

PRODUCT-DETAILS

# HF9-ROL-24VDC

## HF9-ROL-24VDC Electronic Compact Starter 24 VDC



### General Information

|                       |   |
|-----------------------|---|
| Extended Product Type | HF9-ROL-24VDC                                   |
| Product ID            | 1SAT145000R1011                                 |
| EAN                   | 4013614515569                                   |
| Catalog Description   | HF9-ROL-24VDC Electronic Compact Starter 24 VDC |

|                  |  |
|------------------|--|
| Long Description | <p>The HF-ROL-range is used for forward and reverse running motors, as well as for switching non resistive loads. With contactor and overload relay functionalities integrated into one device, the results are faster wiring times and fewer faults. The range covers 0.6 A, 2.4 A and up to 9 A - for motors up to 3 kW – 500 V AC. The integrated electronic overload protection has a wide setting range that enables just three models to cover all requirements. Setting range of HF9-ROL-24VDC is 1.5 A to 9 A. The control supply voltage is 24 V DC.</p> <p>For the control and main connection points ABB offers screw connections. ABB also offers a HF-ROLE safety range with emergency stop function. This offers Safety Integrity Level 3, in accordance with functional safety standard IEC 61508-1 and Performance Level 'e' in accordance with ISO 13849-1. The safety range is ATEX-certified.</p> |
|------------------|--|

### Ordering

|                        |                    |
|------------------------|--------------------|
| Minimum Order Quantity | 1 piece            |
| Customs Tariff Number  | 85371098           |
| Product Main Type      | HF                 |
| Product Name           | Electronic Starter |

## Popular Downloads

|                          |                 |
|--------------------------|-----------------|
| Instructions and Manuals | 2CDC130014M0401 |
|                          | 2CDC130009M0401 |
|                          | 2CDC130013M0401 |
|                          | 2CDC130007M0401 |
|                          | 2CDC130015M0401 |
| Dimension Diagram        | 1SAT100401F0001 |

## Dimensions

|                               |          |
|-------------------------------|----------|
| Product Net Width             | 22.5 mm  |
| Product Net Height            | 99 mm    |
| Product Net Depth /<br>Length | 114.5 mm |
| Product Net Weight            | 0.218 kg |

## Technical

|  |   |
|--|---|
| Standards  | IEC/EN 60947-1<br>IEC/EN 60947-4-2<br>UL 60947-1<br>UL 60947-4-2                                  |
| Function   | Reversed-on-line starter with overload protection   |
| Utilization                                      | Motor Protection  |
| Rated Operational Voltage                        | Main Circuit 500 V AC   |
| Operational Voltage                              | Maximum 550 V AC<br>Minimum 42 V AC   |
| Rated Frequency (f)                              | Main Circuit 50 Hz<br>Main Circuit 60 Hz  |
| Rated Control Supply<br>Voltage ( $U_s$ )        | 24 V DC   |
| Rated Input Voltage ( $U_{IN}$ )                 | Switching Threshold at Signal <0> -3 ... 9.6 V<br>Switching Threshold at Signal <1> 19.2 ... 30 V |
| Rated Impulse Withstand<br>Voltage ( $U_{imp}$ ) | Main Circuit 6 kV   |
| Rated Insulation Voltage<br>( $U_i$ )            | 500 V   |
|  | 9 A   |
|  | 6.5 A   |
| Rated Control Supply<br>Current ( $I_s$ )        | 0.04 A  |
| Rated Uninterrupted<br>Current ( $I_U$ )         | 9 A   |
| Input Current                                    | 0.003 A   |
| Switching Frequency                              | $\leq 2$ Hz<br>120 starts/min<br>7200 starts/h  |
| Rated Operational Power<br>AC-53a ( $P_e$ )      | 3 kW  |
| Overvoltage Category                             | III   |

