

# xEffect - Industrial Switchgear Range Miniature Circuit Breakers FAZ-NA-DC



Catalog

**EATON**

*Powering Business Worldwide*

SG56612



## Description

### FAZ-NA-DC

- High-quality miniature circuit breakers for DC-applications
- Contact position indicator red - green
- Guide for secure terminal connection (not for FAZ-NA)
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- Rated currents up to 40 A
- Tripping characteristic C
- Rated breaking capacity 10 kA according to IEC/EN 60947-2
- Up to 125 V DC per pole
- Classified for the use in rail rolling stock

| Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>acc. to<br>IEC/EN<br>60947-2<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>acc. to<br>UL489<br>(V) | Breaking<br>capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | Type<br>Designation | Article No. | Units per<br>package |
|-------------------------------|---------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------|--------------------------------------------------|-----|---------|---------------------|-------------|----------------------|
|-------------------------------|---------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------|--------------------------------------------------|-----|---------|---------------------|-------------|----------------------|

Characteristic C

SG56512



1-pole

|    |     |    |     |    |  |  |                 |        |        |
|----|-----|----|-----|----|--|--|-----------------|--------|--------|
| 2  | 220 | 10 | 125 | 10 |  |  | FAZ-C2/1-NA-DC  | 113752 | 12/120 |
| 3  | 250 | 10 | 125 | 10 |  |  | FAZ-C3/1-NA-DC  | 113753 | 12/120 |
| 4  | 250 | 10 | 125 | 10 |  |  | FAZ-C4/1-NA-DC  | 113754 | 12/120 |
| 5  | 250 | 10 | 125 | 10 |  |  | FAZ-C5/1-NA-DC  | 113755 | 12/120 |
| 6  | 250 | 10 | 125 | 10 |  |  | FAZ-C6/1-NA-DC  | 113756 | 12/120 |
| 7  | 250 | 10 | 125 | 10 |  |  | FAZ-C7/1-NA-DC  | 113757 | 12/120 |
| 8  | 250 | 10 | 125 | 10 |  |  | FAZ-C8/1-NA-DC  | 113758 | 12/120 |
| 10 | 250 | 10 | 125 | 10 |  |  | FAZ-C10/1-NA-DC | 113759 | 12/120 |
| 13 | 250 | 10 | 125 | 10 |  |  | FAZ-C13/1-NA-DC | 113760 | 12/120 |
| 15 | 250 | 10 | 125 | 10 |  |  | FAZ-C15/1-NA-DC | 113761 | 12/120 |
| 16 | 250 | 10 | 125 | 10 |  |  | FAZ-C16/1-NA-DC | 113762 | 12/120 |
| 20 | 250 | 10 | 125 | 10 |  |  | FAZ-C20/1-NA-DC | 113763 | 12/120 |
| 25 | 250 | 10 | 125 | 10 |  |  | FAZ-C25/1-NA-DC | 113764 | 12/120 |
| 30 | 250 | 10 | 125 | 10 |  |  | FAZ-C30/1-NA-DC | 113765 | 12/120 |
| 32 | 250 | 10 | 125 | 10 |  |  | FAZ-C32/1-NA-DC | 113766 | 12/120 |
| 35 | 250 | 10 | 125 | 10 |  |  | FAZ-C35/1-NA-DC | 113767 | 12/120 |
| 40 | 250 | 10 | 125 | 10 |  |  | FAZ-C40/1-NA-DC | 113768 | 12/120 |

