

## Alternate Catalog No. EF45-45 Catalog No. 1SAX221001R1102

**Description:** EF45-45 Electronic Overload Relay

**UPC No** 4013614403972

**Home > Contactors & Starters > Overload Relays**

The EF19-0.32 is a self-supplied electronic overload relay, which means no extra external supply is needed. It offers reliable and fast protection for motors in the event of overload or phase failure. Easy to use like a thermal overload relay and compatible with standard motor applications, the electronic overload relay is convincing, above all, due to its wide setting range, high accuracy, high operational temperature range and the possibility to select a trip class (10E, 20E, 30E). Further features are the temperature compensation, trip contact (NC), signal contact (NO), automatic- or manual reset selectable, trip-free mechanism, STOP- and Test function and a trip indication. The overload relays are connected directly to the contactors. Single mounting kits are available as accessory. The EF19 and EF45 have ATEX and IECEx certification 1) 1) ATEX is valid for products produced from week 42, 2014. IECEx is valid for products produced from week 15, 2017.



Representative Image

### Descriptors

|          |                 |
|----------|-----------------|
| Category | Overload Relays |
|----------|-----------------|

### Specifications

|                                       |   |
|---------------------------------------|---|
| Product Name                          | Electronic Overload Relay   |
| Rated Operational Voltage             | Auxiliary Circuit 600 V AC / DC<br>Main Circuit 690 V AC  |
| Rated Operational Current             | 45 A  |
| Setting Range                         | 15 ... 45 A   |
| Rated Impulse Withstand Voltage       | Auxiliary Circuit 6 kV<br>Main Circuit 6 kV   |
| Rated Insulation Voltage              | 690 V   |
| Number of Poles                       | 3   |
| Number of Auxiliary Contacts NC       | 1   |
| Number of Auxiliary Contacts NO       | 1   |
| Number of Protected Poles             | 3   |
| Trip Class                            | class 10E<br>class 20E<br>class 30E   |
| Conventional Free-air Thermal Current | Auxiliary Circuit NC 6 A<br>Auxiliary Circuit NO 6 A  |
| Rated Frequency                       | Auxiliary Circuit 50 Hz<br>Auxiliary Circuit 60 Hz<br>Auxiliary Circuit DC<br>Main Circuit 50Hz<br>Main Circuit 60 Hz |
| Rated Operational Current AC-3        | 45 A  |
| Degree of Protection                  | IP20  |
| Pollution Degree                      | 3   |
| Suitable For                          | AF26<br>AF30<br>AF38  |
| Rated Operational Current AC-15       | (240 V) NC 3 A<br>(240 V) NO 3 A<br>(400 V) NC 1.1 A<br>(400 V) NO 1.1 A<br>(500 V) NC 0.75 A<br>(500 V) NO 0.75 A    |

**by ABB**

## Specifications

|  |  |
|--|--|
| Rated Operational Current DC-13                | (125 V) NC 0.55 A<br>(125 V) NO 0.5 A<br>(24 V) NC 1.5 A<br>(24 V) NO 1.5 A<br>(250 V) NC 0.27 A<br>(250 V) NO 0.27 A<br>(60 V) NC 0.55 A<br>(60 V) NO 0.55 A  |
| Connecting Capacity Main Circuit               | Flexible with Ferrule 1/2x 2.5 ... 10 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1/2x 2.5 ... 10 mm <sup>2</sup><br>Flexible 1/2x 2.5 ... 10 mm <sup>2</sup><br>Rigid 1/2x 2.5 ... 16 mm <sup>2</sup>    |
| Connecting Capacity Auxiliary Circuit          | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Rigid 1/2x 1 ... 4 mm <sup>2</sup> |
| Wire Stripping Length                          | Auxiliary Circuit 9 mm<br>Main Circuit 13 mm   |
| Tightening Torque                              | Auxiliary Circuit 0.8 ... 1.2 N·m<br>Main Circuit 2.3 ... 2.6 N·m  |
| Mounting Position                              | Position 1 to 6  |
| Power Loss                                     | at Rated Operating Conditions per Pole 0.059 ... 0.527 W   |
| Standards                                      | IEC/EN 60947-1<br>IEC/EN 60947-4-1<br>IEC/EN 60947-5-1<br>UL 60947-1<br>UL 60947-4-1   |
| Recommended Screw Driver                       | Auxiliary Circuit Pozidriv 2<br>Main Circuit Pozidriv 2  |
| Maximum Operating Voltage UL/CSA               | Main Circuit 600 V AC  |
| Ampere Rating UL/CSA                           | 45 A   |
| Contact Rating UL/CSA                          | (NC:) B600<br>(NC:) Q600<br>(NO:) B600<br>(NO:) Q600   |
| Connecting Capacity Main Circuit UL/CSA        | Flexible 1/2x 14-6 AWG<br>Stranded 1/2x 14-6 AWG   |
| Ambient Air Temperature                        | Operation -25 ... +70 °C<br>Operation Compensated -25 ... +70 °C<br>Storage -50 ... +80 °C   |
| Ambient Air Temperature Compensation           | Yes  |
| Connecting Capacity Auxiliary Circuit UL/CSA   | Flexible 1/2x 18-10 AWG<br>Stranded 1/2x 18-10 AWG   |
| Resistance to Shock acc. to IEC 60068-2-27     | 11 ms Pulse 25g  |
| Maximum Operating Altitude Permissible         | 2000 m   |
| RoHS Status                                    | Following EU Directive 2011/65/EU  |
| Resistance to Vibrations acc. to IEC 60068-2-6 | 5g / 3 ... 150 Hz  |
| Tightening Torque UL/CSA                       | Auxiliary Circuit 7 ... 1 in·lb<br>Main Circuit 35 in·lb   |
| Object Classification Code                     | F  |

## Classifications

|          |                                      |
|----------|--------------------------------------|
| ETIM 5.0 | EC001080 - Electronic overload relay |
| ETIM 6.0 | EC001080 - Electronic overload relay |
| ETIM 7   | EC001080 - Electronic overload relay |
| eClass   | 7.0 27371502                         |
| ETIM 4   | EC001080 - Electronic overload relay |

## Dimensions

|                    |          |
|--------------------|----------|
| Product Net Width  | 45 mm    |
| Product Net Height | 104.7 mm |

## Dimensions

|                            |          |
|----------------------------|----------|
| Product Net Weight         | 0.362 kg |
| Product Net Depth / Length | 86 mm    |

## Package Information

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | 1 piece       |
| Package Level 1 Width          | 111 mm        |
| Package Level 1 Depth / Length | 93 mm         |
| Package Level 1 Gross Weight   | 0.398 kg      |
| Package Level 1 EAN            | 4013614403972 |
| Package Level 1 Height         | 51.5 mm       |
| Package Level 2 Width          | 558 mm        |
| Package Level 2 Units          | 50 piece      |
| Package Level 2 Depth / Length | 263 mm        |
| Package Level 2 EAN            | 4013614483349 |
| Package Level 2 Gross Weight   | 20.463 kg     |
| Package Level 2 Height         | 189 mm        |

## Ordering

|                       |  |
|-----------------------|--|
| ECN                   | N  |
| Customs Tariff Number | 85364900                                 |
| ECCN                  | N  |
| ABB MDF Code          | 3DL - Relays (LV / Control + Protection) |