

# Auxiliary Contact Blocks

## Side Mounting



CAL18-11

1SFC101072F0201



CAL18-11RT

1SFC101073F0201



CEL18-..

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 contactors	Max. number of blocks	Contacts		Type	Order code pieces	Pack <sup>ing</sup>	Weight kg
		N.O.	N.C.				1/piece
<b>2-pole auxiliary contacts</b>							
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>						
<b>2-pole auxiliary contacts for Ring Tongue connection</b>							
A95 ... A300	2 blocks	} 1	1	CAL18-11-RT	1SFN010729R1011	2	0.050
AF95 ... AF1650	2 blocks						
UA95 ... UA110	2 blocks						
<b>1-pole auxiliary contacts for low current and voltage levels</b>							
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							
<b>Auxiliary device including an insertion contact and a varistor.</b>							
<b>To be used only with AE 95/110 and TAE 95/110.</b>							
AE95, AE110	} 1			CCL18-01	1SFN014328R1001	1	0,040
TAE95, TAE110							

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### 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 – max. mechanical switching frequency	<b>cycles / h</b> 5 (A/AF95 ... A/AF185), 3 (A/AF210 ... AF750), 0.5 (AF1350/AF1650) 3600	1 1200
<b>Electrical durability</b> – millions of operating cycles – max. electrical switching frequency	<b>cycles / h</b> see diagram below 1200	0.7 1200
<b>Connecting terminals</b> (Delivered in open position. Terminal screws not used should be tightened.)	M3.5 (+,-) pozidriv 2 screw with cable clamp (no cable clamp for -RT version)	
<b>Tightening torque</b> – recommended – max.	<b>Nm</b> 1.00 <b>Nm</b> 1.20	
<b>Connecting capacity</b> (min. ... max.)		
Rigid solid  <b>1 or 2 x mm<sup>2</sup></b>	1 ... 4	
Flexible with cable en  <b>1 or 2 x mm<sup>2</sup></b>	0.75 ... 2.5	
Lugs  <b>L mm ≤</b> <b>l mm &gt;</b>	8 3.7	
Ring Tounge connector  <b>L mm ≤</b> <b>l mm &gt;</b>	8 (only for -RT version) 3.7 (only for -RT version)	– –
<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.

