/900 1000/1250A |
| setting range | | | |
| overload release (Ir) | 0.8-1.0In | electronic type | |
| short-circuit release (Ii) | 10In | according to page ... | |
| ambient temperature | | | |
| storage | -25...+70 °C | -25...+70 °C | -25...+70 °C |
| operation | -5...+40 °C | -5...+40 °C | -5...+40 °C |
| Degree of protection | IP20 | IP20 | IP20 |
| Rated impulse withstand voltage Uimp(V) | | | |
| main contacts | 8000 | 8000 | 8000 |
| Auxiliary contacts | 4000 | 4000 | 4000 |
| Rated operational voltage (Ue) | 415VAC | 415VAC | 415VAC |
| Overvoltage category/pollution degree | III/3 | III/3 | III/3 |
| Rated insulation voltage(Ui) | 800V | 800V | 800V |
| weight(kg/set) | 5.00 | 9.30 | 17.20 |
| total opening delay at short-circuit(ms) | ≤200ms | ≤200ms | ≤200ms |
| Accessories: | | | |
| Indication Accessories | | | |
| OF | * | * | * |
| SD | * | * | * |
| Control Accessories | | | |
| MX(AC400,230V,DC 220V) | * | * | * |
| MN(AC 400,230V) | * | * | * |
| Extended Rotary Handle (Round and Square) | * | * | * |
| AC Motor Mechanism (AC400,230V) | * | * | * |
| Mechanical Interlock | * | * | * |
| Mounting&Connection | | | |
| Fixed,Front Connection | * | * | * |
| Fixed,Rear Connection | * | * | * |
| Plug-in ,Rear Connection | * | * | * |
| Plug-in ,Front Connection | - | - | - |
| Drawer-out ,Rear Connection | * | * | * |
| Connection | | | |
| Spreader | * | * | * |
| Protection | | | |
| phase Barrier | * | * | * |
| Electronic type | * | * | * |
| * "*" shows it has this option. | | | |
| "-" means it has no this option. | | | |



