

General Information

Extended Product Type:	AF16Z-30-01-20
Product ID:	1SBL176001R2001
EAN:	3471523113909
Catalog Description:	AF16Z-30-01-20 12-20VDC Contactor
Long Description:	AF16Z contactors are used for controlling power circuits up to 690 V AC and 220 V DC. They are mainly used for controlling 3-phase motors, non-inductive or slightly inductive loads. AF..Z contactors include an electronic coil interface accepting a wide control voltage $U_c \text{ min.} \dots U_c \text{ max.}$ Only four coils cover control voltages between 24...250 V 50/60 Hz or 12...250 V DC. AF..Z contactors can manage large control voltage variations. One coil can be used for different control voltages used worldwide without any coil change. AF..Z contactors allow direct control by PLC-output $\geq 24 \text{ V DC } 500 \text{ mA}$ and obtain a reduced holding coil consumption. AF..Z contactors withstand short voltage dips and voltage sags (SEMI F47-0706 compliance) between 24...250 V 50/60 Hz AF..Z contactors have built-in surge protection and do not require additional surge suppressors The AF... series 1-stack 3-pole contactors are of the block type design. - Main poles and auxiliary contact blocks: 3 main poles, 1 built-in auxiliary contact, front and side-mounted add-on auxiliary contact blocks. (mechanically-linked auxiliary contacts compliant with Annex L of IEC 60947-5-1. N.C. mirror contacts compliant with Annex F of IEC 60947-4-1) - Control circuit: DC operated for AF..Z-30-..-20 contactors. Only AF..Z-30-..-20 contactors need to respect the polarity on the coil terminals (A1+ and A2-). - Accessories: a wide range of accessories is available.

Categories

Products » Low Voltage Products and Systems » Control Products » Contactors » Block Contactors

Ordering

Minimum Order Quantity:	1 piece
Customs Tariff Number:	85369085
EAN:	3471523113909

Dimensions

Product Net Depth:	77 mm
Product Net Height:	86 mm
Product Net Weight:	0.310 kg
Product Net Width:	45 mm

Container Information

Package Level 1 Width:	87 mm
Package Level 1 Length:	79 mm
Package Level 1 Height:	47 mm
Package Level 1 Gross Weight:	0.31 kg
Package Level 1 EAN:	3471523113909
Package Level 2 Units:	54 piece
Package Level 2 Width:	250 mm
Package Level 2 Length:	300 mm
Package Level 2 Height:	315 mm
Package Level 3 Units:	1296 piece
Package Level 1 Units:	1 piece

Technical

Number of Main Contacts NC:	0
Number of Auxiliary Contacts NO:	0
Number of Auxiliary Contacts NC:	1
Standards:	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1, UL 508, CSA C22.2 N°14
Rated Operational Voltage:	Auxiliary Circuit 690 V Main Circuit 690 V
Rated Frequency (f):	Auxiliary Circuit 50 / 60 Hz Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current (I_{th}):	acc. to IEC 60947-4-1, Open Contactors $q = 40 \text{ }^\circ\text{C } 35 \text{ A}$ acc. to IEC 60947-5-1, $q = 40 \text{ }^\circ\text{C } 16 \text{ A}$
Rated Operational Current AC-1 (I_e):	(690 V) 40 $^\circ\text{C } 30 \text{ A}$ (690 V) 60 $^\circ\text{C } 30 \text{ A}$ (690 V) 70 $^\circ\text{C } 26 \text{ A}$
Rated Operational Current AC-3 (I_e):	(220 / 230 / 240 V) 60 $^\circ\text{C } 18 \text{ A}$ (380 / 400 V) 60 $^\circ\text{C } 18 \text{ A}$ (415 V) 60 $^\circ\text{C } 18 \text{ A}$

(440 V) 60 °C 18 A
(500 V) 60 °C 15 A
(690 V) 60 °C 10.5 A

Rated Operational Power AC-3 (P_e): (220 / 230 / 240 V) 4 kW
(380 / 400 V) 7.5 kW
(400 V) 7.5 kW
(415 V) 9 kW
(440 V) 9 kW
(500 V) 9 kW
(690 V) 9 kW

Rated Operational Current AC-15 (I_e): (220 / 240 V) 4 A
(24 / 127 V) 6 A
(400 / 440 V) 3 A
(500 V) 2 A
(690 V) 2 A

Rated Short-time Withstand Current (I_{cw}): at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 150 A
at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 35 A
at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 60 A
at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 300 A
at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 80 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 250 A
 $\cos \phi=0.45$ ($\cos \phi=0.35$ for $I_e > 100$ A) at 690 V 106 A

Maximum Electrical Switching Frequency: AC-1 600 cycles per hour
AC-15 1200 cycles per hour
AC-2 / AC-4 300 cycles per hour
AC-3 1200 cycles per hour
DC-13 900 cycles per hour

