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 PRODUCT-DETAILS

# AF146-30-22B-34

## AF146-30-22B-34 Contactor




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**General Information**

Extended Product Type	AF146-30-22B-34
Product ID	1SFL467002R3422
EAN	7320500480960
Catalog Description	AF146-30-22B-34 Contactor

Long Description	<p>The AF146-30-22B-34 is a 3 pole - 1000 V IEC or 600 V UL contactor with pre-mounted auxiliary contacts and Main Circuit Bars, controlling motors up to 75 kW / 400 V AC (AC-3) or 100 hp / 480 V UL and switching power circuits up to 225 A (AC-1) or 200 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 <a href="#">accessories</a>.</p>
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**Ordering**

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

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**Popular Downloads**

EPLAN Data	9AAC174540_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	90 mm
Product Net Depth / Length	142.5 mm
Product Net Height	150 mm
Product Net Weight	1.3 kg

### Technical

Number of Main Contacts NO	3
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	2
Number of Auxiliary Contacts NC	2
Number of Poles	3P
Rated Operational Voltage	Main Circuit 1000 V
Rated Frequency (f)	Main Circuit 50 Hz Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current ( $I_{th}$ )	acc. to IEC 60947-4-1, Open Contactors $\Theta = 40^\circ\text{C}$ 225 A
Rated Operational Current AC-1 ( $I_e$ )	(1000 V) 40 °C 225 A (1000 V) 55 °C 200 A (1000 V) 60 °C 200 A (1000 V) 70 °C 175 A (690 V) 40 °C 225 A (690 V) 55 °C 200 A (690 V) 60 °C 200 A (690 V) 70 °C 175 A
Rated Operational Current AC-3 ( $I_e$ )	(415 V) 55 °C 146 A (440 V) 55 °C 146 A (500 V) 55 °C 130 A (690 V) 55 °C 93 A (1000 V) 55 °C 60 A (380 / 400 V) 55 °C 146 A (220 / 230 / 240 V) 55 °C 146 A
Rated Operational Current AC-3e ( $I_e$ )	(415 V) 60 °C 146 A (440 V) 60 °C 146 A (500 V) 60 °C 130 A (690 V) 60 °C 93 A (1000 V) 60 °C 54 A (380 / 400 V) 60 °C 146 A (220 / 230 / 240 V) 60 °C 146 A
Rated Operational Power AC-3 ( $P_e$ )	(415 V) 75 kW (440 V) 90 kW (500 V) 90 kW (690 V) 90 kW (1000 V) 75 kW (380 / 400 V) 75 kW (220 / 230 / 240 V) 45 kW
Rated Operational Power AC-3e ( $P_e$ )	(415 V) 75 kW (440 V) 90 kW (500 V) 90 kW (690 V) 90 kW (1000 V) 75 kW (380 / 400 V) 75 kW

