

## PRODUCT-DETAILS

# AF65-30-00-13

## AF65-30-00-13 100-250V50/60HZ-DC Contactor



### General Information

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AF65-30-00-13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Product ID            | 1SBL387001R1300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EAN                   | 3471523132634                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Catalog Description   | AF65-30-00-13 100-250V50/60HZ-DC Contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Long Description      | The AF65-30-00-13 is a 3 pole - 690 V IEC or 600 UL contactor with screw terminals, controlling motors up to 30 kW / 400 V AC (AC-3) or 50 hp / 480 V UL and switching power circuits up to 105 A (AC-1) or 90 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (100-250 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          | 55 mm    |
| Product Net Depth / Length | 111 mm   |
| Product Net Height         | 125.5 mm |
| Product Net Weight         | 0.95 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 690 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 $\Theta = 40^\circ\text{C}$ 105 A                                                                                                                                                                                                                                                                            |
| Rated Operational Current AC-1 ( $I_e$ )                    | (690 V) 40 °C 105 A<br>(690 V) 60 °C 90 A<br>(690 V) 70 °C 80 A                                                                                                                                                                                                                                                                                     |
| Rated Operational Current AC-3 ( $I_e$ )                    | (415 V) 60 °C 65 A<br>(440 V) 60 °C 65 A<br>(500 V) 60 °C 55 A<br>(690 V) 60 °C 39 A<br>(380 / 400 V) 60 °C 65 A<br>(220 / 230 / 240 V) 60 °C 65 A                                                                                                                                                                                                  |
| Rated Operational Current AC-3e ( $I_e$ )                   | (415 V) 60 °C 65 A<br>(440 V) 60 °C 65 A<br>(500 V) 60 °C 55 A<br>(690 V) 60 °C 39 A<br>(380 / 400 V) 60 °C 65 A<br>(220 / 230 / 240 V) 60 °C 65 A                                                                                                                                                                                                  |
| Rated Operational Power AC-3 ( $P_e$ )                      | (400 V) 30 kW<br>(415 V) 37 kW<br>(440 V) 37 kW<br>(500 V) 37 kW<br>(690 V) 37 kW<br>(380 / 400 V) 30 kW<br>(220 / 230 / 240 V) 18.5 kW                                                                                                                                                                                                             |
| Rated Operational Power AC-3e ( $P_e$ )                     | (415 V) 37 kW<br>(440 V) 37 kW<br>(500 V) 37 kW<br>(690 V) 37 kW<br>(380 / 400 V) 30 kW<br>(220 / 230 / 240 V) 18.5 kW                                                                                                                                                                                                                              |
| Rated Short-time Withstand Current Low Voltage ( $I_{cw}$ ) | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 600 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 110 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 250 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1000 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 350 A |
| Maximum Breaking Capacity                                   | $\cos \phi = 0.45$ ( $\cos \phi = 0.35$ for $I_e > 100$ A) at 440 V 950 A<br>$\cos \phi = 0.45$ ( $\cos \phi = 0.35$ for $I_e > 100$ A) at 690 V 600 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 ( $I_e$ )                    | (110 V) 2 Poles in Series, 40 °C 105 A<br>(110 V) 2 Poles in Series, 60 °C 90 A<br>(110 V) 2 Poles in Series, 70 °C 80 A                                                                                                                                                                                                                            |