SG56612



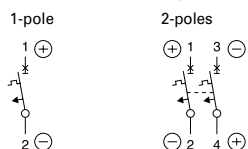
2-poles

|    |     |    |     |    |  |  |                 |        |      |
|----|-----|----|-----|----|--|--|-----------------|--------|------|
| 2  | 440 | 10 | 250 | 10 |  |  | FAZ-C2/2-NA-DC  | 137239 | 1/60 |
| 3  | 500 | 10 | 250 | 10 |  |  | FAZ-C3/2-NA-DC  | 137250 | 1/60 |
| 4  | 500 | 10 | 250 | 10 |  |  | FAZ-C4/2-NA-DC  | 137251 | 1/60 |
| 5  | 500 | 10 | 250 | 10 |  |  | FAZ-C5/2-NA-DC  | 137252 | 1/60 |
| 6  | 500 | 10 | 250 | 10 |  |  | FAZ-C6/2-NA-DC  | 120638 | 1/60 |
| 7  | 500 | 10 | 250 | 10 |  |  | FAZ-C7/2-NA-DC  | 120639 | 1/60 |
| 8  | 500 | 10 | 250 | 10 |  |  | FAZ-C8/2-NA-DC  | 120640 | 1/60 |
| 10 | 500 | 10 | 250 | 10 |  |  | FAZ-C10/2-NA-DC | 120641 | 1/60 |
| 13 | 500 | 10 | 250 | 10 |  |  | FAZ-C13/2-NA-DC | 120642 | 1/60 |
| 15 | 500 | 10 | 250 | 10 |  |  | FAZ-C15/2-NA-DC | 120643 | 1/60 |
| 16 | 500 | 10 | 250 | 10 |  |  | FAZ-C16/2-NA-DC | 120644 | 1/60 |
| 20 | 500 | 10 | 250 | 10 |  |  | FAZ-C20/2-NA-DC | 120645 | 1/60 |
| 25 | 500 | 10 | 250 | 10 |  |  | FAZ-C25/2-NA-DC | 120646 | 1/60 |
| 30 | 500 | 10 | 250 | 10 |  |  | FAZ-C30/2-NA-DC | 120647 | 1/60 |
| 32 | 500 | 10 | 250 | 10 |  |  | FAZ-C32/2-NA-DC | 120648 | 1/60 |
| 35 | 500 | 10 | 250 | 10 |  |  | FAZ-C35/2-NA-DC | 120649 | 1/60 |
| 40 | 500 | 10 | 250 | 10 |  |  | FAZ-C40/2-NA-DC | 120650 | 1/60 |

## Technical Data

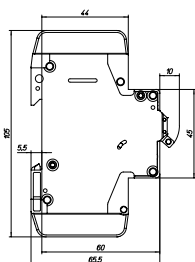
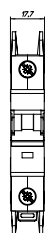
| FAZ-...-NA-DC                                 |                                                                                          |
|-----------------------------------------------|------------------------------------------------------------------------------------------|
| Product standard                              | UL 489, CSA C22.2 No. 5-02                                                               |
| Classified according to                       | IEC 61373, EN 45545-2                                                                    |
| Current test marks as printed onto the device |                                                                                          |
| Number of poles                               | 1, 2                                                                                     |
| <b>Mechanical</b>                             |                                                                                          |
| Device width                                  | 1 pole = 0.697 inch, 2 poles = 1.394 inch                                                |
| Frame size                                    | 1.772 inch                                                                               |
| Device height                                 | 4.134 inch                                                                               |
| Device depth                                  | 2.362 inch                                                                               |
| Terminals                                     | lift terminal / ring-tongue                                                              |
| Terminal capacity rigid solid/stranded wire   | 1 Wire: #18-6 AWG (Cu only)<br>2 Wires: #18-10 AWG (Cu only)                             |
| Terminal screw                                | M5 (with slotted screw Pozidriv PZ2)                                                     |
| Fastening torque of terminal screws           | #18-12 AWG: 2.4 Nm (21 lb-in)<br>#10-8 AWG: 2.8 Nm (25 lb-in)<br>#6 AWG: 4 Nm (36 lb-in) |
| Snap on fixing                                | tristable (on DIN Rail according to IEC/EN 60715)                                        |
| Finger proof                                  | acc. to VBG4, ÖVE EN-6                                                                   |
| Contact position indicator                    | red / green                                                                              |
| <b>Electrical</b>                             |                                                                                          |
| Rated voltage                                 | $U_n$ 125 V DC (1p)<br>250 V DC (2p)                                                     |
| Rated current                                 | $I_n$ 2, 3, 4, 5, 6, 7, 8, 10, 13, 15, 16, 20, 25, 30, 32, 35, 40 A                      |
| Rated impulse withstand voltage               | $U_{imp}$ 4 kV (1.2/50) $\mu$ sec                                                        |
| <b>Tripping characteristic</b>                |                                                                                          |
| Conventional non-tripping current             | $I_{nt} = 1,00 I_n$                                                                      |
| Conventional tripping current                 | $I_t = 1.35 I_n$                                                                         |
| Reference temperature                         | 25 °C                                                                                    |
| Temperature factor                            | 0.5%/K                                                                                   |
| Instantaneous tripping current                | $I_{mt}$ $7 I_n < I_{mt} = 15 I_n; t(I_{mt}) < 0.1 \text{ sec}$                          |
| Current interrupting rating                   | 10 kA                                                                                    |
| Number of electrical operations               | 6,000                                                                                    |
| Number of mechanical operations               | 10,000                                                                                   |
| Climatic conditions                           | acc. IEC 60068-2-30 (25..55°C / 90..95% RH)                                              |
| Operating temperature range                   | -25°C up to +55°C                                                                        |

