DATASHEET - RASP5-4402A31-412R010S1

Speed controllers, 4.3 A, 1.5 kW, Sensor input 4, 230/277 V AC, AS-Interface®, S-7.4 for 31 modules, HAN Q4/2, with manual override switch, STO (Safe Torque Off)



Part no.

RASP5-4402A31-412R010S1 198790

| Diagnostics and reset on device and via AS-Interface integrated PTC thermistor monitoring and Thermoclick with safe isolation | | |
|---|--|---|
| EAN 411201189880 Product Lingh/Dight 77 millimetro Product Lingh/Dight 220 millimetro Product Vieght 39 kilogram Edefinitions 150 millimetro Cardinations 150 millimetro Product Vieght 150 millimetro Product Tradename 150 millimetro Product Vigo | Product name | Eaton Moeller® series Rapid Link Speed controller |
| Product Length/Depth 157 millinetre Product width 200 millinetre Product width 258 Mogram Product width 258 Mogram Certifications 100 millinetre Product Sub Type 100 millinetre Product Sub Type Reped Link Product Sub Type Speed controller | Part no. | RASP5-4402A31-412R010S1 |
| Product Night 20 millinere Product Night 20 millinere Product Night 20 millinere Centifications 20 millinere Product Night 20 millinere Catalog Notes 20 millinere Catalog Notes 20 millinere Product Night 20 millinere Product Night 20 millinere Product Night 20 millinere Product Night 20 millinere Catalog Notes 20 millinere Product Night 20 millinere Product Night 20 millinere Product Night 20 millin | EAN | 4015081968480 |
| Product weight 20 millingtre Product weight 35 kilogram Certifications EEC 55 kilogram Product Tadename EEC 56 kilogram Product Tadename EEC 56 kilogram Product Tadename Seed controller Catalog Notes Sted specification of reactor heuber backs Catalog Notes Sted specification of reactor heuber backs Fatter scip Textman Section of the Seed controll connection of specification of reactor heuber backs Seed controller Fatter scip Textman Section of the Seed control of connection of specification of reactor heuber backs Seed controller Fatter scip Textman Section of the Seed control of connection of specification of reactor heuber backs Seed controller Fatter scip Textman Section of the Seed control of connection of specification of reactor heuber backs Seed controller < | Product Length/Depth | 157 millimetre |
| Product weight 359 klogram Certifications See CPK bit800-5-1 GE UL 8800-5-1 UL approvol Product Tradename Rapid Lik Product Tradename Rapid Lik Product Sub Type Seed controller Product Sub Type Rapid Lik Catalog Notes Seed controller Orduct Type None Catalog Notes Seed controller Definition of the sub-sub Type Seed controller Catalog Notes Seed controller Catalog Notes Seed controller Catalog Notes Seed controller Catalog Notes Seed controller Control 24 to see controll Catalog Notes Seed controller Control 24 to see controller Controller Control 24 to see controller Seed controller Control 24 to see controller Controller Controller Control 24 to see controller Seed controller Features Seed controller Controller Controller France Controller Controller Parameterization divide and VIAS-Interface Parameterization divide and VIAS controller Controller Parameterization divide and VIAS controller France Controller Controller Parameterization divide and VIAS controller France Co | Product height | 270 millimetre |
| Cartifications IEDEN 61800-5-1 Cite Cite Product Trademame Speed controller Product Type Speed controller Product Type None Catalog Notes Speed controller Product Type None Catalog Notes Speed controller or from UI to two layeed controll Consortion of supp view in speed controll Consortion of supp view in speed controller Diagnostics and reset on device and via AS-Interface Promoter Speed controller Product Supp view in the Speed controller Promoter Speed controller Fitted with: Diagnostics and reset on device and via AS-Interface Product Supp view in the Speed controller Promoter Speed controller (App) Promoter Controller Promoter Speed controller Fitted with: Diagnostics and reset on device and via AS-Interface Promoter Controller Promoter Controller <tr< td=""><td>Product width</td><td>220 millimetre</td></tr<> | Product width | 220 millimetre |
