

# Auxiliary Contact Blocks

## Side Mounting



CAL18-11

1SFC101072F0201



CAL18-11RT

1SFC101073F0201



CEL18-11

1SFC101074F0201

### Application

The auxiliary contact blocks are used for the operation of auxiliary circuits and control circuits for contactors A/AF95...AF1650

### Description

Type of side mounted auxiliary contact blocks available:

- **CAL18** instantaneous 2-pole auxiliary contact blocks with N.O. + N.C. contacts.
  - Equipped with screw type connecting terminals delivered open.
  - Protected against accidental direct contact, IP20
  - Marked in accordance with relevant standards.
- **CAL18-RT** for ring tongue connection available (mainly for traction applications).
- **CEL18** instantaneous 1-pole auxiliary contact block with N.O. or N.C. contact.
  - Equipped with built-in microswitch for low current and low voltage levels (mainly for PLC outputs)
  - Equipped with screw type connecting terminals delivered open.
  - Protected against accidental direct contact, IP20
  - Marked in accordance with relevant standards.

### Mirror contacts

The **CAL18-11**, **CAL18-11B** and **CAL18-11RT** auxiliary contact blocks are designed to meet the requirements for mirror contacts in IEC 60947-4-1.  
In short this means: The normally closed auxiliary contact can not be in closed position simultaneously with the normally open main contact. (AF1350/1650: Use two N.C. auxiliary contacts in series for mirror contact function, one auxiliary contact block on each side of the contactor).

### Fitting Details

Clipped onto the right or lefthand side of the contactor.

The **CAL18-...B** is a second auxiliary contact block for mounting in addition to a first **CAL18** block, right or lefthand side of the A145 ... A300 and AF145 ... AF1650 contactors.

### Ordering Details

| For<br>contactors  | Max.<br>number<br>of blocks | Contacts |      | Type        | Order code<br>pieces | Pack <sup>ing</sup> | Weight<br>kg |
|--|-----------------------------|----------|------|-------------|----------------------|---------------------|--------------|
|  |                             | N.O.     | N.C. |             |                      |                     | 1piece       |
| 2-pole auxiliary contacts                                    |                             |          |      |             |                      |                     |              |
| A95 ... A300   | 2 blocks                    | 1        | 1    | CAL18-11    | 1SFN010720R1011      | 2                   | 0.050        |
| AF95 ... AF1650  | 2 blocks                    |          |      |             |                      |                     |              |
| UA95 ... UA110   | 2 blocks                    |          |      |             |                      |                     |              |
| A145 ... A300  | 2 blocks <sup>(1)</sup>     | 1        | 1    | CAL18-11B   | 1SFN010720R3311      | 2                   | 0.050        |
| AF145 ... AF1650   | 2 blocks <sup>(1)</sup>     |          |      |             |                      |                     |              |
| 2-pole auxiliary contacts for Ring Tounge connection         |                             |          |      |             |                      |                     |              |
| A95 ... A300   | 2 blocks                    | 1        | 1    | CAL18-11-RT | 1SFN010729R1011      | 2                   | 0.050        |
| AF95 ... AF1650  | 2 blocks                    |          |      |             |                      |                     |              |
| UA95 ... UA110   | 2 blocks                    |          |      |             |                      |                     |              |
| 1-pole auxiliary contacts for low current and voltage lewels |                             |          |      |             |                      |                     |              |
| A95 ... A300   | 2 blocks                    | 0        | 1    | CEL18-01    | 1SFN010716R1001      | 1                   | 0.050        |
| AF95 ... AF1650  | 2 blocks                    |          |      |             |                      |                     |              |
| UA95 ... UA110   | 2 blocks                    |          |      |             |                      |                     |              |
| A145 ... A300  | 2 blocks                    | 1        | 0    | CEL18-10    | 1SFN010716R1010      | 1                   | 0.050        |
| AF145 ... AF1650   | 2 blocks                    |          |      |             |                      |                     |              |
| UA95 ... UA110   | 2 blocks                    |          |      |             |                      |                     |              |

<sup>(1)</sup> 2 blocks CAL 18-11 + 2 blocks CAL 18-11B

### Auxiliary device including an insertion contact and a varistor.





To be used only with AE 95/110 and TAE 95/110.

|               |   |          |                 |   |       |
|---------------|---|----------|-----------------|---|-------|
| AE95, AE110   | } | CCL18-01 | 1SFN014328R1001 | 1 | 0,040 |
| TAE95, TAE110 |   |          |                 |   |       |

