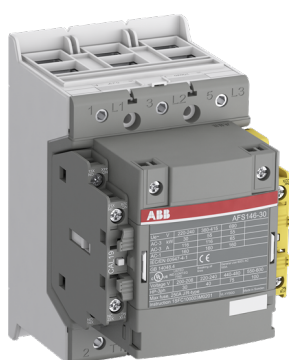


## PRODUCT-DETAILS

# AFS146-30-12-11

# AFS146-30-12-11



## General Information

|                       |                                                                                                                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | AFS146-30-12-11                                                                                                                                                                                                                  |
| Product ID            | 1SFL467081R1112                                                                                                                                                                                                                  |
| EAN                   | 7320500540619                                                                                                                                                                                                                    |
| Catalog Description   | AFS146-30-12-11                                                                                                                                                                                                                  |
| Long Description      | A 3-phase Safety Contactor suitable for various applications such as Motor starting, Isolation, By-pass and Distribution application up to max 1000 V. Operated with wide control voltage range 20-60V DC and 24-60V AC 50/60 Hz |

## Ordering

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

## Popular Downloads

|                                   |                 |
|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 1SBC100208C02__ |
| Instructions and Manuals          | 1SFC100003M0201 |

## Dimensions

|                            |        |
|----------------------------|--------|
| Product Net Width          | 90 mm  |
| Product Net Depth / Length | 126 mm |
| Product Net Height         | 150 mm |
| Product Net Weight         | 1.3 kg |

## Technical

|                                                    |                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Main Contacts NO                         | 3                                                                                                                                                                                                                                                                                                                                                    |
| Number of Main Contacts NC                         | 0                                                                                                                                                                                                                                                                                                                                                    |
| Number of Auxiliary Contacts NO                    | 1                                                                                                                                                                                                                                                                                                                                                    |
| Number of Auxiliary Contacts NC                    | 2                                                                                                                                                                                                                                                                                                                                                    |
| Rated Operational Voltage                          | Main Circuit 1000 V                                                                                                                                                                                                                                                                                                                                  |
| Rated Frequency (f)                                | Main Circuit 50/60 Hz                                                                                                                                                                                                                                                                                                                                |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | acc. to IEC 60947-4-1, Open Contactors q = 40 °C 225 A                                                                                                                                                                                                                                                                                               |
| Rated Operational Current AC-1 ( $I_e$ )           | (1000 V) 40 °C 225 A<br>(1000 V) 60 °C 200 A<br>(1000 V) 70 °C 175 A<br>(690 V) 40 °C 225 A<br>(690 V) 60 °C 200 A<br>(690 V) 70 °C 175 A                                                                                                                                                                                                            |
| Rated Operational Current AC-3 ( $I_e$ )           | (415 V) 60 °C 146 A<br>(440 V) 60 °C 146 A<br>(500 V) 60 °C 130 A<br>(690 V) 60 °C 93 A<br>(1000 V) 60 °C 60 A<br>(380 / 400 V) 60 °C 146 A<br>(220 / 230 / 240 V) 60 °C 146 A                                                                                                                                                                       |
| Rated Operational Power AC-3 ( $P_e$ )             | (415 V) 75 kW<br>(440 V) 90 kW<br>(500 V) 90 kW<br>(690 V) 90 kW<br>(1000 V) 75 kW<br>(380 / 400 V) 75 kW<br>(220 / 230 / 240 V) 45 kW                                                                                                                                                                                                               |
| Rated Breaking Capacity AC-3 acc. to IEC 60947-4-1 | 8 x $I_e$ AC-3                                                                                                                                                                                                                                                                                                                                       |
| Rated Making Capacity AC-3 acc. to IEC 60947-4-1   | 10 x $I_e$ AC-3                                                                                                                                                                                                                                                                                                                                      |
| Short-Circuit Protective Devices                   | gG Type Fuses 315 A                                                                                                                                                                                                                                                                                                                                  |
| Rated Short-time Withstand Current ( $I_{cw}$ )    | at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 1168 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 200 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 477 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1460 A<br>at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 674 A |
| Maximum Breaking Capacity                          | cos phi=0.45 (cos phi=0.35 for $I_e > 100$ A) at 440 V 3000 A<br>cos phi=0.45 (cos phi=0.35 for $I_e > 100$ A) at 690 V 1500 A                                                                                                                                                                                                                       |
| Maximum Electrical Switching Frequency             | (AC-1) 300 cycles per hour<br>(AC-2 / AC-4) 150 cycles per hour<br>(AC-3) 300 cycles per hour                                                                                                                                                                                                                                                        |
| Rated Insulation Voltage                           | acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V                                                                                                                                                                                                                                                                                                    |

