**G-frame (200 V/400 V)**

- **Unit (mm):**
  - Name plate: 280 x 90
  - Handle: 235 x 130
  - Base mount type (Back-end mounting): 220 x 235

- **Direction of air flowing to the internal cooling fan:**
  - Front end: Intake
  - Back-end: Exhaust

- **Mass:** 13.5 kg

---

**H-frame (200 V/400 V)**

- **Unit (mm):**
  - Name plate: 320 x 90
  - Handle: 235 x 130
  - Base mount type (Back-end mounting): 220 x 235

- **Direction of air flowing to the internal cooling fan:**
  - Front end: Intake
  - Back-end: Exhaust

- **Mass:** 21.0 kg

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**URL**

Electric data of this product (Instruction Manual, CAD data) can be downloaded from the following website:

http://industrial.panasonic.com/ww1/e25000/motor_fa_e/motor_fa_e.html

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**Contact:**

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*The contents of this catalog apply to the products as of May 2014.*
**EtherCAT communication driver** MINAS A5B series

**High-performance**
- Frequency response: 2300 Hz
- Supports network communication “EtherCAT”.
- High-Speed 100 Mbps
- Real-time auto tuning function. Anti-vibration filters are available.

**EtherCAT** with many supported applications
- 7 control modes. 33 functions. DC(Synch.), SMB(Synch.), FreeRun (Non-synch.)
- System-up possible with various slaves.
- Supports PC-based controller.

**Operability**
- Smallest EtherCAT drive in the market.
- Supports PC setup software “PANATERM”

**Standards**
- Passed Official EtherCAT Conformance Test.
- IEC safety I/F model available.*1

**Applicable international safety standards**
- IEC 61800-5-2 STO, IEC61508 SIL2.

**Driver line-up**

<table>
<thead>
<tr>
<th>Motor rated output</th>
<th>MADH T1107</th>
<th>MADH T1105</th>
<th>MADH T1106</th>
<th>MADH T2100</th>
<th>MADH T2115</th>
<th>MADH T2110</th>
<th>MADH T2120</th>
<th>MADH T2125</th>
<th>MADH T2130</th>
<th>MADH T2135</th>
<th>MADH T2140</th>
<th>MADH T2145</th>
<th>MADH T2150</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 W</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
</tr>
<tr>
<td>100 W</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<td>H H H H H H</td>
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<td>H H H H H H</td>
<td>H H H H H H</td>
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</tr>
<tr>
<td>200 W</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
</tr>
<tr>
<td>400 W</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
</tr>
<tr>
<td>750 W</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
</tr>
<tr>
<td>2 kW</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
</tr>
<tr>
<td>3 kW</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<tr>
<td>5 kW</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
</tr>
<tr>
<td>7.5 kW</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
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<td>H H H H H H</td>
<td>H H H H H H</td>
<td>H H H H H H</td>
</tr>
</tbody>
</table>

**Supply voltage specifications**


**Special specifications**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>For rotary motor (standard)</td>
</tr>
<tr>
<td>B</td>
<td>For rotary motor (special)</td>
</tr>
<tr>
<td>C</td>
<td>For linear motor (standard)</td>
</tr>
<tr>
<td>D</td>
<td>For linear motor (special)</td>
</tr>
<tr>
<td>E</td>
<td>For linear motor (3-phase)</td>
</tr>
<tr>
<td>F</td>
<td>For linear motor (4-phase)</td>
</tr>
<tr>
<td>G</td>
<td>For linear motor (5-phase)</td>
</tr>
<tr>
<td>H</td>
<td>For linear motor (multi-phase)</td>
</tr>
</tbody>
</table>

**Controller configuration example**

- A5B Rotary motor
- A5BL Linear motor
- Stepper drive
- I/O
- Pulse out

**EtherCAT specification**

- Device profile: CANopen over EtherCAT
- Control mode: cap, pp, pm, cm, cv, etc.
- 1: to 14, 17 to 30, 33, 34, 35, 37
- Minimum cycle time: 250 μs

**Dimensions of Driver**

<table>
<thead>
<tr>
<th>Frame code</th>
<th>Use [mm]</th>
<th>Use [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-frame</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-frame</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-frame</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-frame</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-frame</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-frame</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**System configuration example**

- Dimensions of Driver: A5B series
EtherCAT communication driver MINAS A5B series

High-performance
- Frequency response: 2300 Hz
- Supports network communication “EtherCAT”
- High-Speed 100 Mbps
- Real-time auto tuning function, Anti-vibration filters are available.

EtherCAT
- With many supported applications
  - 7 control modes, 33 mm methods, DC(Synch.), SMD(Synch.), FreeRun (Non-synch.)
- System-up possible with various slaves.
- Supports PC-based controller.

