

# AF16Z-30-10-21



AF16Z-30-10-21 24-60V50/60HZ 20-60VDC Contactor

## Información General

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF16Z-30-10-21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Product ID            | 1SBL176001R2110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EAN                   | 3471523113817                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Catalog Description   | AF16Z-30-10-21 24-60V50/60HZ 20-60VDC Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Long Description      | <p>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 <math>U_c</math> min. ... <math>U_c</math> 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 <math>\geq 24</math> V DC 500 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: AC or DC operated - Accessories: a wide range of accessories is available.</p> |

## Clasificación

|                        |          |
|------------------------|----------|
| Minimum Order Quantity | 1 piece  |
| Customs Tariff Number  | 85364900 |

## Descargas Populares

|                          |                 |
|--------------------------|-----------------|
| Instructions and Manuals | 1SBC101027M6801 |
|--------------------------|-----------------|

## Dimensiones

|                            |         |
|----------------------------|---------|
| Product Net Width          | 45 mm   |
| Product Net Depth / Length | 77 mm   |
| Product Net Height         | 86 mm   |
| Product Net Weight         | 0.31 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                    | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 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<br>Main Circuit 690 V                                                                                                                                                                                                                                                                                                                                                                                                        |
| Rated Frequency (f)                                | Auxiliary Circuit 50 / 60 Hz<br>Main Circuit 50 / 60 Hz                                                                                                                                                                                                                                                                                                                                                                                              |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-5-1, $\varphi = 40^\circ\text{C}$ 16 A<br>acc. to IEC 60947-4-1, Open Contactors $\varphi = 40^\circ\text{C}$ 35 A                                                                                                                                                                                                                                                                                                                 |
| Rated Operational Current AC-1 ( $I_e$ )           | (690 V) $40^\circ\text{C}$ 30 A<br>(690 V) $60^\circ\text{C}$ 30 A<br>(690 V) $70^\circ\text{C}$ 26 A                                                                                                                                                                                                                                                                                                                                                |
| Rated Operational Current AC-3 ( $I_e$ )           | (220 / 230 / 240 V) $60^\circ\text{C}$ 18 A<br>(380 / 400 V) $60^\circ\text{C}$ 18 A<br>(415 V) $60^\circ\text{C}$ 18 A<br>(440 V) $60^\circ\text{C}$ 18 A<br>(500 V) $60^\circ\text{C}$ 15 A<br>(690 V) $60^\circ\text{C}$ 10.5 A                                                                                                                                                                                                                   |
| Rated Operational Power AC-3 ( $P_e$ )             | (220 / 230 / 240 V) 4 KWT<br>(380 / 400 V) 7.5 KWT<br>(415 V) 9 KWT<br>(440 V) 9 KWT<br>(500 V) 9 KWT<br>(690 V) 9 KWT<br>(400 V) 7.5 KWT                                                                                                                                                                                                                                                                                                            |
| Rated Operational Current AC-15 ( $I_e$ )          | (220 / 240 V) 4 A<br>(24 / 127 V) 6 A<br>(500 V) 2 A<br>(690 V) 2 A<br>(400 / 440 V) 3 A                                                                                                                                                                                                                                                                                                                                                             |
| Rated Short-time Withstand Current ( $I_{cw}$ )    | at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 10 s 150 A<br>at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 15 min 35 A<br>at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 1 min 60 A<br>at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 1 s 300 A<br>at $40^\circ\text{C}$ Ambient Temp, in Free Air, from a Cold State 30 s 80 A<br>for 0.1 s 140 A<br>for 1 s 100 A |
| Maximum Breaking Capacity                          | $\cos \varphi = 0.45$ ( $\cos \varphi = 0.35$ for $I_e > 100$ A) at 440 V 250 A<br>$\cos \varphi = 0.45$ ( $\cos \varphi = 0.35$ for $I_e > 100$ A) at 690 V 106 A                                                                                                                                                                                                                                                                                   |
| Maximum Electrical Switching Frequency             | AC-1 600 cycles per hour<br>AC-2 / AC-4 300 cycles per hour<br>AC-3 1200 cycles per hour<br>AC-15 1200 cycles per hour<br>DC-13 900 cycles per hour                                                                                                                                                                                                                                                                                                  |
| Rated Operational Current DC-13 ( $I_e$ )          | (125 V) 0.55 A / 69 W<br>(24 V) 6 A / 144 W<br>(250 V) 0.27 A / 68 W<br>(48 V) 2.8 A / 134 W<br>(72 V) 1 A / 72 W<br>(110 V) 0.55 A / 60 W<br>(220 V) 0.27 A / 60 W<br>(400 V) 0.15 A / 60 W<br>(500 V) 0.13 A / 65 W<br>(600 V) 0.1 A / 60 W                                                                                                                                                                                                        |
| Rated Insulation Voltage ( $U_i$ )                 | acc. to UL/CSA 600 V<br>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 ( $U_c$ )            | 50 Hz 24 ... 60 V<br>60 Hz 24 ... 60 V<br>DC Operation 20 ... 60 V                                                                                                                                                                                                                                                                                                                                                                                   |
| Operate Time                                       | Between Coil De-energization and NC Contact Closing 13 ... 98 ms<br>Between Coil De-energization and NO Contact Opening 11 ... 95 ms<br>Between Coil Energization and NC Contact Opening 38 ... 90 ms<br>Between Coil Energization and NO Contact Closing 40 ... 95 ms                                                                                                                                                                               |
| Connecting Capacity Main Circuit                   | Rigid 1/2x 1 ... 6 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                       |                                                                                                                                                                                                   |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | Flexible with Ferrule 1/2x 0.75 ... 6 m²<br>Flexible with Insulated Ferrule 1x 0.75 ... 4 m²<br>Flexible with Insulated Ferrule 2x 0.75 ... 2.5 m²                                                |
| Connecting Capacity Auxiliary Circuit | Flexible with Ferrule 1/2x 0.75 ... 2.5 m²<br>Flexible with Insulated Ferrule 1x 0.75 ... 2.5<br>Flexible with Insulated Ferrule 2x 0.75 ... 1.5 m²<br>Rigid 1/2x 1 ... 2.5 m²                    |
| Connecting Capacity Control Circuit   | Flexible with Ferrule 1/2x 0.75 ... 2.5 m²<br>Flexible with Insulated Ferrule 1x 0.75 ... 2.5 m²<br>Flexible with Insulated Ferrule 2x 0.75 ... 1.5 m²<br>Rigid 1/2x 1 ... 2.5 m²                 |
| Wire Stripping Length                 | Auxiliary Circuit 10 mm<br>Control Circuit 10 mm<br>Main Circuit 10 mm                                                                                                                            |
| Degree of Protection                  | acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP20 |
| Terminal Type                         | Screw Terminals                                                                                                                                                                                   |

