

Reversing starter, 6.6 A, Sensor input 2, 230/277 V AC, AS-Interface®, S-7.4 for 31 modules, HAN Q4/2, with manual override switch



**Part no. RAM05-W202A31-412RS1
199101**

Product name	Eaton Moeller® series Rapid Link Reversing starter
Part no.	RAM05-W202A31-412RS1
EAN	4015081971596
Product Length/Depth	120 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	1.8 kilogram
Certifications	CE RoHS CCC IEC/EN 60947-4-2 UL approval UL 60947-4-2
Product Tradename	Rapid Link
Product Type	Reversing starter
Product Sub Type	None
Catalog Notes	Assigned motor rating: for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm at 50 Hz or 1800 min at 60 Hz
Features	Parameterization: drivesConnect Diagnostics and reset on device and via AS-Interface Parameterization: Fieldbus Parameterization: drivesConnect mobile (App) Parameterization: Keypad
Fitted with:	Thermistor monitoring PTC Key switch position AUTO Key switch position OFF/RESET Key switch position HAND Thermo-click Manual override switch Electronic motor protection Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Short-circuit release
Functions	For actuation of motors with mechanical brake External reset possible Temperature compensated overload protection
Class	CLASS 10 A
Degree of protection	IP65 NEMA 12
Electromagnetic compatibility	Class A
Lifespan, electrical	10,000,000 Operations (at AC-3)
Lifespan, mechanical	10,000,000 Operations (at AC-3)
Model	Reversing starter
Overload release current setting - min	0.3 A
Overload release current setting - max	6.6 A
Overvoltage category	III
Product category	Motor starter
Protocol	AS-Interface profile cable: S-7.4 for 31 modules ASI
Rated impulse withstand voltage (Uimp)	4000 V
System configuration type	Center-point earthed star network (TN-S network) AC voltage Phase-earthed AC supply systems are not permitted.
Type	Reversing starter
Voltage type	DC

Mounting position	Vertical
Shock resistance	15 g, Mechanical, According to IEC/EN 60068-2-27, 11 ms, Half-sinusoidal shock 11 ms, 1000 shocks per shaft
Vibration	Resistance: 10 - 150 Hz, Oscillation frequency Resistance: 6 Hz, Amplitude 0.15 mm Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: According to IEC/EN 60068-2-6
Altitude	Above 1000 m with 1 % performance reduction per 100 m Max. 2000 m Max. 1000 m
Ambient operating temperature - min	-10 °C
Ambient operating temperature - max	55 °C
Ambient storage temperature - min	-40 °C
Ambient storage temperature - max	70 °C
Climatic proofing	< 95 %, no condensation In accordance with IEC/EN 50178
Current limitation	Adjustable, motor, main circuit 0.3 - 6.6 A, motor, main circuit
Input current	6.6 A (at 150 % Overload)
Mains switch-on frequency	Maximum of one time every 60 seconds
Mains voltage tolerance	380 - 480 V (-15 %/+10 %, at 50/60 Hz)
Off-delay	20 - 35 ms
On-delay	20 - 35 ms
Output frequency	50/60 Hz
Overload cycle	AC-53a
Rated frequency - max	63 Hz
Rated frequency - min	47 Hz
Rated operational current (Ie)	6.6 A
Rated operational current (Ie) at 150% overload	6.6 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V	6.6 A
Rated operational power at 380/400 V, 50 Hz - max	3 kW
Rated operational power at 380/400 V, 50 Hz - min	0.09 kW
Rated operational power at AC-3, 220/230 V, 50 Hz	0 kW
Rated operational power at AC-3, 380/400 V, 50 Hz	3 kW
Rated operational voltage	400 V AC, 3-phase 480 V AC, 3-phase
Supply frequency	50/60 Hz, fLN, Main circuit
Assigned motor power at 460/480 V, 60 Hz, 3-phase	3 HP
Braking current	≤ 0.6 A (max. 6 A for 120 ms), Actuator for external motor brake
Braking voltage	230/277 V AC -15 % / +10 %, Actuator for external motor brake
Rated conditional short-circuit current (Iq)	10 kA
Rated conditional short-circuit current (Iq), type 2, 380 V, 400 V, 415 V	0 A
Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Rated control supply voltage (Us) at AC, 50 Hz - min	0 V
Rated control supply voltage (Us) at AC, 50 Hz - max	0 V
Rated control supply voltage (Us) at AC, 60 Hz - min	0 V
Rated control supply voltage (Us) at AC, 60 Hz - max	0 V
Rated control supply voltage (Us) at DC - min	0 V
Rated control supply voltage (Us) at DC - max	0 V
Rated control voltage (Uc)	24 V DC (-15 %/+20 %, external via AS-Interface® plug) 230/277 V AC (external brake 50/60 Hz)

