PRODUCT-DETAILS

HF9-ROLE-24VDC

HF9-ROLE-24VDC Electronic Compact Starter 24 VDC

General Information

Extended Product Type	HF9-ROLE-24VDC
Product ID	1SAT146000R1011
EAN	4013614515538
Catalog Description	HF9-ROLE-24VDC Electronic Compact Starter 24 VDC
Long Description	The HF-ROLE-range is our safety range with emergency stop function. It's used for the direct-on-line start of motors and the switching of 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-ROLE-24VDC is 1.5 A to 9 A. The control supply voltage is 24 V DC. For the control and main connection points ABB offers screw connections. Safety Integrity Level 3 in accordance with functional safety standard IEC 61508-1 and Performance Level 'e' in accordance with ISO 13849-1 are certified. Also ATEX is certified.

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	1SAT100402F0001

Dimensions

Product Net Width	22.5 mm
Product Net Height	99 mm
Product Net Depth / Length	114.5 mm
Product Net Weight	0.289 kg

Technical

Standards	IEC/EN 60947-1 IEC/EN 60947-4-2 IEC/EN 61508 IS0 13849 UL 60947-1 UL 60947-4-2
Function	Reversed-on-line starter with electronic overload protection and emergency stop function
Utilization	Motor Protection
Rated Operational Voltage	Main Circuit 500 V AC
Operational Voltage	Maximum 550 V AC Minimum 42 V AC
Rated Frequency (f)	Main Circuit 50 Hz Main Circuit 60 Hz
Rated Control Supply Voltage (U_s)	24 V DC
Rated Input Voltage (U_{IN})	Switching Threshold at Signal <0> -3 ... 9.6 V Switching Threshold at Signal <1> 19.2 ... 30 V
Rated Impulse Withstand Voltage (U_{imp})	Main Circuit 6 kV
Rated Insulation Voltage (U_i)	500 V
	9 A
	6.5 A
Rated Control Supply Current (I_s)	0.04 A
Rated Uninterrupted Current (I_u)	9 A
Input Current	0.003 A
Switching Frequency	≤ 2 Hz 120 starts/min 7200 starts/h
Rated Operational Power 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 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 Control Input Voltage 80 ms Off, Maximum, Switched Off via Supply Voltage 500 ms Off, Typical, Switched Off via Control Input Voltage 30 ms Off, Typical, Switched Off via Supply Voltage 25 ms Off, Maximum, Switched Off with Pushbutton 3 second [unit of time] 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 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 mm² Flexible 1/2x 1 ... 2.5 mm² Rigid 1x 0.5 ... 4 mm²
Connecting Capacity Main Circuit	Flexible with Ferrule 1x 2 ... 2.5 mm² Flexible 1x 2 ... 2.5 mm² Rigid 1x 2 ... 2.5 mm²
Recommended Screw Driver	Control Circuit M3 Main Circuit M3
Terminal Type	Screw Terminals
Tightening Torque	Control Circuit 0.5 ... 0.6 N·m Main Circuit 0.5 ... 0.6 N·m
Wire Stripping Length	Control Circuit 8 mm Main Circuit 8 mm
Response Time	Phase Asymmetry 33% 120 second [unit of time] Phase Asymmetry 67% 1.8 second [unit of time] Phase Failure 1.8 second [unit of time]
Pollution Degree	2
Phase Loss Sensitive	Yes
Degree of Protection	Housing IP20 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 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 Flexible 1x 24 ... 14 AWG Solid 1x 24 ... 14 AWG
Connecting Capacity Control Circuit UL/CSA	Flexible with Ferrule 1x 24 ... 14 AWG Flexible 16-8 AWG Solid 1x 24 ... 14 AWG
Tightening Torque UL/CSA	Control Circuit 5 ... 7 in·lb Main Circuit 5 ... 7 in·lb

Safety Information

Safety Integrity Level (SIL)	3
Safety Category	3
Performance Level (PL)	Up to e
Mean Time to Dangerous Failure ($MTTF_d$)	Motor Protection 447 year Safe Shutdown 517 year
Mean Time to Failure (MTTF)	39.3 year
Diagnostic Coverage	98.79 %
Diagnostic Coverage Safe (DCS)	40.71 %

Environmental

Ambient Air Temperature	Operation -25 ... +70 °C Operation Compensated -40 ... + 80 °C
Maximum Operating Altitude Permissible	Without Derating 2000 m

Material Compliance

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
RoHS Information	1SVD981001-4401
RoHS Status	Following EU Directive 2011/65/EU
Toxic Substances Control Act - TSCA	2CMT2023-006538
WEEE B2C / B2B	Business To Business
WEEE Category	5. Small Equipment (No External Dimension More Than 50 cm)

Certificates and Declarations

ATEX Certificate	1SAA918002-3901
cUL Certificate	cUL E191658
Declaration of Conformity - CCC	2020970304003456
Declaration of Conformity - CE	1SAD938504-0194
Declaration of Conformity - UKCA	1SAD938501-1194

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	0.389 kg
Package Level 1 EAN	4013614515538

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)	3707552
E-Number (Sweden)	3210500

Categories

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