PRODUCT-DETAILS

AFS460-30-12-68

AFS460-30-12-68



General Information

Extended Product Type	AFS460-30-12-68
Product ID	1SFL597081R6812
EAN	7320500540893
Catalog Description	AFS460-30-12-68
Long Description	The AFS460-30-12-68 is a 3 pole - 1000 V IEC or 600 V UL contactor with pre-mounted 1 left (1 N.O + 1 N.C.) and fixed 1 right (1 N.C.) side mounted auxiliary contact blocks with Main Circuit Bars connections, controlling motors up to 250 kW / 400 V AC (AC-3) or 400 hp / 480 V UL and switching power circuits up to 700 A (AC-1) or 650 A UL general use. AFS contactors can be easily integrated in machine manufacturer's systems complying with main standards EN ISO 13849 and EN 62061 - guaranteeing the safe use of your machinery and equipment. An easily identifiable yellow low energy auxiliary contact block ensures the status feedback circuits required in machine safety applications. Thanks to the AF technology, the contactor has a wide control voltage range (24-60 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.

Ordering

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Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

Popular Downloads

EPLAN Data	9AAC412765_EPLAN
Data Sheet, Technical Information	1SBC100214C0202
Data Sheet, Technical Information (Part 2)	1SAC200017M0002
Instructions and Manuals	1SFC380023-en
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	186 mm
Product Net Depth / Length	216 mm
Product Net Height	278 mm
Product Net Weight	10.6 kg

Technical

Number of Main Contacts NO	3
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	1
Number of Auxiliary Contacts NC	2
Number of Poles	3P
Rated Operational Voltage	Main Circuit 1000 V
Rated Frequency (f)	Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current (I_{th})	acc. to IEC 60947-4-1, Open Contactors Θ = 40 °C 700 A
Rated Operational Current AC-1 (I_e)	(1000 V) 40 °C 700 A (1000 V) 55 °C 600 A (1000 V) 60 °C 600 A (1000 V) 70 °C 480 A (690 V) 40 °C 700 A (690 V) 55 °C 600 A (690 V) 70 °C 480 A
Rated Operational Current AC-3 (I_e)	(415 V) 55 °C 460 A (440 V) 55 °C 460 A (500 V) 55 °C 460 A (690 V) 55 °C 400 A (1000 V) 55 °C 200 A (380 / 400 V) 55 °C 460 A (220 / 230 / 240 V) 55 °C 460 A
Rated Operational Current DC-1 (I_e)	(110 V) 1-Pole, 40 °C 700 A (110 V) 2 Poles in Series, 40 °C 700 A (220 V) 3 Poles in Series, 40 °C 600 A (600 V) 3 Poles in Series, 40 °C 700 A
Rated Operational Current DC-3 (I_e)	(110 V) 1-Pole, 40 °C 700 A (110 V) 2 Poles in Series, 40 °C 700 A

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	(220 V) 3 Poles in Series, 40 °C 600 A (600 V) 3 Poles in Series, 40 °C 700 A
Rated Operational Current DC-5 (I_e)	(110 V) 1-Pole, 40 °C 700 A (110 V) 2 Poles in Series, 40 °C 700 A (220 V) 3 Poles in Series, 40 °C 600 A (600 V) 3 Poles in Series, 40 °C 700 A
Rated Operational Power AC-3 (P_e)	(415 V) 250 kW (440 V) 250 kW (500 V) 315 kW (690 V) 355 kW (1000 V) 280 kW (380 / 400 V) 250 kW (220 / 230 / 240 V) 132 kW
Rated Breaking Capacity AC-3	8 x Ie AC-3
Rated Making Capacity AC-3	10 x Ie AC-3
Short-Circuit Protective Devices	gG Type Fuses 1.5 ... 1.8 In A gG Type Fuses 800 A
Rated Short-time Withstand Current Low Voltage (I_{cw})	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 840 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 3100 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 4600 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 4400 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 2500 A
Maximum Breaking Capacity	cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 440 V 5000 A cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 690 V 4500 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-2 / AC-4) 60 cycles per hour (AC-3) 300 cycles per hour
Mechanical Durability	3 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 θ ≤ 70 °C)
Rated Control Circuit Voltage (U_c)	DC Operation 24 ... 60 V
Coil Consumption	Holding at Max. Rated Control Circuit Voltage 50 Hz 12 V·A Holding at Max. Rated Control Circuit Voltage 60 Hz 12 V·A Holding at Max. Rated Control Circuit Voltage DC 7.5 V·A Pull-in at Max. Rated Control Circuit Voltage 50 Hz 900 V·A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 900 V·A Pull-in at Max. Rated Control Circuit Voltage DC 900 V·A
Power Loss	at Rated Operating Conditions per Pole 21 W
Operate Time	Between Coil De-energization and NC Contact Closing 45 ... 55 ms Between Coil De-energization and NO Contact Opening 48 ... 58 ms Between Coil Energization and NC Contact Opening 45 ... 115 ms Between Coil Energization and NO Contact Closing 50 ... 120 ms
Connecting Capacity Main Circuit	Bar 47 mm² Rigid Al-Cable 2x240 mm² Rigid Cu-Cable 240 mm² Rigid Cu-Cable 2x240 mm²
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 2x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm² Flexible 2x0.75 ... 2.5 mm² Solid 2 x 1 ... 4 mm² Stranded 2 x 1 .... 4 mm²
Connecting Capacity	Bar 47 mm² Rigid Al-Cable 2x240 mm² Rigid Cu-Cable 2x240 mm²
Degree of Protection	acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20

