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## Eaton 198965

Eaton Moeller® series Rapid Link - Speed controllers, 4.3 A, 1.5 kW, Sensor input 4, Actuator output 2, 180/207 V DC, PROFINET, HAN Q4/2

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<b>PRODUCT NAME</b>	Eaton Rapid Link Speed controller
<b>CATALOG NUMBER</b>	198965
<b>PRODUCT LENGTH/DEPTH</b>	157 mm
<b>PRODUCT HEIGHT</b>	270 mm
<b>PRODUCT WIDTH</b>	220 mm
<b>PRODUCT WEIGHT</b>	3.44 kg
<b>CERTIFICATIONS</b>	RoHS CE UL 61800-5-1 UL approval IEC/EN 61800-5-1

### 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 the device and via PROFINET
- 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

	Parameterization: drivesConnect Parameterization: Fieldbus
<b>FEATURES</b>	Parameterization: drivesConnect mobile (App) Parameterization: Keypad
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product

DECLARATIONS OF CONFORMITY	<a href="#">eaton-speed-controller-declaration-of-conformity-uk251322en.pdf</a>
ECAD MODEL	<a href="#">ETN.RASP5-4421PNT-4120000S1.edz</a>
MCAD MODEL	<a href="#">ramo5_v35.dwg</a> <a href="#">rasp5_v35.stp</a>
□□□□□	<a href="#">eaton-powerxl-speed-control-unit-ethernet-profinet-rasp5-il034093zu.pdf</a>
□□□□	<a href="#">eaton-rapid-link-5-brochure-br040014en-en-us.pdf</a>
□□□□	<a href="#">eaton-rapid-link-5-mn034004en-us.pdf</a>
	<a href="#">eaton-bus-adapter-rapidlink-speed-controller-dimensions-003.eps</a> <a href="#">eaton-bus-adapter-rapidlink-speed-controller-dimensions-004.eps</a>
□□	<a href="#">eaton-bus-adapter-rapidlink-speed-controller-dimensions-002.eps</a> <a href="#">eaton-bus-adapter-rapidlink-speed-controller-dimensions.eps</a>

	standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	IGBT inverter Selector switch (Positions: REV - OFF - FWD) Control unit PTC thermistor monitoring  PC connection Key switch position OFF/RESET Key switch position HAND Thermo-click with safe isolation 2 Actuator outputs Internal DC link Key switch position AUTO Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation
<b>CLIMATIC PROOFING</b>	In accordance with IEC/EN 50178 < 95 %, no condensation
<b>OPERATING MODE</b>	Sensorless vector control (SLV) PM and LSPM motors BLDC motors Synchronous reluctance motors U/f control

<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	2000 V
<b>ALTITUDE</b>	Above 1000 m with 1 % performance reduction per 100 m Max. 2000 m
<b>APPLICATION IN DOMESTIC AND COMMERCIAL AREA PERMITTED</b>	Yes
<b>MAINS SWITCH-ON FREQUENCY</b>	Maximum of one time every 60 seconds
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-10 °C
<b>MAINS VOLTAGE - MAX</b>	480 V
<b>OUTPUT VOLTAGE - MAX</b>	500 V
<b>RELATIVE SYMMETRIC NET FREQUENCY TOLERANCE</b>	10 %
<b>RELATIVE SYMMETRIC NET VOLTAGE TOLERANCE</b>	10 %
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	70 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-40 °C
<b>APPLICATION IN INDUSTRIAL AREA PERMITTED</b>	Yes
<b>MAINS VOLTAGE TOLERANCE</b>	380 - 480 V (-10 %/+10 %, at 50/60 Hz)
<b>PRODUCT CATEGORY</b>	Speed controller
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
<b>RESOLUTION</b>	0.1 Hz (Frequency resolution, setpoint value)
<b>MOUNTING POSITION</b>	Vertical
<b>RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)</b>	10 kA
<b>OVERVOLTAGE CATEGORY</b>	III
<b>COMMUNICATION INTERFACE</b>	PROFINET, optional
<b>CONNECTION</b>	Plug type: HAN Q4/2
<b>CONVERTER TYPE</b>	U converter