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                  | (110 V) 3 Poles in Series, 40 °C 105 A<br>(110 V) 3 Poles in Series, 60 °C 90 A<br>(110 V) 3 Poles in Series, 70 °C 80 A<br>(220 V) 3 Poles in Series, 40 °C 105 A<br>(220 V) 3 Poles in Series, 60 °C 90 A<br>(220 V) 3 Poles in Series, 70 °C 80 A<br>(72 V) 1-Pole, 40 °C 105 A<br>(72 V) 1-Pole, 60 °C 90 A<br>(72 V) 1-Pole, 70 °C 80 A<br>(72 V) 2 Poles in Series, 40 °C 105 A<br>(72 V) 2 Poles in Series, 60 °C 90 A<br>(72 V) 2 Poles in Series, 70 °C 80 A<br>(72 V) 3 Poles in Series, 40 °C 105 A<br>(72 V) 3 Poles in Series, 60 °C 90 A<br>(72 V) 3 Poles in Series, 70 °C 80 A                                                                                                                             |
| Rated Operational Current<br>DC-3 ( $I_e$ )      | (110 V) 2 Poles in Series, 40 °C 105 A<br>(110 V) 2 Poles in Series, 60 °C 90 A<br>(110 V) 2 Poles in Series, 70 °C 80 A<br>(110 V) 3 Poles in Series, 40 °C 105 A<br>(110 V) 3 Poles in Series, 60 °C 90 A<br>(110 V) 3 Poles in Series, 70 °C 80 A<br>(220 V) 3 Poles in Series, 40 °C 105 A<br>(220 V) 3 Poles in Series, 60 °C 90 A<br>(220 V) 3 Poles in Series, 70 °C 80 A<br>(72 V) 1-Pole, 40 °C 105 A<br>(72 V) 1-Pole, 60 °C 90 A<br>(72 V) 1-Pole, 70 °C 80 A<br>(72 V) 2 Poles in Series, 40 °C 105 A<br>(72 V) 2 Poles in Series, 60 °C 90 A<br>(72 V) 2 Poles in Series, 70 °C 80 A<br>(72 V) 3 Poles in Series, 40 °C 105 A<br>(72 V) 3 Poles in Series, 60 °C 90 A<br>(72 V) 3 Poles in Series, 70 °C 80 A |
| Rated Operational Current<br>DC-5 ( $I_e$ )      | (110 V) 2 Poles in Series, 40 °C 105 A<br>(110 V) 2 Poles in Series, 60 °C 90 A<br>(110 V) 2 Poles in Series, 70 °C 80 A<br>(110 V) 3 Poles in Series, 40 °C 105 A<br>(110 V) 3 Poles in Series, 60 °C 90 A<br>(110 V) 3 Poles in Series, 70 °C 80 A<br>(220 V) 3 Poles in Series, 40 °C 105 A<br>(220 V) 3 Poles in Series, 60 °C 90 A<br>(220 V) 3 Poles in Series, 70 °C 80 A<br>(72 V) 1-Pole, 40 °C 105 A<br>(72 V) 1-Pole, 60 °C 90 A<br>(72 V) 1-Pole, 70 °C 80 A<br>(72 V) 2 Poles in Series, 40 °C 105 A<br>(72 V) 2 Poles in Series, 60 °C 90 A<br>(72 V) 2 Poles in Series, 70 °C 80 A<br>(72 V) 3 Poles in Series, 40 °C 105 A<br>(72 V) 3 Poles in Series, 60 °C 90 A<br>(72 V) 3 Poles in Series, 70 °C 80 A |
| Rated Insulation Voltage<br>( $U_i$ )            | acc. to IEC 60947-4-1 690 V<br>acc. to UL/CSA 600 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Rated Impulse Withstand<br>Voltage ( $U_{imp}$ ) | 6 kV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Maximum Mechanical<br>Switching Frequency        | 3600 cycles per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Rated Control Circuit<br>Voltage ( $U_c$ )       | 50 Hz 100 ... 250 V<br>60 Hz 100 ... 250 V<br>DC Operation 100 ... 250 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<br>TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Mounting by Screws (not<br>supplied)             | 2 x M4 or 2 x M6 screws placed diagonally                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Connecting Capacity Main<br>Circuit              | Flexible with Ferrule 1/2x 4 ... 35 mm²<br>Flexible with Insulated Ferrule 1/2x 4 ... 35 mm²<br>Rigid Stranded 1/2x 6 ... 35 mm²                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                        |                                                                                                                                                                                                                                  |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connecting Capacity<br>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 16 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<br>Voltage UL/CSA           | Main Circuit 600 V                                                                                                                                                                                                            |
| General Use Rating<br>UL/CSA                  | (600 V AC) 90 A                                                                                                                                                                                                               |
| Horsepower Rating<br>UL/CSA                   | (120 V AC) Single Phase 5 hp<br>(200 ... 208 V AC) Three Phase 20 hp<br>(220 ... 240 V AC) Three Phase 25 hp<br>(240 V AC) Single Phase 15 hp<br>(440 ... 480 V AC) Three Phase 50 hp<br>(550 ... 600 V AC) Three Phase 60 hp |
| Connecting Capacity Main<br>Circuit UL/CSA    | Rigid Stranded 1/2x 10-2 AWG                                                                                                                                                                                                  |
| Connecting Capacity<br>Control Circuit UL/CSA | Rigid Solid 1/2x 18-14 AWG<br>Rigid Stranded 1/2x 18-14 AWG                                                                                                                                                                   |
| Tightening Torque<br>UL/CSA                   | Control Circuit 11 in-lb<br>Main Circuit 35 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<br>Altitude Permissible         | Without Derating 3000 m                                                                                                                                                                                          |
| Resistance to Vibrations<br>acc. to IEC 60068-2-6 | 5 ... 300 Hz 3 g closed position / 3 g open position                                                                                                                                                             |
| Resistance to Shock acc.<br>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 |
| 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-108889A1M1                             |
| CCC Certificate                    | CCC_2012010304589737<br>CCC_2015010304824714 |
| CQC Certificate                    | CQC2015010304824714<br>CQC2012010304589737   |
| Declaration of Conformity<br>- CCC | 2020980304001256<br>2020980304001074         |
| 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_HW02016-15003C                                              |
| 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            | 97 mm         |
| Package Level 1 Gross<br>Weight   | 1.05 kg       |
| Package Level 1 EAN               | 3471523132634 |
| Package Level 2 Units             | box 10 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   | 10.5 kg       |
| Package Level 3 Units             | 240 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)                    | 3707048                                   |
| E-Number (Sweden)                     | 3210045                                   |

## Categories

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

