Speed controllers, 4.3 A, 1.5 kW, Sensor input 4, 230/277 V AC, AS-Interface (8), S-7.4 for 31 modules, HAN Q4/2, with braking resistance



Part no. RASP5-4402A31-4120100S1 198770

Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-4402A31-4120100S1
EAN	4015081968282
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight Product weight	3.42 kilogram
Certifications	RoHS IEC/EN 61800-5-1 UL 61800-5-1 UL approval 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 junctio 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:	Breaking resistance IGBT inverter PTC thermistor monitoring Key switch position OFF/RESET Key switch position HAND Control unit Selector switch (Positions: REV - OFF - FWD) Braking resistance Four fixed speeds PC connection Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Internal DC link Key switch position AUTO Thermo-click with safe isolation
Functions	Brake chopper with braking resistance for dynamic braking 4-quadrant operation possible For actuation of motors with mechanical brake
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	Phase-earthed AC supply systems are not permitted. Center-point earthed star network (TN-S network) AC voltage
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: According to IEC/EN 60068-2-6 Resistance: 6 Hz, Amplitude 0.15 mm 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
	0.4 - 4.3 A, 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 0% speed 48.7 W at 100% current and 0% 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) Synchronous reluctance motors U/f control PM and LSPM motors 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	6.5 A
Rated frequency - max	66 Hz
Rated frequency - min	45 Hz
Rated operational current (Ie)	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	480 V AC, 3-phase 400 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

Braking sortage Braking vortage Switch-on threshold for the braking transistor Switch-on threshold for the braking transistor Rated conditional short-circuit current Itgl Rated condrol voltage (Uc) 228/277 V ACI (setternal brake 50/00 Hz) 229/277 V ACI (setternal brake 50/00 Hz) 229/27 V ACI (setternal brake 50/00 Hz) 229/27 V ACI (setternal brake 50/00 Hz) 229/27 V ACI (setternal brake 50/00 Hz) 229/29/29/29/29/29/29/29/29/29/29/29/29/	Parlies suggest	COCA /may CA for 100 mg) Astrophysical material materials
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24 V C L-15 %/-20 %, external vin AS-Interface® plug)		
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10.10 Temperature rise The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. 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 The device meets the requirements, provided the information in the instruction	10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
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observed. 10.12 Electromagnetic compatibility Is the panel builder's responsibility. The specifications for the switchgear must be observed. 10.13 Mechanical function The device meets the requirements, provided the information in the instruction	10.10 Temperature rise	· · · · · · · · · · · · · · · · · · ·
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 380 - 480 Mains frequency 50/60 Hz Number of phases input 3 3 Number of phases output Max. output frequency Hz 500 ٧ 500 Max. output voltage Nominal output current I2N 4.3 Α Max. output at quadratic load at rated output voltage 1.5

Max. copural si inner land si runted objust vallage W 15 Relativa symmetria rinteringency priorance N 10 Number of analogue nutyputs 0 0 Number of double objuste 0 0 Number of double doubus 0 0 Number of double doubus 0 0 With control element 2 75 Application in doubtail area parmitted 2 76 Application in industrial area parmitted 2 76 Application in industrial area parmitted 2 76 Supporting protected for TCFIP No 76 Supporting protected for PDERIBLIS No 76 Supporting protected for INTERBUS 1 76 Supporting protected for NEX 1 76 Supporting protected for NEX 1 76 Supporting protected for Decembers 1 76 Supporting protected for Decembers 1 76 Supporting protected for PDERIBLE CEA 76 76 Supporting protected for PDERIBLE CEA 76			
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Supporting probabel for INTERBUS Ne Supporting probabel for ASI Yes Supporting probabel for KNX No Supporting probabel for Modbus No Supporting probabel for Data-Highway No Supporting probabel for DeviceNet No Supporting probabel for EvoloNET No Supporting probabel for PBOFINET IO No Supporting probabel for PBOFINET IO No Supporting probabel for PBOFINET EBA No Supporting probabel for PBOFINET EBA No Supporting probabel for Faundation Fieldbus No Supporting probabel for No Fieldbus Safety No Supporting probabel for PBOFIsafe <td>Supporting protocol for PROFIBUS</td> <td></td> <td>No</td>	Supporting protocol for PROFIBUS		No
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With optical interface No With PC connection Yes Integrated breaking resistance Yes			
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Integrated breaking resistance Yes			
T-quadrant operation possible			
Type of converter U converter Degree of protection (IP)			
Degree of protection (IP) Person of protection (NEMA)			
Degree of protection (NEMA) 12			
Height mm 270			
Width mm 220			
Depth mm 157	Deptn	mm	15/