Speed controllers, 2.4 A, 0.75 kW, Sensor input 4, 230/277 V AC, AS-Interface \$, S-7.4 for 31 modules, HAN Q4/2, with manual override switch, with braking resistance



Part no. RASP5-2402A31-412R100S1 198750

Product name	Eaton Moeller® series Rapid Link Speed controller
Part no.	RASP5-2402A31-412R100S1
EAN	4015081968084
Product Length/Depth	157 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	3.59 kilogram
Certifications	RoHS CE UL 61800-5-1 IEC/EN 61800-5-1 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 junctio 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: drivesConnect Parameterization: Keypad Diagnostics and reset on device and via AS-Interface Parameterization: Fieldbus
Fitted with:	IGBT inverter Selector switch (Positions: REV - OFF - FWD) PC connection Internal DC link Breaking resistance Key switch position HAND Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Braking resistance Thermo-click with safe isolation Key switch position AUTO Control unit Manual override switch Key switch position OFF/RESET PTC thermistor monitoring
Functions	Brake chopper with braking resistance for dynamic braking 1 potentiometer speed 3 fixed speeds 4-quadrant operation possible For actuation of motors with mechanical brake
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.

Rated impulse withstand voltage (Uimp)	2000 V
System configuration type	Center-point earthed star network (TN-S network) AC voltage 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
/ibration	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
Climatic proofing	In accordance with IEC/EN 50178 < 95 %, no condensation
Current limitation	0.2 - 2.4 A, motor, main circuit Adjustable, motor, main circuit
Delay time	< 10 ms, On-delay < 10 ms, Off-delay
:fficiency Heat dissipation at current/speed	97 % (η)  27.5 W at 50% current and 90% speed 31.8 W at 100% current and 90% speed 33.5 W at 25% current and 50% speed 34.6 W at 50% current and 50% speed 35.1 W at 25% current and 50% speed 36.6 W at 100% current and 0% speed 36.8 W at 50% current and 50% speed 40.7 W at 100% current and 0% speed
nput current ILN at 150% overload	2.5 A
eakage 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 Synchronous reluctance motors Sensorless vector control (SLV) BLDC motors U/f control
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	3.6 A
Rated frequency - max	66 Hz
Rated frequency - min	45 Hz
Rated operational current (le)	2.4 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	0.75 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 second Power section
Supply frequency	50/60 Hz
Switching frequency	8 kHz, 4 - 32 kHz adjustable, fPWM, Power section, Main circuit

Selection out	Assigned motor power at 460/480 V, 60 Hz, 3-phase	1 HP
Braking totique  Adjustable to 100 % (Vie.) D.C Main circuit 2 0 % (Vie.) D.C Main circuit 2 0 % (Vie.) D.C Main circuit 3 0 % (Vie.) D.C Main circuit 3 0 % (Vie.) D.C Main circuit 3 0 % Vie Main circuit 4 0 % Vie Main circuit 5 0 % Vie Main circuit 6 0	Desking assessed	COCA (may CA for 120 mg) Astronomy for many many many
Saking voltage Soutch-on threshold for the braking transistor  Relad conditional short circuit current (lq)  Short-circuit printerction (external output circuits)  Relad conditional short circuit current (lq)  Short-circuit printerction (external output circuits)  Relad control voltage (Uc)  AS-interface  Communication interface  Communication		
Switch-on threshold for the braking transister  Reted conditional short-circuit current (bg)  Reted conditional short-circuit current (bg)  Reted control voltage (Uc)  Z20277 V AC (external brakes 5989 Hz) 24 V DC (-15 %,-29 %, external via AS-Interface® plug)  Communication interface  AS-Interface  Connection  Plug type: HAN Q42  Interfaces  Max. total power consumption from AS-Interface® power supply unit (80 V): 195  Naminher of slave addresses: 31 (AS-Interface®)  Pug type: HAN Q42  Interfaces  AS-Interface  Connection  Plug type: HAN Q42  Max. total power consumption from AS-Interface® power supply unit (80 V): 195  Naminher of slave addresses: 31 (AS-Interface®)  Specifications S-7.4 (AS-Interface®)  Specifications S-7.4 (AS-Interface®)  Specifications S-7.4 (AS-Interface®)  AS-Interface  AS-Interface  Connection  Meets the product standard's requirements.  