

## PRODUCT-DETAILS

# AF190-30-11-13

## AF190-30-11-13 Contactor



### General Information

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF190-30-11-13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Product ID            | 1SFL487002R1311                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| EAN                   | 7320500480434                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Catalog Description   | AF190-30-11-13 Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Long Description      | <p>The AF190-30-11-13 is a 3 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) or 125 hp / 480 V UL and switching power circuits up to 275 A (AC-1) or 250 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.</p> |

### Ordering

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

### Popular Downloads

|                                   |                 |
|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 1SBC100192C0206 |
| Instructions and Manuals          | 1SFC100008M0201 |

CAD Dimensional  
Drawing

2CDC001079B0201

Dimension Diagram

1SFB535001G1056

## Dimensions

|                               |        |
|-------------------------------|--------|
| Product Net Width             | 105 mm |
| Product Net Depth /<br>Length | 152 mm |
| Product Net Height            | 196 mm |
| Product Net Weight            | 2.4 kg |

## Technical

|                                                       |                                                                                                                                                                                          |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Main Contacts<br>NO                         | 3                                                                                                                                                                                        |
| Number of Main Contacts<br>NC                         | 0                                                                                                                                                                                        |
| Number of Auxiliary<br>Contacts NO                    | 1                                                                                                                                                                                        |
| Number of Auxiliary<br>Contacts NC                    | 1                                                                                                                                                                                        |
| Rated Operational Voltage                             | Main Circuit 1000 V                                                                                                                                                                      |
| Rated Frequency (f)                                   | Main Circuit 50 / 60 Hz                                                                                                                                                                  |
| Conventional Free-air<br>Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-4-1, Open Contactors $\Theta = 40^\circ\text{C}$ 275 A                                                                                                                 |
| Rated Operational Current<br>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<br>AC-3 ( $I_e$ )           | (415 V) 55 °C 190 A<br>(440 V) 55 °C 190 A<br>(500 V) 55 °C 156 A<br>(690 V) 55 °C 135 A<br>(1000 V) 55 °C 85 A<br>(380 / 400 V) 55 °C 190 A<br>(220 / 230 / 240 V) 55 °C 190 A          |
| Rated Operational Current<br>AC-3e ( $I_e$ )          | (415 V) 60 °C 190 A<br>(440 V) 60 °C 190 A<br>(500 V) 60 °C 135 A<br>(690 V) 60 °C 135 A<br>(1000 V) 60 °C 85 A<br>(380 / 400 V) 60 °C 190 A<br>(220 / 230 / 240 V) 60 °C 190 A          |
| Rated Operational Power<br>AC-3 ( $P_e$ )             | (415 V) 90 kW<br>(440 V) 110 kW<br>(500 V) 110 kW<br>(690 V) 132 kW<br>(1000 V) 110 kW<br>(380 / 400 V) 90 kW<br>(220 / 230 / 240 V) 55 kW                                               |
| Rated Operational Power<br>AC-3e ( $P_e$ )            | (415 V) 90 kW<br>(440 V) 110 kW<br>(500 V) 110 kW<br>(690 V) 132 kW<br>(1000 V) 110 kW<br>(380 / 400 V) 90 kW<br>(220 / 230 / 240 V) 55 kW                                               |
| Rated Breaking Capacity<br>AC-3                       | 8 x $I_e$ AC-3                                                                                                                                                                           |
| Rated Breaking Capacity<br>AC-3e                      | 8.5 x $I_e$ AC-3e                                                                                                                                                                        |

