Speed controllers, 4.3 A, 1.5 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. RASP5-4401A31-412R000S1 198781

Draduat nama	Foton Mc-Harris Parrial Link Co. 1
Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-4401A31-412R000S1
EAN	4015081968398
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.58 kilogram
Certifications	UL 61800-5-1 RoHS IEC/EN 61800-5-1 UL approval CE
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	Parameterization: Keypad Parameterization: drivesConnect Parameterization: Fieldbus Parameterization: drivesConnect mobile (App) Diagnostics and reset on device and via AS-Interface
Fitted with:	Internal DC link PTC thermistor monitoring Thermo-click with safe isolation Key switch position OFF/RESET Key switch position HAND Control unit Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Key switch position AUTO PC connection IGBT inverter Manual override switch Selector switch (Positions: REV - OFF - FWD)
Functions	For actuation of motors with mechanical brake 1 potentiometer speed 3 fixed speeds
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. AC voltage

	Center-point earthed star network (TN-S network)
Mounting position	Vertical
Mounting position Shock resistance	Vertical 15 g, Mechanical, According to IEC/EN 60068-2-27, 11 ms, Half-sinusoidal shoc
Shock resistance	ms, 1000 shocks per shaft
Vibration	Resistance: 6 Hz, Amplitude 0.15 mm Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: 10 - 150 Hz, Oscillation frequency Resistance: According to IEC/EN 60068-2-6
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
Delaytima	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 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	PM and LSPM motors BLDC motors Sensorless vector control (SLV) Synchronous reluctance motors U/f control
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	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 $^{\circ}\text{C})$
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
Assigned motor power at 460/480 V, 60 Hz, 3-phase	2 HP
Braking current	≤ 0.6 A (max. 6 A for 120 ms), Actuator for external motor brake

Cable length Cable length Case	Braking torque	Adjustable to 100 % (I/Ie), DC - Main circuit ≤ 30 % (I/Ie)
Short-circuit protection (external output circuits) Rated control voltage (Uc) Rate (Communication interface Commection Plug types: (ANA O4/2 Member of sieve addissesse: 31 (AS-Interface®) plugh (100 V); 15 mA Spocification: 57-4 (AS-Interface®) Mach untal power consumption from AS-Interface®) Mach untal power consumption from AS-Interface® power supply unit (20 V); 15 mA Spocification: 57-4 (AS-Interface®) Mach untal power consumption from AS-Interface®) Mach untal power consumption from AS-Interface® power supply unit (20 V); 15 mA Spocification: 57-4 (AS-Interface®) Mach untal power consumption from AS-Interface® power supply unit (20 V); 15 mA Spocification: 57-4 (AS-Interface®) Mach untal power consumption from AS-Interface® power supply unit (20 V); 15 mA Spocification: 57-4 (AS-Interface®) Mach untal power consumption from AS-Interface® power supply unit (20 V); 15 mA Spocification: 57-4 (AS-Interface®) Mach untal power consumption from AS-Interface® Meets the product standard's requirements. Meets the product st	Braking voltage	280/207 V DC -15 % / +10 %, Actuator for external motor brake
Rated control voltage (Uc) Communication interface Connection Plug type: HAN 04/2 Number of slave addresses: 31 (AS-Interface® plug) Interfaces Number of slave addresses: 31 (AS-Interface®) Mas. total gover consumption from AS-Interface®) Mas. total gover consumption from AS-Interface®) Mas. total gover consumption from AS-Interface®) Mas. total gover consumption from AS-Interface® power supply unit (30 V: 15 m/s assimum motor cable length Ca 1 s 1 m/s assimum motor cable length Ca 2 S m/s maximum motor cable length Ca 3 S m/s maximum motor cable length Ca 3 S m/s maximum motor cable length Ca 4 S m/s maximum motor cable length Ca 5 S m/s maximum motor cabl	Rated conditional short-circuit current (Iq)	10 kA
Communication interface Connection AS-Interface Connection Pug type: HAN Q4/2 Interfaces Whether of slave addresses 31 (AS-Interface®) Make. Intel power consumption from AS-Interface®) power supply unit (30 V): 15 mA Specification: S-7.4 (AS-Interface®) Pug type: HAN Q4/2 Interface C1 < 1 m, maximum motor cable length C2 < 5 m, maximum motor cable length C3 < 5 m, maximum motor cable length C4 < 5 m, maximum motor cable length C4 < 5 m, maximum motor cable length C4 < 5 m, maximum motor cable length C5 < 6 m, maximum moto	Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Communication interface Connection AS-Interface Connection Pug type: HAN Q4/2 Interfaces Whether of slave addresses 31 (AS-Interface®) Make. Intel power consumption from AS-Interface®) power supply unit (30 V): 15 mA Specification: S-7.4 (AS-Interface®) Pug type: HAN Q4/2 Interface C1 < 1 m, maximum motor cable length C2 < 5 m, maximum motor cable length C3 < 5 m, maximum motor cable length C4 < 5 m, maximum motor cable length C4 < 5 m, maximum motor cable length C4 < 5 m, maximum motor cable length C5 < 6 m, maximum moto		
Canbe length Cable length Ca	Rated control voltage (Uc)	, , , ,
Interfaces Number of slave addresses: 31 (AS-Interface®) Max. total power consumption from AS-Interface® power supply unit (30 VI: 18 AS pacifications. S-7.4 (AS-Interface®) Specifications. S-7.4 (AS-Interface®)	Communication interface	AS-Interface
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10.2.3.1 Verification of thermal stability of enclosures 10.2.3.2 Verification of resistance of insulating materials to normal heat 10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects 10.2.4 Resistance to ultra-violet (UV) radiation 10.2.5 Lifting 10.2.6 Meets the product standard's requirements. 10.2.6 Mechanical impact 10.2.6 Mechanical impact 10.2.7 Inscriptions 10.2.6 Meets the product standard's requirements. 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.13 Mechanical function 10.14 Mechanical function 10.15 Mechanical function 10.15 Mechanical function 10.16 Meets the product standard's requirements. 10.16 Meets the product standard's requirements. 10.9 Does not apply, since the entire switchgear needs to be evaluated. 10.6 Incorporation of switching devices and components 10.9 Does not apply, since the entire switchgear needs to be evaluated. 10.7 Internal electrical circuits and connections 10.8 the panel builder's responsibility. 10.9.1 Pennel builder's responsibility. 10.9.2 Power-frequency electric strength 10.9.1 Internal electrical circuits and connections 10.10 Temperature rise 10.10 Temperature rise 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.14 Mechanical function 10.15 Mechanical function 10.15 Mechanical function 10.16 Mechanical function 10.16 Meets the product standard's requirements. 10.17 Meets the product standard's requirements. 10.18 Mechanical function of the instruction	Cable length	C3 ≤ 25 m, maximum motor cable length
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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 observed.
	10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must 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	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	0
Number of analogue outputs 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 medicate decommercial 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 No
Supporting protocol for BACnet Supporting protocol for other bus systems		No No
Number of HW-interfaces industrial Ethernet		No 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 With patient interface		1 No
With optical interface		No Voc
With PC connection		Yes
Integrated breaking resistance		No 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