10.2.3 V erification of resistance of insustaining insteriois to normal heat  Meets the product standard's requirements.  10.2.3 Resistance to ultra-violet (UV) radiation  Meets the product standard's requirements.  10.2.5 Mechanical impact  Does not apply, since the entire switchgear needs to be evaluated.  10.2.6 Mechanical impact  10.2.6 Mechanical impact  10.2.8 Mechanical impact  10.2.9 Mechanical impact  10.3 Impact white device and connections  10.4 Mechanical impact  10.5 Repeated	Braking torque	
Rated conditional short-circuit current (Iq)  Short-circuit protection (external output circuits)  Figure 1 coordination via the power bus "feeder unit, Main circuit  Z00277 V AC (external brake 50800 Hz) 24 V D C 1-18 %-7-20 %, external via AS-Interface® plug)  Communication interface  AS-Interface  Plug type: HAN Q4/2  Max. total power consumption from AS-Interface® power supply unit (30 V): 195  Manubar of allowe addresses: 11 (AS-Interface® power supply unit (30 V): 195  Manubar of allowe addresses: 21 (AS-Interface®)  Specification: 5-7-4 (AS-Interface®)  Specification: 5-7-4 (AS-Interface®)  Cable length  C1 < 5 m, maximum motor cable length C1 < 5 m, maximum motor cable length C2 5 m, maximum motor cable length C2 5 m, maximum motor cable length C3 < 3 m, maximum motor cable length C3 < 3 m, maximum motor cable length C2 5 m, maximum motor cable length C2 5 m, maximum motor cable length C3 < 5 m, maximum motor cable length C3 < 5 m, maximum motor cable length C4 S m, maximum	Braking voltage	230/277 V AC -15 $\%$ / +10 $\%$ , Actuator for external motor brake
Short-circuit protection (external output circuits)  Rated control voltage (Uc)  200777 V.A.C (external brake \$100 Hz) 24 V D.C.+13 %/+20 %, external via AS-interface® plug)  Communication interface  AS-interface  Connection  Plug type: HAN Q4/2  Max. total power consumption from AS-interface® power supply unit (38 V): 195  Max. total power consumption from AS-interface® power supply unit (38 V): 195  AN Number of slave addresses: 31 (AS-interface®)  Secrifications 57.4 (AS-interface®)  Cable length  C3 < 25 m, maximum motor cable length C1 = 1 m, maximum moto	Switch-on threshold for the braking transistor	765 V DC
Short-circuit protection (external output circuits)  Rated control voltage (Uc)  200777 V.A.C (external brake \$100 Hz) 24 V D.C.+13 %/+20 %, external via AS-interface® plug)  Communication interface  AS-interface  Connection  Plug type: HAN Q4/2  Max. total power consumption from AS-interface® power supply unit (38 V): 195  Max. total power consumption from AS-interface® power supply unit (38 V): 195  AN Number of slave addresses: 31 (AS-interface®)  Secrifications 57.4 (AS-interface®)  Cable length  C3 < 25 m, maximum motor cable length C1 = 1 m, maximum moto		
Rated control voltage (Uc)  230,277 V.A. Cickternal brake 5,040 Hz) 24 V.D.C.I-15 %i-20 %, external via AS-interface® plug]  Communication interface  AS-interfaces  Max. total power consumption from AS-interface® power supply unit (30 VI; 19% mA) Number of slave addresses: 31 IAS-interface®)  Specification: 57-14 IAS-interface®)  Cable length  Cable	Rated conditional short-circuit current (Iq)	10 kA
Communication interface Connection Plug type: MAN Q4/2 Interfaces As-Interface Connection Plug type: MAN Q4/2 Interfaces As-Interfaces As-Inte	Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Centection  Interfaces  Interf	Rated control voltage (Uc)	
Centection  Interfaces  Interf	Communication interface	AS-Interface
Interfaces  Max. total power consumption from AS-Interface® power supply unit (30 V): 198 mA Number of slave addresses: 31 (AS-Interface®)  Cable length  C3 ≤ 25 m, maximum motor cable length C1 s1 m, maximum motor cable length C2 s sequences.  Meets the product standard's requirements.  Meets the product standard's requirements.		
