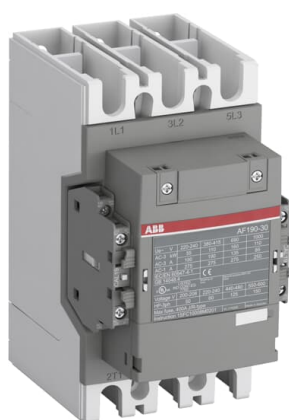


## PRODUCT-DETAILS

# 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 | <p>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.</p> |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Ordering

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

### Popular Downloads

|                                   |                 |
|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 1SBC100192C0206 |
|-----------------------------------|-----------------|

|                          |                 |
|--------------------------|-----------------|
| Instructions and Manuals | 1SFC100008M0201 |
| 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<br>NO                         | 3                                                                                                                                                                                                            |
| Number of Main Contacts<br>NC                         | 0                                                                                                                                                                                                            |
| Number of Auxiliary<br>Contacts NO                    | 2                                                                                                                                                                                                            |
| Number of Auxiliary<br>Contacts NC                    | 2                                                                                                                                                                                                            |
| 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 q = 40 °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 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 Breaking Capacity<br>AC-3 acc. to IEC 60947-4-1 | 8 x $I_e$ AC-3                                                                                                                                                                                               |
| Rated Making Capacity<br>AC-3 acc. to IEC 60947-4-1   | 10 x $I_e$ AC-3                                                                                                                                                                                              |
| Short-Circuit Protective<br>Devices                   | gG Type Fuses 355 A                                                                                                                                                                                          |
| Rated Short-time<br>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 |

|                                                     |                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     | 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 <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                                                                                                                                                                                                                         |
| 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                                                                                                                                                                                                                                                                            |
| Rated Operational Current DC-1 (I <sub>e</sub> )    | (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 <sub>e</sub> )    | (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 <sub>e</sub> )    | (110 V) 2 Poles in Series, 40 °C 250 A<br>(220 V) 3 Poles in Series, 40 °C 250 A                                                                                                                                                                                                                                                                                         |
| Rated Insulation Voltage (U <sub>i</sub> )          | 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 <sub>imp</sub> ) | 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 <sub>c</sub> Min. ... 1.1 x U <sub>c</sub> Max. (at θ ≤ 70 °C)                                                                                                                                                                                                                                                                          |
| Rated Control Circuit Voltage (U <sub>c</sub> )     | 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 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 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 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>                                                                                                                                                                                                                                 |
| Connecting Capacity Auxiliary Circuit               | Flexible with Ferrule 1x 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 1 x 1 ... 4 mm <sup>2</sup><br>Stranded 1 x 1 ... 4 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                                                                                                                                                                                                                                             |
| 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) 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 |

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**Environmental**


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|                                           |                                                                                   |
|-------------------------------------------|-----------------------------------------------------------------------------------|
| 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<br>Altitude Permissible | 3000 m                                                                            |
| RoHS Status                               | Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019            |

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**Certificates and Declarations (Document Number)**


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|                                    |                                            |
|------------------------------------|--------------------------------------------|
| ABS Certificate                    | 14-LD1092198-PDA                           |
| BV Certificate                     | BV_36353_A0BV                              |
| CB Certificate                     | SE-82315                                   |
| CCC Certificate                    | CQC_2014010304676685                       |
| CCS Certificate                    | GB14T00030                                 |
| CQC Certificate                    | CQC2014010304676685<br>CQC2014010304724672 |
| cUL Certificate                    | 20121023-E36588                            |
| Declaration of Conformity<br>- CCC | 2020980304001306<br>2020980304001071       |
| Declaration of Conformity<br>- CE  | 2CMT2015-005439                            |
| DNV Certificate                    | DNV_E-14043                                |
| DNV GL Certificate                 | DNV_E-14043                                |
| EAC Certificate                    | 9AKK107046A8618                            |
| Environmental Information          | 2CMT004732<br>1SAC200042H0004              |
| GL Certificate                     | GL_95072-14HH                              |
| Instructions and Manuals           | 1SFC100008M0201                            |
| KC Certificate                     | 9AKK107046A9912                            |
| LR Certificate                     | LR_14_70011(E1)                            |
| PRS Certificate                    | TE_2092_880423_16                          |
| RINA Certificate                   | ELE060313XG_002                            |
| RMRS Certificate                   | 9AKK107045A6978                            |
| RoHS Information                   | 2CMT2015-005439                            |
| UL Listing Card                    | UL_E36588                                  |

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**Container Information**


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|                                   |               |
|-----------------------------------|---------------|
| Package Level 1 Units             | box 1 piece   |
| Package Level 1 Width             | 160 mm        |
| Package Level 1 Depth /<br>Length | 258 mm        |
| Package Level 1 Height            | 235 mm        |
| Package Level 1 Gross<br>Weight   | 3 kg          |
| Package Level 1 EAN               | 7320500480458 |

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| 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)                 | 3706389                                   |   |

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