| Product Tradename Rapid Link Product Tradename Rapid Link Product Type Rapid Link Product Type None Product Type Speci controller Product Type Speci controller Product Sub Type Speci controller Catalog Notes Speci controller Speci Speci Controller Speci controller Connection Suppl voltage via adgress and 1 potentiometer speed controll Connection Suppl voltage via adgress and rest on device and via AS-Interface integrated PTO Fieldback State Speci Fieldback | Product weight | 3.59 kilogram |
| Product Type Speed controller Product Sub Type None Catalog Notes Speed controller Speed controller Speed controller Catalog Notes Speed controller Speed controller Speed controller Catalog Notes Speed controller Speed controller Speed controller Speed controller Speed controller Speed controller Speed control Speed controller Speed controller Speed controller Speed controller Speed controller Speed controller Speed controller Speed controller S | Certifications | CE UL 61800-5-1 UL approval |
| Product Sub Type None Catalog Notes Sinded speed on the verticitie and a potentionizer speed control Connection of device and via AS-Interface integrade PTD termister monitoring and Thermocitiek with safe isolation integrade PTD termister monitoring and Thermocitiek with safe isolation on targerade PTD termister monitoring and Thermocitiek with safe isolation on targerade PTD termister monitoring and Thermocitiek with safe isolation on targerade PTD termister monitoring and Thermocitiek with safe isolation on targerade PTD termister monitoring and Thermocitiek with safe isolation on targerade PTD termister monitoring and Thermocitiek with safe isolation on targerade PTD termister monitoring and Thermocitiek with safe isolation on targerade PTD termister monitoring and Thermocitiek with safe isolation on targerade PTD termister monitoring and Thermocitiek with safe isolation on the observed monitoring and Thermocitiek with safe isolation on sensor input terminal operation with AUTO - OFFRESET - HAND key switches with selector switch REV - OFF - FWD Features Diagnostics and reset on device and via AS-Interface Parameterization: divosconnect mobile (App) Parameterization: divosconnect mobile (App) Parameterizatione divosconne | Product Tradename | Rapid Link |
| Catalog Notes Sixed speeds and 1 potentiometar speed control Connection of supply voltage via adpater cable on round or flexible bushan Diagnostics and reset on device and via AS-Interface Integrated PTC thermission inputs with M12 v adapter for switchowsr to creep spee optional: Faster stop if external 24 V fails interface and interface and via AS-Interface Features Diagnostics and reset on device and via AS-Interface Fitted with: Diagnostics and reset on device and via AS-Interface Fitted with: Diagnostics and reset on device and via AS-Interface Functions Diagnostics and reset on device and via AS-Interface Parameterization: Fieldbus Parameterization: Fieldbus Parameterization: Fieldbus Diagnostics and reset on device and via AS-Interface Parameterization: Fieldbus Parameterization: Fieldbus | Product Type | Speed controller |
| A substrainA substrainA substrainA substrainA substrainI substrain< | Product Sub Type | None |
| Fited with: Parameterization: Fieldbus Fited with: Parameterization: GrivesConnect mobile (App) Fited with: Parameterization: GrivesConnect Fited with: Internal DC link PC connection Manual override switch Key switch position AUTO Key switch position OUTO Key switch position AUTO Key switch position AUTO Key switch position AUTO Key switch position OUTO Key switch position AUTO Key switch position AUTO | Catalog Notes | can be switched over from U/f to (vector) speed control Connection of supply voltage via adapter cable on round or flexible busbar junction 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 |
| Fitted with: Parameterization: Fieldbus Fitted with: Internal DC link Parameterization: Groups and the parameterization: Keypad Internal DC link Perameterization: Seypad Internal DC link Perameterization: Seypad Manual override switch Key switch position AUTO Key switch position AUTO Key switch position AUTO Key switch position AUTO Key switch position HAND The manual override switch New switch position HAND The monitoring The monitoring The monitoring of the monitoring The monitoring The monitoring of the monitoring The monitoring The monitoring of the m | | |