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	acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP00
Connecting Terminals (delivered in open position) Main Poles	M 3.5 (+,-) pozidriv 2 screw with cable clamp
Recommended Screw Driver	Main Circuit M10 Control Circuit 5.5 Control Circuit M3.5 Control Circuit Pozidriv 2
Tightening Torque	Cable Lug 35 N·m Main Circuit 35 N·m
Terminal Type	Main Circuit: Bars
Suitable for Product Class	Block ContactorsBlock Contactors
Product Name	Block Contactor

Technical UL/CSA

NEMA Size	6
Horsepower Rating NEMA	(575 V AC) Three Phase 400 Hp
Maximum Operating Voltage UL/CSA	Main Circuit 1000 V
General Use Rating UL/CSA	(1000 V AC) 550 A (600 V AC) 650 A
Horsepower Rating UL/CSA	(200 ... 208 V AC) Three Phase 150 Hp (200 ... 208 V AC) Three Phase 150 hp (220 ... 240 V AC) Three Phase 200 Hp (220 ... 240 V AC) Three Phase 200 hp (440 ... 480 V AC) Three Phase 400 Hp (440 ... 480 V AC) Three Phase 400 hp (550 ... 600 V AC) Three Phase 500 Hp (550 ... 600 V AC) Three Phase 500 hp
Full Load Amps Motor Use	(200 ... 208 V AC) Three Phase 414 A (220 ... 240 V AC) Three Phase 480 A (440 ... 480 V AC) Three Phase 477 A (550 ... 600 V AC) Three Phase 472 A

Environmental

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 Operation -40 ... 70 °C Storage -40 ... +70 °C
Maximum Operating Altitude Permissible	Without Derating 3000 m
Resistance to Shock acc. to IEC 60068-2-27	Shock Direction: A 5 g Shock Direction: B1 5 g Shock Direction: B2 5 g Shock Direction: C1 5 g Shock Direction: C2 5 g

Material Compliance

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
REACH Declaration	2CMT2021-006202
RoHS Declaration	2CMT2021-006277

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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
Environmental Product Declaration - EPD	1SFC100105D0201
Improved Energy Efficiency for Customers	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 - 63.1 %
Sustainable Material Content in Product (wt. %)	Recycled Metal - 37 %

Certificates and Declarations

CB Certificate	SE-82316
CQC Certificate	CQC2007010304256683
cUL Certificate	20121207-E36588
Declaration of Conformity - CCC	2020980304001300
Declaration of Conformity - CE	2CMT2018-005695
Declaration of Conformity - UKCA	2CMT2020-006125
EAC Certificate	1SFC101360D1101
SUVA Certificate	2CMT2019-005859

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	280 mm
Package Level 1 Depth / Length	375 mm
Package Level 1 Height	310 mm
Package Level 1 Gross Weight	12 kg
Package Level 1 EAN	7320500540893

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

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IDEA Granular Category Code (IGCC)	4755 >> Contactors
E-Number (Finland)	3709041

Accessories

Identifier	Description	Type	Quantity	Unit Of Measure
1SFN010716R1010	CEL18-10 Auxiliary Contact Block	CEL18-10	1	piece
1SFN010716R1001	CEL18-01 Auxiliary Contact Block	CEL18-01	1	piece
1SFN010720R1011	CAL18-11 Auxiliary Contact Block	CAL18-11	1	piece
1SFN125703R1000	LT460-AL Terminal shroud	LT460-AL	1	piece
1SFN125701R1000	LT460-AC Terminal shroud	LT460-AC	1	piece
1SFN075710R1000	LX460 Terminal Extension	LX460	1	piece
1SFN075707R1000	LW460 Terminal Enlargement	LW460	1	piece
1SFN075703R1000	LY460 Connecting Strip	LY460	1	piece
1SFN126103R1000	LT750-AL Terminal shroud	LT750-AL	1	piece
1SFN126101R1000	LT750-AC Terminal shroud	LT750-AC	1	piece
1SFN076110R1000	LX750 Terminal Extension	LX750	1	piece
1SFN076107R1000	LW750 Terminal Enlargement	LW750	1	piece
1SFN076103R1000	LY750 Connecting Strip	LY750	1	piece

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AFS Contactors → AFS460



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