Speed controllers, 5.6 A, 2.2 kW, Sensor input 4, 180/207 V DC, AS-Interface®, S-7.4 for 31 modules, HAN Q4/2, with manual override switch



Part no. RASP5-5401A31-412R000S1 198817

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Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-5401A31-412R000S1
EAN	4015081968756
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.58 kilogram
Certifications	IEC/EN 61800-5-1 UL approval CE RoHS UL 61800-5-1
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 jun 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	Diagnostics and reset on device and via AS-Interface Parameterization: drivesConnect Parameterization: drivesConnect mobile (App) Parameterization: Fieldbus Parameterization: Keypad
Fitted with:	Key switch position AUTO Internal DC link IGBT inverter PTC thermistor monitoring Thermo-click with safe isolation Key switch position HAND PC connection Control unit Key switch position OFF/RESET Selector switch (Positions: REV - OFF - FWD) Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Manual override switch
Functions	1 potentiometer speed 3 fixed speeds 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	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) Phase-earthed AC supply systems are not permitted.

	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: 10 - 150 Hz, Oscillation frequency Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: According to IEC/EN 60068-2-6 Resistance: 6 Hz, Amplitude 0.15 mm
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
Ambient storage temperature - max	70 °C
Climatic proofing	In accordance with IEC/EN 50178 < 95 %, no condensation
Current limitation	0.5 - 5.6 A, motor, main circuit Adjustable, 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	380 - 480 V (-10 %/+10 %, at 50/60 Hz)
Operating mode	PM and LSPM motors BLDC motors Synchronous reluctance motors U/f control Sensorless vector control (SLV)
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	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
Assigned motor power at 460/480 V, 60 Hz, 3-phase	3 HP

Braked conditional abort-circuit current [Iq] Braked conditional abort-circuit protection (external output circuits) Braked conditional abort-circuit protection (external output circuits) Braked control voltage (Ibc) Braked	Braking torque	≤ 30 % (I/Ie) Adjustable to 100 % (I/Ie), DC - Main circuit
Pype 1 coordination via the power bus 'feoder unit, Main circuit Pasted central voltage (Uc) 24 VDC (-15 %/-20 %, external brake SQR0 Hz) 24 VDC (-15 %/-20 %, external via AS-Interface®) plug Communication interface	Braking voltage	280/207 V DC -15 % / +10 %, Actuator for external motor brake
Pype 1 coordination via the power bus 'feoder unit, Main circuit Pasted central voltage (Uc) 24 VDC (-15 %/-20 %, external brake SQR0 Hz) 24 VDC (-15 %/-20 %, external via AS-Interface®) plug Communication interface		
Rated control voltage (Uc) 180/207 V DC (external brake 50/80 Hz) 24 V DC (15 My-20 M, external via AS-Interface® plug)	Rated conditional short-circuit current (Iq)	10 kA
Communication interface AS-Interface Connection Interfaces AS-Interface Specification: 5-7-4 (AS-Interface®) Nax. total power consumption from AS-Interface®) Nax. total power consumption from AS-Interface® power supply unit (30 V): 190 mA Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Cobie length Co	Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
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	10.12 Electromagnetic compatibility	, , , ,
	10.13 Mechanical function	

≤ 30 % (I/Ie)

Technical data ETIM 8.0

Max. output at linear load at rated output voltage

Relative symmetric net frequency tolerance

Low-voltage industrial components (EG000017) / Frequency converter =< 1 kV (EC001857)

Braking torque

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]) ٧ Mains voltage 380 - 480 50/60 Hz Mains frequency Number of phases input 3 Number of phases output 3 500 Max. output frequency Hz ٧ Max. output voltage 500 Nominal output current I2N 5.6 Α Max. output at quadratic load at rated output voltage kW 2.2

kW

2.2

10

Relative symmetric net voltage tolerance	%	10
Number of analogue outputs	70	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
		Yes
Supporting protocol for ASI Supporting protocol for KNX		No
Supporting protocol for Modbus Supporting protocol for Data-Highway		No No
Supporting protocol for Data-Highway		No No
Supporting protocol for DeviceNet		No No
Supporting protocol for SUCONET		
Supporting protocol for LON Supporting protocol for PROFINET IO		No No
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS Supporting protocol for Equadation Fieldhus		No
Supporting protocol for Foundation Fieldbus		No No
Supporting protocol for EtherNet/IP		No
Supporting protocol for AS-Interface Safety at Work		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
With optical interface		No V-
With PC connection		Yes
Integrated breaking resistance		No
4-quadrant operation possible		No
Type of converter		U converter
Degree of protection (IP)		IP65
Degree of protection (NEMA)		12
Height	mm	270
Width	mm	220
Depth	mm	157