



Reversing starter, 6.6 A, Sensor input 2, Actuator output 1, 400/480 V AC, AS-Interface®, S-7.4 for 31 modules, HAN Q4/2



Part no. **RAM05-W214A31-4120S1**  
 Catalog No. **199087**

## Delivery program

|   |          |        |   |
|---|----------|--------|---|
| Product range   |          |        | Motor starter   |
| Basic function  |          |        | Reversing starter   |
| Rated operational voltage   | $U_e$    |        | 400 V AC, 3-phase<br>480 V AC, 3-phase  |
| Output voltage with $V_e$   | $U_2$    |        | = $U_{LN}$  |
| Mains voltage (50/60Hz)   | $U_{LN}$ | V      | 380 (-15%) - 480 (+10%)   |
| At 150% overload  | $I_e$    | A      | 6.6   |
| <b>assigned motor rating P</b>                                    |          |        |   |
| Note  |          |        | at 400 V, 50 Hz   |
| 150 % Overload  | P        | kW     | 0,09 - 3  |
| Note  |          |        | at 480 V, 60 Hz   |
| 150 % Overload  | P        | HP     | 0,125 - 3   |
| Note  |          |        | for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with $1500 \text{ rpm}^{-1}$ at 50 Hz or $1800 \text{ min}^{-1}$ at 60 Hz   |
| Description   |          |        | Integrated thermistor monitoring PTC and thermo-click<br>Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation<br>Connections pluggable in power section<br>Connection of supply voltage via adapter cable on round or flexible busbar junction<br>Diagnostics and reset on device and via AS-Interface with AUTO - OFF/RESET - HAND key switches<br>With electronic motor protection for allocated motor power from 0.09 – 3.0 kW (400 V)/0.125 – 3.0 HP (480 V) |
| Sensor input  |          | Number | 2   |
| Actuator output   |          | Number | 1   |
| Control voltage external brake (50/60 Hz)                         |          | V      | 400/480 V AC  |
| Interface/field bus (built-in)                                    |          |        | AS-Interface®   |
| AS-Interface profile cable  |          |        | S-7.4 for 31 modules  |
| Plug arrangement  |          |        | HAN Q4/2  |
| Parameterization  |          |        | Keypad<br>Fieldbus<br>drivesConnect<br>drivesConnect mobile (App)   |
| <b>Instructions</b> for actuation of motors with mechanical brake |          |        |   |

## Technical data

### General

|                                    |           |    |   |
|------------------------------------|-----------|----|---|
| Standards                          |           |    | IEC/EN 60947-4-2<br>UL 60947-4-2<br>Guideline 2011/65/EU (RoHS)<br>CE approval<br>UL approval<br>CCC approval |
| Climatic proofing                  | $\rho_w$  | %  | < 95%, non-condensing<br>IEC/EN 50178   |
| Ambient temperature                |           |    |   |
| Operating ambient temperature min. |           | °C | -10   |
| Operating ambient temperature max. |           | °C | +55   |
| Storage                            | $\theta$  | °C | -40 - +70   |
| Overvoltage category               |           |    | III   |
| Rated impulse withstand voltage    | $U_{imp}$ | kV | 4   |
| Radio interference level           |           |    |   |
| Environment (EMC)                  |           |    | Device class A  |

|                             |   |   |  |
|-----------------------------|---|---|--|
| maximum motor cable length  | l | m | 10   |
| Mechanical shock resistance |   | g | 1000 shocks per shaft, semi-sinusoidal 15 g/11 ms<br>IEC/EN 60068-2-27   |
| Vibration                   |   |   | Oscillation frequency: 10 - 150 Hz<br>Amplitude 0.15 mm: 6 Hz<br>Amplitude transition frequency on acceleration: 57 Hz<br>IEC/EN 60068-2-6 |
| Mounting position           |   |   | Vertical   |
| Altitude                    |   | m | 0 - 1000 m above sea level<br>above 1000 m with 1 % performance reduction per 100 m<br>max. 2000 m   |
| Degree of Protection        |   |   | IP65<br>NEMA12   |

### Main circuit

|  |            |    |   |
|--|------------|----|---|
| Supply   |            |    |   |
| Rated operational voltage                              | $U_e$      |    | 400 V AC, 3-phase<br>480 V AC, 3-phase  |
| Mains voltage (50/60Hz)                                | $U_{LN}$   | V  | 380 (-15%) - 480 (+10%)   |
| Input current (150% overload)                          | $I_{LN}$   | A  | 6.6   |
| System configuration                                   |            |    | AC voltage<br>Center-point earthed star network (TN-S network)<br>Phase-earthed AC supply systems are not permitted.  |
| Supply frequency                                       | $f_{LN}$   | Hz | 50/60   |
| Frequency range  | $f_{LN}$   | Hz | 47 - 63 Hz ( $\pm 0\%$ )  |
| Mains switch-on frequency                              |            |    | Maximum of one time every 60 seconds  |
| Rated conditional short-circuit current                | $I_q$      | kA | < 10  |
| Short-circuit protection for output circuits, external |            |    | Type 1 coordination via the power bus' feeder unit  |
| Power section  |            |    |   |
| Function   |            |    | Reversing starter with relays, thyristors and bypass contacts, 2-phase controlled   |
| On-delay   | $t_{ON}$   | ms | 20 - 35   |
| Off-delay  | $t_{OFF}$  | ms | 20 - 35   |
| Lifespan, mechanical                                   | Operations |    | AC3: > 10.000.000   |
| Lifespan, electrical                                   | Operations |    | AC3: > 10.000.000   |
| Overload cycle   |            |    | AC-53a  |
| Output voltage with $V_e$                              | $U_2$      |    | = $U_{LN}$  |
| Output Frequency                                       | $f_2$      | Hz | = $f_{LN}$  |
| Rated operational current                              |            |    |   |
| At 150% overload                                       | $I_e$      | A  | 6.6   |
| Motor current limit                                    | $I$        | A  | 0.3 - 6.6<br>adjustable   |
| Fitted with  |            |    | without manual override switch  |
| Motor feeder   |            |    |   |
| Note   |            |    | for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with $1500 \text{ rpm}^{-1}$ at 50 Hz or $1800 \text{ min}^{-1}$ at 60 Hz |
| Note   |            |    | at 400 V, 50 Hz   |
| Note   |            |    | at 480 V, 60 Hz   |
| Actuator for external motor brake                      |            |    |   |
| Braking voltage  | $U$        | V  | 400/480 V AC -15% / +10%  |
| Braking current  | $I$        | A  | $\leq 0.6 \text{ A}$<br>(max. 6 A for 120 ms)   |

### 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): 190 mA<br>Specification: S-7.4<br>Number of slave addresses: 31 |

### Design verification as per IEC/EN 61439

|  |  |    |     |
|--|--|----|-----|
| Technical data for design verification |  |    |     |
| Operating ambient temperature min.     |  | °C | -10 |

Operating ambient temperature max.

°C

55

## Technical data ETIM 7.0

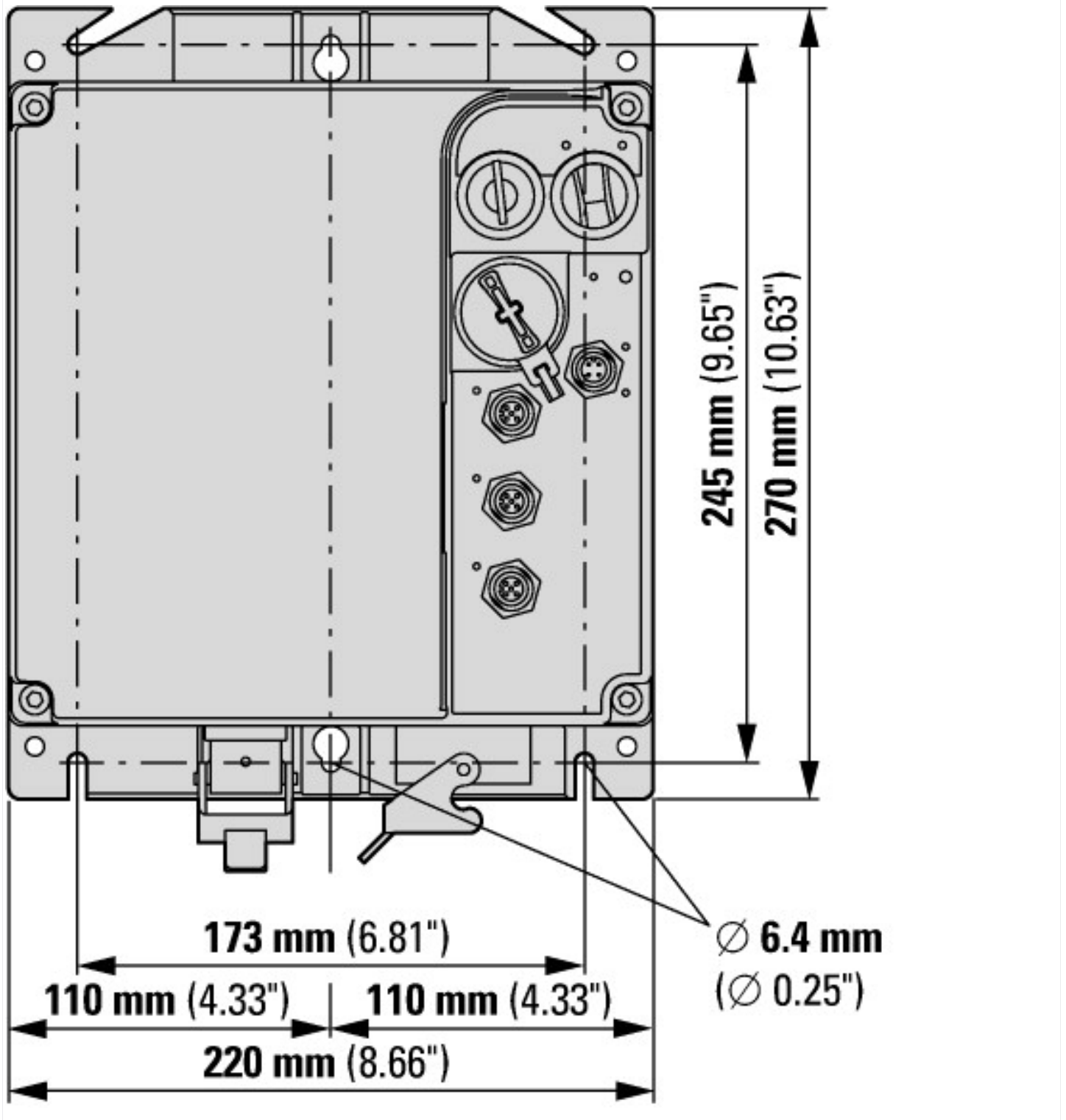
Low-voltage industrial components (EG000017) / Motor starter/Motor starter combination (EC001037)

