Speed controllers, 5.6 A, 2.2 kW, Sensor input 4, AS-Interface®, S-7.4 for 31 modules, HAN 04/2, with manual override switch, with braking resistance, STO (Safe Torque Off)



Part no. RASP5-5400A31-412R110S1 198828

Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-5400A31-412R110S1
EAN	4015081968862
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.6 kilogram
Certifications	IEC/EN 61800-5-1 CE UL 61800-5-1 RoHS UL approval
Product Tradename	Rapid Link
Product Type	Speed controller
Product Sub Type	None
Catalog Notes	3 fixed speeds and 1 potentiometer speed 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 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: Fieldbus Parameterization: Keypad Diagnostics and reset on device and via AS-Interface Parameterization: drivesConnect
Fitted with:	Manual override switch Key switch position OFF/RESET Selector switch (Positions: REV - OFF - FWD) Control unit Breaking resistance Key switch position HAND PC connection Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Braking resistance Thermo-click with safe isolation Internal DC link IGBT inverter PTC thermistor monitoring Key switch position AUTO
Functions	STO (Safe Torque Off) Brake chopper with braking resistance for dynamic braking 1 potentiometer speed 4-quadrant operation possible 3 fixed speeds
Dograp of protection	NEMA 12
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

	conditions. External radio interference suppression filters (optional) may be necessary.
Rated impulse withstand voltage (Uimp)	2000 V
System configuration type	AC voltage Phase-earthed AC supply systems are not permitted. 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: 10 - 150 Hz, Oscillation frequency Resistance: According to IEC/EN 60068-2-6 Resistance: 6 Hz, Amplitude 0.15 mm Resistance: 57 Hz, Amplitude transition frequency on acceleration
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
• '	70 °C
Ambient storage temperature - max	
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 50% speed 42.5 W at 50% current and 90% speed 44.2 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	Synchronous reluctance motors BLDC motors U/f control Sensorless vector control (SLV) 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	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 °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

Assigned motor power at 460/480 V, 60 Hz, 3-phase	3 HP
Braking current	≤ 0.6 A (max. 6 A for 120 ms), Actuator for external motor brake
Braking torque	Adjustable to 100 % (I/Ie), DC - Main circuit
Switch-on threshold for the braking transistor	765 V DC
Switch-on uneshold for the braking dansistor	703 V DC
Rated conditional short-circuit current (Iq)	10 kA
Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Short-circuit protection (external output circuits)	Type i coordination via the power bus feeder unit, main circuit
Rated control voltage (Uc)	24 V DC (-15 %/+20 %, external via AS-Interface® plug)
Communication interface	AS-Interface
Connection	Plug type: HAN Q4/2
Interfaces	Number of slave addresses: 31 (AS-Interface®) Specification: S-7.4 (AS-Interface®) Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA
Cable length	$C2 \le 5$ m, maximum motor cable length $C1 \le 1$ m, maximum motor cable length $C3 \le 25$ m, maximum motor cable length
10.2.2 Corrosion resistance	Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures	Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat	Meets the product standard's requirements.
10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects	Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation	Meets the product standard's requirements.
10.2.5 Lifting	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions	Meets the product standard's requirements.
10.3 Degree of protection of assemblies	Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections	Is the panel builder's responsibility.
10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
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 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 ٧ 380 - 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 Α 5.6

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