|                                                                   |                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Making Capacity<br>AC-3                                     | 10 x Ie AC-3                                                                                                                                                                                                                                                                                                                                                             |
| Rated Making Capacity<br>AC-3e                                    | 12 x Ie AC-3e                                                                                                                                                                                                                                                                                                                                                            |
| Short-Circuit Protective<br>Devices                               | gG Type Fuses 355 A                                                                                                                                                                                                                                                                                                                                                      |
| Rated Short-time<br>Withstand Current Low<br>Voltage ( $I_{cw}$ ) | 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<br>Capacity                                      | cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 440 V 3300 A<br>cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 690 V 2200 A                                                                                                                                                                                                                                                 |
| Maximum Electrical<br>Switching Frequency                         | (AC-1) 300 cycles per hour<br>(AC-2 / AC-4) 150 cycles per hour<br>(AC-3) 300 cycles per hour                                                                                                                                                                                                                                                                            |
| Rated Operational Current<br>DC-1 ( $I_e$ )                       | (110 V) 2 Poles in Series, 40 °C 250 A<br>(220 V) 3 Poles in Series, 40 °C 250 A                                                                                                                                                                                                                                                                                         |
| Rated Operational Current<br>DC-3 ( $I_e$ )                       | (110 V) 2 Poles in Series, 40 °C 250 A<br>(220 V) 3 Poles in Series, 40 °C 250 A                                                                                                                                                                                                                                                                                         |
| Rated Operational Current<br>DC-5 ( $I_e$ )                       | (110 V) 2 Poles in Series, 40 °C 250 A<br>(220 V) 3 Poles in Series, 40 °C 250 A                                                                                                                                                                                                                                                                                         |
| Rated Insulation Voltage<br>( $U_i$ )                             | acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V<br>acc. to UL/CSA 600 V                                                                                                                                                                                                                                                                                                |
| Rated Impulse Withstand<br>Voltage ( $U_{imp}$ )                  | Main Circuit 8 kV                                                                                                                                                                                                                                                                                                                                                        |
| Mechanical Durability                                             | 5 million                                                                                                                                                                                                                                                                                                                                                                |
| Maximum Mechanical<br>Switching Frequency                         | 300 cycles per hour                                                                                                                                                                                                                                                                                                                                                      |
| Coil Operating Limits                                             | (acc. to IEC 60947-4-1) 0.85 x Uc Min. ... 1.1 x Uc Max. (at $\theta \leq 70$ °C)                                                                                                                                                                                                                                                                                        |
| Rated Control Circuit<br>Voltage ( $U_c$ )                        | 50 Hz 100 ... 250 V<br>60 Hz 100 ... 250 V<br>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 37 ... 47 ms<br>Between Coil Energization and NO Contact Closing 25 ... 55 ms                                                                                                                                                                                                                                        |
| Connecting Capacity Main<br>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<br>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 2 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<br>Voltage UL/CSA | Main Circuit 1000 V                                                                                                                                                                    |
| General Use Rating<br>UL/CSA        | (600 V AC) 250 A                                                                                                                                                                       |
| Horsepower Rating<br>UL/CSA         | (200 V AC) Three Phase 50 hp<br>(208 V AC) Three Phase 50 hp<br>(220 ... 240 V AC) Three Phase 60 hp<br>(440 ... 480 V AC) Three Phase 125 hp<br>(550 ... 600 V AC) Three Phase 150 hp |

## 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 | Without Derating 3000 m                                                                                                                                                                                           |
| RoHS Status                            | Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019                                                                                                                                            |

## Circular Value

|                                                  |                                                                                                                                         |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| ABB EcoSolutions                                 | Yes                                                                                                                                     |
| Circular Design Principles<br>Recyclability Rate | Design for Closing Resource Loops - Standard EN45555 - 79.2 %                                                                           |
| End of Life Instructions                         | 1SFC100112M0001                                                                                                                         |
| Group Waste to Landfill Target                   | Non-hazardous waste is sent to a landfill, where there is no alternative option available within 100km of a facility                    |
| Improved Resource Efficiency for Customers       | Product Efficiency - Product requires less energy to operate compared to similar product on market or older products from the same line |
| Sustainable Material Content                     | Recycled Metal - 35 %                                                                                                                   |

## Eco Transparency

|                                         |                 |
|-----------------------------------------|-----------------|
| Environmental Product Declaration - EPD | 1SFC100095D0201 |
|-----------------------------------------|-----------------|

## Certificates and Declarations (Document Number)

|                                         |                                            |
|-----------------------------------------|--------------------------------------------|
| ABS Certificate                         | 14-LD1092198-PDA                           |
| BV Certificate                          | BV_36353_A0BV                              |
| CB Certificate                          | SE-82315                                   |
| CCS Certificate                         | GB14T00030                                 |
| CQC Certificate                         | CQC2014010304676685<br>CQC2014010304724672 |
| Declaration of Conformity - CCC         | 2020980304001306<br>2020980304001071       |
| Declaration of Conformity - CE          | 2CMT2015-005439                            |
| Declaration of Conformity - UKCA        | 2CMT2020-006118                            |
| DNV Certificate                         | DNV_E-14043                                |
| EAC Certificate                         | 9AKK107046A8618                            |
| Environmental Product Declaration - EPD | 1SFC100095D0201                            |
| GL Certificate                          | GL_95072-14HH                              |
| Instructions and Manuals                | 1SFC100008M0201                            |
| KC Certificate                          | 9AKK107046A9912                            |
| LR Certificate                          | LR_14_70011(E1)                            |
| PRS Certificate                         | TE_2092_880423_16                          |
| REACH Declaration                       | 2CMT2021-006202                            |
| RINA Certificate                        | ELE060313XG_002                            |
| RMRS Certificate                        | 9AKK107045A6978                            |
| RoHS Information                        | 2CMT2021-006277                            |
| UL Certificate                          | 20121023-E36588                            |

Container Information

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | box 1 piece   |
| Package Level 1 Width          | 160 mm        |
| Package Level 1 Depth / Length | 258 mm        |
| Package Level 1 Height         | 235 mm        |
| Package Level 1 Gross Weight   | 3 kg          |
| Package Level 1 EAN            | 7320500480434 |

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  |
| ETIM 8                             | EC000066 - Power contactor, AC switching  |
| eClass                             | V11.0 : 27371003                          |
| UNSPSC                             | 39121529                                  |
| IDEA Granular Category Code (IGCC) | 4758 >> lec Contactors                    |
| E-Number (Finland)                 | 3706394                                   |
| E-Number (Norway)                  | 4117637                                   |
| E-Number (Sweden)                  | 3210134                                   |

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors

