Speed controller, 4.3 A, 1.5 kW, Sensor input 4, AS-Interface \$, S-7.4 for 31 modules, HAN Q5, with braking resistance



Part no. RASP5-4400A31-5120100S1 198557

Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-4400A31-5120100S1
EAN	4015081964321
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.42 kilogram
Certifications	RoHS CE UL 61800-5-1 IEC/EN 61800-5-1 UL approval
Product Tradename	Rapid Link
Product Type	Speed controller
Product Sub Type	None
Catalog Notes	can be switched over from U/f to (vector) speed control Connection of supply voltage via adapter cable on round or flexible busbar junct 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: drivesConnect mobile (App) Parameterization: drivesConnect Diagnostics and reset on device and via AS-Interface Parameterization: Fieldbus Parameterization: Keypad
Fitted with:	Selector switch (Positions: REV - OFF - FWD) Key switch position HAND PC connection PTC thermistor monitoring Internal DC link IGBT inverter Four fixed speeds Control unit Breaking resistance Key switch position AUTO Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Thermo-click with safe isolation Key switch position OFF/RESET Braking resistance
Functions	4-quadrant operation possible Brake chopper with braking resistance for dynamic braking
Degree of protection	IP65 NEMA 12
Electromagnetic compatibility	1st and 2nd environments (according to EN 61800-3)
Overvoltage category	III
Product category	Speed controller
Protocol	ASI AS-Interface profile cable: S-7.4 for 31 modules
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.
Rated impulse withstand voltage (Uimp)	2000 V
System configuration type	Center-point earthed star network (TN-S network)

	Phase-earthed AC supply systems are not permitted.
Mounting position	Vertical
Shock resistance	15 g, Mechanical, According to IEC/EN 60068-2-27, 11 ms, Half-sinusoidal shock
	ms, 1000 shocks per shaft
Vibration	Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: 6 Hz, Amplitude 0.15 mm Resistance: 10 - 150 Hz, Oscillation frequency Resistance: According to IEC/EN 60068-2-6
Altitude	Above 1000 m with 1 % performance reduction per 100 m Max. 2000 m
Ambient operating temperature - min	-10 °C
Ambient operating temperature - max	40 °C
Ambient storage temperature - min	-40 °C
Ambient storage temperature - max	70 °C
Climatic proofing	In accordance with IEC/EN 50178 < 95 %, no condensation
Current limitation	0.4 - 4.3 A, motor, main circuit Adjustable, motor, main circuit
Delay time	< 10 ms, Off-delay < 10 ms, On-delay
Efficiency	98 % (η)
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 50% speed 48.7 W at 100% current and 50% speed
Input current ILN at 150% overload	4.1 A
Leakage current at ground IPE - max	3.5 mA
Mains current distortion	120 %
Mains switch-on frequency	Maximum of one time every 60 seconds
Mains voltage - max	480 V
Mains voltage - min	380 V
Mains voltage tolerance	380 - 480 V (-10 %/+10 %, at 50/60 Hz)
Operating mode	Sensorless vector control (SLV) U/f control BLDC motors Synchronous reluctance motors PM and LSPM motors
Output frequency - max	500 Hz
Output frequency - min	0 Hz
Overload current	For 60 s every 600 s At 40 °C
Overload current IL at 150% overload	6.5 A
Rated frequency - max	66 Hz
Rated frequency - min	45 Hz
Rated operational current (le)	4.3 A at 150% overload (at an operating frequency of 8 kHz and an ambient air temperature of +40 $^{\circ}\text{C})$
Rated operational power at 380/400 V, 50 Hz, 3-phase	1.5 kW
Rated operational voltage	400 V AC, 3-phase 480 V AC, 3-phase
Resolution	0.1 Hz (Frequency resolution, setpoint value)
Starting current - max	200 %, IH, max. starting current (High Overload), For 2 seconds every 20 seconds Power section
Supply frequency	50/60 Hz
Switching frequency	8 kHz, 4 - 32 kHz adjustable, fPWM, Power section, Main circuit
Assigned motor power at 460/480 V, 60 Hz, 3-phase	2 HP