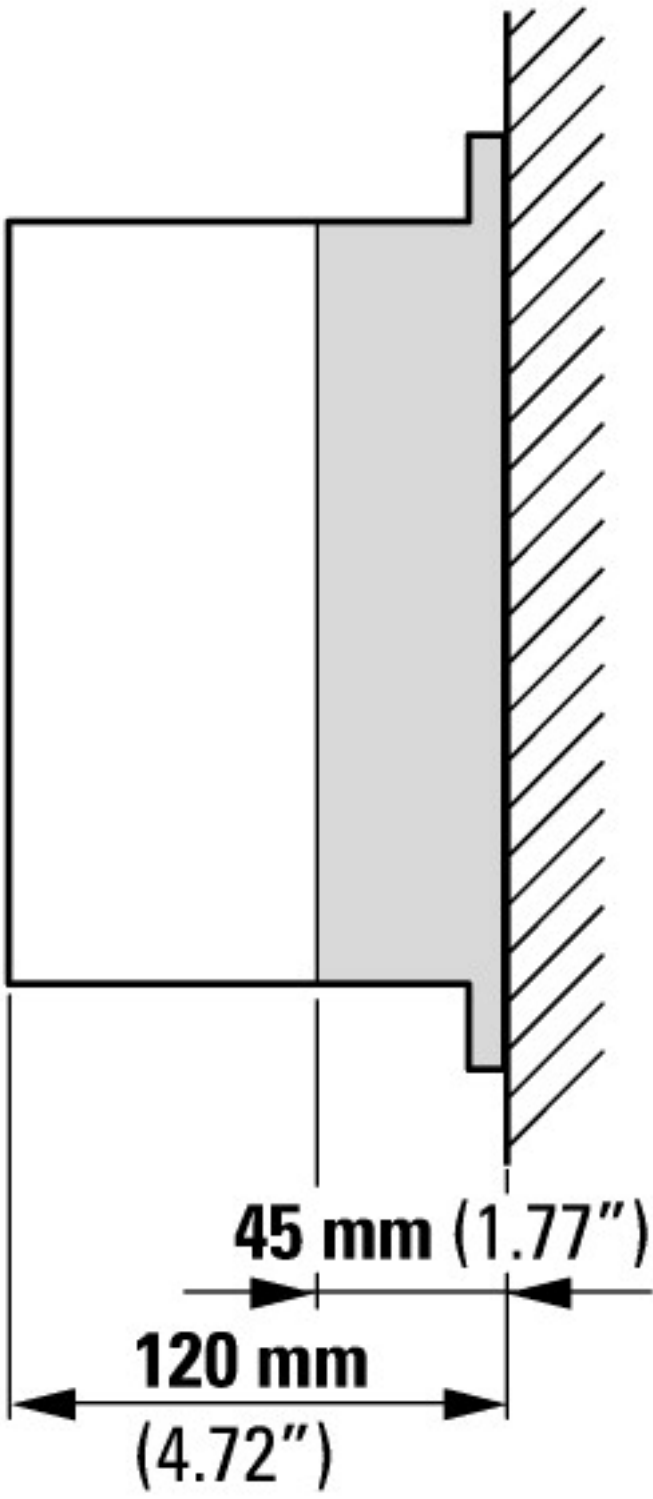
Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Motor starter combination (ecl@ss10.0.1-27-37-09-05 [AJZ718013])