EP7M3- MCCB

EP7M3 series

Molded Case Circuit Breaker

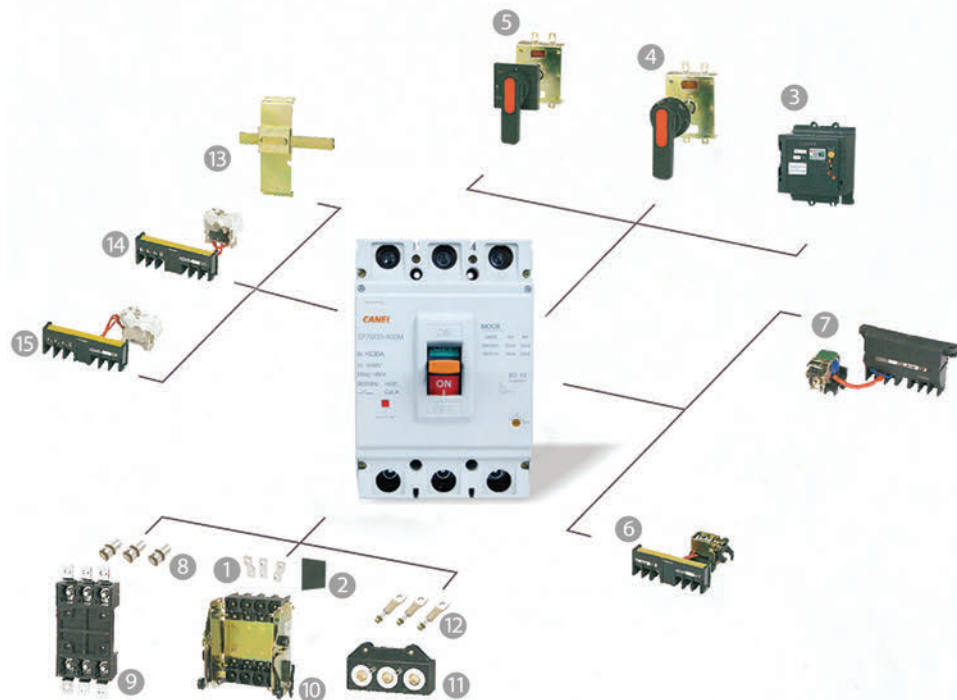
Internal Accessories



*Unique accessory cover opens with two screws

*Practical accessories can be installed with one touch

- *auxiliary switch
- *alarm switch
- *shunt trip
- *undervoltage trip



| | | |
|---------------------------------|-------------------------------|----------------------------|
| 1 Spreader | 6 MX | 11 Plug-in Rear Connection |
| 2 Phase Barrier | 7 MN | 12 Fixed Rear Connection |
| 3 AC Motor Mechanism | 8 Plug-in Connecting Terminal | 13 Mechanical Interlock |
| 4 Round Extended Rotary Handle | 9 Plug-in Front Connection | 14 SD |
| 5 Square Extended Rotary Handle | 10 Drawer-out Rear Connection | 15 OF |

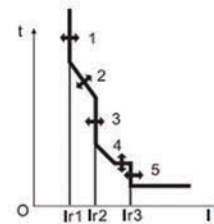
EP7M3 series

Molded Case Circuit Breaker

Electronic Tripping Device
800, In=800A



Electronic Trip Characteristics Curve



- 1-The overload long time delay Current action $I_{r1}(A)$, according to the different rated current of circuit breaker can adjust be 10 gears.
- 2-Adjust long time delay current Time $t1(S)$, can be adjust 4 gears.
- 3 -Short circuit and short time delay Current action $I_{r2}(XIr1)$, according to the different rated current of circuit breaker, can adjust be 10 gears .
- 4-Adjust long time delay current Time $t2(s)$, can be adjust 5 gears .
- 5- Short circuit split-second response Current action $I_{r3}(XIr1)$, can adjust be 10 gears.
- 6- Pre-alarm response Current $I_{r0}(XIr1)$, can adjust be 7 gears

Overload:

When the current reach 110% of the max current ,the LED of Overload will light.

Pre-alarm:

When the current reach the set value of Pre-alarm ,the LED of Pre-alarm will light,
(The error current $\pm 10\%$)

Operation:

When the current reach 40% of the max current ,the LED of Work will light.



| SERIES | POLES | Product Dimension [mm] | | | | Installation Dimension [mm] | | |
|-------------|-------|------------------------|-----|-----|-----|-----------------------------|-----|------------|
| | | L1 | L2 | L3 | L4 | a | b | d |
| 125L | 3 | 75.5 | 131 | 85 | 68 | 25 | 112 | $\Phi 3.5$ |
| 160M | 3 | 92 | 150 | 108 | 92 | 30 | 129 | $\Phi 4.5$ |
| 250M | 3 | 106 | 165 | 128 | 112 | 35 | 126 | $\Phi 4.5$ |
| 400M , 630M | 3 | 150 | 257 | 149 | 117 | 44 | 194 | $\Phi 7$ |
| 800M | 3 | 210 | 280 | 160 | 125 | 70 | 243 | $\Phi 7$ |
| 1250M | 3 | 210 | 340 | 182 | 139 | 70 | 303 | $\Phi 7$ |



EP7 EP7DC
کلید مینیاتوری AC کلید مینیاتوری DC



EP7R/2 EP7R/4 EP7BL EP7F
کلید جریان نشستی ۲ پل کلید جریان نشستی ۴ پل کلید ترکیبی کلید فیوز مینیاتوری



EP7PI EP7SO EP7BA/OF EP7BA/MX
کلید قطع و وصل آلارم رنگ اخبار کنتاکت کمکی شدت تریپ



EP7TM EP7S1 EP7C1 EP7PM
تابر محافظ رلی کنتاکتور آمپر متر



EP7M3
کلیدهای اتوماتیک قابل تنظیم و ثابت



Be Smart , Be Safe

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