

Specifications

Photo is representative

Eaton 199096

Eaton Moeller® series Rapid Link - Reversing starter, 6.6 A, Sensor input 2, Actuator output 1, 230/277 V AC, AS-Interface®, S-7.A.E. for 62 modules, HAN Q4/2

General specifications

PRODUCT NAME	Eaton Rapid Link Reversing starter
CATALOG NUMBER	199096
EAN	4015081971541
PRODUCT LENGTH/DEPTH	120 mm
PRODUCT HEIGHT	270 mm
PRODUCT WIDTH	220 mm
PRODUCT WEIGHT	1.64 kg
CERTIFICATIONS	RoHS CE IEC/EN 60947-4-2 CCC UL approval UL 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-W212A32-4120S1

Features & Functions

FEATURES

Parameterization: Fieldbus

Parameterization:
drivesConnect mobile
(App)
Diagnostics and reset on
device and via AS-Interface

Parameterization:
drivesConnect
Parameterization: Keypad

FITTED WITH:

1 Actuator output
Key switch position
OFF/RESET
Thermistor monitoring
PTC
Key switch position HAND
Electronic motor
protection
Key switch position AUTO
Thermo-click
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

General

CLASS CLASS 10 A

DEGREE OF PROTECTION NEMA 12
IP65

**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 62 modules
ASI

**RATED IMPULSE
WITHSTAND VOLTAGE
(UIMP)** 4000 V

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

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

Climatic environmental conditions

ALTITUDE	Max. 1000 m Above 1000 m with 1 % performance reduction per 100 m Max. 2000 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	In accordance with IEC/EN 50178 < 95 %, no condensation

Main circuit

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

Motor rating

ASSIGNED MOTOR

POWER AT 460/480 V, 60 3 HP

HZ, 3-PHASE

Braking function

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

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) 230/277 V AC (external brake 50/60 Hz)
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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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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.A.E. (AS-Interface®) Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA Number of slave addresses: 62 (AS-Interface®)
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Cable

CABLE LENGTH	10 m, Radio interference level, maximum motor cable length
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Design verification

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 Is the panel builder's responsibility.

Resources

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

[eaton-rapid-link-generation-change-ramo4-to-ramo5-ap040198-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](#)

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

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

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

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

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

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

[eaton-rapid-link-5-brochure-br040014en-en-us.pdf](#)

APPLICATION NOTES

BROCHURES

INSULATING MATERIAL

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.

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

CATALOGUES

[eaton-rapid-link-5-drive-system-catalog-ca040002en-en-us](#)

[Product Range Catalog Drives Engineering](#)

DECLARATIONS OF CONFORMITY

[DA-DC-00004525.pdf](#)

[DA-DC-00004523.pdf](#)

[DA-DC-00004184.pdf](#)

[DA-DC-00003964.pdf](#)

DRAWINGS

[eaton-bus-adapter-rapidlink-reversing-starter-dimensions.eps](#)

[eaton-bus-adapter-rapidlink-reversing-starter-dimensions-002.eps](#)

ECAD MODEL

[ETN.RAMO5-W212A32-4120S1.edz](#)

INSTALLATION INSTRUCTIONS

[IL034084ZU](#)

INSTALLATION VIDEOS

[Rapid Link 5](#)

MCAD MODEL

[ramo5_v9.dwg](#)

[ramo5_v9.stp](#)

SOFTWARE, FIRMWARE, AND APPLICATIONS

[eaton-rapidlink5-firmware-release-note-mz034006en-us.pdf](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



Eaton Corporation plc

Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

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