## Connection diagram

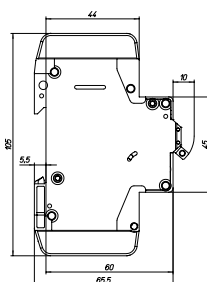
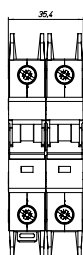


## Dimensions (mm) FAZ-...-NA-DC

1-pole

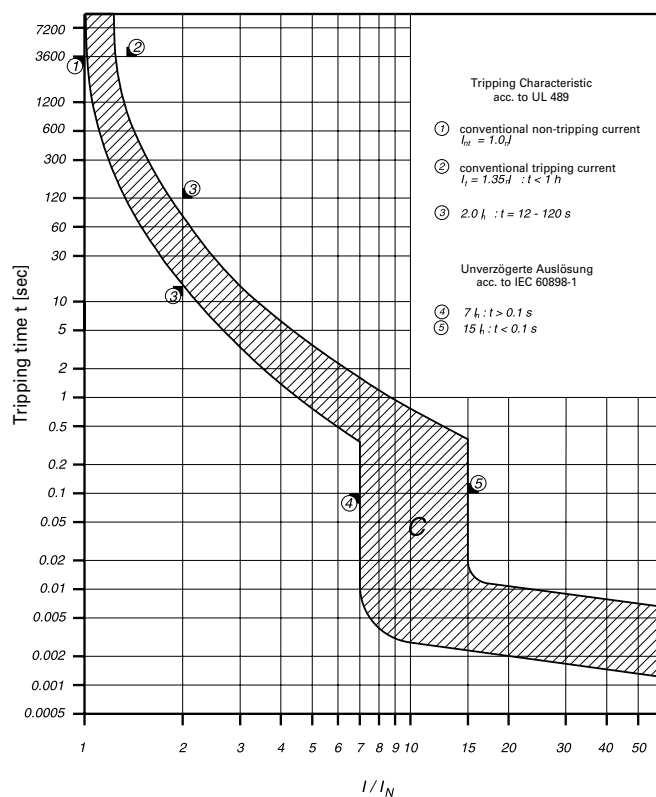


2-poles



## Tripping Characteristics FAZ-...-NA-DC

### Characteristics C - UL 489



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**Eaton Industries (Austria) GmbH**  
Scheydgasse 42  
1210 Vienna  
Austria

**Eaton**  
EMEA Headquarters  
Route de la Longeraie 7  
1110 Morges, Switzerland

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