



PRODUCT-DETAILS

# AF116-30-22B-14

## AF116-30-22B-14 Contactor



| General Information   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF116-30-22B-14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Product ID            | 1SFL427002R1422                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EAN                   | 7320500494868                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Catalog Description   | AF116-30-22B-14 Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Long Description      | The AF116-30-22B-14 is a 3 pole - 690 V IEC or 600 V UL contactor with pre-mounted auxiliary contacts and Main Circuit Bars, controlling motors up to 55 kW / 400 V AC (AC-3) or 75 hp / 480 V UL and switching power circuits up to 160 A (AC-1) or 160 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

|                                            |                  |
|--------------------------------------------|------------------|
| EPLAN Data                                 | 9AAC174538_EPLAN |
| Data Sheet, Technical Information          | 1SBC100214C0202  |
| Data Sheet, Technical Information (Part 2) | 1SAC200017M0002  |
| Instructions and Manuals                   | 1SFC100003M0201  |
| CAD Dimensional Drawing                    | 2CDC001079B0201  |

## Dimensions

|                            |                 |
|----------------------------|-----------------|
| Product Net Width          | 90 mm           |
| Product Net Depth / Length | 126 mm          |
| Product Net Height         | 150 mm          |
| Product Net Weight         | 1.3 kg          |
| Dimension Diagram          | 1SFB535001G1051 |

## 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 690 V                                                                                                                                      |
| Rated Frequency (f)                                | Main Circuit 50 / 60 Hz                                                                                                                                 |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-4-1, Open Contactors $\Theta = 40\text{ °C}$ 160 A                                                                                    |
| Rated Operational Current AC-1 ( $I_e$ )           | (690 V) 40 °C 160 A<br>(690 V) 60 °C 145 A<br>(690 V) 70 °C 130 A                                                                                       |
| Rated Operational Current AC-3 ( $I_e$ )           | (415 V) 55 °C 116 A<br>(440 V) 55 °C 116 A<br>(500 V) 55 °C 110 A<br>(690 V) 55 °C 65 A<br>(380 / 400 V) 55 °C 116 A<br>(220 / 230 / 240 V) 55 °C 116 A |
| Rated Operational Current AC-3e ( $I_e$ )          | (415 V) 60 °C 116 A<br>(440 V) 60 °C 116 A<br>(500 V) 60 °C 110 A<br>(690 V) 60 °C 65 A<br>(380 / 400 V) 60 °C 116 A<br>(220 / 230 / 240 V) 60 °C 116 A |
| Rated Operational Current DC-1 ( $I_e$ )           | (110 V) 2 Poles in Series, 40 °C 145 A<br>(220 V) 3 Poles in Series, 40 °C 145 A                                                                        |
| Rated Operational Current DC-3 ( $I_e$ )           | (110 V) 2 Poles in Series, 40 °C 145 A<br>(220 V) 3 Poles in Series, 40 °C 145 A                                                                        |
| Rated Operational Current DC-5 ( $I_e$ )           | (110 V) 2 Poles in Series, 40 °C 145 A<br>(220 V) 3 Poles in Series, 40 °C 145 A                                                                        |
| Rated Operational Power AC-3 ( $P_e$ )             | (415 V) 55 kW<br>(440 V) 75 kW                                                                                                                          |

|                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                         | (500 V) 75 kW<br>(690 V) 55 kW<br>(380 / 400 V) 55 kW<br>(220 / 230 / 240 V) 30 kW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Rated Operational Power<br>AC-3e (P <sub>e</sub> )                      | (415 V) 55 kW<br>(440 V) 75 kW<br>(500 V) 75 kW<br>(690 V) 55 kW<br>(380 / 400 V) 55 kW<br>(220 / 230 / 240 V) 30 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 250 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Rated Short-time<br>Withstand Current Low<br>Voltage (I <sub>cw</sub> ) | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 160 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 536 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 1160 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 928 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 379 A                                                                                                                                                                                                                                  |
| Maximum Breaking<br>Capacity                                            | cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 440 V 2000 A<br>cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 1000 A                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Rated Insulation Voltage<br>(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<br>Withstand Voltage (U <sub>imp</sub> )                  | 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 θ ≤ 70 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Rated Control Circuit<br>Voltage (U <sub>c</sub> )                      | 50 Hz 250 ... 500 V<br>60 Hz 250 ... 500 V<br>DC Operation 250 ... 500 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Coil Consumption                                                        | Average Pull-in Value 50 Hz 260 V-A<br>Average Pull-in Value 60 Hz 260 V-A<br>Holding at Max. Rated Control Circuit Voltage 50 Hz 33.2 V-A<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 33.2 V-A<br>Holding at Max. Rated Control Circuit Voltage DC 4.3 V-A<br>Holding at Max. Rated Control Circuit Voltage DC 4.3 W<br>Pull-in at Max. Rated Control Circuit Voltage 50 Hz 275 V-A<br>Pull-in at Max. Rated Control Circuit Voltage 60 Hz 275 V-A<br>Pull-in at Max. Rated Control Circuit Voltage DC 820 V-A<br>Pull-in at Max. Rated Control Circuit Voltage DC 820 W |
| Power Loss                                                              | at Rated Operating Conditions per Pole 6 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<br>Main Circuit                                     | Flexible 2 x 10 ... 70 mm <sup>2</sup><br>Rigid Cu-Cable 2 x 10 ... 95 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 1 x 1 .... 4 mm <sup>2</sup><br>Stranded 2 x 1 .... 4 mm <sup>2</sup>                                                                                                                                                                                                                                                                                           |
| Connecting Capacity                                                     | Flexible 2 x 10 ... 70 mm <sup>2</sup><br>Rigid Cu-Cable 2 x 10 ... 95 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|                      |                                                                                                                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |
| Tightening Torque    | Cable Lug 9 N·m<br>Main Circuit 8 N·m                                                                                                                                                             |
| Terminal Type        | Main Circuit: Bars                                                                                                                                                                                |
| Product Name         | Block Contactor                                                                                                                                                                                   |

