



Speed controller, 5.6 A, 2.2 kW, AS-Interface®, S-7.4 for 31 modules, with braking resistance, with fan



Part no. RASP-510AI1SL-C320S1
 Catalog No. 150175
 Alternate Catalog No. RASP-510AI1SL-C320S1

Delivery program

| | | | |
|--|----------|----|--|
| | | | This item is only available until 06/30/2020, after which it will be replaced with the following item: Y7-198569, RASP5-5200A31-5120100S1 |
| Product range | | | Speed controller |
| Rated operational voltage | U_e | | 400 V AC, 3-phase 480 V AC, 3-phase |
| Output voltage with V_e | U_2 | | 0 - U_{LN} |
| Mains voltage (50/60Hz) | U_{LN} | V | 380 (-15%) - 480 (+10%) |
| At 150% overload | I_e | A | 5.6 |
| assigned motor rating P | | | |
| Note | | | at 400 V, 50 Hz |
| 150 % Overload | P | kW | 2.2 |
| Note | | | at 480 V, 60 Hz |
| 150 % Overload | P | HP | 3 |
| Note | | | for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm^{-1} at 50 Hz or 1800 min^{-1} at 60 Hz |
| Description | | | integrated PTC thermistor monitoring and Thermoclick with safe isolation Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation optional: 4 sensor inputs with M12-Y adapter for switchover to creep speed Connection of supply voltage via adapter cable on round or flexible busbar junction Diagnostics and reset on device and via AS-Interface with AUTO - OFF/RESET - HAND key switches 3 fixed speeds and 1 potentiometer speed can be switched over from U/f to (vector) speed control with selector switch REV - OFF - FWD optional: Faster stop if external 24 V fails |
| Interface/field bus (built-in) | | | AS-Interface® |
| AS-Interface profile cable | | | S-7.4 for 31 modules |
| Braking resistance | | | with braking resistance |
| Fan | | | with fan |
| Instructions integrated brake chopper with braking resistance for dynamic braking | | | |

Technical data

General

| | | | |
|------------------------------------|-----------|----|---|
| Standards | | | IEC/EN 61800-5-1 UL 61800-5-1 Guideline 2011/65/EU (RoHS) CE approval UL approval |
| Climatic proofing | ρ_w | % | < 95%, non-condensing IEC/EN 50178 |
| Ambient temperature | | | |
| Operating ambient temperature min. | | °C | 0 |
| Operating ambient temperature max. | | °C | + 45 |
| Storage | θ | °C | -30 - +70 |
| Oversvoltage category | | | III |
| Rated impulse withstand voltage | U_{imp} | kV | 2 |
| Radio interference level | | | |
| Environment (EMC) | | | 2. Environment, Class C3 |
| maximum motor cable length | l | m | 10 |
| Mechanical shock resistance | | g | 1000 shocks per shaft, semi-sinusoidal 15 g/11 ms IEC/EN 60068-2-27 |
| Vibration | | | Oscillation frequency: 10 - 150 Hz |

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|----------------------|--|---|--|
| | | | Amplitude 0.15 mm: 6 Hz Amplitude transition frequency on acceleration: 57 Hz IEC/EN 60068-2-6 |
| Mounting position | | | Vertical |
| Altitude | | m | 0 - 1000 m above sea level above 1000 m with 1 % performance reduction per 100 m max. 2000 m |
| Degree of Protection | | | IP65 NEMA12 |

