Speed controller, 5.6 A, 2.2 kW, Sensor input 4, 230/277 V AC, AS-Interface \$, S-7.4 for 31 modules, HAN Q5, with braking resistance



Part no. RASP5-5402A31-5120100S1 198570

Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-5402A31-5120100S1
EAN	4015081964451
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.42 kilogram
Certifications	UL 61800-5-1 IEC/EN 61800-5-1 UL approval CE 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 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	Diagnostics and reset on device and via AS-Interface Parameterization: Fieldbus Parameterization: drivesConnect mobile (App) Parameterization: drivesConnect Parameterization: Keypad
Fitted with:	PC connection Thermo-click with safe isolation Key switch position AUTO Key switch position OFF/RESET Selector switch (Positions: REV - OFF - FWD) Braking resistance Control unit Internal DC link Breaking resistance IGBT inverter PTC thermistor monitoring Four fixed speeds Key switch position HAND Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation
Functions	For actuation of motors with mechanical brake 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	AS-Interface profile cable: S-7.4 for 31 modules ASI
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.
	noossury.

System configuration type	AC voltage 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 shoc ms, 1000 shocks per shaft
Vibration	Resistance: According to IEC/EN 60068-2-6 Resistance: 10 - 150 Hz, Oscillation frequency Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: 6 Hz, Amplitude 0.15 mm
Altitude	Max. 2000 m Above 1000 m with 1 % performance reduction per 100 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	Adjustable, motor, main circuit 0.5 - 5.6 A, motor, main circuit
Delay time	< 10 ms, Off-delay < 10 ms, On-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 Operating mode	380 - 480 V (-10 %/+10 %, at 50/60 Hz) Sensorless vector control (SLV) BLDC motors U/f control PM and LSPM motors Synchronous reluctance 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	8.4 A
Rated frequency - max	66 Hz
Rated frequency - min	45 Hz
Rated operational current (le)	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 second 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	3 HP

Mests the product standard's requirements. 10.2.3 Verification of resistance of insulating materials to normal heat 10.2.3 Verification of thermal stability of enclosures 10.2.4 Resistance to ultra-violet (UV) radiation 10.2.5 Lifting 10.2.5 Lifting 10.2.6 Mechanical impact 10.2.6 Mechanical impact 10.2.7 Inscriptions 10.2.8 Mechanical impact 10.2.9 Does not apply, since the entire switchgear needs to be evaluated. 10.2.7 Inscriptions 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Inscriptions 10.8 Connections for external conductors 10.9 Levery-requency electric strength 10.1 Temperature rise 10.1 Temperature rise 10.2 Temperature rise 10.3 Temperature rise 10.4 Levery-requency electric strength 10.5 Levery-requency electric strength 10.6 Levery-requency electric strength 10.7 Inscriptions 10.8 Levery-requency electric strength 10.9 Levery-requency electric strength 10.9 Levery-requency electric strength 10.1 Temperature rise 10.1 Temperature rise 10.2 Tem	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 about-circuit current (lq) Short-circuit protection (external output circuits) Rated control voltage (Uc) 24 V DC 1-15 %-20 %, external via AS-Interface® plug) 220277 VAC (external invake 5080 Rz) Communication interface Commercion Plug type: RAN DS Interfaces Max, total jower consumption from AS-Interface® power supply unit Q8 V1. 1st	Braking torque	
Rated conditional short-circuit current (lo) Short-circuit protection (external output circuits) Paye 1 coordination via the power bus "feeder unit, Main circuit Type 1 coordination via the power bus "feeder unit, Main circuit Rated control voltage (Uc) ZBUZTY V A C (external brake 50896 Hz) Communication interface A S-Interface Plug Spreit HAN 05 Max. total power consumption from AS-Interface® power supply unit DD VI: 18 months of slave addresses: 31 (AS-Interface®) power supply unit DD VI: 18 months of slave addresses: 31 (AS-Interface®) power supply unit DD VI: 18 months of slave addresses: 31 (AS-Interface®) power supply unit DD VI: 18 months of slave addresses: 31 (AS-Interface®) Cable length C2 5 m. maximum motor cable length C3 5 m. maximum motor cable lengt	Braking voltage	230/277 V AC -15 $\%$ / +10 $\%$, Actuator for external motor brake
Short-circuit protection (external output circuits) Rated control voltage (Uc) Rated (Uc	Switch-on threshold for the braking transistor	765 V DC
Rated control voltage (Uc) Communication interface Connection As interface As interface As interface Pig type: HAN US Max. total power consumption from AS-interface® plug Specification: S-7.4 (AS-Interface®) Number of illow addresses: 2 (AS-Interface®) Number of illow addresses: 2 (AS-Interface®) Cable length	Rated conditional short-circuit current (Iq)	10 kA
Communication interface Connection AS-Interface Connection Plug type: HAN 05 Max. total power consumption from AS-Interface® power supply unit (30 VI: 15 Max. total power consumption from AS-Interface®) Max. total power consumption from AS-Interface®) Watch and Contract of Salve addresses: 31 (AS-Interface®) Cable length Cas's 5m, maximum motor cable length Cas's 5m, maximum mot	Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Emeraces Interfaces I	Rated control voltage (Uc)	
Interfaces Max. total power consumption from AS-Interface® power supply unit (30 V): 1st AS-Recification: S-7.4 (AS-Interface®) Number of slave addresses: 31 (Communication interface	AS-Interface
Makes the product standard's requirements.	Connection	Plug type: HAN Q5
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	10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must observed.
	10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

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			

	,	
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