|                                                     |                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (U <sub>i</sub> )                                   | acc. to UL/CSA 600 V                                                                                                                                                                                                                                                                                                                                                       |
| Rated Impulse Withstand Voltage (U <sub>imp</sub> ) | Main Circuit 8 kV                                                                                                                                                                                                                                                                                                                                                          |
| Mechanical Durability                               | 5 million                                                                                                                                                                                                                                                                                                                                                                  |
| Maximum Mechanical Switching Frequency              | 300 cycles per hour                                                                                                                                                                                                                                                                                                                                                        |
| Coil Operating Limits                               | (acc. to IEC 60947-4-1) 0.85 x U <sub>c</sub> Min. ... 1.1 x U <sub>c</sub> Max. (at $\theta \leq 70^\circ\text{C}$ )                                                                                                                                                                                                                                                      |
| 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                                    | Holding at Max. Rated Control Circuit Voltage 50 Hz 5.5 V·A<br>Holding at Max. Rated Control Circuit Voltage 60 Hz 5.5 V·A<br>Holding at Max. Rated Control Circuit Voltage DC 4 W<br>Pull-in at Max. Rated Control Circuit Voltage 50 Hz 225 V·A<br>Pull-in at Max. Rated Control Circuit Voltage 60 Hz 225 V·A<br>Pull-in at Max. Rated Control Circuit Voltage DC 210 W |
| Operate Time                                        | Between Coil De-energization and NO Contact Opening 37 ... 47 ms<br>Between Coil Energization and NO Contact Closing 25 ... 55 ms                                                                                                                                                                                                                                          |
| Connecting Capacity Main Circuit                    | Flexible 1 x 10 ... 70 mm <sup>2</sup><br>Rigid Cu-Cable 2 x 10 ... 95 mm <sup>2</sup>                                                                                                                                                                                                                                                                                     |
| Connecting Capacity Auxiliary Circuit               | Flexible with Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible 1x0.75 ... 2.5 mm <sup>2</sup><br>Solid 2 x 1 ... 4 mm <sup>2</sup><br>Stranded 2 x 1 ... 4 mm <sup>2</sup>                                                                                                                           |
| 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 IP00                                                                                                                                                                                                                                               |
| Terminal Type                                       | Double Clamp                                                                                                                                                                                                                                                                                                                                                               |

## Technical UL/CSA

|                                  |                                                                                                                                                                |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum Operating Voltage UL/CSA | Main Circuit 600 V                                                                                                                                             |
| General Use Rating UL/CSA        | (600 V AC) 200 A                                                                                                                                               |
| Horsepower Rating UL/CSA         | (200 ... 208 V AC) Three Phase 40 hp<br>(220 ... 240 V AC) Three Phase 50 hp<br>(440 ... 480 V AC) Three Phase 100 hp<br>(550 ... 600 V AC) Three Phase 125 hp |

## Environmental

|                                        |                                                                                                                                                                                                                                               |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient Air Temperature                | Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 U <sub>c</sub> ) -25 ... +50 °C<br>Close to Contactor without Thermal O/L Relay (0.85 ... 1.1 U <sub>c</sub> ) -40 ... +70 °C<br>Close to Contactor for Storage -40 ... +70 °C |
| Maximum Operating Altitude Permissible | 3000 m                                                                                                                                                                                                                                        |
| RoHS Status                            | Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019                                                                                                                                                                        |

## Certificates and Declarations (Document Number)

|                 |                     |
|-----------------|---------------------|
| CB Certificate  | SEMKO_SE-70479M1    |
| CCC Certificate | 2013010304604055    |
| CQC Certificate | CQC2013010304604055 |

|                                    |                  |
|------------------------------------|------------------|
| cUL Certificate                    | 20120925-E36588  |
| Declaration of Conformity<br>- CCC | 2020980304001304 |
| Declaration of Conformity<br>- CE  | 2CMT2018-005695  |
| EAC Certificate                    | 1SFC101360D1101  |
| Instructions and Manuals           | 1SFC100003M0201  |
| RoHS Information                   | 2CMT2018-005695  |
| SUVA Certificate                   | 2CMT2019-005856  |

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## Container Information

|                                   |               |
|-----------------------------------|---------------|
| Package Level 1 Units             | box 1 piece   |
| Package Level 1 Width             | 207 mm        |
| Package Level 1 Depth /<br>Length | 216 mm        |
| Package Level 1 Height            | 150 mm        |
| Package Level 1 Gross<br>Weight   | 1.5 kg        |
| Package Level 1 EAN               | 7320500540619 |

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## 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  |
| UNSPSC                                | 39121529                                  |
| IDEA Granular Category<br>Code (IGCC) | 4755 >> Contactors                        |
| E-Number (Finland)                    | 3708096                                   |

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## Categories

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

