Speed controllers, 4.3 A, 1.5 kW, Sensor input 4, AS-Interface \$, S-7.4 for 31 modules, HAN Q4/2, with manual override switch, with braking resistance



Part no. RASP5-4400A31-412R100S1 198784

Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-4400A31-412R100S1
EAN	4015081968428
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.59 kilogram
Certifications	RoHS UL approval CE IEC/EN 61800-5-1 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 junct 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: Fieldbus Parameterization: Keypad Parameterization: drivesConnect Diagnostics and reset on device and via AS-Interface Parameterization: drivesConnect mobile (App)
Fitted with:	Thermo-click with safe isolation Key switch position OFF/RESET Braking resistance PC connection Manual override switch Key switch position HAND Internal DC link Breaking resistance IGBT inverter Selector switch (Positions: REV - OFF - FWD) Control unit Key switch position AUTO Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation PTC thermistor monitoring
Functions	Brake chopper with braking resistance for dynamic braking 1 potentiometer speed 4-quadrant operation possible 3 fixed speeds
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 necessary. C1: for conducted emissions only

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: 57 Hz, Amplitude transition frequency on acceleration Resistance: 6 Hz, Amplitude 0.15 mm Resistance: According to IEC/EN 60068-2-6 Resistance: 10 - 150 Hz, Oscillation frequency
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
	In accordance with IEC/EN 50178
Climatic proofing	< 95 %, no condensation
Current limitation	Adjustable, motor, main circuit 0.4 - 4.3 A, motor, main circuit
Delay time	< 10 ms, On-delay < 10 ms, Off-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 50% 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	Sensorless vector control (SLV) Synchronous reluctance motors U/f control BLDC motors PM and LSPM 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 (le)	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	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
Supply frequency	50/60 Hz
	8 kHz, 4 - 32 kHz adjustable, fPWM, Power section, Main circuit
Switching frequency	o mile, i o o mile dajaotasio, ii o mily i o o o o o o o o o o o o o o o o

Braking current  Braking torque  Adjustable to 100 % (Vie.), D.CMain circuit  Switch-on threshold for the braking transistor  Switch-on threshold for the braking transistor  Braked conditional after-circuit current (Uq)  Braked conditional after-circuit current (Uq)  Braked control voltage (UC)  Communication interface  Connection  Communication interface  Connection  Communication interface  Connection  Communication interface  Connection  Interfaces  Adjustype: HAN DQ2  Interfaces  Ama. total power consumption from AS-interface® pulgel page (Uc)  Assistance of six an administration of six and six and an administration of resistance of insulating materials to normal heat  10.2.2 Corrosion resistance of insulating materials to normal heat  10.2.2 Nordication of resistance of insulating materials to normal heat  10.2.2 Resistance to ultra-violot (UV) radiction  Consistance of insulating materials to normal heat  10.2.3 Resistance to ultra-violot (UV) radiction  Consistance of protection of assemblike  10.2.4 Resistance to ultra-violot (UV) radiction  Consistance of protection of assemblike  10.2.5 United to the product standard's requirements.  Consistance of protection of assemblike  10.2.5 United to the product standard's requirements.  Consistance of protection of assemblike  10.4 Clearances and creepage distances  10.5 Prot	
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Rated control voltage (Uc)  24 V D C (-15 %-20 %, external via AS-Interface® plug)  AS-Interface Communication interface Commection Plug type: HAN Q4/2  Max, total power consumption from AS-Interface® power supply un max (rolal power consumption from AS-Interface®) specifications S-7.4 (AS-Interface®) specifications of thermal stability of enclosures  Meets the product standard's requirements.  10.2.3 Verification of thermal stability of enclosures Meets the product standard's requirements.  10.2.3 Resist of insul, mat to abnormal headfire 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 Interface to ultra-violet (UV) radiation Does not apply, since the entire switchgear needs to be evaluated.  10.2.6 Meets the product standard's requirements.  10.2.7 Inscriptions Does not apply, since the entire switchgear needs to be evaluated.  10.2.8 Interpration of switching devices and components  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  10.7 Internal electrical circuits and commetions  10.8 Connections for external conductors  10.9 Internal electrical circuits and commetions  10.1 Semperature rise  10.1 Short-circuit rating  10.1 Step panel builder's responsibility.  10.1 Step panel builder's responsibility.  10.1 Step panel builder's	
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## **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	V	380 - 480				
Mains frequency		50/60 Hz				
Number of phases input		3				
Number of phases output		3				
Max. output frequency	Hz	500				
Max. output voltage	V	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