



**Variable frequency drives, 1p, 230 V, 2.8A, 0.55kW**

**Part no.** MMX12AA2D8F0-0  
**Article no.** 121365  
**Catalog No.** MMX12AA2D8F0-0

**Delivery programme**

|   |                 |    |   |
|---|-----------------|----|---|
| Product range   |                 |    | M-MAX (MMX)   |
| Rated operational voltage   |                 |    | 1 AC 230 V  |
| Mains voltage (50/60Hz)   | U <sub>LN</sub> | V  | 208 (-15%) - 240 (+10%)   |
| <b>Assigned motor rating</b>  |                 |    |   |
| at 230 V, 50 Hz   | P               | kW | 0.55  |
|   |                 |    | Rated operational current at an operating frequency of 6 kHz and an ambient air temperature of +50 °C   |
| at 230 V, 60 Hz   | P               | HP | 0.5   |
|   |                 |    | Assigned motor rating for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm <sup>-1</sup> (at 50 Hz) or 1800 min <sup>-1</sup> (at 60 Hz) |
| Rated operational current   | I <sub>e</sub>  | A  | 2.8   |
| <b>Rated motor current</b>  |                 |    |   |
| at 230 V, 50 Hz   | I <sub>e</sub>  | A  | 2.7   |
| at 220 - 240 V, 60 Hz   | I <sub>e</sub>  | A  | 2.2   |
| Radio interference suppression filters                                |                 |    | with internal radio interference suppression filters  |
| Degree of Protection  |                 |    | IP20/NEMA 0   |
| Brake chopper   |                 |    | without internal brake chopper  |
| Frame size  |                 |    | FS1   |
| Notes   |                 |    |   |
| Cross-reference Increased protection type IP21/NEMA 1, -> Accessories |                 |    |   |

**Technical data**

**Power section**

|  |                  |     |  |
|--|------------------|-----|--|
| Input side   |                  |     |  |
| Number of phases                                     |                  |     | single-phase (L, N)<br>two-phase (e.g. L1, L2)                   |
| Mains voltage (50/60Hz)                              | U <sub>LN</sub>  | V   | 208 (-15%) - 240 (+10%)  |
| Mains voltage UL/CSA (45-66 Hz ± 0%)                 | U <sub>LN</sub>  | V   | 177 - 264 (±0%)  |
| Rated operational voltage                            |                  |     | 1 AC 230 V   |
| Rated operational current                            | I <sub>e</sub>   | A   | 2.8  |
| Input current  | I <sub>LN</sub>  | T   | 6.6  |
| Overload current for 60 s every 600 s at 50 °C       |                  | T   | 4.2  |
| Starting current for 2 s every 20 s at 50 °C         |                  | T   | 5.6  |
| Maximum leakage current to ground (PE) without motor | I <sub>PE</sub>  | mA  | 15.4   |
| Apparent power                                       |                  |     |  |
| Apparent power at rated operation 230 V              | S                | kVA | 1.12   |
| Apparent power at rated operation 240 V              | S                | kVA | 1.16   |
| Assigned motor rating                                |                  |     |  |
| at 230 V, 50 Hz                                      | P                | kW  | 0.55   |
| at 230 V, 60 Hz                                      | P                | HP  | 0.5  |
| Braking torque                                       |                  |     |  |
| Standard braking torque                              |                  |     | max. 30 % M <sub>N</sub>   |
| DC braking torque                                    |                  |     | max. 100% of rated operational current I <sub>e</sub> , variable |
| Switching frequency                                  | f <sub>PWM</sub> | kHz | 6<br>adjustable 1 - 16 (real)                                    |
| Heat dissipation at rated operational current        | P <sub>V</sub>   | W   | 29.2   |

|             |   |    |  |
|-------------|---|----|--|
| Efficiency  |   | %  | 95                                     |
| Fitted with |   |    | Fan (internal, temperature controlled) |
| Frame size  |   |    | FS1                                    |
| Weight      | m | kg | 0,500                                  |

## Technical data ETIM 5.0

Low-voltage industrial components (EG000017) / Frequency controller =< 1 kV (EC001857)

Electric engineering, automation, process control engineering / Electrical drive / Static frequency converter / Static frequency converter = < 1 kv (ec1@ss8-27-02-31-01 [AKE177010])