Main circuit

| | | | |
|--|------------|---------|---|
| Supply | | | |
| Rated operational voltage | U_e | | 400 V AC, 3-phase 480 V AC, 3-phase |
| Mains voltage (50/60Hz) | U_{LN} | V | 380 (-15%) - 480 (+10%) |
| Input current (150% overload) | I_{LN} | A | 7.3 |
| System configuration | | | AC voltage Center-point earthed star network (TN-S network) Phase-earthed AC supply systems are not permitted. |
| Supply frequency | f_{LN} | Hz | 50/60 |
| Frequency range | f_{LN} | Hz | 47 - 66 Hz ($\pm 0\%$) |
| Mains switch-on frequency | | | Maximum of one time every 60 seconds |
| Mains current distortion | THD | % | > 120 |
| Rated conditional short-circuit current | I_q | kA | < 5 |
| Short-circuit protection for output circuits, external | | | Type 1 coordination via the power bus' feeder unit |
| Power section | | | |
| Function | | | Variable frequency drive with internal DC link and IGBT inverter |
| On-delay | t_{ON} | ms | 30 - 50 |
| Off-delay | t_{OFF} | ms | 15 - 35 |
| Overload current (150% overload) | I_L | A | 8.4 |
| Note regarding overload current | | | at 40 °C |
| Note about max. starting current | | | for 2 seconds at 40 °C |
| Output voltage with V_e | U_2 | | 0 - U_{LN} |
| Output Frequency | f_2 | Hz | 0 - 50/60 (max. 320) |
| Switching frequency | f_{PWM} | kHz | 6 adjustable 1.5 - 16 |
| Operation Mode | | | linear, parameterizable |
| Frequency resolution (setpoint value) | Δf | Hz | 0.01 |
| Rated operational current | | | |
| At 150% overload | I_e | A | 5.6 |
| Note | | | Rated operational current at an operating frequency of 6 kHz and an ambient air temperature of +40 °C |
| Motor current limit | I | A | 1.12 - 11.2 adjustable |
| Efficiency | η | % | 0.96 |
| Maximum leakage current to ground (PE) without motor | I_{PE} | mA | 3.5 |
| Fan | | | internal and on heat sink, temperature-controlled |
| Fitted with | | | without manual override switch with fan with braking resistance |
| Motor feeder | | | |
| Note | | | for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm^{-1} at 50 Hz or 1800 min^{-1} at 60 Hz |
| Note | | | at 400 V, 50 Hz |
| 150 % Overload | P | kW | 2.2 |
| Note | | | at 480 V, 60 Hz |
| 150 % Overload | P | HP | 3 |
| Braking function | | | |
| Braking torque | % | I/I_e | ≤ 30 |
| Switch-on threshold for the braking transistor | U_{DC} | V | 765 V DC |
| DC braking | % | I/I_e | ≤ 100 , adjustable |

Control section

| | | | |
|--------------------------------|----------------|---|---|
| External control voltage | U _c | V | 24 V DC - 15 % / + 20 % via AS-Interface® plug |
| Interface/field bus (built-in) | | | AS-Interface® |
| AS-Interface® | | | max. total power consumption from AS-Interface® power supply unit (30 V): 250 mA Specification: S-7.4 Number of slave addresses: 31 |

