



 PRODUCT-DETAILS

AF190-40-22-14

AF190-40-22-14 Contactor



General Information

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|-----------------------|--------------------------|
| Extended Product Type | AF190-40-22-14 |
| Product ID | 1SFL487102R1422 |
| EAN | 7320500504314 |
| Catalog Description | AF190-40-22-14 Contactor |

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| Long Description | <p>The AF190-40-22-14 is a 4 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) / and switching power circuits up to 275 A (AC-1) or 230 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. Includes Mounting kit, containing all necessary screws, washers and sockets for connecting the terminals, and screws for mounting the device.</p> |
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Ordering

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

Popular Downloads

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| 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 | 140 mm |
| Product Net Depth / Length | 153 mm |
| Product Net Height | 196 mm |
| Product Net Weight | 3.3 kg |
| Dimension Diagram | 1SFB535001G1122 |

Technical

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| 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 1000 V |
| Rated Frequency (f) | Main Circuit 60 Hz 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 (1000 V) 55 °C 225 A (1000 V) 60 °C 225 A (1000 V) 70 °C 185 A (690 V) 40 °C 275 A (690 V) 55 °C 250 A (690 V) 60 °C 250 A (690 V) 70 °C 200 A |
| Rated Operational Current AC-3 (I _e) | (415 V) 55 °C 190 A (440 V) 55 °C 190 A (380 / 400 V) 55 °C 190 A (220 / 230 / 240 V) 55 °C 190 A |
| Rated Operational Power AC-3 (P _e) | (415 V) 90 kW (440 V) 110 kW (380 / 400 V) 90 kW (220 / 230 / 240 V) 55 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 | 10 x I _e AC-3 |

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| 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 at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 878 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 1900 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1520 A 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 |
| Rated Insulation Voltage (U_i) | acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V 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 (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 $\theta \leq 70$ °C) |
| Rated Control Circuit Voltage (U_c) | 50 Hz 250 ... 500 V 60 Hz 250 ... 500 V DC Operation 250 ... 500 V |
| Coil Consumption | Holding at Max. Rated Control Circuit Voltage 50 Hz 18.6 V-A Holding at Max. Rated Control Circuit Voltage 60 Hz 18.6 V-A Holding at Max. Rated Control Circuit Voltage DC 4.1 V-A Holding at Max. Rated Control Circuit Voltage DC 4.1 W Pull-in at Max. Rated Control Circuit Voltage 50 Hz 260 V-A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 260 V-A Pull-in at Max. Rated Control Circuit Voltage DC 680 V-A Pull-in at Max. Rated Control Circuit Voltage DC 680 W |
| Power Loss | 15 W at Rated Operating Conditions per Pole 15 W |
| Operate Time | Between Coil De-energization and NO Contact Opening 45 ... 80 ms Between Coil Energization and NO Contact Closing 25 ... 60 ms |
| Connecting Capacity Main Circuit | Flexible 2 x 50 ... 95 mm ² Rigid Al-Cable 1 x 95 ... 185 mm ² Rigid Cu-Cable 1 x 6 ... 150 mm ² Rigid Cu-Cable 2 x 50 ... 120 mm ² |
| Connecting Capacity Auxiliary Circuit | Flexible with Ferrule 2x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm ² Flexible 2x0.75 ... 2.5 mm ² Solid 1 x 1 ... 4 mm ² Solid 2 x 1 ... 4 mm ² Stranded 1 x 1 ... 4 mm ² Stranded 2 x 1 ... 4 mm ² |
| Connecting Capacity | Flexible 2 x 50 ... 95 mm ² Rigid Cu-Cable 2 x 10 ... 95 mm ² |
| Degree of Protection | acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP40 acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP00 |
| Tightening Torque | Cable Lug 9 N-m 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 |
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| General Use Rating UL/CSA | (1000 V AC) 250 A |
| Horsepower Rating UL/CSA | (200 ... 208 V AC) Three Phase 20 Hp (200 V AC) Three Phase 50 hp (208 V AC) Three Phase 50 hp (220 ... 240 V AC) Three Phase 25 Hp (220 ... 240 V AC) Three Phase 60 hp (440 ... 480 V AC) Three Phase 60 Hp (440 ... 480 V AC) Three Phase 125 hp (550 ... 600 V AC) Three Phase 75 Hp (550 ... 600 V AC) Three Phase 150 hp |

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 Altitude Permissible | Without Derating 3000 m |

Material Compliance

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| 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 UL 2799 Zero Waste To Landfill Validation available |
| End Of Life Disassembling Instructions | 1SFC100112M0001 |
| Environmental Product Declaration - EPD | 1SFC100095D0201 |
| Extended Product Lifetime | Product Durability |
| 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 Product Efficiency - Product considered more energy-efficient 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 - 79.1 % |

Certificates and Declarations

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| ABS Certificate | 14-LD1092198-PDA 14-LD1092198-1-PDA-DUP |
| BV Certificate | BV_36353_AOBV |

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| CB Certificate | SEMKO_SE-77322 |
| CQC Certificate | CQC2014010304676685 |
| Declaration of Conformity - CCC | 2020980304001306 |
| Declaration of Conformity - CE | 2CMT2015-005440 |
| Declaration of Conformity - UKCA | 2CMT2020-006118 |
| LR Certificate | 16-20064 |
| PRS Certificate | TE_2092_880423_16 |
| RINA Certificate | ELE060313XG_002 |
| RMRS Certificate | 9AKK107045A6978 |
| UL Certificate | 20140925-E73397 |

Container Information

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| Package Level 1 Units | box 1 piece |
| Package Level 1 Width | 166 mm |
| Package Level 1 Depth / Length | 238 mm |
| Package Level 1 Height | 180 mm |
| Package Level 1 Gross Weight | 3.9 kg |
| Package Level 1 EAN | 7320500504314 |

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 >> lec Contactors |
| E-Number (Finland) | 3707190 |

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 |

Categories

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

