Representative Image

Alternate Catalog No. HF9-ROLE
Catalog No. 1SAT146000R1011

Description: HF9-ROLE Electronic Compact Starter 24 VDC

UPC No 4013614515538

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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.

Descriptors

Category	Electronic Starters

Specifications

Function	Reversed-on-line starter with electronic overload protection and emergency stop function
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
Setting Range	1.5 ... 9.0 A
Full Load Amps Motor Use	6.5 A
Ambient Air Temperature	Operation -25 ... +70 °C Operation Compensated -40 ... + 80 °C
RoHS Status	Following EU Directive 2011/65/EU
Maximum Operating Voltage UL/CSA	Main Circuit 500 V AC
Ampere Rating UL/CSA	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
Standards	IEC/EN 60947-1 IEC/EN 60947-4-2 IEC/EN 61508 ISO 13849 UL 60947-1 UL 60947-4-2
Utilization	Motor Protection
Rated Operational Voltage	Main Circuit 500 V AC
Operational Voltage	Maximum 550 V AC Minimum 42 V AC
Rated Frequency	Main Circuit 50Hz Main Circuit 60 Hz
Rated Control Supply Voltage	24 V DC
Rated Input Voltage	Switching Threshold at Signal 0> -3 ... 9.6 V Switching Threshold at Signal 1> 19.2 ... 30 V
Rated Impulse Withstand Voltage	Main Circuit 6 kV

by ABB

Specifications

Rated Insulation Voltage	500 V
Rated Operational Current AC-51	9 A
Rated Operational Current AC-53a	6.5 A
Rated Control Supply Current	0.04 A
Rated Uninterrupted Current	9 A
Input Current	0.00 A
Switching Frequency	≤ 2 Hz 120 starts/min 7200 starts/h
Rated Operational Power AC-53a	3 kW
Overvoltage Category	III
Overload Protection	Electronic overload protection
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	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	Position 1, load side bottom
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

Classifications

ETIM 5.0	EC001037 - Motor starter combination
ETIM 6.0	EC001037 - Motor starter/Motor starter combination
ETIM 7	EC001037 - Motor starter/Motor starter combination
eClass	7.0 27370905

Dimensions

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

Package 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

Safety Information

Safety Integrity Level (SIL)	3
Safety Category	3
Performance Level	Up to e
Mean Time to Dangerous Failure	Motor Protection 447 year Safe Shutdown 517 year
Mean Time to Failure	39.3 year
Probability of Dangerous Failure per Hour	3 hour
Diagnostic Coverage	0.99
Diagnostic Coverage Safe	0.41