Connection		Connections pluggable in power section
Interfaces		Specification: S-7.4 (AS-Interface®) Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA Number of slave addresses: 31 (AS-Interface®)
Number of auxiliary contacts (normally closed contacts)		0
Number of auxiliary contacts (normally open contacts)		0
Cable length		10 m, Radio interference level, maximum motor cable length
10.2.2 Corrosion resistance		Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat		Meets the product standard's requirements.
10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects		Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation		Meets the product standard's requirements.
10.2.5 Lifting		Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact		Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions		Meets the product standard's requirements.
10.3 Degree of protection of assemblies		Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances		Meets the product standard's requirements.
10.5 Protection against electric shock		Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's responsibility.
10.8 Connections for external conductors		Is the panel builder's responsibility.
10.9.2 Power-frequency electric strength		Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage		Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material		Is the panel builder's responsibility.
10.10 Temperature rise		The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function		The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 8.0

Low-voltage industrial components (EG000017) / Motor starter/Motor starter combination (EC001037)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Motor starter combination (ecl@ss10.0.1-27-37-09-05 [AJZ718013])		
Type of motor starter		Reversing starter
With short-circuit release		Yes
Rated control supply voltage U_s at AC 50HZ	V	0 - 0
Rated control supply voltage U_s at AC 60HZ	V	0 - 0
Rated control supply voltage U_s at DC	V	0 - 0
Voltage type for actuating		DC
Rated operation power at AC-3, 230 V, 3-phase	kW	0
Rated operation power at AC-3, 400 V	kW	3
Rated power, 460 V, 60 Hz, 3-phase	kW	2.238
Rated power, 575 V, 60 Hz, 3-phase	kW	0
Rated operation current I_e	A	6.6
Rated operation current at AC-3, 400 V	A	6.6
Overload release current setting	A	0.3 - 6.6
Rated conditional short-circuit current, type 1, 480 Y/277 V	A	10,000
Rated conditional short-circuit current, type 1, 600 Y/347 V	A	0
Rated conditional short-circuit current, type 2, 230 V	A	0
Rated conditional short-circuit current, type 2, 400 V	A	0

Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		0
Ambient temperature, upper operating limit	°C	55
Temperature compensated overload protection		Yes
Release class		CLASS 10 A
Type of electrical connection of main circuit		Plug-in connection
Type of electrical connection for auxiliary- and control current circuit		Plug-in connection
Rail mounting possible		No
With transformer		No
Number of command positions		2
Suitable for emergency stop		No
Coordination class according to IEC 60947-4-3		Class 1
Number of indicator lights		0
External reset possible		Yes
With fuse		No
Degree of protection (IP)		IP65
Degree of protection (NEMA)		12
Supporting protocol for TCP/IP		No
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		No
Supporting protocol for INTERBUS		No
Supporting protocol for ASI		Yes
Supporting protocol for Modbus		No
Supporting protocol for Data-Highway		No
Supporting protocol for DeviceNet		No
Supporting protocol for SUCONET		No
Supporting protocol for LON		No
Supporting protocol for PROFINET IO		No
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS		No
Supporting protocol for Foundation Fieldbus		No
Supporting protocol for EtherNet/IP		No
Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for DeviceNet Safety		No
Supporting protocol for INTERBUS-Safety		No
Supporting protocol for PROFIsafe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for other bus systems		No
Width	mm	220
Height	mm	270
Depth	mm	120