

## PRODUCT-DETAILS

# AF96-30-00-11

## AF96-30-00-11 24-60V50/60HZ 20-60VDC Contactor



### General Information

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF96-30-00-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Product ID            | 1SBL407001R1100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| EAN                   | 3471523133211                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Catalog Description   | AF96-30-00-11 24-60V50/60HZ 20-60VDC Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Long Description      | The AF96-30-00-11 is a 3 pole - 1000 V IEC or 600 UL contactor with screw terminals, controlling motors up to 45 kW / 400 V AC (AC-3) or 60 hp / 480 V UL and switching power circuits up to 130 A (AC-1) or 115 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (24-60 V 50/60 Hz and 20-60 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

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

### Popular Downloads

|                          |                 |
|--------------------------|-----------------|
| Instructions and Manuals | 1SBC101036M6801 |
| CAD Dimensional          | 2CDC001079B0201 |

## Drawing

## Dimensions

|                            |          |
|----------------------------|----------|
| Product Net Width          | 70 mm    |
| Product Net Depth / Length | 116 mm   |
| Product Net Height         | 125.5 mm |
| Product Net Weight         | 1.22 kg  |

## Technical

|                                                             |                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Main Contacts NO                                  | 3                                                                                                                                                                                                                                                                               |
| Number of Main Contacts NC                                  | 0                                                                                                                                                                                                                                                                               |
| Number of Auxiliary Contacts NO                             | 0                                                                                                                                                                                                                                                                               |
| Number of Auxiliary Contacts NC                             | 0                                                                                                                                                                                                                                                                               |
| Standards                                                   | IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60947-1, UL 60947-4-1, CSA C22.2 No. 60947-1:22, CSA C22.2 No. 60947-4-1:22                                                                                                                                                                |
| Rated Operational Voltage                                   | Main Circuit 1000 V                                                                                                                                                                                                                                                             |
| Rated Frequency (f)                                         | Control Circuit 50 / 60 Hz<br>Main Circuit 50 / 60 Hz                                                                                                                                                                                                                           |
| Conventional Free-air Thermal Current ( $I_{th}$ )          | acc. to IEC 60947-4-1, Open Contactors $\Theta = 40\text{ °C}$ 130 A                                                                                                                                                                                                            |
| Rated Operational Current AC-1 ( $I_e$ )                    | (690 V) 40 °C 130 A<br>(690 V) 60 °C 105 A<br>(690 V) 70 °C 90 A                                                                                                                                                                                                                |
| Rated Operational Current AC-3 ( $I_e$ )                    | (415 V) 60 °C 96 A<br>(440 V) 60 °C 96 A<br>(500 V) 60 °C 80 A<br>(690 V) 60 °C 57 A<br>(1000 V) 60 °C 30 A<br>(380 / 400 V) 60 °C 105 A<br>(220 / 230 / 240 V) 60 °C 105 A                                                                                                     |
| Rated Operational Current AC-3e ( $I_e$ )                   | (415 V) 60 °C 96 A<br>(440 V) 60 °C 96 A<br>(500 V) 60 °C 80 A<br>(690 V) 60 °C 57 A<br>(380 / 400 V) 60 °C 105 A<br>(220 / 230 / 240 V) 60 °C 105 A                                                                                                                            |
| Rated Operational Power AC-3 ( $P_e$ )                      | (415 V) 55 kW<br>(440 V) 55 kW<br>(500 V) 55 kW<br>(690 V) 55 kW<br>(1000 V) 40 kW<br>(380 / 400 V) 45 kW<br>(380 / 400 V) 55 kW<br>(220 / 230 / 240 V) 25 kW<br>(220 / 230 / 240 V) 30 kW                                                                                      |
| Rated Operational Power AC-3e ( $P_e$ )                     | (415 V) 55 kW<br>(440 V) 55 kW<br>(500 V) 55 kW<br>(690 V) 55 kW<br>(380 / 400 V) 45 kW<br>(380 / 400 V) 55 kW<br>(220 / 230 / 240 V) 25 kW<br>(220 / 230 / 240 V) 30 kW                                                                                                        |
