



PRODUCT-DETAILS

AF80N3-30-11-12

AF80N3-30-11-12 48-130V50/60HZ-DC

Contactors



General Information	
Extended Product Type	AF80N3-30-11-12
Product ID	1SBL397001N1211
EAN	3471523016682
Catalog Description	AF80N3-30-11-12 48-130V50/60HZ-DC Contactor
Long Description	The AF80N3-30-11-12 is a 3 pole - 600 V UL, NEMA size N3 contactor with pre-mounted auxiliary contacts and Screw, switching power circuits up to 90 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.

Ordering	
Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

Popular Downloads	
Instructions and Manuals	1SBC101036M6801
CAD Dimensional Drawing	2CDC001079B0201

Dimensions	
Product Net Width	82 mm
Product Net Depth / Length	116 mm
Product Net Height	125.5 mm
Product Net Weight	1.26 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	1
Number of Poles	3P
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60335-2-40 LZGH2 A2L, UL 60947-1, UL 60947-4-1, CSA C22.2 No. 60335-2-40 LZGH2 A2L, CSA C22.2 No. 60947-1:22, CSA C22.2 No. 60947-4-1:22
Rated Operational Voltage	Auxiliary Circuit 690 V Main Circuit 1000 V
Rated Frequency (f)	Auxiliary Circuit 50 / 60 Hz Control Circuit 50 / 60 Hz Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current (I _{th})	acc. to IEC 60947-4-1, Open Contactors $\Theta = 40\text{ }^{\circ}\text{C}$ 130 A acc. to IEC 60947-5-1, $\Theta = 40\text{ }^{\circ}\text{C}$ 16 A
Rated Operational Current AC-1 (I _e)	(690 V) 40 °C 125 A (690 V) 60 °C 100 A (690 V) 70 °C 85 A
Rated Operational Current AC-3 (I _e)	(415 V) 60 °C 80 A (440 V) 60 °C 80 A (500 V) 60 °C 65 A (690 V) 60 °C 49 A (1000 V) 60 °C 25 A (380 / 400 V) 60 °C 80 A (220 / 230 / 240 V) 60 °C 80 A
Rated Operational Current AC-3e (I _e)	(415 V) 60 °C 80 A (440 V) 60 °C 80 A (500 V) 60 °C 65 A (690 V) 60 °C 49 A (380 / 400 V) 60 °C 80 A (220 / 230 / 240 V) 60 °C 80 A
Rated Operational Current AC-15 (I _e)	(500 V) 2 A (690 V) 2 A (24 / 127 V) 6 A (220 / 240 V) 4 A (400 / 440 V) 3 A
Rated Operational Current DC-13 (I _e)	(24 V) 6 A / 144 W (48 V) 2.8 A / 134 W (72 V) 1 A / 72 W (110 V) 0.55 A / 60 W (125 V) 0.55 A / 69 W

	(220 V) 0.27 A / 60 W (250 V) 0.27 A / 68 W (400 V) 0.15 A / 60 W (500 V) 0.13 A / 65 W (600 V) 0.1 A / 60 W
Rated Operational Power AC-3 (P _e)	(400 V) 37 kW (415 V) 45 kW (440 V) 45 kW (500 V) 45 kW (690 V) 45 kW (1000 V) 35 kW (380 / 400 V) 37 kW (220 / 230 / 240 V) 22 kW
Rated Operational Power AC-3e (P _e)	(415 V) 45 kW (440 V) 45 kW (500 V) 45 kW (690 V) 45 kW (380 / 400 V) 37 kW (220 / 230 / 240 V) 22 kW
Rated Short-time Withstand Current Low Voltage (I _{cw})	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 780 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 140 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 300 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1200 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 450 A for 0.1 s 140 A for 1 s 100 A
Maximum Breaking Capacity	cos phi=0.45 (cos phi=0.35 for I _e > 100 A) at 440 V 1150 A cos phi=0.45 (cos phi=0.35 for I _e > 100 A) at 690 V 750 A
Rated Insulation Voltage (U _i)	acc. to IEC 60947-4-1 1000 V acc. to IEC 60947-5-1 690 V acc. to UL/CSA 600 V
Rated Impulse Withstand Voltage (U _{imp})	8 kV
Maximum Electrical Switching Frequency	(AC-1) 600 cycles per hour (AC-15) 1200 cycles per hour (AC-2 / AC-4) 150 cycles per hour (AC-3) 1200 cycles per hour (DC-13) 900 cycles per hour
Maximum Mechanical Switching Frequency	3600 cycles per hour
Rated Control Circuit Voltage (U _c)	50 Hz 48 ... 130 V 60 Hz 48 ... 130 V DC Operation 48 ... 130 V
Power Loss	at 6 A per Pole 0.1 W at Rated Operating Conditions AC-1 per Pole 7.6 W at Rated Operating Conditions AC-3 per Pole 3 W
Operate Time	Between Coil De-energization and NC Contact Closing 19 ... 105 ms Between Coil De-energization and NO Contact Opening 17 ... 100 ms Between Coil Energization and NC Contact Opening 38 ... 95 ms Between Coil Energization and NO Contact Closing 42 ... 100 ms
Mounting on DIN Rail	TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715
Mounting by Screws (not supplied)	2 x M4 or 2 x M6 screws placed diagonally
Connecting Capacity Main Circuit	Flexible with Ferrule 1/2x 6 ... 50 mm ² Flexible with Insulated Ferrule 1/2x 6 ... 50 mm ² Rigid Stranded 1x 6 ... 70 mm ² Rigid Stranded 2x 6 ... 50 mm ²
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm ² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm ² Rigid 1/2x 1 ... 2.5 mm ²
Connecting Capacity Control Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm ² Rigid 1/2x 1 ... 2.5 mm ²