## Ambiente

|                                                |                                                                                                                                                                                              |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient Air Temperature                        | Close to Contactor for Storage -60 ... +80 °C<br>Close to Contactor without Thermal O/L Relay -40 ... +70 °C<br>Close to Contactor Fitted with Thermal O/L Relay -25 ... +60 °C              |
| 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     | Shock Direction: A 30 K40<br>Shock Direction: B2 15 K40<br>Shock Direction: C1 25 K40<br>Shock Direction: C2 25 K40<br>Closed, Shock Direction: B1 25 K40<br>Open, Shock Direction: B1 5 K40 |
| RoHS Status                                    | Following EU Directive 2011/65/EU                                                                                                                                                            |

## Technical UL/CSA

|                           |                                                                                                                                                                                                                                |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Use Rating UL/CSA | (600 V AC) 30 A                                                                                                                                                                                                                |
| Horsepower Rating UL/CSA  | (220 ... 240 V AC) Three Phase 5 hp<br>(440 ... 480 V AC) Three Phase 10 hp<br>(550 ... 600 V AC) Three Phase 15 hp<br>(120 V AC) Single Phase 1-1/2 hp<br>(200 ... 208 V AC) Three Phase 5 hp<br>(240 V AC) Single Phase 3 hp |
| Tightening Torque UL/CSA  | Auxiliary Circuit 11 IA<br>Control Circuit 11 IA<br>Main Circuit 13 IA                                                                                                                                                         |

