Speed controllers, 5.6 A, 2.2 kW, Sensor input 4, AS-Interface®, S-7.4 for 31 modules, HAN Q4/2, with braking resistance, STO (Safe Torque Off)



Part no. RASP5-5400A31-4120110S1 198812

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Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-5400A31-4120110S1
EAN	4015081968701
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.43 kilogram
Certifications	UL approval UL 61800-5-1 RoHS IEC/EN 61800-5-1 CE
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 junc 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: drivesConnect mobile (App) Parameterization: Keypad Parameterization: drivesConnect Diagnostics and reset on device and via AS-Interface
Fitted with:	Thermo-click with safe isolation Internal DC link Breaking resistance Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Selector switch (Positions: REV - OFF - FWD) Braking resistance Four fixed speeds IGBT inverter PC connection Control unit Key switch position HAND PTC thermistor monitoring Key switch position AUTO Key switch position OFF/RESET
Functions	Brake chopper with braking resistance for dynamic braking 4-quadrant operation possible STO (Safe Torque Off)
Degree of protection	NEMA 12 IP65
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

System configuration type	Phase-earthed AC supply systems are not permitted. AC voltage Center-point earthed star network (TN-S network)
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: 6 Hz, Amplitude 0.15 mm Resistance: According to IEC/EN 60068-2-6 Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: 10 - 150 Hz, Oscillation frequency
Altitude	Max. 2000 m
Ambient operating temperature - min	Above 1000 m with 1 % performance reduction per 100 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 < 95 %, no condensation
Current limitation	Adjustable, motor, main circuit 0.5 - 5.6 A, 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 44.2 W at 50% current and 0% 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	Synchronous reluctance motors U/f control 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 (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 Supply frequency	200 %, IH, max. starting current (High Overload), For 2 seconds every 20 seconds Power section  50/60 Hz
	8 kHz, 4 - 32 kHz adjustable, fPWM, Power section, Main circuit
Switching frequency	O NIZ, 4 - 32 KMZ AUJUSTAVIE, IPVVIVI, POWEI SECTION, MAIN CIFCUIT
Assigned motor power at 460/480 V, 60 Hz, 3-phase	3 HP

Braking turque Switch-on threshold for the braking transistor Switch-on threshold for the braking transistor Switch-on threshold for the braking transistor  Rated conditional short-circuit current (lq) Short-circuit protection (external output circuits)  Rated control voltage (Uc) Short-circuit protection (external output circuits)  Rated control voltage (Uc) Short-circuit protection (external output circuits)  Communication interface Connection Plug type: HAN 042  Interfaces Connection Number of slave addresses: 31 (AS-interface®) plugl Septicing Since S-74 (AS-interface®) Septicing Since S-74 (AS-interface®) Septicing S-74 (AS-interface®) Septicing S-74 (AS-interface) Septicing S-74 (A	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 protection featernal output circuits  Rated control voltage (Uc)  Rated control voltage (Uc)  Rated control voltage (Uc)  Communication interface  Connection  Plug Type: HAN D42  Interfaces  Repaired and addresses 31 (AS-Interface®) plug)  More totally reference from AS-Interface® plug)  More totally reference consumption from AS-Interface® power supply unit (80 V): 196  Rate doctors of the major of save addresses 31 (AS-Interface®)  Specification: S-7.4 (AS-Interface®)  Specification: S-7.4 (AS-Interface®) power supply unit (80 V): 196  Rate doctors of the major of save addresses 31 (AS-Interface®) power supply unit (80 V): 196  Rate doctors of the major of		
Rated conditional short-circuit current (lq)  Short-circuit protection (external output circuits)  Figure 1 conditional short-circuit current (lq)  AS-interface  Communication interface  Communication interface  Communication interface  Commection  AS-interface  Plug type: HAN 04/2  Number of aliave addresses: 31 (AS-interface®) power supply unit (33 V): 156 max (14 max (		
Short-circuit protection (external output circuits)  Rated control voltage (Uc)  Communication interface  Connection  Interfaces  Interfac		
Rated control voltage (Uc)  Communication interface  Connection  Pup type: HAN Q42  Interfaces  Connection  Pup type: HAN Q42  Interfaces  Specification: 5: 44 AS-Interface®)  Specification: 5: 44 AS-Interface®)  Specification: 5: 44 AS-Interface®)  Max. total power consumption from AS-Interface® power supply unit (30 VI: 18 max.)  Cable length  C1 s 1 m, maximum motor cable length C2 s 5m, maximum motor cable length	Rated conditional short-circuit current (Iq)	10 kA
Rated control voltage (Uc)  Communication interface  Connection  Communication interface  Connection  Communication interface  Connection  Plug type: HAN 04/2  Interfaces  Support Als - Hardrace (Sopport and Sopport and So	Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Communication interface Connection Connectio		
Commection         Plug type: HAN 04/2           Interfaces         Williamber of Save addresses: 31 (AS-Interface®) Specifications 2.74 (AS-In	Rated control voltage (Uc)	24 V DC (-15 %/+20 %, external via AS-Interface® plug)
Commection         Plug type: HAN 04/2           Interfaces         Williamber of Save addresses: 31 (AS-Interface®) Specifications 2.74 (AS-In		
Interfaces    Number of slave addresses: 31 (AS-Interface®) Specifications S-7.4 (AS-Interface®) Specifications S-7.4 (AS-Interface®) Max. total power consumption from AS-Interface® power supply unit (30 V): 19th Max. total power consumption from AS-Interface® power supply unit (30 V): 19th Max. total power consumption from AS-Interface® power supply unit (30 V): 19th Max. total power consumption from AS-Interface® power supply unit (30 V): 19th Max. total power consumption from AS-Interface® power supply unit (30 V): 19th Max. total power consumption from AS-Interface® power supply unit (30 V): 19th Max. total power consumption from AS-Interface® power supply unit (30 V): 19th Max. total power consumption from AS-Interface® power supply unit (30 V): 19th Max. total power consumption from AS-Interface®) Specifications of sealing the supply of the supply sealing the supply of the supply sealing seal	Communication interface	AS-Interface
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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 be observed.
	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 5.6 Max. output at quadratic load at rated output voltage kW 2.2 kW Max. output at linear load at rated output voltage 2.2 Relative symmetric net frequency tolerance 10

Relative symmetric net voltage tolerance	%	10
Number of analogue outputs	/0	0
Number of analogue outputs  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		
Supporting protocol for Modbus		No No
Supporting protocol for Data-Highway Supporting protocol for DeviceNet		No No
Supporting protocol for SUCONET		No
Supporting protocol for LON Supporting protocol for PROFINET IO		No No
Supporting protocol for PROFINET CBA		No No
Supporting protocol for SERCOS  Supporting protocol for Sepandation Fieldhus		No No
Supporting protocol for Foundation Fieldbus		No No
Supporting protocol for EtherNet/IP		No No
Supporting protocol for AS-Interface Safety at Work		No No
Supporting protocol for DeviceNet Safety		No No
Supporting protocol for INTERBUS-Safety		No No
Supporting protocol for PROFIsafe		No No
Supporting protocol for SafetyBUS p		No No
Supporting protocol for BACnet		No 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 No.
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