Number of slave addresses:31 (AS-Interface®) Specification: S-74		Max. total power consumption from AS-Interface® power supply unit (30 V): 190
C   S   m, maximum motor cable length C2 S module standard's requirements. C2 S modu		Number of slave addresses: 31 (AS-Interface®)
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 Mechanical impact 10.2.6 Mechanical impact 10.2.7 Inscriptions 10.2.6 Mechanical impact 10.2.7 Inscriptions 10.2.6 Mechanical impact 10.2.7 Inscriptions 10.2.6 Incorporation of assemblies 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 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 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 Mechanical function 10.18 Mechanical function 10.19 Meets the product standard's requirements. 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.15 the panel builder's responsibility. The specifications for the switchgear must observed. 10.15 the panel builder's responsibility. The specifications for the switchgear must observed.	Cable length	C1 ≤ 1 m, maximum motor cable length
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 Resists 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 Mechanical impact 10.2.7 Inscriptions 10.2.8 Mechanical impact 10.2.9 Inscriptions 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 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 10.8 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 10.13 Mechanical function 10.13 Mechanical function 10.14 Mechanical function 10.15 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. 10.17 Internal electric shock 10.18 Meets the product standard's requirements. 10.19 Des not apply, since the entire switchgear needs to be evaluated. 10.19 Internal electrical circuits and connections 10.19 Is the panel builder's responsibility. 10.20 Femperature rise possibility. 10.3 Is the panel builder's responsibility. 10.4 Temperature rise 10.5 Protection against electric strength 10.6 Temperature rise 10.7 Internal electrical circuits and connections 10.8 Temperature rise 10.9 Is the panel builder's responsibility. 10.9 Temperature rise 10.10 Temperature rise 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.15 The panel builder's responsibility. The specifications for the switchgear must to observed. 10.13 Mechanical function 10.14 Mechanical function	10.2.2 Corrosion resistance	Meets the product standard's requirements.
10.2.3.3 Resists. 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 Meets the entire switchgear needs to be evaluated. 10.2.7 Inscriptions 10.2.6 Meets the product standard's requirements. 10.3.0 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 10.8. Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 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 10.15 Mechanical function 10.16 Meets the product standard's requirements. 10.17 Internal pelectrical circuits and connections 10.18 Meets the product standard's requirements. 10.19 Ones not apply, since the entire switchgear needs to be evaluated. 10.19 Ones not apply, since the entire switchgear needs to be evaluated. 10.19 Internal electrical circuits and connections 10.19 Internal electric stength ones not apply, since the entire switchgear needs to be evaluated. 10.19 Internal electric shock 10.19 Internal electric shock 10.20 Power-frequency electric strength 10.31 Meets the product standard's requirements. 10.40 Internal electric shock 10.51 Internal electric shock 10.52 Internal electric shock 10.53 Meets the product standard's requirements. 10.54 Internal electric shock 10.55 Internal electric shock 10.55 Internal electric shock 10.55 Internal electri	10.2.3.1 Verification of thermal stability of enclosures	
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.  10.9.2 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  10.10 Temperature rise  The panel builder's responsibility. The specifications for the switchgear must to observed.  10.12 Electromagnetic compatibility  10.12 Electromagnetic compatibility  The device meets the requirements, provided the information in the instruction	10.2.3.2 Verification of resistance of insulating materials to normal heat	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 In panel builder is responsibility. 10.10 Temperature rise Is the panel builder's responsibility. 10.10 Temperature rise Is the panel builder's responsibility. The specifications for the switchgear must to observed.  10.12 Electromagnetic compatibility 10.13 Mechanical function  The device meets the requirements, provided the information in the instruction	10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects	Meets the product standard's requirements.
10.2.6 Mechanical impact  10.2.7 Inscriptions  Meets the product standard's requirements.  10.3 Degree of protection of assemblies  10.4 Clearances and creepage distances  Meets the product standard's requirements.  10.5 Protection against electric shock  Meets the product standard's requirements.  10.6 Incorporation of switching devices and components  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.  10.9.9 Power-frequency electric strength  Is the panel builder's responsibility.  10.9.1 Testing of enclosures made of insulating material  Is the panel builder is responsibility.  10.10 Temperature rise  10.10 Temperature rise  10.11 Short-circuit rating  Is the panel builder's responsibility. The specifications for the switchgear must to observed.  10.12 Electromagnetic compatibility  The device meets the requirements, provided the information in the instruction	10.2.4 Resistance to ultra-violet (UV) radiation	Meets the product standard's requirements.
