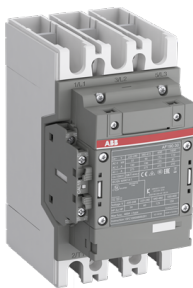




PRODUCT-DETAILS

# AF190-30-11-14

## AF190-30-11-14 Contactor



General Information

|                       |                          |
|-----------------------|--------------------------|
| Extended Product Type | AF190-30-11-14           |
| Product ID            | 1SFL487002R1411          |
| EAN                   | 7320500480441            |
| Catalog Description   | AF190-30-11-14 Contactor |

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Long Description | The AF190-30-11-14 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 (250-500 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          | 1SBC100214C0202 |
| Data Sheet, Technical Information (Part 2) | 1SAC200017M0002 |
| Instructions and Manuals                   | 1SFC100008M0201 |
| CAD Dimensional Drawing                    | 2CDC001079B0201 |
| Dimension Diagram                          | 1SFB535001G1056 |

## Dimensions

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

## Technical

|                                                    |                                                                                                                                                                                          |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Main Contacts NO                         | 3                                                                                                                                                                                        |
| Number of Main Contacts NC                         | 0                                                                                                                                                                                        |
| Number of Auxiliary Contacts NO                    | 1                                                                                                                                                                                        |
| Number of Auxiliary Contacts NC                    | 1                                                                                                                                                                                        |
| Number of Poles                                    | 3P                                                                                                                                                                                       |
| Rated Operational Voltage                          | Main Circuit 1000 V                                                                                                                                                                      |
| Rated Frequency (f)                                | Main Circuit 50 / 60 Hz                                                                                                                                                                  |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-4-1, Open Contactors $\Theta = 40\text{ °C}$ 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>(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 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 Current 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 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 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 Operational Power 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 <sub>e</sub> AC-3                                                                                                                                                                                                                                                                                                                                                        |
| Rated Breaking Capacity<br>AC-3e                                  | 8.5 x I <sub>e</sub> AC-3e                                                                                                                                                                                                                                                                                                                                                     |
| Rated Making Capacity<br>AC-3                                     | 10 x I <sub>e</sub> AC-3                                                                                                                                                                                                                                                                                                                                                       |
| Rated Making Capacity<br>AC-3e                                    | 12 x I <sub>e</sub> 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 I <sub>e</sub> > 100 A) at 440 V 3300 A<br>cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 2200 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 1000 V                                                                                                                                                                                                                                                                                                     |
| Rated Impulse Withstand<br>Voltage ( $U_{imp}$ )                  | Main Circuit 8 kV                                                                                                                                                                                                                                                                                                                                                              |
| 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                                                                                                                                                                                                                                                                                  |
| 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 U <sub>c</sub> Min. ... 1.1 x U <sub>c</sub> Max. (at $\theta \leq 70^\circ\text{C}$ )                                                                                                                                                                                                                                                          |
| Rated Control Circuit<br>Voltage ( $U_c$ )                        | 50 Hz 250 ... 500 V<br>60 Hz 250 ... 500 V<br>DC Operation 250 ... 500 V                                                                                                                                                                                                                                                                                                       |
| Coil Consumption                                                  | Holding at Max. Rated Control Circuit Voltage 50 Hz 16.1 V·A<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 16.1 V·A<br>Holding at Max. Rated Control Circuit Voltage DC 3.9 W<br>Pull-in at Max. Rated Control Circuit Voltage 50 Hz 260 V·A<br>Pull-in at Max. Rated Control Circuit Voltage 60 Hz 260 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 230 W |
| Power Loss                                                        | at Rated Operating Conditions per Pole 7 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 mm <sup>2</sup><br>Rigid Al-Cable 1 x 95 ... 185 mm <sup>2</sup><br>Rigid Cu-Cable 1 x 6 ... 150 mm <sup>2</sup>                                                                                                                                                                                                                                        |
| Connecting Capacity<br>Auxiliary Circuit                          | Flexible with Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible 2x0.75 ... 2.5 mm <sup>2</sup><br>Solid 2 x 1 ... 4 mm <sup>2</sup><br>Stranded 2 x 1 ... 4 mm <sup>2</sup>                                                                                                                               |
| Connecting Capacity                                               | Flexible 2 x 50 ... 95 mm <sup>2</sup><br>Rigid Al-Cable 1 x 95 ... 185 mm <sup>2</sup><br>Rigid Cu-Cable 2 x 50 ... 120 mm <sup>2</sup>                                                                                                                                                                                                                                       |
| 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                                                                                                                                                                                                                                                   |
| Tightening Torque                                                 | Cable Lug 18 N·m<br>Main Circuit 14 ... 31 N·m                                                                                                                                                                                                                                                                                                                                 |
| Terminal Type                                                     | Main Circuit: Bars                                                                                                                                                                                                                                                                                                                                                             |
| Product Name                                                      | Block Contactor                                                                                                                                                                                                                                                                                                                                                                |

