



PRODUCT-DETAILS

AF116-40-22-13

AF116-40-22-13 Contactor



| General Information   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF116-40-22-13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Product ID            | 1SFL427101R1322                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| EAN                   | 7320500503942                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Catalog Description   | AF116-40-22-13 Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Long Description      | <p>The AF116-40-22-13 is a 4 pole - 690 V IEC or 600 V UL contactor with pre-mounted auxiliary contacts and double clamp, controlling motors up to 55 kW / 400 V AC (AC-3) / 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 (100-250 V 50/60 Hz and DC), managing large control voltage variations, reducing panel energy consumptions and ensuring distinct operations in unstable networks. Furthermore, surge protection is built-in, offering a compact solution. AF contactors have a block type design, can be easily extended with add-on auxiliary contact blocks and an additional wide range of accessories.</p> |

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

## Popular Downloads

|                                            |                  |
|--------------------------------------------|------------------|
| 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          | 120 mm          |
| Product Net Depth / Length | 128 mm          |
| Product Net Height         | 150 mm          |
| Product Net Weight         | 2.05 kg         |
| Dimension Diagram          | 1SFB535001G1121 |

## Technical

|                                                    |                                                                                                            |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Number of Main Contacts NO                         | 4                                                                                                          |
| Number of Main Contacts NC                         | 0                                                                                                          |
| Number of Auxiliary Contacts NO                    | 2                                                                                                          |
| Number of Auxiliary Contacts NC                    | 2                                                                                                          |
| Number of Poles                                    | 4P                                                                                                         |
| Rated Operational Voltage                          | Main Circuit 690 V                                                                                         |
| Rated Frequency (f)                                | Main Circuit 60 Hz<br>Main Circuit 50 / 60 Hz                                                              |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-4-1, Open Contactors $\Theta = 40^\circ\text{C}$ 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>(380 / 400 V) 55 °C 116 A<br>(220 / 230 / 240 V) 55 °C 116 A |
| Rated Operational Power AC-3 ( $P_e$ )             | (415 V) 55 kW<br>(440 V) 75 kW<br>(380 / 400 V) 55 kW<br>(220 / 230 / 240 V) 30 kW                         |
| Rated Breaking Capacity AC-3                       | 8 x $I_e$ AC-3                                                                                             |
| Rated Breaking Capacity AC-3e                      | 8.5 x $I_e$ AC-3e                                                                                          |
| Rated Making Capacity AC-3                         | 10 x $I_e$ AC-3                                                                                            |
| Rated Making Capacity AC-3e                        | 12 x $I_e$ AC-3e                                                                                           |
| Short-Circuit Protective Devices                   | gG Type Fuses 200 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 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 1300 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 $I_e > 100$ A) at 440 V 2000 A                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Rated Insulation Voltage<br>( $U_i$ )                             | acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V<br>acc. to UL/CSA 600 V                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Rated Impulse<br>Withstand Voltage ( $U_{imp}$ )                  | Main Circuit 8 kV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Maximum Electrical<br>Switching Frequency                         | (AC-1) 300 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 $U_c$ Min. ... 1.1 x $U_c$ Max. (at $\theta \leq 70$ °C)                                                                                                                                                                                                                                                                                                                                                                                                                |
| Rated Control Circuit<br>Voltage ( $U_c$ )                        | 50 Hz 100 ... 250 V<br>60 Hz 100 ... 250 V<br>DC Operation 100 ... 250 V                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Coil Consumption                                                  | Holding at Max. Rated Control Circuit Voltage 50 Hz 30.7 V·A<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 30.7 V·A<br>Holding at Max. Rated Control Circuit Voltage DC 2.8 V·A<br>Holding at Max. Rated Control Circuit Voltage DC 2.8 W<br>Pull-in at Max. Rated Control Circuit Voltage 50 Hz 220 V·A<br>Pull-in at Max. Rated Control Circuit Voltage 60 Hz 220 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 275 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 275 W |
| Power Loss                                                        | 12 W<br>at Rated Operating Conditions per Pole 12 W                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Operate Time                                                      | Between Coil De-energization and NO Contact Opening 40 ... 70 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 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                                                     | Double Clamp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Product Name                                                      | Block Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Technical UL/CSA

