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Eaton 198768

Eaton Moeller® series Rapid Link - Speed controllers, 4.3 A, 1.5 kW, Sensor input 4, AS-Interface®, S-7.4 for 31 modules, HAN Q4/2, with braking resistance

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PRODUCT NAME	Eaton Rapid Link Speed controller
CATALOG NUMBER	198768
PRODUCT LENGTH/DEPTH	157 mm
PRODUCT HEIGHT	270 mm
PRODUCT WIDTH	220 mm
PRODUCT WEIGHT	3.42 kg
CERTIFICATIONS	IEC/EN 61800-5-1 UL approval CE RoHS UL 61800-5-1
CATALOG NOTES	<ul style="list-style-type: none">• 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• Four fixed speeds• integrated PTC thermistor monitoring and 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

FEATURES

Parameterization: Fieldbus

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

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
RATINGIs the panel builder's
responsibility. The
specifications for the
switchgear must be
observed.10.12 ELECTROMAGNETIC
COMPATIBILITYIs the panel builder's
responsibility. The
specifications for the
switchgear must be
observed.10.13 MECHANICAL
FUNCTIONThe device meets the
requirements, provided
the information in the
instruction leaflet (IL) is
observed.10.2.2 CORROSION
RESISTANCEMeets the product
standard's requirements.10.2.3.1 VERIFICATION OF
THERMAL STABILITY OF
ENCLOSURESMeets the product
standard's requirements.10.2.3.2 VERIFICATION OF
RESISTANCE OF
INSULATING MATERIALS
TO NORMAL HEATMeets the product
standard's requirements.10.2.3.3 RESIST. OF
INSUL. MAT. TO
ABNORMAL HEAT/FIRE
BY INTERNAL ELECT.
EFFECTSMeets the product
standard's requirements.10.2.4 RESISTANCE TO
ULTRA-VIOLET (UV)
RADIATIONMeets the product
standard's requirements.

10.2.5 LIFTING

Does not apply, since the
entire switchgear needs to
be evaluated.

10.2.6 MECHANICAL

Does not apply, since the

DECLARATIONS OF
CONFORMITY[eaton-speed-controller-
declaration-of-conformity-
uk251107en.pdf](#)

ECAD MODEL

[ETN.RASP5-4400A31-
4120100S1.edz](#)

MCAD MODEL

[ramo5_v23.dwg](#)

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control-unit-as-interface-
rasp5-il034085zu.pdf](#)

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dimensions-003.eps](#)[eaton-bus-adapter-
rapidlink-speed-controller-
dimensions-002.eps](#)

IMPACT	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:	Internal DC link Braking resistance Four fixed speeds Key switch position OFF/RESET Thermo-click with safe isolation PC connection Control unit Braking resistance IGBT inverter Key switch position AUTO Key switch position HAND Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Selector switch (Positions: REV - OFF - FWD) PTC thermistor monitoring
CLIMATIC PROOFING	In accordance with IEC/EN 50178 < 95 %, no condensation
OPERATING MODE	PM and LSPM motors U/f control

	Sensorless vector control (SLV) BLDC 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)
SWITCH-ON THRESHOLD FOR THE BRAKING TRANSISTOR	765 VDC
MOUNTING POSITION	Vertical
RATED CONDITIONAL	10 kA

SHORT-CIRCUIT CURRENT (IQ)	
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	2 HP
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
INPUT CURRENT ILN AT 150% OVERLOAD	4.1 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	6.5 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	4.3 A
ASSIGNED MOTOR CURRENT IM AT 440 - 480 V, 60 HZ, 150% OVERLOAD	4.3 A
SYSTEM CONFIGURATION TYPE	Center-point earthed star network (TN-S network) AC voltage Phase-earthed AC supply systems are not permitted.
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	Adjustable, motor, main circuit 0.4 - 4.3 A, motor, main circuit
BRAKING TORQUE	Adjustable to 100 % (I/I _e), DC - Main circuit
CABLE LENGTH	C3 ≤ 25 m, maximum motor cable length C2 ≤ 5 m, maximum motor cable length C1 ≤ 1 m, maximum motor cable length
FUNCTIONS	4-quadrant operation possible Brake chopper with braking resistance for dynamic braking
DELAY TIME	< 10 ms, Off-delay < 10 ms, On-delay
NUMBER OF INPUTS (ANALOG)	0
NUMBER OF INPUTS (DIGITAL)	4
RADIO INTERFERENCE CLASS	C2, C3: depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary. C1: for conducted emissions only
NUMBER OF OUTPUTS (DIGITAL)	0
STARTING CURRENT - MAX	200 %, I _H , 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	46 W
INTERFACES	Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA Specification: S-7.4 (AS-Interface®) Number of slave addresses: 31 (AS-

	Interface®)
EFFICIENCY	98 % (η)
RATED CONTROL VOLTAGE (UC)	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	4.3 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	1.5 kW
OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX	1.5 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)	4.3 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: 57 Hz, Amplitude transition frequency on acceleration Resistance: 10 - 150 Hz, Oscillation frequency Resistance: 6 Hz, Amplitude 0.15 mm Resistance: According to IEC/EN 60068-2-6
HEAT DISSIPATION AT CURRENT/SPEED	32.3 W at 25% current and 0% speed 33.2 W at 25% current and 50% speed 35.2 W at 50% current and 90% speed 36.2 W at 50% current and 0% speed 37.6 W at 50% current and 50% speed 46.3 W at 100% current and 90% speed 48.7 W at 100% current and 0% speed 48.7 W at 100% current and 50% speed

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