



 PRODUCT-DETAILS

AF190-40-22-12

AF190-40-22-12 Contactor



General Information

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| Extended Product Type: | AF190-40-22-12 |
| Product ID: | 1SFL487102R1222 |
| EAN: | 7320500504253 |
| Catalog Description: | AF190-40-22-12 Contactor |
| Long Description: | The AF190-40-22-12 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 (48-130 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. |
| Display Name: | AF190-40-22-12 |

Ordering

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| Minimum Order Quantity: | 1 piece |
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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 $\Theta = 40\text{ °C}$ 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 |

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| Rated Making Capacity AC-3: | 10 x Ie AC-3 |
| Rated Making Capacity AC-3e: | 12 x Ie AC-3e |
| Short-Circuit Protective Devices: | gG Type Fuses 355 A |
| Rated Short-time Withstand Current Low Voltage (I_{cw}): | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 275 A 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 U _c Min. ... 1.1 x U _c Max. (at θ ≤ 70 °C) |
| Rated Control Circuit Voltage (U_c): | 50 Hz 48 ... 130 V 60 Hz 48 ... 130 V DC Operation 48 ... 130 V |
| Coil Consumption: | Holding at Max. Rated Control Circuit Voltage 50 Hz 14.5 V-A Holding at Max. Rated Control Circuit Voltage 60 Hz 14.5 V-A Holding at Max. Rated Control Circuit Voltage DC 2.5 V-A Holding at Max. Rated Control Circuit Voltage DC 2.5 W Pull-in at Max. Rated Control Circuit Voltage 50 Hz 340 V-A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 340 V-A Pull-in at Max. Rated Control Circuit Voltage DC 465 V-A Pull-in at Max. Rated Control Circuit Voltage DC 465 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 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 1x0.75 ... 2.5 mm ² Flexible 2x0.75 ... 2.5 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 |
| 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 |
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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 |
| EcoSolutions Profile: | 1SFC100125C0366 |
| 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_A0BV |
| CB Certificate: | SE-82315 |
| 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: | 7320500504253 |

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): | 3707184 |

Accessories

| Identifier | Description | Qty | Type | Unit Of Measure |
|-----------------|-----------------------------------|-----|-----------|-----------------|
| 1SFN010820R1011 | CAL19-11 Auxiliary Contact Block | 1 | CAL19-11 | piece |
| 1SFN010820R3311 | CAL19-11B Auxiliary Contact Block | 1 | CAL19-11B | piece |

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| 1SFN010832R1001 | CEL19-01 Auxiliary Contact Block | 1 | CEL19-01 | piece |
| 1SFN010832R1010 | CEL19-10 Auxiliary Contact Block | 1 | CEL19-10 | piece |
| 1SFN074208R2000 | LD146-40 Connection Module | 1 | LD146-40 | piece |
| 1SFN124203R2000 | LT140-40L Terminal Shroud | 1 | LT140-40L | piece |
| 1SFN124801R2000 | LT205-40C Terminal Shroud | 1 | LT205-40C | piece |
| 1SFN074807R2000 | LW205-40 Terminal Enlargement | 1 | LW205-40 | piece |
| 1SFN124803R2000 | LT205-40L Terminal Shroud | 1 | LT205-40L | piece |
| 1SFN075407R2000 | LW370-40 Terminal Enlargement | 1 | LW370-40 | piece |
| 1SFN125401R2000 | LT370-40C Terminal Shroud | 1 | LT370-40C | piece |
| 1SFN125403R2000 | LT370-40L Terminal Shroud | 1 | LT370-40L | piece |

Categories

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