|                                     |   |
|-------------------------------------|---|
| Overload Protection                 | Electronic overload protection  |
| Setting Range                       | 1.5 ... 9.0 A   |
| Trip Class                          | class 10A   |
| Number of Poles                     | 3   |
| Power Loss                          | Maximum 14.6 W<br>Minimum 1.1 W   |
| Number of Protected Poles           | 3   |
| Mechanical Durability               | 10000 cycle   |
| Electrical Durability               | 30000000 cycle  |
| Delay Time (T)                      | Off, Maximum, Switched Off via Supply Voltage 500 ms<br>Off, Typical, Switched Off via Control Input Voltage 30 ms<br>Off, Typical, Switched Off via Supply Voltage 25 ms<br>Off, Maximum, Switched Off with Pushbutton 3 second [unit of time]<br>Off, Minimum, Switched Off with Pushbutton 0.5 second [unit of time] |
| 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 Position                   | 1   |
| Connecting Capacity Control Circuit | Flexible with Ferrule 1/2x 1 ... 2.5 mm <sup>2</sup><br>Flexible 1/2x 1 ... 2.5 mm <sup>2</sup><br>Rigid 1x 0.5 ... 4 mm <sup>2</sup>   |
| Connecting Capacity Main Circuit    | Flexible with Ferrule 1x 2 ... 2.5 mm <sup>2</sup><br>Flexible 1x 2 ... 2.5 mm <sup>2</sup><br>Rigid 1x 2 ... 2.5 mm <sup>2</sup>   |
| Recommended Screw Driver            | Control Circuit M3<br>Main Circuit M3   |
| Terminal Type                       | Screw Terminals   |
| Tightening Torque                   | Control Circuit 0.5 ... 0.6 N·m<br>Main Circuit 0.5 ... 0.6 N·m   |
| Wire Stripping Length               | Control Circuit 8 mm<br>Main Circuit 8 mm   |
| Response Time                       | Phase Asymmetry 33% 120 second [unit of time]<br>Phase Asymmetry 67% 1.8 second [unit of time]<br>Phase Failure 1.8 second [unit of time]   |
| Pollution Degree                    | 2   |
| Phase Loss Sensitive                | Yes   |
| Degree of Protection                | Housing IP20<br>Main Circuit Terminals IP20   |
| Short-Circuit Current Rating (SCCR) | (500 V AC, 30 A Class J or CC) 100 kA   |

## Technical UL/CSA

|  |  |
|--|--|
| Maximum Operating Voltage UL/CSA           | Main Circuit 500 V AC  |
| Horsepower Rating UL/CSA                   | Nominal Switching Performance Full Load (power factor = 0.4) 3 Hp<br>Nominal Switching Performance Full Load (power factor = 0.8) 6.1 Hp |
| Full Load Amps Motor Use                   | 6.5 A  |
| Connecting Capacity Main Circuit UL/CSA    | Flexible with Ferrule 1x 24 ... 14 AWG<br>Flexible 1x 24 ... 14 AWG<br>Solid 1x 24 ... 14 AWG  |
| Connecting Capacity Control Circuit UL/CSA | Flexible with Ferrule 1x 24 ... 14 AWG<br>Flexible 16-8 AWG  |

|                   |                               |
|-------------------|-------------------------------|
|                   | Solid 1x 24 ... 14 AWG        |
| Tightening Torque | Control Circuit 5 ... 7 in-lb |
| UL/CSA            | Main Circuit 5 ... 7 in-lb    |

### Safety Information

|                             |           |
|-----------------------------|-----------|
| Mean Time to Failure (MTTF) | 39.6 year |
|-----------------------------|-----------|

### Environmental

|  |   |
|--|---|
| Ambient Air Temperature                | Operation -25 ... +70 °C<br>Operation Compensated -40 ... + 80 °C |
| Maximum Operating Altitude Permissible | Without Derating 2000 m   |
| RoHS Status                            | Following EU Directive 2011/65/EU                                 |

### Certificates and Declarations

|                                  |                  |
|----------------------------------|------------------|
| cUL Certificate                  | cUL E191658      |
| Declaration of Conformity - CCC  | 2020970304003456 |
| Declaration of Conformity - CE   | 1SAD938504-0195  |
| Declaration of Conformity - UKCA | 1SAD938501-1195  |

### Container Information

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | 1 piece       |
| Package Level 1 Width          | 150 mm        |
| Package Level 1 Depth / Length | 115 mm        |
| Package Level 1 Height         | 34 mm         |
| Package Level 1 Gross Weight   | 0.318 kg      |
| Package Level 1 EAN            | 4013614515569 |

### Classifications

|                                    |  |
|------------------------------------|--|
| Object Classification Code         | B  |
| ETIM 6                             | EC001037 - Motor starter/Motor starter combination |
| ETIM 7                             | EC001037 - Motor starter/Motor starter combination |
| ETIM 8                             | EC001037 - Motor starter/Motor starter combination |
| eClass                             | V11.0 : 27370905                                   |
| UNSPSC                             | 39121521   |
| IDEA Granular Category Code (IGCC) | 4727 >> Motor starter controls                     |
| E-Number (Finland)                 | 3707549  |

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## Categories

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Low Voltage Products and Systems → Control Products → Motor Controllers → Motor Controllers → Electronic Starters

