Speed controller, 4.3 A, 1.5 kW, Sensor input 4, 400/480 V AC, AS-Interface \$, S-7.4 for 31 modules, HAN Q5, with manual override switch, with braking resistance



Part no. RASP5-4404A31-512R100S1 198565

Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-4404A31-512R100S1
EAN	4015081964406
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.59 kilogram
Certifications	UL 61800-5-1 IEC/EN 61800-5-1 CE 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 junc 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 Parameterization: Fieldbus Diagnostics and reset on device and via AS-Interface Parameterization: drivesConnect mobile (App) Parameterization: Keypad
Fitted with:	Breaking resistance Key switch position AUTO IGBT inverter Manual override switch PC connection Selector switch (Positions: REV - OFF - FWD) Thermo-click with safe isolation Control unit Key switch position OFF/RESET Key switch position HAND Braking resistance PTC thermistor monitoring Internal DC link Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation
Functions	3 fixed speeds Brake chopper with braking resistance for dynamic braking For actuation of motors with mechanical brake 4-quadrant operation possible 1 potentiometer speed
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	C2, C3: depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be

Rated impulse withstand voltage (Uimp)	2000 V
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 shock ms, 1000 shocks per shaft
Vibration	Resistance: According to IEC/EN 60068-2-6 Resistance: 6 Hz, Amplitude 0.15 mm Resistance: 10 - 150 Hz, Oscillation frequency 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
Ambient storage temperature - max	70 °C
Climatic proofing	< 95 %, no condensation In accordance with IEC/EN 50178
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 90% speed 48.7 W at 100% current and 50% 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	BLDC motors U/f control Synchronous reluctance motors PM and LSPM motors Sensorless vector control (SLV)
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 °C)
Rated operational power at 380/400 V, 50 Hz, 3-phase	1.5 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

Braking current 2.0 8.4 (max. 6 A for 120 ms.). Actuator for external motor brake 3.2 18 5 (100) Algustabilité to 100 fi (104), D.C Main cercuit Braking voltage 3.0 V D.C. Bated canditional shart-circuit current (leg) Bated cantinal voltage (ILC) Communication note face	Assigned motor power at 460/480 V, 60 Hz, 3-phase	2 HP
Braking totique \$\frac{\text{4.50} \text{\text{4.50} \text{\text{4.50}} \text{\text{4.50} \text{\text{\text{4.50} \text{\text{4.50} \text{\text{\text{4.50} \text{\text{4.50} \text{\text{\text{4.50} \text{\text{4.50} \text	Braking current	≤ 0.6 A (max. 6 A for 120 ms), Actuator for external motor brake
Braking voltage Switch-on threshold for the braking transistor 785 V D C Rated conditional short-circuit current (lq) 10 IA Short-circuit protection (external output circuits) Farted control voltage (Uc) 24 V D C (-15 % / -10 %, Actuator for external motor brake Rated control voltage (Uc) 25 V D C (-15 % / -10 %, Actuator for external motor brake Rated control voltage (Uc) 26 V D C (-15 % / -10 %, Actuator for external motor brake Rated control voltage (Uc) 27 V D C (-15 % / -10 %, Actuator for external motor brake Rated control voltage (Uc) 28 V D C (-15 % / -10 %, Actuator for external motor brake Rated control voltage (Uc) 29 V D C (-15 % / -10 %, Actuator for external motor brake Rated control voltage (Uc) 20 V D (-15 % / -10 %, Actuator for external motor brake AS-interface AS-interface Plug type (IAA) DS Communication interface AS-interface Plug type (IAA) DS Communication interface Plug type (IAA) DS Cable length C3 S m, maximum motor cable length C3		≤ 30 % (I/Ie)
Switch-on threshold for the braking transistor Reted control voltage (IJc) Reted control voltage (IJc) Reted control voltage (IJc) Reted control voltage (IJc) Communication interface Connection Communication Communication interface Connection Communication interface Communication interface Comm	Braking voltage	
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Communication interface Connection Plug type: HAN DS Interfaces Specification: S-74 (AS-Interface®) Max. total prover consumption from AS-Interface®) Cable length C2 s 25 m, maximum motor cable length C1 s 1 m, maximum motor cable length C1 s 1 m, maximum motor cable length C1 s 5 m, maximum motor cable length C1 s 1 m, maximum motor cable length C1 s 2 m, maximum motor cable length C1 s 1 m, maximum	Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Communication interface Connection Plug type: HAN DS Interfaces Specification: S-74 (AS-Interface®) Max. total prover consumption from AS-Interface®) Cable length C2 s 25 m, maximum motor cable length C1 s 1 m, maximum motor cable length C1 s 1 m, maximum motor cable length C1 s 5 m, maximum motor cable length C1 s 1 m, maximum motor cable length C1 s 2 m, maximum motor cable length C1 s 1 m, maximum		
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Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA Number of slave addresses: 31 (AS-Interface®) Cable length	Connection	Plug type: HAN Q5
Number of slave addresses: 31 (AS-Interface®) Cable length Cable length Case in maximum motor cable length Meets the product standard's requirements. Case in the product standard's requirements. Case	Interfaces	Max. total power consumption from AS-Interface® power supply unit (30 V): 190
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10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.13 Mechanical function 10.14 Esting of enclosures made of insulating material 15 the panel builder's responsibility. 16 the panel builder's responsibility. The specifications for the switchgear must be observed. 17 the panel builder's responsibility. The specifications for the switchgear must be observed. 18 the panel builder's responsibility. The specifications for the switchgear must be observed. 19 The device meets the requirements, provided the information in the instruction	10.9.2 Power-frequency electric strength	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 to observed. 10.12 Electromagnetic compatibility Is the panel builder's responsibility. The specifications for the switchgear must to 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.
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	10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
observed. 10.12 Electromagnetic compatibility 10.13 Mechanical function observed. 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	
	10.12 Electromagnetic compatibility	
	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 50/60 Hz Mains frequency Number of phases input 3 3 Number of phases output Max. output frequency Hz 500 Max. output voltage ٧ 500

Nominal output current I2N	Α	4.3
Max. output at quadratic load at rated output voltage	kW	1.5
Max. output at linear load at rated output voltage	kW	1.5
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
Supporting protocol for AS-Interface Safety at Work		No
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