Specifications

Photo is representative

Eaton 198847

Eaton Moeller® series Rapid Link - Speed controllers, 8.5 A, 4 kW, Sensor input 4, 400/480 V AC, AS-Interface®, S-7.4 for 31 modules, HAN Q4/2, STO (Safe Torque Off), with fan

General specifications	
PRODUCT NAME	Eaton Rapid Link Speed controller
CATALOG NUMBER	198847
MODEL CODE	RASP5-8404A31-4120011S1
EAN	4015081969050
PRODUCT LENGTH/DEPTH	195 mm
PRODUCT HEIGHT	270 mm
PRODUCT WIDTH	220 mm
PRODUCT WEIGHT	3.61 kg
CERTIFICATIONS	UL 61800-5-1 CE IEC/EN 61800-5-1 RoHS UL approval
CATALOG NOTES	• 3 fixed speeds and 1 potentiometer speed • can be switched over from U/f to (vector) speed control • Connection of supply voltage via adapter cable on round or flexible busbar junction • Diagnostics and reset on device and via AS-Interface • integrated PTC thermistor monitoring and

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	Thermoclick with safe isolation • optional: 4 sensor inputs with M12-Y adapter for switchover to creep speed • optional: Faster stop if external 24 V fails • Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation • with AUTO - OFF/RESET - HAND key switches • with selector switch REV - OFF - FWD
GLOBAL CATALOG	198847

Product specifications

FEATURES	Parameterization: drivesConnect Diagnostics and reset on device and via AS-Interface Parameterization: drivesConnect mobile (App) Parameterization: Keypad Internal and on heat sink, temperature-controlled Fan Parameterization: Fieldbus
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.
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.

Resources

APPLICATION NOTES	eaton-powerxl-da1-dc1-db1-de1-rapidlink5-firmware-update-ap040214-en-us.pdf eaton-rapid-link-firmware-update-rasp4-ap040219-en-us.pdf eaton-powerxl-da1-dc1-de1-internal-motor-protection-ap040016-en-us.pdf eaton-rapid-link-generation-change-ramo4-to-ramo5-ap040198-en-us.pdf eaton-rapid-link-generation-change-ra-sp-to-rasp4-ap040080-en-us.pdf eaton-rapid-link-5-rasp5-profinet-communication-ap040215-en-us.pdf eaton-rapid-link-generation-change-ra-mo-to-ramo4-ap040081-en-us.pdf eaton-rapid-link-generation-change-ra-sp-to-rasp5-ap040196-en-us.pdf eaton-rapid-link-5-configuration-rockwell-plc-ap040195-en-us.pdf eaton-rapid-link-generation-change-rasp4-to-rasp5-ap040197-en-us.pdf eaton-powerxl-dx-com-stick-3-ap040190-en-us.pdf Electromagnetic compatibility (EMC)
BROCHURES	eaton-powerxl-variable-frequency-drives-material-handling-brochure-br040017en-en-us.pdf

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.
FITTED WITH:	PC connection Key switch position AUTO Fan Internal DC link IGBT inverter Key switch position HAND Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Control unit Key switch position OFF/RESET Selector switch (Positions: REV - OFF - FWD) PTC thermistor monitoring Thermo-click with safe isolation

	eaton-rapid-link-5-brochure-br040014en-en-us.pdf
CATALOGS	Product Range Catalog Drives Engineering eaton-rapid-link-5-drive-system-catalog-ca040002en-en-us
DECLARATIONS OF CONFORMITY	DA-DC-00003964.pdf DA-DC-00004184.pdf DA-DC-00004991.pdf
DRAWINGS	eaton-bus-adapter-rapidlink-speed-controller-dimensions-003.eps eaton-bus-adapter-rapidlink-speed-controller-dimensions-002.eps eaton-bus-adapter-rapidlink-speed-controller-dimensions-004.eps eaton-bus-adapter-rapidlink-speed-controller-dimensions.eps
ECAD MODEL	ETN.RASP5-8404A31-4120011S1.edz
INSTALLATION INSTRUCTIONS	eaton-powerxl-speed-control-unit-as-interface-rasp5-il034085zu.pdf
INSTALLATION VIDEOS	Rapid Link 5
MANUALS AND USER GUIDES	eaton-rapid-link-5-mn034004en-us.pdf MN040003_EN
MCAD MODEL	rasp5_v28.stp ramo5_v28.dwg
PRODUCT NOTIFICATIONS	eaton-drives-ecodesign-directive-mz040046en-en.pdf

CLIMATIC PROOFING	< 95 %, no condensation In accordance with IEC/EN 50178
OPERATING MODE	BLDC motors U/f control Sensorless vector control (SLV) PM and LSPM motors Synchronous reluctance motors
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	2000 V
ALTITUDE	Max. 2000 m Above 1000 m with 1 % performance reduction per 100 m
APPLICATION IN DOMESTIC AND COMMERCIAL AREA PERMITTED	Yes
MAINS SWITCH-ON FREQUENCY	Maximum of one time every 60 seconds
AMBIENT OPERATING TEMPERATURE - MAX	40 °C
AMBIENT OPERATING TEMPERATURE - MIN	-10 °C
MAINS VOLTAGE - MAX	480 V
OUTPUT VOLTAGE - MAX	500 V
RELATIVE SYMMETRIC NET FREQUENCY TOLERANCE	10 %
RELATIVE SYMMETRIC NET VOLTAGE TOLERANCE	10 %
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
APPLICATION IN INDUSTRIAL AREA PERMITTED	Yes
MAINS VOLTAGE TOLERANCE	380 - 480 V (-10 %/+10 %, at 50/60 Hz)
PRODUCT CATEGORY	Speed controller
PROTECTION	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)