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.  Meets the product standard's requirements.  Meets the product standard's requirements.  Does not apply, since the entire switchgear needs to be evaluated.  Does not apply, since the entire switchgear needs to be evaluated.  Does not apply, since the entire switchgear needs to be evaluated.  Does not apply, since the entire switchgear needs to be evaluated.  Does not apply, since the entire switchgear needs to be evaluated.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  In the panel builder's responsibility.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  Does not apply, since the entire switchgear needs to be evaluated.  In the panel builder's responsibility.  Does not apply,	10.2.5 Lifting	Does not apply, since the entire switchgear needs to be evaluated.
10.3 Degree of protection of assemblies  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 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  10.9.3 Impulse withstand voltage  Is the panel builder's responsibility.  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  The panel builder's responsibility.  10.11 Short-circuit rating  Is the panel builder's responsibility.  In provide heat dissipation data for the devices.  Is the panel builder's responsibility. The specifications for the switchgear must to observed.  Is the panel builder's responsibility. The specifications for the switchgear must to observed.  Is the panel builder's responsibility. The specifications for the switchgear must to observed.	10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
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 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function  Meets the product standard's requirements.  Does not apply, since the entire switchgear needs to be evaluated.  Is the panel builder's responsibility.  Is the panel builder's responsibility. The specifications for the switchgear must to observed.  Is the panel builder's responsibility. The specifications for the switchgear must to observed.  In the device meets the requirements, provided the information in the instruction.	10.2.7 Inscriptions	Meets the product standard's requirements.
10.5 Protection against electric shock  10.6 Incorporation of switching devices and components  10.7 Internal electrical circuits and connections  10.8 Connections for external conductors  10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  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  10.10 Temperature rise possibility.  10.11 Short-circuit requirements, provided the information in the instruction	10.3 Degree of protection of assemblies	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 connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 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 10.10 The panel builder's responsibility. The specifications for the switchgear must to observed. 10.13 Mechanical function 10.15 Internal electrical circuits and connections 10.16 Internal electrical circuits and connections 10.17 Internal electrical circuits and connections 10.18 the panel builder's responsibility. 10.19 Is the panel builder's responsibility. 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 Electromagnetic services and components 10.15 Internal electrical circuits and connections 10.16 Internal electrical circuits and connections 10.17 Internal electrical circuits and connections 10.18 the panel builder's responsibility. 10.19 Internal electrical circuits and connections 10.19 Internal electrical circuits and connections 10.10 Temperature switchgear needs to be evaluated. 10.10 Temperature switchgear needs to be evaluated. 10.10 Temperature switchgear needs to be evaluated. 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.15 Internal electrical circuits and connections 10.16 Temperature switchgear needs to be evaluated. 10.17 Internal builder's responsibility. 10.18 The panel builder's responsibility. 10.19 The panel builder's responsibility. 10.10 Temperature rise 10.10 Temperature rise 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.15 The device meets the requirements, provided the information in the instruction	10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.7 Internal electrical circuits and connections  10.8 Connections for external conductors  10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  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  10.10 Temperature rise panel builder's responsibility. The specifications for the switchgear must to observed.  10.13 Mechanical function  10.14 Short-circuits and connections  10.15 Is the panel builder's responsibility. The specifications for the switchgear must to observed.  10.16 The panel builder's responsibility. The specifications for the switchgear must be observed.  10.17 The device meets the requirements, provided the information in the instruction	10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
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 responsibile 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	10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  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  11.15 Is the panel builder's responsibility. The specifications for the switchgear must to observed.  10.13 Mechanical function  11.15 Is the panel builder's responsibility. The specifications for the switchgear must to observed.  10.14 Is the panel builder's responsibility. The specifications for the switchgear must to observed.  10.15 Is the panel builder's responsibility. The specifications for the switchgear must to observed.  10.16 Is the panel builder's responsibility. The specifications for the switchgear must to observed.  10.17 In device meets the requirements, provided the information in the instruction.	10.7 Internal electrical circuits and connections	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 is 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	10.8 Connections for external conductors	Is the panel builder's responsibility.
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 lobserved.  10.12 Electromagnetic compatibility  Is the panel builder's responsibility. The specifications for the switchgear must lobserved.  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 lobserved.  10.12 Electromagnetic compatibility Is the panel builder's responsibility. The specifications for the switchgear must lobserved.  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 Is the panel builder's responsibility. The specifications for the switchgear must lobserved.  10.13 Mechanical function 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	2.4
Max. output at quadratic load at rated output voltage	kW	0.75
Max. output at linear load at rated output voltage	kW	0.75
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
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