## Technical UL/CSA

|                                  |                                                                                                                                                                                                                                                                                                               |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum Operating Voltage UL/CSA | Main Circuit 600 V                                                                                                                                                                                                                                                                                            |
| General Use Rating UL/CSA        | (600 V AC) 160 A                                                                                                                                                                                                                                                                                              |
| Horsepower Rating UL/CSA         | (200 V AC) Three Phase 30 hp<br>(208 V AC) Three Phase 30 hp<br>(220 ... 240 V AC) Three Phase 20 Hp<br>(220 ... 240 V AC) Three Phase 40 hp<br>(440 ... 480 V AC) Three Phase 40 Hp<br>(440 ... 480 V AC) Three Phase 75 hp<br>(550 ... 600 V AC) Three Phase 50 Hp<br>(550 ... 600 V AC) Three Phase 100 hp |
| Full Load Amps Motor Use         | (440 ... 480 V AC) Three Phase 96 A<br>(550 ... 600 V AC) Three Phase 99 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

|                                                 |                                                                                                                      |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 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         | 1SFC100092D0201<br>2TFP200059A1001                                                                                   |
| Improved Energy                                 | Product Efficiency - Product requires less energy to operate compared to                                             |

|                                                   |                                                                |
|---------------------------------------------------|----------------------------------------------------------------|
| Efficiency for Customers                          | 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 - 87.8 %  |

## Certificates and Declarations

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| A2L Certificate – UL             | 9AKK108468A6693                            |
| ABS Certificate                  | 14-LD1092198-PDA<br>14-LD1092198-1-PDA-DUP |
| BV Certificate                   | BV_36353_A0BV                              |
| CB Certificate                   | SEMKO_SE-70479M1                           |
| CCS Certificate                  | GB14T00030                                 |
| CQC Certificate                  | CQC2013010304604055                        |
| Declaration of Conformity - CCC  | 2020980304001304                           |
| Declaration of Conformity - CE   | 2CMT2015-005439                            |
| Declaration of Conformity - UKCA | 2CMT2020-006118                            |
| DNV Certificate                  | DNV_E-14043                                |
| LR Certificate                   | 16-20064                                   |
| PRS Certificate                  | TE_2092_880423_16                          |
| RINA Certificate                 | ELE060313XG_002                            |
| RMRS Certificate                 | 9AKK107045A6978                            |
| UL Certificate                   | 20120925-E36588                            |
| UL Listing Card                  | UL_E36588                                  |

## Container Information

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | box 1 piece   |
| Package Level 1 Width          | 207 mm        |
| Package Level 1 Depth / Length | 216 mm        |
| Package Level 1 Height         | 150 mm        |
| Package Level 1 Gross Weight   | 1.5 kg        |
| Package Level 1 EAN            | 7320500494868 |

## 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)                 | 3706184                                  |

## Accessories

| Identifier      | Description                         | Type       | Quantity | Unit Of Measure |
|-----------------|-------------------------------------|------------|----------|-----------------|
| 1SFN034403R1000 | VM140/190 Mechanical Interlock Unit | VM140/190  | 1        | piece           |
| 1SFN074203R1000 | LY140 Connecting Strip              | LY140      | 1        | piece           |
| 1SFN074207R1000 | LW140 Terminal Enlargement          | LW140      | 1        | piece           |
| 1SFN074208R1000 | LD146-30 Connection Module          | LD146-30   | 1        | piece           |
| 1SFN074210R1000 | LX140 Terminal Extension            | LX140      | 1        | piece           |
| 1SFN074211R1000 | LL146-30 Connection Socket          | LL146-30   | 1        | piece           |
| 1SFN084206R1000 | BEA140/XT2 Connection Set           | BEA140/XT2 | 1        | piece           |
| 1SFN084206R1001 | BEA140/XT4 Connection Set           | BEA140/XT4 | 1        | piece           |
| 1SFN084206R1002 | BEA140/XT3 Connection Set           | BEA140/XT3 | 1        | piece           |
| 1SFN084211R1000 | BER140-4 Connection Set             | BER140-4   | 1        | piece           |
| 1SFN084214R1000 | BEP140-30 Connection Set            | BEP140-30  | 1        | piece           |
| 1SFN084413R1000 | BEY140-4 Connection Set             | BEY140-4   | 1        | piece           |
| 1SFN094200R1000 | PR146-1 Adapter Plate               | PR146-1    | 1        | piece           |
| 1SFN124203R1000 | LT140-30L Terminal Shroud           | LT140-30L  | 1        | piece           |
| 1SFN074208R2000 | LD146-40 Connection Module          | LD146-40   | 1        | piece           |
| 1SFN074211R2000 | LL146-40 connection sockets kit     | LL146-40   | 1        | piece           |
| 1SFN084214R2000 | BEP140-40 Connection Set            | BEP140-40  | 1        | piece           |
| 1SFN124203R2000 | LT140-40L Terminal Shroud           | LT140-40L  | 1        | piece           |

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF116