Braking torque Switch-on threshold for the braking transistor Risted conditional short-circuit current (lq) Risted conditional short-circuit protection (leutemal output circuits) Risted control voltage (lLc) Communication interface Connection Communication interface Connection Communication interface Connection Connection Connection Connection Connection Calbel length Calbel le	Braking current	≤ 0.6 A (max. 6 A for 120 ms), Actuator for external motor brake
Switch on threshold for the braking transistor Rated conditional short-circuit current (lq) Rated control voltage (Uc) Rated popular (Rated Control voltage (Uc) (Rated Control Rated		
Rated conditional short-circuit current (Iq) Short-circuit protection (external output circuits) Rated control voltage (IQ) Communication interface Connection Communication interface Connection Communication interface Connection Interfaces As-Interfaces Mass. total power consumption from As-Interface® power supply unit (IBV) I INI Number of slave addresses: 31 (AS-Interface®) Assumer of slave addresses: 31 (AS-Interface®) Assumer of slave addresses: 31 (AS-Interface®) Cable length Cable		
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Rated control voltage (Uc) 24 V D C (-15 %/20 %, external via AS-Interface® plug) Communication interface Connection Pug type: HAN 05 Max. trail power consumption from AS-Interface® power supply anti (39 V): 186 Max. trail power consumption from AS-Interface®) Specification: S.7.4 IAS-Interface®) Specification: S.7.4 IAS-Interface®) Cable length C1 ≤ 1 m, maximum motor cable length C3 ≤ 5 m, maximum motor cable length C4 ≤ 5 m, maximum motor cable length C5 ≤ 5 m, maximum motor cable length C5 ≤ 5 m, maximum motor cable length C6 ≤ 5 m, maximum motor	Rated conditional short-circuit current (Iq)	10 kA
Communication interface Connection Interfaces Relative Standard (Septiments) Relative Standar	Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Communication interface Connection Interfaces Relative Standard (Septiments) Relative Standar		
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Interfaces Max. total power consumption from AS-Interface® power supply unit (30 VI: 18 ma A Number of slave addresses: 31 (AS-Interface®) specifications. 57-4 (AS-Interface®) specifications. 5	Communication interface	AS-Interface
Manual Process Manu	Connection	Plug type: HAN Q5
C2 = 5 m, maximum motor cable length C3 = 52 m, maximum motor cable length C4 = 52 m, maximum motor cable le	Interfaces	Number of slave addresses: 31 (AS-Interface®)
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	10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
	10.13 Mechanical function	· · · · · · · · · · · · · · · · · · ·

Technical data ETIM 8.0

Low-voltage industrial components (EG000017) / Frequency converter =< 1 kV (EC001857) Electric engineering, automation, process control engineering / Electrical drive / Static frequency converter / Static frequency converter = < 1 kV (ecl@ss10.0.1-27-02-31-01 [AKE177014]) Mains voltage ٧ 380 - 480 Mains frequency 50/60 Hz 3 Number of phases input Number of phases output 3 500 Max. output frequency Hz Max. output voltage ٧ 500 Nominal output current I2N Α 4.3 Max. output at quadratic load at rated output voltage kW 1.5 kW Max. output at linear load at rated output voltage 1.5 Relative symmetric net frequency tolerance 10

Relative symmetric net voltage tolerance	%	10
Number of analogue outputs		0
Number of analogue inputs		0
Number of digital outputs		0
Number of digital inputs		4
With control element		Yes
Application in industrial area permitted		Yes
Application in domestic- and commercial area permitted		Yes
Supporting protocol for TCP/IP		No
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		No
Supporting protocol for INTERBUS		No
Supporting protocol for ASI		Yes
Supporting protocol for KNX		No
Supporting protocol for Modbus		No
Supporting protocol for Data-Highway		No
Supporting protocol for DeviceNet		No
Supporting protocol for SUCONET		No
Supporting protocol for LON		No
Supporting protocol for PROFINET IO		No
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS		No
Supporting protocol for Foundation Fieldbus		No
Supporting protocol for EtherNet/IP		No
Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for DeviceNet Safety		No
Supporting protocol for INTERBUS-Safety		No
Supporting protocol for PROFIsafe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for BACnet		No
Supporting protocol for other bus systems		No
Number of HW-interfaces industrial Ethernet		0
Number of interfaces PROFINET		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 HW-interfaces USB Number of HW-interfaces parallel		
		0
Number of HW-interfaces other With entired interface		1 No
With optical interface		No Voc
With PC connection		Yes
Integrated breaking resistance		Yes
4-quadrant operation possible		Yes
Type of converter Page of protection (IR)		U converter
Degree of protection (IP)		IP65
Degree of protection (NEMA)		12
Height	mm	270
Width	mm	220
Depth	mm	157