# Auxiliary Contact Blocks

## Side Mounting

### Technical Data

| Types  |   | CAL18-...  | CEL18-...                  |
|--|---|--|----------------------------|
| <b>Compliance with standards</b>   |   | IEC 60947-5-1, EN 60947-5-1  |                            |
| <b>Certification and approvals</b>   |   | CE, UL, CSA, CCC   | CE, UL                     |
| <b>Rated insulation voltage <math>U_i</math></b>   |   |  |                            |
| according to IEC 60947-5-1   | <b>V</b>  | 690  | 250                        |
| according to UL/CSA  | <b>V</b>  | 690  | 250                        |
| <b>Rated operational voltage <math>U_e</math></b>  | <b>V a.c.</b>   | 24 to 690  | 125                        |
| <b>Conventional free air thermal current <math>I_{th}</math></b>   | <b>A</b>  | 16   | 0.1                        |
| <b>Rated operational current <math>I_e</math></b> acc. to IEC 60947-5-1                                    |   | AC-15  | AC-14                      |
| 24-127 V a.c.  | <b>A</b>  | 6  | 0.1                        |
| 220-240 V a.c.   | <b>A</b>  | 4  | –                          |
| 380-440 V a.c.   | <b>A</b>  | 3  | –                          |
| 500-690 V a.c.   | <b>A</b>  | 2  | –                          |
|  |   | DC-13  | DC-12                      |
| 24 V d.c.  | <b>A</b>  | 6  | 0.1                        |
| 48 V d.c.  | <b>A</b>  | 2.8  | 0.1                        |
| 72 V d.c.  | <b>A</b>  | 1  | 0.1                        |
| 110 V d.c.   | <b>A</b>  | 0.55   | 0.1                        |
| 125 V d.c.   | <b>A</b>  | 0.55   | –                          |
| 250 V d.c.   | <b>A</b>  | 0.3  | –                          |
| <b>Short-circuit protection -</b>  | <b>A</b>  | 10 gG type fuses   | 0.1 FF fuses <sup>1)</sup> |
| <b>Rated making capacity</b>   |   | 10 x $I_e$ AC-15   | 6 x $I_e$ AC-14            |
| <b>Rated breaking capacity</b>   |   | 10 x $I_e$ AC-15   | 6 x $I_e$ AC-14            |
| <b>Rated short-time withstand current <math>I_{cw}</math></b> 1 s  | <b>A</b>  | 100  | –                          |
| $\theta = 40\text{ °C}$ 0.1 s  | <b>A</b>  | 140  | –                          |
| <b>Power loss per pole at 6 A</b>  | <b>W</b>  | 0.15   | –                          |
| <b>Min. switching capacity</b>   | <b>V / mA</b>   | 24 / 50 (0.5 million operating cycles)   | 3/1                        |
| <b>Mechanical durability</b>   |   |  |                            |
| – millions of operating cycles   |   | 5 (A/AF95 ... A/AF185), 3 (A/AF210 ... AF750), 0.5 (AF1350/AF1650)               | 1                          |
| – max. mechanical switching frequency  | <b>cycles / h</b>   | 3600   | 1200                       |
| <b>Electrical durability</b>   |   |  |                            |
| – millions of operating cycles   |   | see diagram below  | 0.7                        |
| – max. electrical switching frequency  | <b>cycles / h</b>   | 1200   | 1200                       |
| <b>Connecting terminals</b> (Delivered in open position.<br>Terminal screws not used should be tightened.) |   | M3.5 (+,-) pozidriv 2 screw with cable clamp<br>(no cable clamp for -RT version) |                            |
| <b>Tightening torque</b>   |   |  |                            |
| – recommended  | <b>Nm</b>   | 1.00   |                            |
| – max.   | <b>Nm</b>   | 1.20   |                            |
| <b>Connecting capacity</b> (min. ... max.)   |   |  |                            |
| Rigid solid  |  <b>1 or 2 x mm²</b>               | 1 ... 4  |                            |
| Flexible with cable en   |  <b>1 or 2 x mm²</b>               | 0.75 ... 2.5   |                            |
| Lugs   |  <b>L mm ≤</b><br><b>l mm &gt;</b> | 8<br>3.7   |                            |
| Ring Tounge connector  |  <b>L mm ≤</b><br><b>l mm &gt;</b> | 8 (only for -RT version)<br>3.7 (only for -RT version)                           | –<br>–                     |
| <b>Degree of protection</b> according to IEC 60529, IEC 60144  |   | IP 20  |                            |

1) HRC fuses for very fast action (size 6.3 x 32 mm)

### CAL18 Electrical Durability for AC-15 Utilization Category

AC-15 utilization category according to IEC 60947-5-1 / EN 60947-5-1:

- making current: 10 x  $I_e$  with  $\cos \varphi = 0.7$  and  $U_e$
- breaking current:  $I_e$  with  $\cos \varphi = 0.4$  and  $U_e$

These curves represent the electrical durability of the add-on auxiliary contacts in relation to the breaking current.