| 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<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 140 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 300 A<br>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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maximum Breaking Capacity                           | cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 440 V 1150 A<br>cos phi=0.45 (cos phi=0.35 for I <sub>e</sub> > 100 A) at 690 V 750 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Maximum Electrical Switching Frequency              | (AC-1) 600 cycles per hour<br>(AC-2 / AC-4) 150 cycles per hour<br>(AC-3) 1200 cycles per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Rated Operational Current DC-1 (I <sub>e</sub> )    | (110 V) 2 Poles in Series, 40 °C 130 A<br>(110 V) 2 Poles in Series, 60 °C 105 A<br>(110 V) 2 Poles in Series, 70 °C 90 A<br>(110 V) 3 Poles in Series, 40 °C 130 A<br>(110 V) 3 Poles in Series, 60 °C 105 A<br>(110 V) 3 Poles in Series, 70 °C 90 A<br>(220 V) 3 Poles in Series, 40 °C 125 A<br>(220 V) 3 Poles in Series, 60 °C 105 A<br>(220 V) 3 Poles in Series, 70 °C 90 A<br>(72 V) 1-Pole, 40 °C 130 A<br>(72 V) 1-Pole, 60 °C 105 A<br>(72 V) 1-Pole, 70 °C 90 A<br>(72 V) 2 Poles in Series, 40 °C 130 A<br>(72 V) 2 Poles in Series, 60 °C 105 A<br>(72 V) 2 Poles in Series, 70 °C 90 A<br>(72 V) 3 Poles in Series, 40 °C 130 A<br>(72 V) 3 Poles in Series, 60 °C 105 A<br>(72 V) 3 Poles in Series, 70 °C 90 A |
| Rated Operational Current DC-3 (I <sub>e</sub> )    | (110 V) 2 Poles in Series, 40 °C 130 A<br>(110 V) 2 Poles in Series, 60 °C 105 A<br>(110 V) 2 Poles in Series, 70 °C 90 A<br>(110 V) 3 Poles in Series, 40 °C 130 A<br>(110 V) 3 Poles in Series, 60 °C 105 A<br>(110 V) 3 Poles in Series, 70 °C 90 A<br>(220 V) 3 Poles in Series, 40 °C 130 A<br>(220 V) 3 Poles in Series, 60 °C 105 A<br>(220 V) 3 Poles in Series, 70 °C 90 A<br>(72 V) 1-Pole, 40 °C 130 A<br>(72 V) 1-Pole, 60 °C 105 A<br>(72 V) 1-Pole, 70 °C 90 A<br>(72 V) 2 Poles in Series, 40 °C 130 A<br>(72 V) 2 Poles in Series, 60 °C 105 A<br>(72 V) 2 Poles in Series, 70 °C 90 A<br>(72 V) 3 Poles in Series, 40 °C 130 A<br>(72 V) 3 Poles in Series, 60 °C 105 A<br>(72 V) 3 Poles in Series, 70 °C 90 A |
| Rated Operational Current DC-5 (I <sub>e</sub> )    | (110 V) 2 Poles in Series, 40 °C 130 A<br>(110 V) 2 Poles in Series, 60 °C 105 A<br>(110 V) 2 Poles in Series, 70 °C 90 A<br>(110 V) 3 Poles in Series, 40 °C 130 A<br>(110 V) 3 Poles in Series, 60 °C 105 A<br>(110 V) 3 Poles in Series, 70 °C 90 A<br>(220 V) 3 Poles in Series, 40 °C 130 A<br>(220 V) 3 Poles in Series, 60 °C 105 A<br>(220 V) 3 Poles in Series, 70 °C 90 A<br>(72 V) 1-Pole, 40 °C 130 A<br>(72 V) 1-Pole, 60 °C 105 A<br>(72 V) 1-Pole, 70 °C 90 A<br>(72 V) 2 Poles in Series, 40 °C 130 A<br>(72 V) 2 Poles in Series, 60 °C 105 A<br>(72 V) 2 Poles in Series, 70 °C 90 A<br>(72 V) 3 Poles in Series, 40 °C 130 A<br>(72 V) 3 Poles in Series, 60 °C 105 A<br>(72 V) 3 Poles in Series, 70 °C 90 A |
| Rated Insulation Voltage (U <sub>i</sub> )          | acc. to IEC 60947-4-1 1000 V<br>acc. to UL/CSA 600 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Rated Impulse Withstand Voltage (U <sub>imp</sub> ) | 8 kV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Maximum Mechanical Switching Frequency              | 3600 cycles per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Rated Control Circuit Voltage (U <sub>c</sub> )     | 50 Hz 24 ... 60 V<br>60 Hz 24 ... 60 V<br>DC Operation 20 ... 60 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Coil Consumption                                    | Average Holding Value 50 / 60 Hz 4 V·A<br>Average Holding Value 50 Hz 4 V·A<br>Average Holding Value 60 Hz 4 V·A<br>Average Holding Value DC 2 W<br>Average Holding Value, from Warm State 2 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|                                     |                                                                                                                                                                                                                                                                           |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operate Time                        | Between Coil De-energization and NC Contact Closing 19 ... 105 ms<br>Between Coil De-energization and NO Contact Opening 17 ... 100 ms<br>Between Coil Energization and NC Contact Opening 38 ... 95 ms<br>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 mm²<br>Flexible with Insulated Ferrule 1/2x 6 ... 50 mm²<br>Rigid Stranded 1x 6 ... 70 mm²<br>Rigid Stranded 2x 6 ... 50 mm²                                                                                                          |
| Connecting Capacity Control Circuit | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm²<br>Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm²<br>Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm²<br>Rigid Solid 1/2x 1 ... 2.5 mm²<br>Rigid Stranded 1/2x 1 ... 2.5 mm²                                          |
| Wire Stripping Length               | Control Circuit 10 mm<br>Main Circuit 17 mm                                                                                                                                                                                                                               |
| Degree of Protection                | acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20<br>acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP10                                                                                                                                              |
| Terminal Type                       | Screw Terminals                                                                                                                                                                                                                                                           |