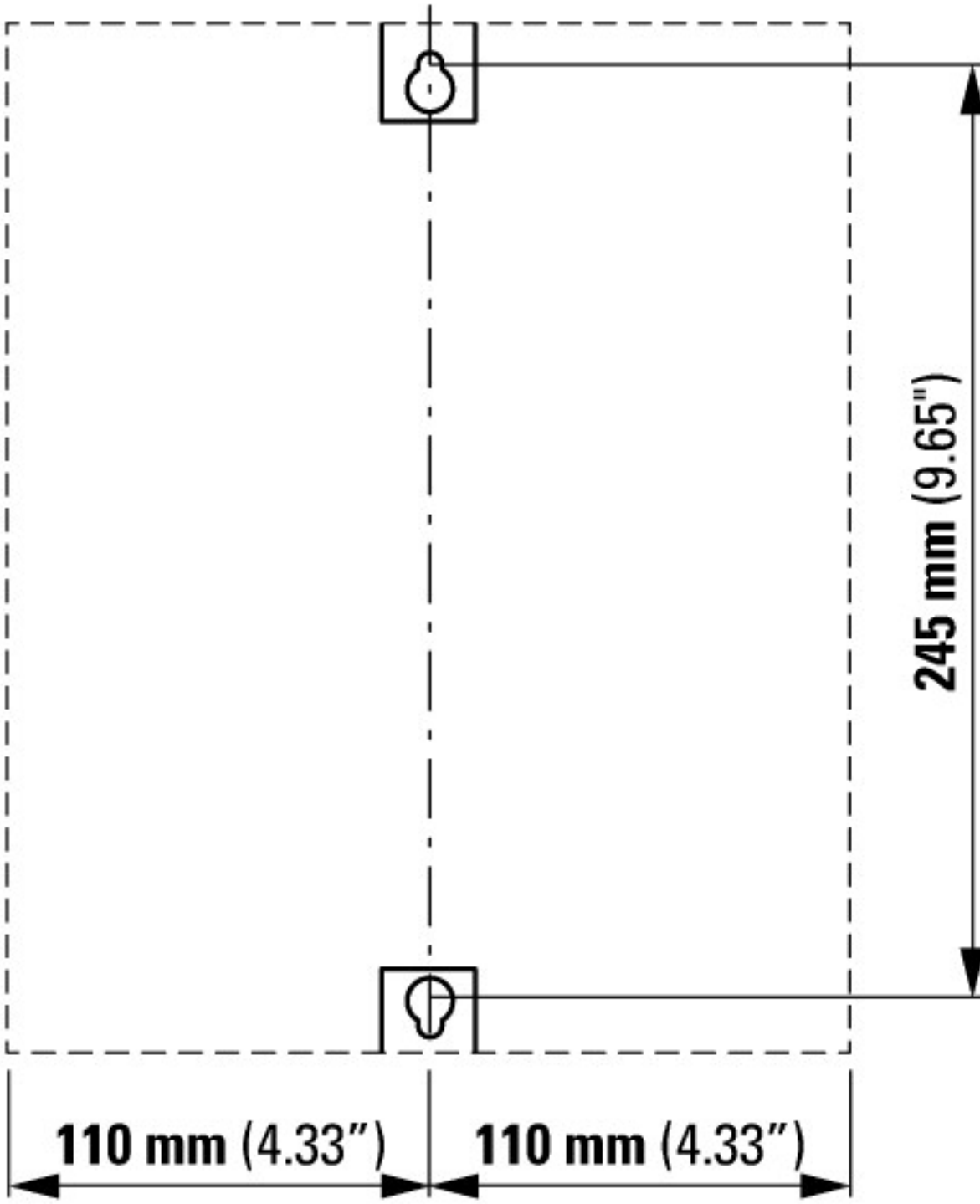
|  |    |                    |
|--|----|--------------------|
| Kind of motor starter  |    | Reversing starter  |
| With short-circuit release   |    | Yes                |
| Rated control supply voltage Us at AC 50HZ                               | V  | 0 - 0              |
| Rated control supply voltage Us at AC 60HZ                               | V  | 0 - 0              |
| Rated control supply voltage Us at DC                                    | V  | 29 - 32            |
| Voltage type for actuating   |    | DC                 |
| Rated operation power at AC-3, 230 V, 3-phase                            | kW | 0                  |
| Rated operation power at AC-3, 400 V                                     | kW | 3                  |
| Rated power, 460 V, 60 Hz, 3-phase                                       | kW | 2.238              |
| Rated power, 575 V, 60 Hz, 3-phase                                       | kW | 0                  |
| Rated operation current Ie   | A  | 6.6                |
| Rated operation current at AC-3, 400 V                                   | A  | 6.6                |
| Overload release current setting   | A  | 0.3 - 6.6          |
| Rated conditional short-circuit current, type 1, 480 Y/277 V             | A  | 100000             |
| Rated conditional short-circuit current, type 1, 600 Y/347 V             | A  | 0                  |
| Rated conditional short-circuit current, type 2, 230 V                   | A  | 0                  |
| Rated conditional short-circuit current, type 2, 400 V                   | A  | 0                  |
| Number of auxiliary contacts as normally open contact                    |    | 1                  |
| Number of auxiliary contacts as normally closed contact                  |    | 0                  |
| Ambient temperature, upper operating limit                               | °C | 55                 |
| Temperature compensated overload protection                              |    | Yes                |
| Release class  |    | CLASS 10           |
| Type of electrical connection of main circuit                            |    | Plug-in connection |
| Type of electrical connection for auxiliary- and control current circuit |    | Other              |
| Rail mounting possible   |    | No                 |
| With transformer   |    | No                 |
| Number of command positions  |    | 2                  |
| Suitable for emergency stop  |    | No                 |
| Coordination class according to IEC 60947-4-3                            |    | Class 1            |
| Number of indicator lights   |    | 8                  |
| External reset possible  |    | Yes                |
| With fuse  |    | No                 |
| Degree of protection (IP)  |    | IP65               |
| Degree of protection (NEMA)  |    | 12                 |
| 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 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                 |