## Technical UL/CSA

|                   |                     |
|-------------------|---------------------|
| Maximum Operating | Main Circuit 1000 V |
|-------------------|---------------------|

**Voltage UL/CSA**

General Use Rating (1000 V AC) 250 A

**UL/CSA**

Horsepower Rating (200 V AC) Three Phase 50 hp  
 (208 V AC) Three Phase 50 hp  
 (220 ... 240 V AC) Three Phase 60 hp  
 (440 ... 480 V AC) Three Phase 125 hp  
 (550 ... 600 V AC) Three Phase 150 hp

Full Load Amps Motor (440 ... 480 V AC) Three Phase 156 A  
 Use (550 ... 600 V AC) Three Phase 144 A

**Environmental**

Ambient Air Temperature Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... 50 °C  
 Close to Contactor without Thermal O/L Relay (0.85 ... 1.1 Uc) -40 ... 70 °C  
 Close to Contactor for Storage -40 ... 70 °C

Maximum Operating Without Derating 3000 m  
 Altitude Permissible

**Material Compliance**

Conflict Minerals 9AKK108467A5658

Reporting Template (CMRT)

REACH Declaration 2CMT2021-006202

RoHS Information 2CMT2021-006277

RoHS Status Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019

Toxic Substances Control Act - TSCA 2CMT2023-006525

WEEE B2C / B2B Business To Business  
 WEEE Category 5. Small Equipment (No External Dimension More Than 50 cm)

**ABB EcoSolutions**

ABB EcoSolutions Yes

ABB Site Meeting 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

End Of Life Disassembling Instructions 1SFC100112M0001

Environmental Product Declaration - EPD 1SFC100095D0201  
 2TFP200018A1001

Improved Energy Efficiency for Customers Product Efficiency - Product requires less energy to operate compared to similar product on market or older products from the same line

Recyclability Rate of the Product acc. to EN45555 Design for Closing Resource Loops - Standard EN45555 - 79.2 %

Sustainable Material Content in Product (wt. %) Recycled Metal - 35 %

**Certificates and Declarations**

A2L Certificate - UL 9AKK108468A6695

ABS Certificate 14-LD1092198-PDA

BV Certificate BV\_36353\_A0BV

CB Certificate SE-82315

CCS Certificate GB14T00030

CQC Certificate CQC2014010304676685  
 CQC2014010304724672

Declaration of Conformity - CCC 2020980304001306  
 2020980304001071

Declaration of Conformity - CE 2CMT2015-005439

Declaration of Conformity 2CMT2020-006118

- UKCA

|                  |                   |
|------------------|-------------------|
| DNV Certificate  | DNV_E-14043       |
| EAC Certificate  | 9AKK107046A8618   |
| GL Certificate   | GL_95072-14HH     |
| KC Certificate   | 9AKK107046A9912   |
| LR Certificate   | LR_14_70011(E1)   |
| PRS Certificate  | TE_2092_880423_16 |
| RINA Certificate | ELE060313XG_002   |
| RMRS Certificate | 9AKK107045A6978   |
| UL Certificate   | 20121023-E36588   |
| UL Listing Card  | UL_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            | 7320500480441 |

External Classifications and Standards

|                                    |                                          |
|------------------------------------|------------------------------------------|
| Object Classification Code         | Q                                        |
| ETIM 7                             | EC000066 - Power contactor, AC switching |
| ETIM 8                             | EC000066 - Power contactor, AC switching |
| ETIM 9                             | EC000066 - Power contactor, AC switching |
| eClass                             | V11.0 : 27371003                         |
| UNSPSC                             | 39121529                                 |
| IDEA Granular Category Code (IGCC) | 4758 >> Iec Contactors                   |
| E-Number (Finland)                 | 3706397                                  |
| E-Number (Norway)                  | 4117640                                  |
| E-Number (Sweden)                  | 3210135                                  |

Accessories

| Identifier      | Description          | Type     | Quantity | Unit Of Measure |
|-----------------|----------------------|----------|----------|-----------------|
| 1SFN170801R1001 | RU19/120 LVRT-Module | RU19/120 | 1        | piece           |
| 1SFN170801R1002 | RU19/240 LVRT-Module | RU19/240 | 1        | piece           |

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF190