Rated Operational Current DC-13 (I_e): (110 V) 0.55 A / 60 W
(125 V) 0.55 A / 69 W
(220 V) 0.27 A / 60 W
(24 V) 6 A / 144 W
(250 V) 0.27 A / 68 W
(400 V) 0.15 A / 60 W
(48 V) 2.8 A / 134 W
(500 V) 0.13 A / 65 W
(600 V) 0.1 A / 60 W
(72 V) 1 A / 72 W

Rated Insulation Voltage (U_i): acc. to UL/CSA 600 V
acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 690 V

Rated Impulse Withstand Voltage (U_{imp}): 6 kV

Maximum Mechanical Switching Frequency: 3600 cycles per hour

Rated Control Circuit Voltage (U_c): DC Operation 12 ... 20 V

Operate Time: Between Coil De-energization and NC Contact Closing 13...98 ms
Between Coil De-energization and NO Contact Opening 11...95 ms
Between Coil Energization and NC Contact Opening 38...90 ms
Between Coil Energization and NO Contact Closing 40...95 ms

Connecting Capacity Main Circuit: Flexible with Insulated Ferrule 1x 0.75...4 mm²
Flexible with Insulated Ferrule 2x 0.75...2.5 mm²
Flexible with Ferrule 1/2x 0.75...6 mm²
Rigid 1/2x 1...6 mm²

Connecting Capacity Auxiliary Circuit: Flexible with Ferrule 1/2x 0.75 ... 2.5 mm²
Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm²
Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm²
Rigid 1/2x 1...2.5 mm²

Connecting Capacity Control Circuit: Flexible with Ferrule 1/2x 0.75 ... 2.5 mm²
Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm²
Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm²
Rigid 1/2x 1 ... 2.5 mm²

Wire Stripping Length: Auxiliary Circuit 10 mm
Control Circuit 10 mm
Main Circuit 10 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 IP20

Terminal Type: Screw Terminals

Number of Main Contacts NO: 3

Environmental

Climatic Withstand: Category B according to IEC 60947-1 Annex Q

Maximum Operating Altitude Permissible: 3000 m

Resistance to Vibrations acc. to IEC 60068-2-6: 5 ... 300 Hz 4 g closed position / 2 g open position

Resistance to Shock acc. to IEC 60068-2-27: Closed, Shock Direction: B1 25 g
Open, Shock Direction: B1 5 g
Shock Direction: A 30 g
Shock Direction: B2 15 g
Shock Direction: C1 25 g
Shock Direction: C2 25 g

RoHS Status: Planned to follow EU Directive 2002/95/EC August 18, 2005 and amendment after 2008 Q1

Ambient Air Temperature: Close to Contactor for Storage -60...+80 °C
Close to Contactor Fitted with Thermal O/L Relay -25 ... +60 °C
Close to Contactor without Thermal O/L Relay -40 ... +70 °C

Technical UL/CSA

General Use Rating UL/CSA: (600 V AC) 30 A

Horsepower Rating UL/CSA: (120 V AC) Single Phase 1-1/2 Hp
(240 V AC) Single Phase 3 Hp
(200 ... 208 V AC) Three Phase 5 Hp
(220 ... 240 V AC) Three Phase 5 Hp
(440 ... 480 V AC) Three Phase 10 Hp
(550 ... 600 V AC) Three Phase 15 Hp

Tightening Torque UL/CSA: Auxiliary Circuit 11 in·lb
Control Circuit 11 in·lb
Main Circuit 13 in·lb

Certificates and Declarations (Document Number)

Instructions and Manuals: 1SBC101027M6801

ABS Certificate: ABS_15-GE1349500-PDA_90682247

CB Certificate: CB_SE_70855M1

CCC Certificate: CCC_2010010304445624

Data Sheet, Technical Information: 1SBC101408D0201

Declaration of Conformity - CE: 1SBD250000U1000

DNV Certificate: DNV-GL_E13871

EAC Certificate: EAC_RU C-FR ME77 B01010

GL Certificate: DNV-GL_E13871

GOST Certificate: GOST_POCCFR.ME77.B07175.pdf

LR Certificate: LRS_1300087E1

RINA Certificate: RINA_ELE084013XG

RMRS Certificate: RMRS_1400682124

RoHS Information: 1SBD251013E1000

UL Certificate: UL_20140305-E312527_7_1

UL Listing Card: UL_E312527

Classifications

ETIM 4: EC000066 - Magnet contactor, AC-switching

ETIM 5: EC000066 - Magnet contactor, AC-switching

ETIM 6: EC000066 - Power contactor, AC switching

UNSPSC: 39121529

Object Classification Code: Q