	(220 / 230 / 240 V) 45 kW
Rated Breaking Capacity AC-3	8 x I <sub>e</sub> AC-3
Rated Breaking Capacity AC-3e	8.5 x I <sub>e</sub> AC-3e
Rated Making Capacity AC-3	10 x I <sub>e</sub> AC-3
Rated Making Capacity AC-3e	12 x I <sub>e</sub> AC-3e
Short-Circuit Protective Devices	gG Type Fuses 315 A
Rated Short-time Withstand Current Low Voltage (I <sub>cw</sub> )	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 200 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 674 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 1460 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1168 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 477 A
Maximum Breaking Capacity	cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 440 V 3000 A cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 1500 A
Rated Insulation Voltage (U <sub>i</sub> )	acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V acc. to UL/CSA 600 V
Rated Impulse Withstand Voltage (U <sub>imp</sub> )	8 kV Main Circuit 8 kV
Maximum Electrical Switching Frequency	(AC-1) 300 cycles per hour (AC-2 / AC-4) 150 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 <sub>c</sub> Min. ... 1.1 x U <sub>c</sub> Max. (at θ ≤ 70 °C)
Rated Control Circuit Voltage (U <sub>c</sub> )	50 Hz 250 ... 500 V 60 Hz 250 ... 500 V DC Operation 250 ... 500 V
Coil Consumption	Average Pull-in Value 50 Hz 260 V·A Average Pull-in Value 60 Hz 260 V·A Holding at Max. Rated Control Circuit Voltage 50 Hz 16.1 V·A Holding at Max. Rated Control Circuit Voltage 60 Hz 16.1 V·A Holding at Max. Rated Control Circuit Voltage DC 4 V·A Pull-in at Max. Rated Control Circuit Voltage 50 Hz 205 V·A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 205 V·A Pull-in at Max. Rated Control Circuit Voltage DC 230 V·A Pull-in at Max. Rated Control Circuit Voltage DC 230 W
Power Loss	at Rated Operating Conditions per Pole 10 W
Operate Time	Between Coil De-energization and NO Contact Opening 37 ... 47 ms Between Coil Energization and NO Contact Closing 25 ... 55 ms
Connecting Capacity Main Circuit	Flexible 2 x 10 ... 70 mm <sup>2</sup> Rigid Cu-Cable 2 x 10 ... 95 mm <sup>2</sup>
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup> Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup> Flexible 2x0.75 ... 2.5 mm <sup>2</sup> Solid 2 x 1 ... 4 mm <sup>2</sup> Stranded 2 x 1 ... 4 mm <sup>2</sup>
Connecting Capacity	Flexible 2 x 10 ... 70 mm <sup>2</sup> 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 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 8 N·m
Terminal Type	Main Circuit: Bars
Product Name	Block Contactor

## Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating UL/CSA	(1000 V AC) 200 A
Horsepower Rating	(200 ... 208 V AC) Three Phase 15 Hp

UL/CSA

(200 V AC) Three Phase 40 hp  
 (208 V AC) Three Phase 40 hp  
 (220 ... 240 V AC) Three Phase 20 Hp  
 (220 ... 240 V AC) Three Phase 50 hp  
 (440 ... 480 V AC) Three Phase 40 Hp  
 (440 ... 480 V AC) Three Phase 100 hp  
 (550 ... 600 V AC) Three Phase 50 Hp  
 (550 ... 600 V AC) Three Phase 125 hp

Full Load Amps Motor  
 Use

(440 ... 480 V AC) Three Phase 124 A  
 (550 ... 600 V AC) Three Phase 125 A

## Environmental

Ambient Air Temperature

Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... 55 °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

Conflict Minerals

9AKK108467A5658

Reporting Template  
(CMRT)

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 %

Sustainable Material  
Content in Product (wt. %)

Recycled Metal - 37 %

## Certificates and Declarations

A2L Certificate - UL

9AKK108468A6693

ABS Certificate

14-LD1092198-PDA

BV Certificate

BV\_36353\_A0BV

CB Certificate

SEMKO\_SE-70479M1

CCS Certificate

GB14T00030

CQC Certificate

CQC2013010304604055

Declaration of Conformity  
- CCC

2020980304001304

Declaration of Conformity  
- CE

2CMT2015-005439

Declaration of Conformity  
- UKCA

2CMT2020-006118

DNV Certificate	DNV_E-14043
EAC Certificate	9AKK107046A8618
KC Certificate	9AKK107046A9910
LR Certificate	LR_14_70011(E1)
PRS Certificate	TE_2092_880423_16
RINA Certificate	ELE060313XG_002
RMRS Certificate	9AKK107045A6978
UL Certificate	20120925-E36588
UL Listing Card	UL_E36588

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## Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	207 mm
Package Level 1 Depth / Length	216 mm
Package Level 1 Height	150 mm
Package Level 1 Gross Weight	1.5 kg
Package Level 1 EAN	7320500480960

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## 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

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## Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF146