RESOLUTION	0.1 Hz (Frequency resolution, setpoint value)
MOUNTING POSITION	Vertical
RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)	10 kA
OVERVOLTAGE CATEGORY	III
COMMUNICATION INTERFACE	AS-Interface
CONNECTION	Plug type: HAN Q4/2
CONVERTER TYPE	U converter
DEGREE OF PROTECTION	NEMA 12 IP65
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	5 HP
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
INPUT CURRENT ILN AT 150% OVERLOAD	7.8 A
MAINS CURRENT DISTORTION	120 %
PROTOCOL	ASI AS-Interface profile cable: S-7.4 for 31 modules
OVERLOAD CURRENT	At 40 °C For 60 s every 600 s
OVERLOAD CURRENT IL AT 150% OVERLOAD	12.7 A
RATED FREQUENCY - MAX	66 Hz
RATED FREQUENCY - MIN	45 Hz
RATED OPERATIONAL POWER AT 380/400 V, 50 HZ, 3-PHASE	1.5 kW
ASSIGNED MOTOR CURRENT IM AT 400 V, 50 HZ, 150% OVERLOAD	8.5 A
ASSIGNED MOTOR CURRENT IM AT 440 - 480 V, 60 HZ, 150% OVERLOAD	8.5 A
SYSTEM CONFIGURATION TYPE	Phase-earthed AC supply systems are not

	permitted. AC voltage Center-point earthed star network (TN-S network)
BRAKING CURRENT	≤ 0.6 A (max. 6 A for 120 ms), Actuator for external motor brake
ELECTROMAGNETIC COMPATIBILITY	1st and 2nd environments (according to EN 61800-3)
CURRENT LIMITATION	0.8 - 8.5 A, motor, main circuit Adjustable, motor, main circuit
BRAKING TORQUE	Adjustable to 100 % (I/Ie), DC - Main circuit ≤ 30 % (I/Ie)
BRAKING VOLTAGE	400/480 V AC -15 % / +10 %, Actuator for external motor brake
CABLE LENGTH	C3 ≤ 25 m, maximum motor cable length C2 ≤ 5 m, maximum motor cable length C1 ≤ 1 m, maximum motor cable length
FUNCTIONS	3 fixed speeds STO (Safe Torque Off) For actuation of motors with mechanical brake 1 potentiometer speed
DELAY TIME	< 10 ms, On-delay < 10 ms, Off-delay
NUMBER OF INPUTS (ANALOG)	0
NUMBER OF INPUTS (DIGITAL)	4
RADIO INTERFERENCE CLASS	C1: for conducted emissions only C2, C3: depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary.
NUMBER OF OUTPUTS (DIGITAL)	0
STARTING CURRENT - MAX	200 %, IH, max. starting current (High Overload), For 2 seconds every 20

	seconds, Power section
NUMBER OF PHASES (INPUT)	3
NUMBER OF PHASES (OUTPUT)	3
POWER CONSUMPTION	95 W
INTERFACES	Number of slave addresses: 31 (AS-Interface®) Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA Specification: S-7.4 (AS-Interface®)
EFFICIENCY	98 % (η)
RATED CONTROL VOLTAGE (UC)	400/480 V AC (external brake 50/60 Hz) 24 V DC (-15 %/+20 %, external via AS-Interface® plug)
SUPPLY FREQUENCY	50/60 Hz
LEAKAGE CURRENT AT GROUND IPE - MAX	3.5 mA
MAINS VOLTAGE - MIN	380 V
NOMINAL OUTPUT CURRENT I2N	8.5 A
NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)	0
NUMBER OF HW-INTERFACES (OTHER)	1
NUMBER OF HW-INTERFACES (PARALLEL)	0
NUMBER OF HW-INTERFACES (RS-232)	0
NUMBER OF HW-INTERFACES (RS-422)	0
NUMBER OF HW-INTERFACES (RS-485)	1
NUMBER OF HW-INTERFACES (SERIAL TTY)	0
NUMBER OF HW-INTERFACES (USB)	0
NUMBER OF INTERFACES (PROFINET)	0
NUMBER OF OUTPUTS (ANALOG)	0

OUTPUT AT LINEAR LOAD AT RATED OUTPUT VOLTAGE - MAX	4 kW
OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX	4 kW
OUTPUT FREQUENCY - MAX	500 Hz
OUTPUT FREQUENCY - MIN	0 Hz
SHORT-CIRCUIT PROTECTION (EXTERNAL OUTPUT CIRCUITS)	Type 1 coordination via the power bus' feeder unit, Main circuit
SHOCK RESISTANCE	15 g, Mechanical, According to IEC/EN 60068-2-27, 11 ms, Half-sinusoidal shock 11 ms, 1000 shocks per shaft
SWITCHING FREQUENCY	8 kHz, 4 - 32 kHz adjustable, fPWM, Power section, Main circuit
RATED OPERATIONAL CURRENT (IE)	8.5 A at 150% overload (at an operating frequency of 8 kHz and an ambient air temperature of +40 °C)
RATED OPERATIONAL VOLTAGE	400 V AC, 3-phase 480 V AC, 3-phase
VIBRATION	Resistance: According to IEC/EN 60068-2-6 Resistance: 10 - 150 Hz, Oscillation frequency Resistance: 6 Hz, Amplitude 0.15 mm Resistance: 57 Hz, Amplitude transition frequency on acceleration
HEAT DISSIPATION AT CURRENT/SPEED	51.6 W at 25% current and 0% speed 53.8 W at 25% current and 50% speed 60.9 W at 50% current and 0% speed 64 W at 50% current and 90% speed 65.4 W at 50% current and 50% speed 85.1 W at 100% current and 0% speed 94 W at 100% current and 50% speed 95.3 W at 100% current and 90% speed

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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