| PC connection Manual override switch Key switch position AUTO Key switch position AUTO Key switch position MAND PTC thermistor monitoring Thermo-click with safe isolation Selector switch (Positions: REV - OFF - FWD) IBBT inverter Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Control unitFunctionsFor actuation of motors with mechanical brake Stop (Safe Torque Off) Sited speedsDegree of protectionMEMA 12 IP65Electromagnetic compatibilityIst and 2nd environments (according to EN 61800-3)Overvoltage categoryIII | Features | Parameterization: Fieldbus Parameterization: drivesConnect mobile (App) Parameterization: drivesConnect |
| I potentiometer speed STO (Safe Torque Off) 3 fixed speeds Degree of protection MEMA 12 IP65 Electromagnetic compatibility NEMA 12 IP65 Overvoltage category III | Fitted with: | PC connection Manual override switch Key switch position AUTO Key switch position OFF/RESET Key switch position HAND PTC thermistor monitoring Thermo-Click with safe isolation Selector switch (Positions: REV - OFF - FWD) IGBT inverter Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation |
| Electromagnetic compatibility IP65 Overvoltage category Ist and 2nd environments (according to EN 61800-3) | Functions | 1 potentiometer speed STO (Safe Torque Off) |
| Electromagnetic compatibility IP65 Overvoltage category Ist and 2nd environments (according to EN 61800-3) | | |
| Overvoltage category III | Degree of protection | |
| | Electromagnetic compatibility | 1st and 2nd environments (according to EN 61800-3) |
| Product category Speed controller | Overvoltage category | |
| | Product category | Speed controller |
| Protocol AS-Interface profile cable: S-7.4 for 31 modules ASI | Protocol | |
| | Radio interference class | |
| Rated impulse withstand voltage (Uimp) 2000 V | 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 11 ms, 1000 shocks per shaft |
| Vibration | Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: According to IEC/EN 60068-2-6 Resistance: 6 Hz, Amplitude 0.15 mm 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 | < 95 %, no condensation In accordance with IEC/EN 50178 |
| Current limitation | 0.4 - 4.3 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 | 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 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 | PM and LSPM motors Sensorless vector control (SLV) BLDC motors 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 $^{\circ}\mathrm{C})$ |
| 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, 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 |
|--|--|
| Braking torque | Adjustable to 100 % (I/Ie), DC - Main circuit ≤ 30 % (I/Ie) |
| Braking voltage | 230/277 V AC -15 % / +10 %, Actuator for external motor brake |
| | |
| Rated conditional short-circuit current (Iq) | 10 kA |
| Short-circuit protection (external output circuits) | Type 1 coordination via the power bus' feeder unit, Main circuit |
| Rated control voltage (Uc) | 24 V DC (-15 %/+20 %, external via AS-Interface® plug) 230/277 V AC (external brake 50/60 Hz) |
| Communication interface | AS-Interface |
| Connection | Plug type: HAN Q4/2 |
| Interfaces | Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA Specification: S-7.4 (AS-Interface®) Number of slave addresses: 31 (AS-Interface®) |
| Cable length | C3 ≤ 25 m, maximum motor cable length C1 ≤ 1 m, maximum motor cable length C2 ≤ 5 m, maximum motor cable length |
| 10.2.2 Corrosion resistance | Meets the product standard's requirements. |
| 10.2.3.1 Verification of thermal stability of enclosures | Meets the product standard's requirements. |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat | Meets the product standard's requirements. |
| 10.2.3.3 Resist. of insul. mat. to abnormal heat/fire 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 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 | 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 leaflet (IL) is observed. |

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 | А | 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 | | 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 |