

Specifications

Photo is representative

Eaton 199103

Eaton Moeller® series Rapid Link - Reversing starter, 6.6 A, Sensor input 2, Actuator output 1, AS-Interface®, S-7.4 for 31 modules, HAN Q4/2, with manual override switch

General specifications

PRODUCT NAME	Eaton Rapid Link Reversing starter
CATALOG NUMBER	199103
EAN	4015081971619
PRODUCT LENGTH/DEPTH	120 mm
PRODUCT HEIGHT	270 mm
PRODUCT WIDTH	220 mm
PRODUCT WEIGHT	1.81 kg
CERTIFICATIONS	UL 60947-4-2 UL approval CCC CE RoHS IEC/EN 60947-4-2 UL 60947-4-2
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
MODEL CODE	RAMO5-W210A31-412RS1

Features & Functions

FEATURES

Diagnostics and reset on device and via AS-Interface

Parameterization: Fieldbus

Parameterization: Keypad
Parameterization: drivesConnect
Parameterization: drivesConnect mobile (App)

FITTED WITH:

Manual override switch
1 Actuator output
Thermistor monitoring
PTC
Key switch position AUTO
Thermo-click
Key switch position OFF/RESET
Key switch position HAND
Electronic motor protection
Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation
Short-circuit release

FUNCTIONS

External reset possible
Temperature compensated overload protection

General

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 AC voltage
Center-point earthed star network (TN-S network)
Phase-earthed AC supply systems are not permitted.

TYPE Reversing starter

VOLTAGE TYPE DC

Ambient conditions, mechanical

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: 57 Hz, Amplitude transition frequency on acceleration Resistance: According to IEC/EN 60068-2-6 Resistance: 10 - 150 Hz, Oscillation frequency Resistance: 6 Hz, Amplitude 0.15 mm

Climatic environmental conditions

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

Main circuit

CURRENT LIMITATION	0.3 - 6.6 A, motor, main circuit Adjustable, 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 - MIN	47 Hz
RATED FREQUENCY - MAX	63 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 - MIN	0.09 kW
RATED OPERATIONAL POWER AT 380/400 V, 50 HZ - MAX	3 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
SYSTEM CONFIGURATION TYPE	AC voltage Center-point earthed star network (TN-S network) Phase-earthed AC supply systems are not permitted.

Motor rating

ASSIGNED MOTOR

POWER AT 460/480 V, 60 HZ, 3-PHASE 3 HP

Short-circuit rating

RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)	10 kA
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RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 380 V, 400 V, 415 V	0 A
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SHORT-CIRCUIT PROTECTION (EXTERNAL OUTPUT CIRCUITS)	Type 1 coordination via the power bus' feeder unit, Main circuit
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Communication

CONNECTION	Connections pluggable in power section
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INTERFACES	Specification: S-7.4 (AS- Interface®) Number of slave addresses: 31 (AS- Interface®) Max. total power consumption from AS- Interface® power supply unit (30 V): 190 mA
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Cable

CABLE LENGTH	10 m, Radio interference level, maximum motor cable length
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Control circuit

RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
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RATED CONTROL VOLTAGE (UC)	24 V DC (-15 %/+20 %, external via AS-Interface® plug)
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Contacts

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
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NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	1
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Design verification

10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.
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10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.
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10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT	Meets the product standard's requirements.
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10.2.3.3 RESIST. OF	Meets the product
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INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS	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.

Resources

[eaton-rapid-link-generation-change-ra-sp-to-rasp5-ap040196-en-us.pdf](#)

[eaton-rapid-link-generation-change-ramo4-to-ramo5-ap040198-en-us.pdf](#)

[eaton-rapid-link-generation-change-ra-mo-to-ramo4-ap040081-en-us.pdf](#)

[eaton-powerxl-dx-com-stick-3-ap040190-en-us.pdf](#)

[eaton-rapid-link-5-rasp5-profinet-communication-ap040215-en-us.pdf](#)

[eaton-rapid-link-5-configuration-rockwell-plc-ap040195-en-us.pdf](#)

APPLICATION NOTES

[Electromagnetic compatibility \(EMC\)](#)

[eaton-rapid-link-generation-change-rasp4-to-rasp5-ap040197-en-us.pdf](#)

[eaton-rapid-link-generation-change-ra-sp-to-rasp4-ap040080-en-us.pdf](#)

[eaton-powerxl-da1-dc1-de1-internal-motor-protection-ap040016-en-us.pdf](#)

[eaton-rapid-link-firmware-update-rasp4-ap040219-en-us.pdf](#)

[eaton-powerxl-da1-dc1-db1-de1-rapidlink5-firmware-update-ap040214-en-us.pdf](#)

BROCHURES

[eaton-powerxl-variable-frequency-drives-material-handling-brochure-br040017en-en-us.pdf](#)

	eaton-rapid-link-5-brochure-br040014en-en-us.pdf
CATALOGUES	Product Range Catalog Drives Engineering eaton-rapid-link-5-drive-system-catalog-ca040002en-en-us
DECLARATIONS OF CONFORMITY	DA-DC-00004523.pdf DA-DC-00004525.pdf DA-DC-00003964.pdf DA-DC-00004184.pdf
DRAWINGS	eaton-bus-adapter-rapidlink-reversing-starter-dimensions-003.eps eaton-bus-adapter-rapidlink-reversing-starter-dimensions-002.eps
ECAD MODEL	ETN.RAMO5-W210A31-412RS1.edz
INSTALLATION INSTRUCTIONS	IL034084ZU
INSTALLATION VIDEOS	Rapid Link 5
MCAD MODEL	ramo5_v12.stp ramo5_v12.dwg
SOFTWARE, FIRMWARE, AND APPLICATIONS	eaton-rapidlink5-firmware-release-note-mz034006en-us.pdf

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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