## Certificados y Declaraciones (Número de Documento)

|                                |                               |
|--------------------------------|-------------------------------|
| ABS Certificate                | ABS_15-GE1349500-PDA_90682247 |
| BV Certificate                 | BV_2634H24898B0               |
| CB Certificate                 | CB_SE-80871M3                 |
| CCC Certificate                | CCC_2010010304445624          |
| cUL Certificate                | UL_20180227_E312527_7_1       |
| Declaration of Conformity - CE | 1SBD250000U1000               |
| DNV Certificate                | DNV-GL_TAE00001AF-3           |
| DNV GL Certificate             | DNV-GL_TAE00001AF-3           |

|                           |                             |
|---------------------------|-----------------------------|
| EAC Certificate           | EAC_RU C-FR ME77 B03597     |
| Environmental Information | 1SBD250147E1000             |
| GL Certificate            | DNV-GL_TAE00001AF-3         |
| GOST Certificate          | GOST_POCCFR.ME77.B07175.pdf |
| Instructions and Manuals  | 1SBC101027M6801             |
| KC Certificate            | KC_HW02016-15005A           |
| LR Certificate            | LRS_1300087E1               |
| RINA Certificate          | RINA_ELE240318XG            |
| RMRS Certificate          | RMRS_1802705280             |
| RoHS Information          | 1SBD250000U1000             |
| UL Certificate            | UL_20140305-E312527_7_1     |
| UL Listing Card           | E312527                     |

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## Información de Embalaje

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | box 1 piece   |
| Package Level 1 Width          | 87 mm         |
| Package Level 1 Depth / Length | 79 mm         |
| Package Level 1 Height         | 47 mm         |
| Package Level 1 Gross Weight   | 0.31 kg       |
| Package Level 1 EAN            | 3471523113817 |
| Package Level 2 Units          | 27 piece      |
| Package Level 2 Width          | 250 mm        |
| Package Level 2 Depth / Length | 300 mm        |
| Package Level 2 Height         | 315 mm        |
| Package Level 2 Gross Weight   | 8.37 kg       |
| Package Level 3 Units          | 1296 piece    |

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## Clasificaciones

|                            |                                           |
|----------------------------|-------------------------------------------|
| Object Classification Code | Q                                         |
| ETIM 4                     | EC000066 - Magnet contactor, AC-switching |
| ETIM 5                     | EC000066 - Magnet contactor, AC-switching |
| ETIM 6                     | EC000066 - Power contactor, AC switching  |
| ETIM 7                     | EC000066 - Power contactor, AC switching  |
| UNSPSC                     | 39121529                                  |
| E-Number (Sweden)          | 3211368                                   |

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## Where Used (as a spare part for "Products")

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| Identifier         | Description              | Quantity | Unit Of Measure |
|--------------------|--------------------------|----------|-----------------|
| FC-0460-0020       | No Description Available | 1        | piece           |
| FC-0460-0040       | No Description Available | 1        | piece           |
| FC-0460-0060       | No Description Available | 1        | piece           |
| FC-0460-0140       | No Description Available | 1        | piece           |
| FC-0460-0190       | No Description Available | 1        | piece           |
| FC-0530-0900       | No Description Available | 1        | piece           |
| FC-0530-1250       | No Description Available | 1        | piece           |
| FC-0690-1000       | No Description Available | 1        | piece           |
| FC-0460-0500 DEV 1 | No Description Available | 1        | piece           |

Product specific part data

| Product            | Category | Drive Part Category          |
|--------------------|----------|------------------------------|
| FC-0460-0020       | MoCon    | Switches, Relays, Contactors |
| FC-0460-0040       | MoCon    | Switches, Relays, Contactors |
| FC-0460-0060       | MoCon    | Switches, Relays, Contactors |
| FC-0460-0140       | MoCon    | Switches, Relays, Contactors |
| FC-0460-0190       | MoCon    | Switches, Relays, Contactors |
| FC-0530-0900       | MoCon    | Switches, Relays, Contactors |
| FC-0530-1250       | MoCon    | Switches, Relays, Contactors |
| FC-0690-1000       | MoCon    | Switches, Relays, Contactors |
| FC-0460-0500 DEV 1 | MoCon    | Switches, Relays, Contactors |

Categorías

Productos y sistemas de baja tensión → Aparatos de control → Contactores → Contactores

Convertidores de frecuencia → Convertidores de frecuencia de baja tensión de CA → Convertidores de frecuencia históricos → MoCon