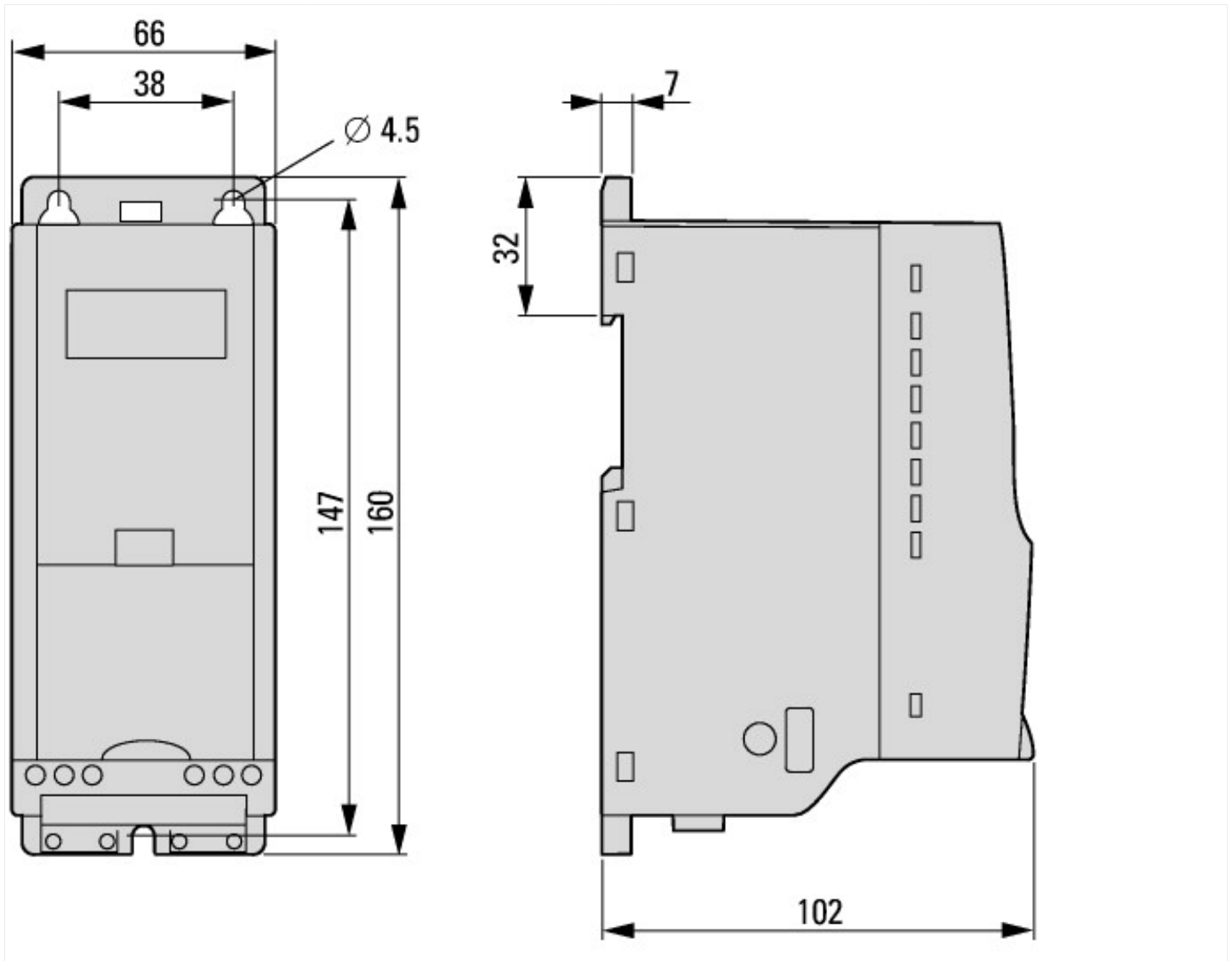
|  |  |    |           |
|--|--|----|-----------|
| Mains voltage  |  | V  | 177 - 264 |
| Mains frequency  |  |    | 50/60 Hz  |
| Number of phases input                                 |  |    | 1         |
| Number of phases output                                |  |    | 3         |
| Max. output frequency                                  |  | Hz | 320       |
| Rated output voltage                                   |  | V  | 230       |
| Measuring output current                               |  | A  | 2.8       |
| Output power at rated output voltage                   |  | kW | 0.55      |
| Max. output at quadratic load at rated output voltage  |  | kW | 0.55      |
| Max. output at linear load at rated output voltage     |  | kW | 0.55      |
| With control unit                                      |  |    | 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                            |  |    | No        |
| Supporting protocol for KNX                            |  |    | No        |
| Supporting protocol for MODBUS                         |  |    | Yes       |
| 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        |
| Number of HW-interfaces industrial Ethernet            |  |    | 0         |
| Number of HW-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                          |  |    | 0         |
| With optical interface                                 |  |    | No        |
| With PC connection                                     |  |    | Yes       |
| Integrated braking resistance                          |  |    | No        |

|  |    |             |
|--|----|-------------|
| 4-quadrant operation possible              |    | No          |
| Type of converter                          |    | U converter |
| Degree of protection (IP)                  |    | IP20        |
| Height                                     | mm | 157         |
| Width                                      | mm | 66          |
| Depth                                      | mm | 99          |
| Relative symmetric net frequency tolerance | %  | 0           |
| Relative symmetric net current tolerance   | %  | 0           |

## Approvals

|                                      |  |   |
|--------------------------------------|--|---|
| Product Standards                    |  | UL 508C; CSA-C22.2 No. 14; IEC/EN61800-3; IEC/EN61800-5; CE marking |
| UL File No.                          |  | E134360   |
| UL Category Control No.              |  | NMMS, NMMS7   |
| CSA File No.                         |  | UL report applies to both US and Canada                             |
| CSA Class No.                        |  | 3211-06   |
| North America Certification          |  | UL listed, certified by UL for use in Canada                        |
| Specially designed for North America |  | No  |
| Suitable for                         |  | Branch circuits   |
| Max. Voltage Rating                  |  | 1~ 240 V AC IEC: TN-S UL/CSA: "Y" (Solidly Grounded Wey)            |
| Degree of Protection                 |  | IEC: IP20; optionally UL/CSA NEMA 1                                 |

## Dimensions



## Additional product information (links)

[IL04020006Z MMX adjustable frequency drives, size 1, 2 and 3](#)

[IL04020006Z MMX adjustable frequency drives, size 1, 2 and 3](#)

**MN04020001Z M-Max variable frequency drive, manual**

|   |
|---|
| MN04020001Z Frequenzumrichter M-Max, Handbuch - Deutsch           |
| MN04020001Z M-Max variable frequency drive, manual - English      |
| MN04020001Z Convertisseurs de fréquence M-Max, manuel - français  |
| MN04020001Z Frekvenční měnič M-Max, manuál - čeština              |
| MN04020001Z Convertitori di frequenza M-Max, manuale - italiano   |
| MN04020001Z Przemiennik częstotliwości M-Max, podręcznik - polski |
| MN04020001Z M-Max variable frequency drive, manual - русский      |