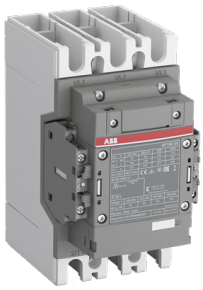
PRODUCT-DETAILS

# AF190-30-22-11

# AF190-30-22-11 Contactor



## General Information

| | |
|---|---|
| Extended Product Type | AF190-30-22-11 |
| Product ID | 1SFL487002R1122 |
| EAN | 7320500480458 |
| Catalog Description | AF190-30-22-11 Contactor |
| Long Description | The AF190-30-22-11 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 (24-60 V 50/60 Hz and 20-60 V 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. Includes Mounting kit, containing all neccessary screws, washers and sockets for connecting the terminals, and screws for mounting the device. |

## Ordering

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

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## Popular Downloads

| | |
|---|---|
| EPLAN Data | 9AAC174541_EPLAN |
| Data Sheet, Technical Information | 1SBC100214C0202 |
| Data Sheet, Technical Information (Part 2) | 1SAC200017M0002 |
| Instructions and Manuals | 1SFC100008M0201 |
| CAD Dimensional Drawing | 2CDC001079B0201 |

## Dimensions

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|---|---|
| Product Net Width | 105 mm |
| Product Net Depth / Length | 152 mm |
| Product Net Height | 196 mm |
| Product Net Weight | 2.4 kg |
| Dimension Diagram | 1SFB535001G1056 |

## Technical

| | |
|---|---|
| Number of Main Contacts NO | 3 |
| Number of Main Contacts NC | 0 |
| Number of Auxiliary Contacts NO | 2 |
| Number of Auxiliary Contacts NC | 2 |
| 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 Θ = 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>(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 |

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| | |
|---|---|
| | (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 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 AC-3 | 8 x Ie AC-3 |
| Rated Breaking Capacity AC-3e | 8.5 x Ie AC-3e |
| Rated Making Capacity AC-3 | 10 x Ie AC-3 |
| Rated Making Capacity AC-3e | 12 x Ie AC-3e |
| Short-Circuit Protective Devices | gG Type Fuses 355 A |
| Rated Short-time Withstand Current Low Voltage ($I_{cw}$) | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 275 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 878 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 1900 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1520 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 621 A |
| Maximum Breaking 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 |
| 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 |
| Maximum Electrical 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 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 θ ≤ 70 °C) |
| Rated Control Circuit Voltage ($U_c$) | 50 Hz 24 ... 60 V<br>60 Hz 24 ... 60 V<br>DC Operation 20 ... 60 V |
| Coil Consumption | Holding at Max. Rated Control Circuit Voltage 50 Hz 6 V·A<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 6 V·A<br>Holding at Max. Rated Control Circuit Voltage DC 2.5 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 165 V·A<br>Pull-in at Max. Rated Control Circuit Voltage 60 Hz 165 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 205 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 205 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 Circuit | Flexible 1 x 6 ... 120 mm²<br>Flexible 2 x 50 ... 95 mm²<br>Rigid Al-Cable 1 x 95 ... 185 mm²<br>Rigid Cu-Cable 2 x 50 ... 120 mm² |
| Connecting Capacity Auxiliary Circuit | Flexible with Ferrule 1x 0.75 ... 2.5 mm²<br>Flexible with Ferrule 2x 0.75 ... 2.5 mm²<br>Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm²<br>Flexible 2x0.75 ... 2.5 mm²<br>Solid 1 x 1 ... 4 mm²<br>Solid 2 x 1 ... 4 mm²<br>Stranded 1 x 1 .... 4 mm²<br>Stranded 2 x 1 .... 4 mm² |
| Connecting Capacity | Flexible 1 x 6 ... 120 mm²<br>Flexible 2 x 50 ... 95 mm²<br>Rigid Al-Cable 1 x 95 ... 185 mm²<br>Rigid Cu-Cable 2 x 10 ... 95 mm² |
| Degree of Protection | acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP40<br>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 |

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|---|---|
| Tightening Torque | Cable Lug 9 N·m<br>Main Circuit 14 ... 31 N·m |
| Terminal Type | Main Circuit: Bars |
| Product Name | Block Contactor |

## Technical UL/CSA

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|---|---|
| Maximum Operating Voltage UL/CSA | Main Circuit 600 V |
| General Use Rating UL/CSA | (1000 V AC) 250 A |
| Horsepower Rating 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 |
| Full Load Amps Motor Use | (440 ... 480 V AC) Three Phase 156 A<br>(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<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 |

## Material Compliance

| | |
|---|---|
| Conflict Minerals Reporting Template (CMRT) | 9AKK108467A5658 |
| REACH Declaration | 2CMT2021-006202 |
| RoHS Declaration | 2CMT2021-006277 |
| RoHS Information | 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

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|---|---|
| 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<br>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 |

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| | |
|---|---|
| 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 |
| 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

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|---|---|
| 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 | 7320500480458 |

## External Classifications and Standards

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|---|---|
| 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) | 3706389 |

## 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 |

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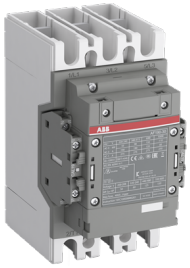
## Categories

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



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