<b>DEGREE OF PROTECTION</b>	IP65 NEMA 12
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	2 HP
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	0 W
<b>INPUT CURRENT ILN AT 150% OVERLOAD</b>	4.1 A
<b>MAINS CURRENT DISTORTION</b>	120 %
<b>PROTOCOL</b>	PROFINET IO
<b>OVERLOAD CURRENT</b>	At 40 °C For 60 s every 600 s
<b>OVERLOAD CURRENT IL AT 150% OVERLOAD</b>	6.5 A
<b>RATED FREQUENCY - MAX</b>	66 Hz
<b>RATED FREQUENCY - MIN</b>	45 Hz
<b>RATED OPERATIONAL POWER AT 380/400 V, 50 HZ, 3-PHASE</b>	1.5 kW
<b>ASSIGNED MOTOR CURRENT IM AT 400 V, 50 HZ, 150% OVERLOAD</b>	4.3 A
<b>ASSIGNED MOTOR CURRENT IM AT 440 - 480 V, 60 HZ, 150% OVERLOAD</b>	4.3 A
<b>SYSTEM CONFIGURATION TYPE</b>	AC voltage Phase-earthed AC supply systems are not permitted. Center-point earthed star network (TN-S network)
<b>BRAKING CURRENT</b>	≤ 0.6 A (max. 6 A for 120 ms), Actuator for external motor brake
<b>ELECTROMAGNETIC COMPATIBILITY</b>	1st and 2nd environments (according to EN 61800-3)
<b>CURRENT LIMITATION</b>	Adjustable, motor, main circuit 0.4 - 4.3 A, motor, main circuit
<b>BRAKING TORQUE</b>	Adjustable to 100 % (I/Ie), DC - Main circuit ≤ 30 % (I/Ie)
<b>BRAKING VOLTAGE</b>	280/207 V DC -15 % / +10 %, Actuator for external

	motor brake
<b>CABLE LENGTH</b>	C3 ≤ 25 m, maximum motor cable length C1 ≤ 1 m, maximum motor cable length C2 ≤ 5 m, maximum motor cable length
<b>FUNCTIONS</b>	1 potentiometer speed For actuation of motors with mechanical brake 3 fixed speeds
<b>DELAY TIME</b>	< 10 ms, On-delay < 10 ms, Off-delay
<b>NUMBER OF INPUTS (ANALOG)</b>	0
<b>NUMBER OF INPUTS (DIGITAL)</b>	4
<b>RADIO INTERFERENCE CLASS</b>	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.
<b>NUMBER OF OUTPUTS (DIGITAL)</b>	2
<b>STARTING CURRENT - MAX</b>	200 %, IH, max. starting current (High Overload), For 2 seconds every 20 seconds, Power section
<b>NUMBER OF PHASES (INPUT)</b>	3
<b>NUMBER OF PHASES (OUTPUT)</b>	3
<b>POWER CONSUMPTION</b>	46 W
<b>INTERFACES</b>	Max. total power consumption from AS-Interface® power supply unit (30 V): 250 mA Specification: S-7.4 (AS-Interface®) Number of slave addresses: 31 (AS-Interface®)
<b>EFFICIENCY</b>	98 % (η)
<b>RATED CONTROL VOLTAGE (UC)</b>	24 V DC (-15 %/+20 %, external via AS-Interface® plug) 180/207 V DC (external brake 50/60 Hz)
<b>SUPPLY FREQUENCY</b>	50/60 Hz

<b>LEAKAGE CURRENT AT GROUND IPE - MAX</b>	3.5 mA
<b>MAINS VOLTAGE - MIN</b>	380 V
<b>NOMINAL OUTPUT CURRENT I2N</b>	4.3 A
<b>NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)</b>	0
<b>NUMBER OF HW-INTERFACES (OTHER)</b>	0
<b>NUMBER OF HW-INTERFACES (PARALLEL)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-232)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-422)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-485)</b>	1
<b>NUMBER OF HW-INTERFACES (SERIAL TTY)</b>	0
<b>NUMBER OF HW-INTERFACES (USB)</b>	0
<b>NUMBER OF INTERFACES (PROFINET)</b>	2
<b>NUMBER OF OUTPUTS (ANALOG)</b>	0
<b>OUTPUT AT LINEAR LOAD AT RATED OUTPUT VOLTAGE - MAX</b>	1.5 kW
<b>OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX</b>	1.5 kW
<b>OUTPUT FREQUENCY - MAX</b>	500 Hz
<b>OUTPUT FREQUENCY - MIN</b>	0 Hz
<b>SHORT-CIRCUIT PROTECTION (EXTERNAL OUTPUT CIRCUITS)</b>	Type 1 coordination via the power bus' feeder unit, Main circuit
<b>SHOCK RESISTANCE</b>	15 g, Mechanical, According to IEC/EN 60068-2-27, 11 ms, Half-sinusoidal shock 11 ms, 1000 shocks per shaft
<b>SWITCHING FREQUENCY</b>	8 kHz, 4 - 32 kHz adjustable, fPWM, Power section, Main circuit
<b>RATED OPERATIONAL CURRENT (IE)</b>	4.3 A at 150% overload (at an operating frequency of 8 kHz and an ambient air temperature of +40 °C)



<b>RATED OPERATIONAL VOLTAGE</b>	400 V AC, 3-phase 480 V AC, 3-phase
<b>VIBRATION</b>	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
<b>HEAT DISSIPATION AT CURRENT/SPEED</b>	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

<b>PROJECT NAME:</b>
<b>PROJECT NUMBER:</b>
<b>PREPARED BY:</b>



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