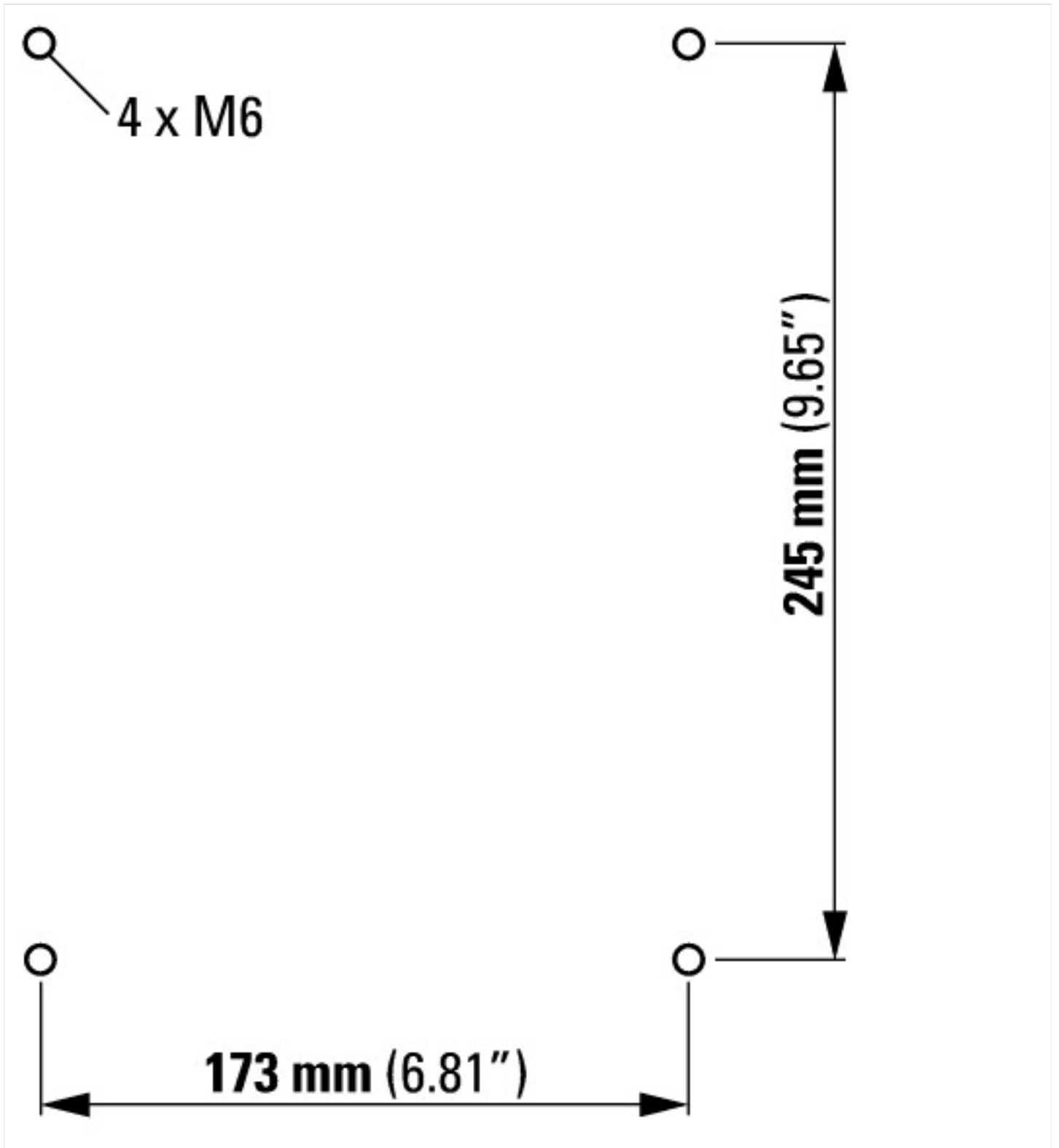
|   |    |     |
|---|----|-----|
| Supporting protocol for DeviceNet Safety  |    | No  |
| Supporting protocol for INTERBUS-Safety   |    | No  |
| Supporting protocol for PROFIsafe         |    | No  |
| Supporting protocol for SafetyBUS p       |    | No  |
| Supporting protocol for other bus systems |    | No  |
| Width                                     | mm | 220 |
| Height                                    | mm | 270 |
| Depth                                     | mm | 120 |

## Dimensions









### Additional product information (links)

#### IL034084ZU Rapid Link 5 Motor Control Unit

IL034084ZU Rapid Link 5 Motor Control Unit [https://es-assets.eaton.com/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL034084ZU2020\\_09.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL034084ZU2020_09.pdf)

#### MN034004 Rapid Link 5.0 RAMO RASP

MN034004 Schnellverbindung 5.0 RAMO RASP - Deutsch [https://es-assets.eaton.com/DOCUMENTATION/AWB\\_MANUALS/MN034004\\_DE.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN034004_DE.pdf)

MN034004 Rapid Link 5.0 RAMO RASP - English [https://es-assets.eaton.com/DOCUMENTATION/AWB\\_MANUALS/MN034004EN.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN034004EN.pdf)

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