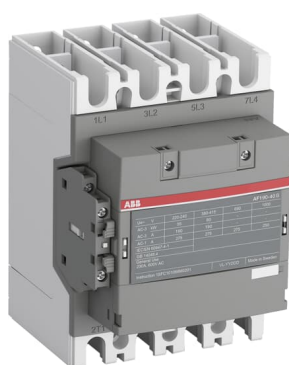


## PRODUCT-DETAILS

# AF190-40-11-13

## AF190-40-11-13 Contactor



### General Information

|                       |                          |
|-----------------------|--------------------------|
| Extended Product Type | AF190-40-11-13           |
| Product ID            | 1SFL487102R1311          |
| EAN                   | 7320500504277            |
| Catalog Description   | AF190-40-11-13 Contactor |

#### Long Description

The AF190-40-11-13 is a 4 pole - 1000 V IEC or 600 V UL contactor with pre-mounted auxiliary contacts and Main Circuit Bars, controlling motors up to 90 kW / 400 V AC (AC-3) / and switching power circuits up to 275 A (AC-1) or 230 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (100-250 V 50/60 Hz and DC), managing large control voltage variations, reducing panel energy consumptions and ensuring distinct operations in unstable networks. Furthermore, surge protection is built-in, offering a compact solution. AF contactors have a block type design, can be easily extended with add-on auxiliary contact blocks and an additional wide range of accessories.

### Ordering

|                        |          |
|------------------------|----------|
| Minimum Order Quantity | 1 piece  |
| Customs Tariff Number  | 85364900 |

### Popular Downloads

|                                   |                 |
|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 1SBC100192C0206 |
| Instructions and Manuals          | 1SFC101066M0201 |
| Dimension Diagram                 | 1SFB535001G1122 |

## Dimensions

|                            |        |
|----------------------------|--------|
| Product Net Width          | 140 mm |
| Product Net Depth / Length | 153 mm |
| Product Net Height         | 196 mm |
| Product Net Weight         | 3.3 kg |

## Technical

|                                                    |                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Main Contacts NO                         | 4                                                                                                                                                                                                                                                                                                                                                    |
| Number of Main Contacts NC                         | 0                                                                                                                                                                                                                                                                                                                                                    |
| Number of Auxiliary Contacts NO                    | 1                                                                                                                                                                                                                                                                                                                                                    |
| Number of Auxiliary Contacts NC                    | 1                                                                                                                                                                                                                                                                                                                                                    |
| Rated Operational Voltage                          | Main Circuit 1000 V                                                                                                                                                                                                                                                                                                                                  |
| Rated Frequency (f)                                | Main Circuit 60 Hz                                                                                                                                                                                                                                                                                                                                   |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-4-1, Open Contactors q = 40 °C 275 A                                                                                                                                                                                                                                                                                               |
| Rated Operational Current AC-1 ( $I_e$ )           | (1000 V) 40 °C 250 A<br>(1000 V) 55 °C 225 A<br>(1000 V) 60 °C 225 A<br>(1000 V) 70 °C 185 A<br>(690 V) 40 °C 275 A<br>(690 V) 55 °C 250 A<br>(690 V) 60 °C 250 A<br>(690 V) 70 °C 200 A                                                                                                                                                             |
| Rated Operational Current AC-3 ( $I_e$ )           | (415 V) 55 °C 190 A<br>(440 V) 55 °C 190 A<br>(380 / 400 V) 55 °C 190 A<br>(220 / 230 / 240 V) 55 °C 190 A                                                                                                                                                                                                                                           |
| Rated Operational Power AC-3 ( $P_e$ )             | (415 V) 90 kW<br>(440 V) 110 kW<br>(380 / 400 V) 90 kW<br>(220 / 230 / 240 V) 55 kW                                                                                                                                                                                                                                                                  |
| Rated Breaking Capacity AC-3 acc. to IEC 60947-4-1 | 8 x $I_e$ AC-3                                                                                                                                                                                                                                                                                                                                       |
| Rated Making Capacity AC-3 acc. to IEC 60947-4-1   | 10 x $I_e$ AC-3                                                                                                                                                                                                                                                                                                                                      |
| Short-Circuit Protective Devices                   | gG Type Fuses 355 A                                                                                                                                                                                                                                                                                                                                  |
| Rated Short-time Withstand Current ( $I_{cw}$ )    | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 1520 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 275 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 621 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1900 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 878 A |
| Maximum Breaking Capacity                          | $\cos \phi = 0.45$ ( $\cos \phi = 0.35$ for $I_e > 100$ A) at 440 V 3300 A                                                                                                                                                                                                                                                                           |
| Maximum Electrical Switching Frequency             | (AC-1) 300 cycles per hour                                                                                                                                                                                                                                                                                                                           |
| Rated Insulation Voltage ( $U_i$ )                 | acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V<br>acc. to UL/CSA 600 V                                                                                                                                                                                                                                                                            |
| Rated Impulse Withstand Voltage ( $U_{imp}$ )      | Main Circuit 8 kV                                                                                                                                                                                                                                                                                                                                    |
| Mechanical Durability                              | 5 million                                                                                                                                                                                                                                                                                                                                            |
| Maximum Mechanical Switching Frequency             | 300 cycles per hour                                                                                                                                                                                                                                                                                                                                  |
| Coil Operating Limits                              | (acc. to IEC 60947-4-1) 0.85 x $U_c$ Min. ... 1.1 x $U_c$ Max. (at $\theta \leq 70$ °C)                                                                                                                                                                                                                                                              |
| Rated Control Circuit Voltage ( $U_c$ )            | 50 Hz 100 ... 250 V<br>60 Hz 100 ... 250 V                                                                                                                                                                                                                                                                                                           |