|                                     |                                                                                                                                                                                                                                                                      |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum Operating<br>Voltage UL/CSA | Main Circuit 600 V                                                                                                                                                                                                                                                   |
| General Use Rating<br>UL/CSA        | (600 V AC) 160 A                                                                                                                                                                                                                                                     |
| Horsepower Rating<br>UL/CSA         | (200 ... 208 V AC) Three Phase 15 Hp<br>(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 |

(550 ... 600 V AC) Three Phase 50 Hp  
(550 ... 600 V AC) Three Phase 100 hp

## Environmental

|                                        |                                                                                                                                                                                                                                                                                                      |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient Air Temperature                | Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... 50 °C<br>Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... 55 °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                                                                                                                         |
| 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 - 87.8 %                                                                           |

## Certificates and Declarations

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| ABS Certificate                  | 14-LD1092198-PDA<br>14-LD1092198-1-PDA-DUP |
| BV Certificate                   | BV_36353_A0BV                              |
| CB Certificate                   | SEMKO_SE-77317                             |
| CQC Certificate                  | CQC2013010304604055                        |
| Declaration of Conformity - CCC  | 2020980304001304                           |
| Declaration of Conformity - CE   | 2CMT2015-005440                            |
| Declaration of Conformity - UKCA | 2CMT2020-006118                            |
| KC Certificate                   | 9AKK107046A9911                            |
| LR Certificate                   | 16-20064                                   |

|                  |                   |
|------------------|-------------------|
| PRS Certificate  | TE_2092_880423_16 |
| RINA Certificate | ELE060313XG_002   |
| RMRS Certificate | 9AKK107045A6978   |
| UL Certificate   | E73397_20140710   |

## Container Information

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | box 1 piece   |
| Package Level 1 Width          | 147 mm        |
| Package Level 1 Depth / Length | 197 mm        |
| Package Level 1 Height         | 155 mm        |
| Package Level 1 Gross Weight   | 2.25 kg       |
| Package Level 1 EAN            | 7320500503942 |

## 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)                 | 3706043                                  |

## Accessories

| Identifier      | Description                       | Type      | Quantity | Unit Of Measure |
|-----------------|-----------------------------------|-----------|----------|-----------------|
| 1SFN010820R1011 | CAL19-11 Auxiliary Contact Block  | CAL19-11  | 1        | piece           |
| 1SFN010820R3311 | CAL19-11B Auxiliary Contact Block | CAL19-11B | 1        | piece           |
| 1SFN010832R1001 | CEL19-01 Auxiliary Contact Block  | CEL19-01  | 1        | piece           |
| 1SFN010832R1010 | CEL19-10 Auxiliary Contact Block  | CEL19-10  | 1        | piece           |
| 1SFN074208R2000 | LD146-40 Connection Module        | LD146-40  | 1        | piece           |
| 1SFN124203R2000 | LT140-40L Terminal Shroud         | LT140-40L | 1        | piece           |
| 1SFN124801R2000 | LT205-40C Terminal Shroud         | LT205-40C | 1        | piece           |
| 1SFN074807R2000 | LW205-40 Terminal Enlargement     | LW205-40  | 1        | piece           |
| 1SFN124803R2000 | LT205-40L Terminal Shroud         | LT205-40L | 1        | piece           |
| 1SFN075407R2000 | LW370-40 Terminal Enlargement     | LW370-40  | 1        | piece           |
| 1SFN125401R2000 | LT370-40C Terminal Shroud         | LT370-40C | 1        | piece           |
| 1SFN125403R2000 | LT370-40L Terminal Shroud         | LT370-40L | 1        | piece           |

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## Categories

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