Operator
- Smallest EtherCAT drive in market.
- Supports pc setup software “PANTHER”

Standards
- Passed Official EtherCAT Conformance Test
- IEC safety I/F model available.*1

Applicable international safety standards

Driver line-up

<table>
<thead>
<tr>
<th>Motor rated output</th>
<th>50 W</th>
<th>100 W</th>
<th>200 W</th>
<th>400 W</th>
<th>750 W</th>
<th>kW</th>
<th>kW</th>
<th>kW</th>
<th>kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single phase AC100 V to 120 V</td>
<td>MCDH T105 B</td>
<td>MCDH T110 B</td>
<td>MCDH T115 B</td>
<td>MCDH T120 B</td>
<td>MCDH T125 B</td>
<td>MCDH T130 B</td>
<td>MCDH T135 B</td>
<td>MCDH T140 B</td>
<td>MCDH T145 B</td>
</tr>
<tr>
<td>3-phase AC200 V to 240 V</td>
<td>MCDH T305 B</td>
<td>MCDH T310 B</td>
<td>MCDH T315 B</td>
<td>MCDH T320 B</td>
<td>MCDH T325 B</td>
<td>MCDH T330 B</td>
<td>MCDH T335 B</td>
<td>MCDH T340 B</td>
<td>MCDH T345 B</td>
</tr>
<tr>
<td>3-phase AC380 V to 400 V</td>
<td>MCDH T405 B</td>
<td>MCDH T410 B</td>
<td>MCDH T415 B</td>
<td>MCDH T420 B</td>
<td>MCDH T425 B</td>
<td>MCDH T430 B</td>
<td>MCDH T435 B</td>
<td>MCDH T440 B</td>
<td>MCDH T445 B</td>
</tr>
</tbody>
</table>

Symbols of part number

- M: Frame
- A: Add accessory
- D: Dotted line section represents the 400 V type.
- H: Handle lever (Used when wiring the cable.)
- T: Top to the internal cooling fan
- S: Side
- 0: 100 V/200 V
- 5: 400 V
- B: Base mount type
- S: Standard
- 5: 50 W
- F: Frame size
- 1: 100 W
- 2: 200 W
- 3: 400 W
- 4: 750 W
- 5: kW
- 6: kW
- 7: kW
- 8: kW
- 9: kW

Supply voltage specifications

- Single phase: 100 V/200 V
- 3-phase: 400 V

Special specifications

- For motor rotation (standard)
- For motor rotation (special)
- For linear motor (standard)
- For linear motor (special)

System configuration example

Controller

- A5B Rotary motor
- A5BL Linear motor
- Stepper drive
- Pulse
- I/O

EtherCAT specification

- Device profile: CANOpen over EtherCAT
- Control mode: cp, pp, hp, cv, c, cc
- Control method: d, d, d, d, d
- Synchronization mode: DC(Synch.), SMD(Synch.), FreeRun (Non-synch.)
- Minimum cycle time: 250 µs

Dimensions of Driver

<table>
<thead>
<tr>
<th>A-frame (100 V/200 V)</th>
<th>Use [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack mount type (Front-end mounting)</td>
<td>Mass: 0.8 kg</td>
</tr>
<tr>
<td>Base mount type (Back-end mounting)</td>
<td>Mass: 1.0 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B-frame (100 V/200 V)</th>
<th>Use [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack mount type (Front-end mounting)</td>
<td>Mass: 0.8 kg</td>
</tr>
<tr>
<td>Base mount type (Back-end mounting)</td>
<td>Mass: 1.0 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C-frame (100 V/200 V)</th>
<th>Use [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack mount type (Front-end mounting)</td>
<td>Mass: 1.6 kg</td>
</tr>
<tr>
<td>Base mount type (Back-end mounting)</td>
<td>Mass: 1.0 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D-frame (200 V/400 V)</th>
<th>Use [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack mount type (Front-end mounting)</td>
<td>Mass: 2.7 kg</td>
</tr>
<tr>
<td>Base mount type (Back-end mounting)</td>
<td>Mass: 1.0 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-frame (200 V/400 V)</th>
<th>Use [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack mount type (Front-end mounting)</td>
<td>Mass: 2.7 kg</td>
</tr>
<tr>
<td>Base mount type (Back-end mounting)</td>
<td>Mass: 1.0 kg</td>
</tr>
</tbody>
</table>
The contents of this catalog apply to the products as of May 2014.

**G-frame (200 V/400 V)**

- Mass: 13.5 kg

**H-frame (200 V/400 V)**

- Mass: 21.0 kg

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Fax: +81-774-75-5511

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