Wire Stripping Length	Auxiliary Circuit 10 mm Control Circuit 10 mm Main Circuit 17 mm
Degree of Protection	acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP10
Tightening Torque	Auxiliary Circuit 1.2 N·m Control Circuit 1.2 N·m Main Circuit 6 N·m
Terminal Type	Screw Terminals
Product Name	Block Contactor

Technical UL/CSA

NEMA Size	3
Continuous Current Rating NEMA	90 A
Horsepower Rating NEMA	(200 V AC) Three Phase 25 Hp (230 V AC) Three Phase 30 Hp (460 V AC) Three Phase 50 Hp (575 V AC) Three Phase 50 Hp
Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating UL/CSA	(600 V AC) 105 A
Connecting Capacity Main Circuit UL/CSA	Rigid Stranded 1/2x 6-1 AWG
Tightening Torque UL/CSA	Auxiliary Circuit 11 in·lb Control Circuit 11 in·lb Main Circuit 53 in·lb
Full Load Amps Motor Use	(120 V AC) Single Phase 7-1/2 A (200 ... 208 V AC) Three Phase 25 A (220 ... 240 V AC) Three Phase 30 A (240 V AC) Single Phase 15 A (440 ... 480 V AC) Three Phase 60 A (550 ... 600 V AC) Three Phase 75 A

Environmental

Ambient Air Temperature	Close to Contactor Fitted with Thermal O/L Relay -40 ... 70 °C Close to Contactor without Thermal O/L Relay -40 ... 70 °C Close to Contactor for Storage -60 ... +80 °C
Climatic Withstand	Category B according to IEC 60947-1 Annex Q
Maximum Operating Altitude Permissible	Without Derating 3000 m
Resistance to Shock acc. to IEC 60068-2-27	Closed, Shock Direction: A 25 g Closed, Shock Direction: B1 25 g Closed, Shock Direction: B2 15 g Closed, Shock Direction: C1 25 g Closed, Shock Direction: C2 25 g Open, Shock Direction: A 25 g Open, Shock Direction: B1 5 g Open, Shock Direction: B2 15 g Open, Shock Direction: C1 25 g Open, Shock Direction: C2 25 g
Resistance to Vibrations	3g Closed Position & 3g Open Position 5 ... 300 Hz
Pollution Degree	3

Material Compliance

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
REACH Declaration	2CMT2021-006202
RoHS Information	2CMT2021-006277
RoHS Status	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019
Toxic Substances Control Act - TSCA	2CMT2023-006525
WEEE Category	Product Not in WEEE Scope

ABB EcoSolutions

ABB EcoSolutions	Yes
End Of Life Disassembling Instructions	1SBC101081M6801
Sustainable Material Content in Packaging (wt. %)	FSC Recycled Paper - 94.6 %
Sustainable Material Content in Product (wt. %)	Recycled Metal - 28.2 %

Certificates and Declarations

A2L Certificate – UL	9AKK108469A4890;9AKK108469A4892
CB Certificate	CB_SE-113142A1
Declaration of Conformity - CE	1SBD250027U1000
Declaration of Conformity - UKCA	1SBD250056U1000
UL Certificate	UL-US-L312527-1141-10303102-9 UL-CA-L312527-4141-10303102-9
UL Listing Card	UL_E312527

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	150 mm
Package Level 1 Depth / Length	150 mm
Package Level 1 Height	103 mm
Package Level 1 Gross Weight	1.38 kg
Package Level 1 EAN	3471523016682
Package Level 3 Units	192 piece

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

Categories

Low Voltage Products and Systems → Control Products → Contactors → NEMA Contactors