|                                       |                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | DC Operation 100 ... 250 V                                                                                                                                                                                                                                                                                                                                               |
| Coil Consumption                      | Holding at Max. Rated Control Circuit Voltage 50 Hz 7 V·A<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 7 V·A<br>Holding at Max. Rated Control Circuit Voltage DC 2.5 W<br>Pull-in at Max. Rated Control Circuit Voltage 50 Hz 220 V·A<br>Pull-in at Max. Rated Control Circuit Voltage 60 Hz 220 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 190 W |
| Operate Time                          | Between Coil De-energization and NO Contact Opening 45 ... 80 ms<br>Between Coil Energization and NO Contact Closing 25 ... 60 ms                                                                                                                                                                                                                                        |
| Connecting Capacity Main Circuit      | Flexible 2 x 50 ... 95 mm²<br>Rigid Al-Cable 1 x 95 ... 185 mm²<br>Rigid Cu-Cable 1 x 6 ... 150 mm²                                                                                                                                                                                                                                                                      |
| Connecting Capacity Auxiliary Circuit | Flexible with Ferrule 2x 0.75 ... 2.5 mm²<br>Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm²<br>Flexible 2x0.75 ... 2.5 mm²<br>Solid 2 x 1 ... 4 mm²<br>Stranded 1 x 1 ... 4 mm²                                                                                                                                                                                     |
| Degree of Protection                  | acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP00                                                                                                                                                                                                                                             |
| Terminal Type                         | Main Circuit: Bars                                                                                                                                                                                                                                                                                                                                                       |

## Technical UL/CSA

|                                  |                     |
|----------------------------------|---------------------|
| Maximum Operating Voltage UL/CSA | Main Circuit 1000 V |
| General Use Rating UL/CSA        | (600 V AC) 230 A    |

## Environmental

|                                        |                                                                                                                                                                                                                     |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient Air Temperature                | Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... +50 °C<br>Close to Contactor without Thermal O/L Relay (0.85 ... 1.1 Uc) -40 ... +70 °C<br>Close to Contactor for Storage -40 ... +70 °C |
| Maximum Operating Altitude Permissible | 3000 m                                                                                                                                                                                                              |
| RoHS Status                            | Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019                                                                                                                                              |

## Certificates and Declarations (Document Number)

|                                 |                      |
|---------------------------------|----------------------|
| ABS Certificate                 | 14-LD1092198-PDA     |
| BV Certificate                  | BV_36353_A0BV        |
| CB Certificate                  | SE-82315             |
| CCC Certificate                 | CQC_2014010304676685 |
| CQC Certificate                 | CQC2014010304676685  |
| cUL Certificate                 | 20140925-E73397      |
| Declaration of Conformity - CCC | 2020980304001306     |
| Declaration of Conformity - CE  | 2CMT2015-005440      |
| DNV GL Certificate              | DNV_E-14043          |
| EAC Certificate                 | 9AKK107046A8618      |
| Instructions and Manuals        | 1SFC101066M0201      |
| LR Certificate                  | LR_14_70011(E1)      |
| PRS Certificate                 | TE_2092_880423_16    |
| RINA Certificate                | ELE060313XG_002      |
| RMRS Certificate                | 9AKK107045A6978      |
| RoHS Information                | 2CMT2015-005440      |

| Container Information          |               |
|--------------------------------|---------------|
| Package Level 1 Units          | box 1 piece   |
| Package Level 1 Width          | 166 mm        |
| Package Level 1 Depth / Length | 238 mm        |
| Package Level 1 Height         | 180 mm        |
| Package Level 1 Gross Weight   | 3.9 kg        |
| Package Level 1 EAN            | 7320500504277 |

| Classifications                    |                                           |
|------------------------------------|-------------------------------------------|
| Object Classification Code         | Q                                         |
| ETIM 4                             | EC000066 - Magnet contactor, AC-switching |
| ETIM 5                             | EC000066 - Magnet contactor, AC-switching |
| ETIM 6                             | EC000066 - Power contactor, AC switching  |
| ETIM 7                             | EC000066 - Power contactor, AC switching  |
| eClass                             | V11.0 : 27371003                          |
| UNSPSC                             | 39121529                                  |
| IDEA Granular Category Code (IGCC) | 4755 >> Contactors                        |
| E-Number (Finland)                 | 3707186                                   |
| E-Number (Norway)                  | 4117783                                   |
| E-Number (Sweden)                  | 3210327                                   |

| Categories                                                                          |
|-------------------------------------------------------------------------------------|
| Low Voltage Products and Systems → Control Products → Contactors → Block Contactors |

