The MINAS product family changes the world of industrial machine automation

The right drive for each application

<table>
<thead>
<tr>
<th>MINAS series</th>
<th>MINAS BL GV/KV</th>
<th>MINAS BL GP/KP</th>
<th>MINAS LIQI</th>
<th>MINAS A6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functions</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Network</td>
<td>Modbus</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>EtherCAT</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>RTEX</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Advanced safety function</td>
<td>X</td>
<td></td>
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<td></td>
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<tr>
<td>Real-time auto-gain tuning</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Encoder</td>
<td>10000 p/r</td>
<td>23 bit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Torque control</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Velocity control</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position control</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>50–130W/750W</td>
<td>50–130W/750W</td>
<td>50–1000W</td>
<td>50–22000W*</td>
</tr>
<tr>
<td>Supply voltage 400V</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Supply voltage 200V</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>48V DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24V DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holding brake</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PANATERM software</td>
<td>PANATERM BL</td>
<td>PANATERM BL</td>
<td>PANATERM 6</td>
<td>PANATERM 6</td>
</tr>
</tbody>
</table>

* under development

PANATERM is a freeware tool for configuring all products from the MINAS series.
Whether it be special application requirements or general technical advice – our experienced sales and application engineers gladly provide you with information and assistance at any time.

**Our Servo Drive Excellence Center Europe stands for:**

- Competence
- Decades of experience
- Repair services
- Hotline
- Application support
- On-site trainings
- Continuous improvement of our services

**For all inquiries please contact our servo drive team at Panasonic under:**

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Fax: + 49 89 45354-2222
E-Mail: servo.peweu@eu.panasonic.com
The economical solution regarding costs and space.

› Highly effective
› Powerful
› Excellent price-performance ratio

The new MINAS BL series is a further development of the tried-and-tested MINAS series. The innovative split core structure allows savings in three different areas:

› Energy
› Space
› Cost

Specifications:

■ Features
› Supply voltage: 100/200V AC
› Rated power: 50–750W

■ Control modes
› Position control (GP and KP series)
› Velocity control (GV and KV series)

■ Other features
› Analog control input

■ Communication
› RS485 communication

<table>
<thead>
<tr>
<th>Motor series</th>
<th>GV</th>
<th>GP</th>
<th>KV</th>
<th>KP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated power</td>
<td>50–130W</td>
<td>50–130W</td>
<td>50–750W</td>
<td>50–750W</td>
</tr>
<tr>
<td>Motor speed</td>
<td>30–4000rpm</td>
<td>30–4000rpm</td>
<td>100–4000rpm</td>
<td>100–4000rpm</td>
</tr>
<tr>
<td>Type of control</td>
<td>Velocity control</td>
<td>Position control</td>
<td>Velocity control</td>
<td>Position control</td>
</tr>
</tbody>
</table>

Applications

The MINAS BL motors, which compared to AC induction motors offer far more functions, are particularly suited for materials handling as well as the textile and the food processing industry.
The proven and inexpensive servo drive

- Cost effective
- Reliable
- Powerful
- Simple
- Excellent price-performance ratio

Specifications:

**Features**
- Supply voltage: 200V AC
- Rated power: 50–1000W

**Other features**
- Pulse train interface: 500kpps

**Control mode**
- Position control

The servo drives of the MINAS LIQI series are the most inexpensive servo drive solution from Panasonic – the optimal choice with an unbeatable price when reliability and performance are of great importance.

Applications

Typical applications are machines and small plants that require precision, speed, and a user-friendly servo driver at a reasonable price.
The best servo drive solution for demanding applications

- Fast (max. 6500rpm)
- Powerful
- Compact
- Precise
- Lightweight

Specifications:

- **Features**
  - Supply voltage: 200V AC (400V AC)*
    (24/48V DC, only for low power range)
  - Rated power: 50W to 5kW (22kW)*

- **Other features**
  - Analog control input
  - Pulse train interface: 8Mpps
  - Improved response frequency (3.2kHz bandwidth)

- **Control modes**
  - Position control
  - Velocity control
  - Torque control

- **Networks & communication**
  - Real-time Ethernet
  - High-speed Ethernet
  - Easy communication connection

Applications

Thanks to the adaptive load control, the servo drives of the MINAS A6 series guarantee an extremely stable manufacturing process, which is especially important for robot applications and pick-and-place machines.

The MINAS A6 series is an improvement of the already highly successful predecessor, the MINAS A5 series. At the same time, compatibility with the A5 series has been maintained.

- The same interfaces, accessories, and flange as MINAS A5 in an even more compact housing
- Even smaller, high-resolution 23-bit encoder that can be used both as an absolute and as an incremental encoder
- Oil seal with triple lip (optional)

* under development
A new highlight of the tried-and-tested MINAS A6 series: Servo drivers with integrated safety functions according to EN 61800-5-2.

- Elimination of external safety switches
- No production stop for maintenance work
- No danger to staff during configuration and commissioning
- Safe reduction of speed
- Less space required thanks to a drastic reduction in safety clearances and buffer zones.

**MINAS A6SX**
Compact & safe

**MINAS A6V**
Low voltage, high performance

Panasonic adds more MINAS A6 servo drives: now also for 24V or 48V DC input voltage.

Battery-driven DC drives are very common in drive technology for applications where there is no AC or three-phase current network available.

### Safety functions for

- Speed monitoring: SS1, SLS, SSR, SSM
- Position monitoring: SS2, SOS, SLI, SDI, SLA, SAR, SLP, SCA
- Other control functions: STO, SBC, SLT, STR, SMT
- Plus 9 safe inputs/outputs

### Features

- Supply voltage: 24/48V DC
- Rated power: 200/400W
- Easy communication connection
- IP65 (motor)

### Applications

Especially in the area of drive technology for vehicles and the medical field there is a need for motors with battery voltages.