Speed controller, 5.6 A, 2.2 kW, Sensor input 4, 400/480 V AC, AS-Interface \$, S-7.4 for 31 modules, HAN Q5, with braking resistance



Part no. RASP5-5404A31-5120100S1 198571

Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-5404A31-5120100S1
EAN	4015081964468
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.42 kilogram
Certifications	UL approval CE IEC/EN 61800-5-1 UL 61800-5-1 RoHS
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	Diagnostics and reset on device and via AS-Interface Parameterization: drivesConnect Parameterization: Fieldbus Parameterization: drivesConnect mobile (App) Parameterization: Keypad
Fitted with:	Breaking resistance Control unit PC connection Key switch position AUTO Key switch position OFF/RESET Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Braking resistance PTC thermistor monitoring IGBT inverter Internal DC link Key switch position HAND Four fixed speeds Thermo-click with safe isolation Selector switch (Positions: REV - OFF - FWD)
Functions	4-quadrant operation possible For actuation of motors with mechanical brake 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	AS-Interface profile cable: S-7.4 for 31 modules ASI
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
Rated impulse withstand voltage (Uimp)	2000 V

System configuration type	Center-point earthed star network (TN-S network) AC voltage 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: 10 - 150 Hz, Oscillation frequency Resistance: According to IEC/EN 60068-2-6 Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: 6 Hz, Amplitude 0.15 mm
Altitude	Above 1000 m with 1 % performance reduction per 100 m
Ambient operating temperature - min	Max. 2000 m
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
omitate prooming	< 95 %, no condensation
Current limitation	0.5 - 5.6 A, motor, main circuit
our one militaron	Adjustable, motor, main circuit
Delay time	< 10 ms, On-delay < 10 ms, Off-delay
Efficiency	98 % (η)
Heat dissipation at current/speed	36.6 W at 25% current and 0% speed 38.1 W at 25% current and 50% speed 42 W at 50% current and 0% speed 42.5 W at 50% current and 90% speed 44.2 w at 50% current and 50% speed 55.9 W at 100% current and 0% speed 58.3 W at 100% current and 90% speed 60.4 W at 100% current and 50% speed
Input current ILN at 150% overload	5.3 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	U/f control Synchronous reluctance motors PM and LSPM motors Sensorless vector control (SLV) BLDC motors
Output frequency - max	500 Hz
Output frequency - min	0 Hz
Overload current	At 40 °C For 60 s every 600 s
Overload current IL at 150% overload	8.4 A
Rated frequency - max	66 Hz
Rated frequency - min	45 Hz
Rated operational current (Ie)	5.6 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	2.2 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

Manual of Slave addresses: 31 (AS-Interface®) Number of slave addresses: 31 (AS-Interface sleve sleves: 31 (AS-Interface sleves: 31 (AS-Interfa	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 [q) Short-circuit protection (external output circuits) Rated control voltage (Uc) AS-Interface Communication interface Communic	Braking torque	
Rated control valtage (Uc) Short-circuit protection (external output circuits) Figure 1 coordination via the power bus feeder unit, Main circuit Type 1 coordination via the power bus feeder unit, Main circuit A0A/80 V. AC Centernal brake 50/80 Hz) 24 V D C. (-15 %-/-20 %, external via AS-Interface®) plug) Communication interface Communication interface AS-Interface Plug typer, IAAN 05 Interfaces Specification S-7.4 (AS-Interface®) Nature of slave addresses: 31 (AS-Interface®) power supply unit (30 VI. 18 %) Nature of slave addresses: 31 (AS-Interface®) power supply unit (30 VI. 18 %) All products the product standard's requirements. Cable length C2 S on, maximum motor cable length C2 S on, maximum motor cable length C3 S on	Braking voltage	400/480 V AC -15 $\%$ / +10 $\%$, Actuator for external motor brake
Short-circuit protection (external output circuits) Rated control valtage (Uc) Communication interface Commocition Communication interface Commocition Communication interface Commocition Commocition Cable length Cabl	Switch-on threshold for the braking transistor	765 V DC
Rated control voltage (Uc) Communication interface Connection Communication interface Connection Communication interface Connection Interfaces As Interface Plug type: HAN 05 Specifications: 7-4 (AS-Interface®) plug) Mat. trial power consumption from AS-Interface®) power supply unit (30 V: 18 m/A Number of laive addresses: 31 (AS-Interface®) Mat. trial power consumption from AS-Interface®) Mat. trial power consumment on cable length C2 × 5 m. maximum motor cable length C3 × 5 m. maximum moto	Rated conditional short-circuit current (Iq)	10 kA
As Interface	Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Cemection Interfaces I	Rated control voltage (Uc)	
Interfaces Specification: S-7.4 (AS-Interface®)	Communication interface	AS-Interface
Max total power consumption from AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power supply unit (30 VI: 18 A Number of slave addrasses: 31 (AS-Interface@ power slave) addrasses: 31	Connection	Plug type: HAN Q5
C3 5 25 m, maximum motor cable length C2 5 m, maximum motor cable length C2 5 m, maximum motor cable length C3 5 m, maximum motor cable length C4 5 m, maximum dot call and risequirements. C4 5 m, maximum call call and risequirements. C4 5 m, maximum call call end risequirements. C4 5 m, maximum call end risequirements. C4 6 mets the product standard's requirements. C4 6 mets the product st	Interfaces	Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA
10.2.3.1 Verification of thermal stability of enclosures 10.2.3.2 Verification of resistance of insulating materials to normal heat 10.2.3.3 Resists. of insul. mat. to abnormal heat/fire by internal elect. effects 10.2.4 Resistance to ultra-violet (UV) radiation 10.2.5 Lifting 10.2.6 Meets the product standard's requirements. 10.2.7 Inscriptions 10.2.6 Meets the product standard's requirements. 10.3.0 Does not apply, since the entire switchgear needs to be evaluated. 10.2.7 Inscriptions 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.13 Mechanical function 10.14 Mechanical function 10.15 the panel builder's responsibility. The specifications for the switchgear must observed. 10.15 the panel builder's responsibility. The specifications for the switchgear must observed.	Cable length	C3 ≤ 25 m, maximum motor cable length
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observed. 10.13 Mechanical function The device meets the requirements, provided the information in the instruction	10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must observed.
	10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must 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	V	380 - 480			
Mains frequency		50/60 Hz			
Number of phases input		3			
Number of phases output		3			
Max. output frequency	Hz	500			
Max. output voltage	V	500			
Nominal output current I2N	Α	5.6			
Max. output at quadratic load at rated output voltage	kW	2.2			

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Max. output at linear load at rated output voltage	kW	2.2
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
		No
Supporting protocol for AS-Interface Safety at Work		
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 parallel		0
Number of HW-interfaces other		1
With optical interface		No
With PC connection		Yes
Integrated breaking resistance		Yes
4-quadrant operation possible		Yes
Type of converter		U converter
Degree of protection (IP)		IP65
Degree of protection (NEMA)		12
Height	mm	270
Width	mm	220
Depth	mm	157