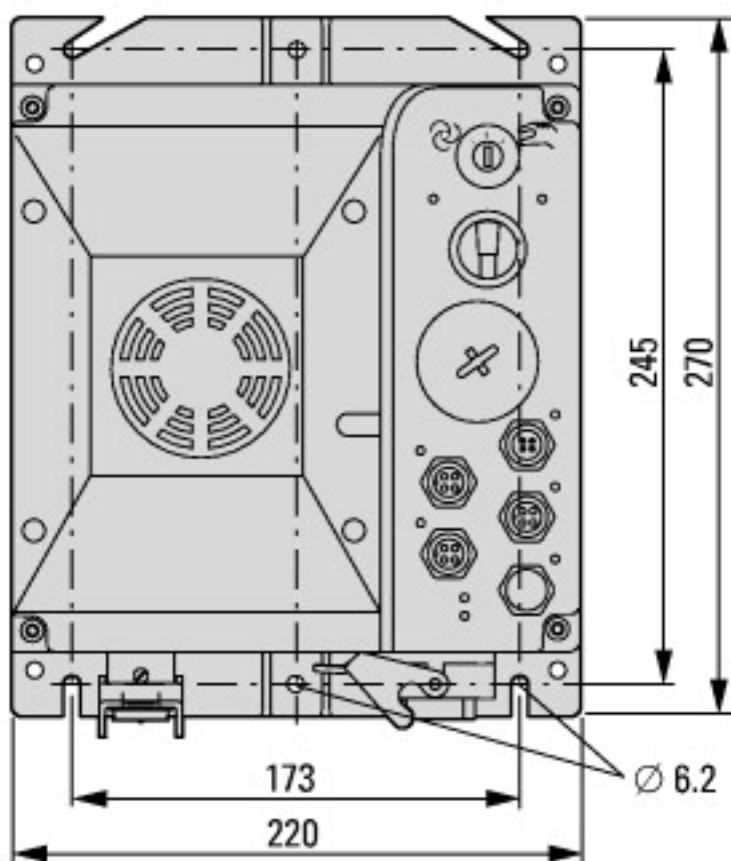
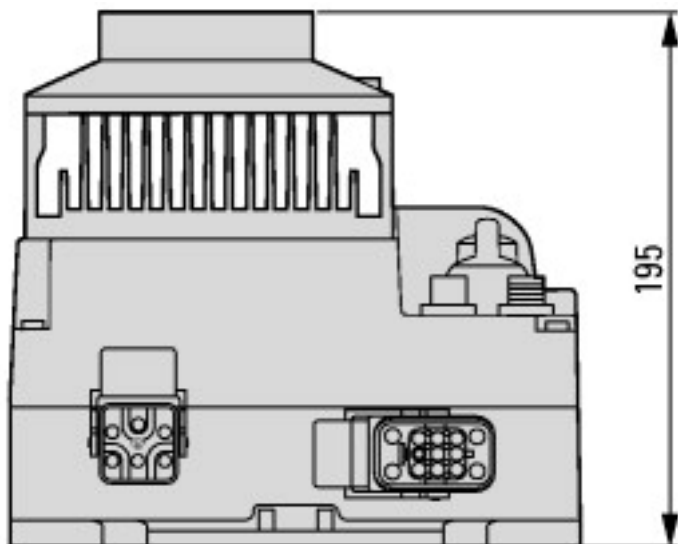
Design verification as per IEC/EN 61439

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|--|--|----|----|
| Technical data for design verification | | | |
| Operating ambient temperature min. | | °C | 0 |
| Operating ambient temperature max. | | °C | 45 |

Technical data ETIM 7.0

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| Devices for distribution board-/surface mounting (EG000062) / Speed controller (EC000256) | | | |
| Electric engineering, automation, process control engineering / Electrical installation, device / Modular serial built-in device for electrical circuit distributors / Speed controller (ec1@ss10.0.1-27-14-23-20 [ACN359011]) | | | |
| Mounting method | | | Surface mounted (plaster) |
| Colour | | | Grey |
| RAL-number | | | 0 |
| Nominal current | | A | 5.6 |
| Output voltage | | V | 0 - 400 |
| Number of phases | | | 3 |
| Power control step less | | | Yes |
| Number of steps | | | 0 |
| Basic element without cover | | | Yes |
| Method of operation | | | Key |
| Illumination | | | None |
| Switching contact | | | No |
| With temperature sensor | | | Yes |
| Height | | mm | 270 |
| Width | | mm | 220 |
| Depth | | mm | 195 |
| Degree of protection (IP) | | | IP65 |

Dimensions



Assets (links)

Declaration of CE Conformity

00002337

Instruction Leaflets

IL03406020Z2018_05

Manuals

MN03406003Z_EN (English)

Additional product information (links)

IL03406020Z Rapid Link: Speed Control Unit

IL03406020Z Rapid Link: Speed Control Unit ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03406020Z2018_05.pdf

MN03406003Z Rapid Link 4.0

MN03406003Z Rapid Link 4.0 - Deutsch ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03406003Z_DE.pdf

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|---|---|
| MN03406003Z Rapid Link 4.0 - English | ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03406003Z_EN.pdf |
| MN03406003Z Rapid Link 4.0 - français | ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03406003Z_FR.pdf |
| CA04020001Z-EN Product Range Catalog: Efficient Engineering for Starting and Controlling Motors | http://www.eaton.eu/DE/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_1095238.pdf |