## Technical UL/CSA

|                                            |                                                                                                                                                                                                                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum Operating Voltage UL/CSA           | Main Circuit 600 V                                                                                                                                                                                                                |
| General Use Rating UL/CSA                  | (600 V AC) 115 A                                                                                                                                                                                                                  |
| Horsepower Rating UL/CSA                   | (120 V AC) Single Phase 7-1/2 hp<br>(200 ... 208 V AC) Three Phase 30 hp<br>(220 ... 240 V AC) Three Phase 40 hp<br>(240 V AC) Single Phase 20 hp<br>(440 ... 480 V AC) Three Phase 75 hp<br>(550 ... 600 V AC) Three Phase 75 hp |
| Connecting Capacity Main Circuit UL/CSA    | Rigid Stranded 1/2x 6-1 AWG                                                                                                                                                                                                       |
| Connecting Capacity Control Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG<br>Rigid Stranded 1/2x 18-14 AWG                                                                                                                                                                       |
| Tightening Torque UL/CSA                   | Control Circuit 11 in-lb<br>Main Circuit 53 in-lb                                                                                                                                                                                 |

## Environmental

|                                                |                                                                                                                                                                                                                  |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient Air Temperature                        | Close to Contactor Fitted with Thermal O/L Relay -40 ... 70 °C<br>Close to Contactor without Thermal O/L Relay -40 ... 70 °C<br>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                                                                                                                                                                                          |
| REACH Declaration                              | 2CMT2021-006202                                                                                                                                                                                                  |
| Resistance to Shock acc. to IEC 60068-2-27     | Closed, Shock Direction: A 25 g<br>Closed, Shock Direction: B1 25 g<br>Closed, Shock Direction: B2 15 g<br>Closed, Shock Direction: C1 25 g<br>Closed, Shock Direction: C2 25 g<br>Open, Shock Direction: B1 5 g |
| Resistance to Vibrations acc. to IEC 60068-2-6 | 5 ... 300 Hz 3 g closed position / 3 g open position                                                                                                                                                             |
| RoHS Information                               | 2CMT2021-006277                                                                                                                                                                                                  |
| RoHS Status                                    | Following EU Directive 2011/65/EU                                                                                                                                                                                |

## Certificates and Declarations

|                                     |                                                                |
|-------------------------------------|----------------------------------------------------------------|
| ABS Certificate                     | ABS_20-2060694-PDA                                             |
| BV Certificate                      | BV_2634H36994B1                                                |
| CB Certificate                      | CB_SE-96557M3                                                  |
| CCC Certificate                     | CCC_2013010304646569                                           |
| CQC Certificate                     | CQC2013010304646569                                            |
| Declaration of Conformity<br>- CCC  | 2020980304001255                                               |
| Declaration of Conformity<br>- CE   | 1SBD250000U1000                                                |
| Declaration of Conformity<br>- UKCA | 1SBD250031U1000                                                |
| DNV Certificate                     | DNV_TAE00001AF-4                                               |
| EAC Certificate                     | EAC_RU_FRME77B03447                                            |
| KC Certificate                      | KC_HW02016-15011C                                              |
| LR Certificate                      | LRS_LR2002723TA-02                                             |
| RINA Certificate                    | RINA_ELE084013XG                                               |
| RMRS Certificate                    | RMRS_1802705280                                                |
| UL Certificate                      | UL-US-L312527-1141-10303102-9<br>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 /<br>Length | 150 mm        |
| Package Level 1 Height            | 103 mm        |
| Package Level 1 Gross<br>Weight   | 1.34 kg       |
| Package Level 1 EAN               | 3471523133211 |
| Package Level 2 Units             | box 8 piece   |
| Package Level 2 Width             | 250 mm        |
| Package Level 2 Depth /<br>Length | 300 mm        |
| Package Level 2 Height            | 300 mm        |
| Package Level 2 Gross<br>Weight   | 10.72 kg      |
| Package Level 3 Units             | 192 piece     |

## Classifications

|                            |                                           |
|----------------------------|-------------------------------------------|
| 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  |
| ETIM 8                     | EC000066 - Power contactor, AC switching  |
| eClass                     | V11.0 : 27371003                          |
| UNSPSC                     | 39121529                                  |

|                                       |                        |
|---------------------------------------|------------------------|
| IDEA Granular Category<br>Code (IGCC) | 4758 >> lec Contactors |
| E-Number (Finland)                    | 3707135                |
| E-Number (Sweden)                     | 3210055                |

