PG Drives Technology Inc.
United States
Tel: +1 714 712 7911
Fax: +1 714 978 9512

PG Drives Technology Ltd.
United Kingdom
Tel +44 (0)1425 271444
Fax +44 (0)1425 272655

PG Drives Technology Asia
Taipei
Tel : +886 2 2778 1900
Fax : +886 2 2778 1990

PG Drives Technology Asia (China)
Hangzhou
Tel: 416 139 5748 5653
Mob: +86 136 7586 0538

PG Drives Technology Asia (Hong Kong)
Hong Kong
Tel: +852 3972 2140
Fax: +852 3011 3063

www.pgdt.com

Compact Control for Walk-behind and Ride-on Cleaning Machines

PG DRIVES TECHNOLOGY
Driving Innovations for a Better Quality of Life
The i-Drive permanent magnet motor speed controller has been designed specifically for applications such as walk-behind floorcare machines and small materials handling devices. i-Drive provides a combination of features, protection, and cost-effectiveness unmatched by any other controller on the market today.

i-Drive is available with 45A, 70A, 140A and 180A power outputs for both 24V and 36V system voltages, and employs advanced control algorithms for smooth and precise speed control. In addition to the main motor output, the i-Drive features 3 auxiliary outputs with programmable operating modes and timers. These outputs can be used to drive solenoid brakes, brush and vacuum relays, warning alarms or similar devices.

The electronics of the i-Drive are sealed against water ingress to IPx5, and when the optional connector sealing system is fitted, the cable connections are protected to IPx4. Low impedance inputs and current limited output drivers provide full protection against electrical faults and wiring errors. These features allow the i-Drive to function safely and reliably in the harshest of environments.

The powerful on-board diagnostics log records the details of system problems for all electrical items connected to the i-Drive, allowing difficult, intermittent wiring problems to be solved rapidly. A run timer is also included, so that the total number of hours that the machine has been driven is recorded. Programming is achieved by PG DT hand-held devices or PC based programming software.

### Safe and reliable functionality in the harshest of environments

**PRODUCT CODES**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>i24-45</td>
<td>24V, 45A Max Output</td>
</tr>
<tr>
<td>i36-45</td>
<td>36V, 45A Max Output</td>
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<tr>
<td>i24-70</td>
<td>24V, 70A Max Output</td>
</tr>
<tr>
<td>i36-70</td>
<td>36V, 70A Max Output</td>
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<td>24V, 140A Max Output</td>
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<td>i36-180 UL</td>
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**ANCILLARY ITEMS**

- **Cover**: i45/i70 Water resistant sealing system
- **Cover**: i140/i180 Water resistant sealing system
- **iMolex® Control connector kit**
- **TruCharge Display**: BDI & diagnostic gauge, 38x24mm mounting aperture

**PROGRAMMING**

- **PG DT**: Basic dealer/service level hand-held programming device
- **i-Drive PCD**: Advanced dealer/service level hand-held programming device
- **CD-ROM and cable for OEM engineering PC programming**

**SPECIFICATIONS**

- **Supply Voltage**: 24Vdc 36Vdc
- **Operating Voltage**: 16-30Vdc 16-45Vdc
- **Peak Voltage**: 36Vdc 49Vdc
- **Reverse Battery Voltage**: 40Vdc 60Vdc
- **Output Current**: 45A / 70A / 140A / 180A
- **PWM Frequency**: 20kHz ± 1%
- **Aux 1 Output**: Programmable mode, 1.25A
- **Aux 2 Output**: Programmable mode, 0.3A i45/i70, 1A i140/i180
- **Aux 3 Output**: Programmable mode, 0.3A i45/i70, 1A i140/i180
- **Status Output**: Programmable 12V, 50mA sink or source
- **Inhibit Input**: Programmable mode
- **Power Connections**: i45/i70 6.35mm (0.25”) Faston Spade
- **Power Connections**: i140/i180 M6 screw terminals
- **Aux 1 Output Connections**: 2-way Molex® Mini-Fit, Jr™
- **Control Connector**: 14-way Molex® Mini-Fit, Jr™
- **Moisture Resistance**: Electronics to IPx5
- **Connections to IPx4 with terminal cover fitted**
- **Operating Temperature**: -25°C to +50°C
- **Storage Temperature**: -40°C to +65°C
- **Safety**: Multiple hardware & software strategy
- **EMC on sample machine**
- **Susceptibility**: Tested at 30V/m
- **Emissions**: To EN12895:2000
- **ESD**: IEC 61000-4-2

For further details, refer to i-Drive Technical Manual SK10977

**DIMENSIONS**

<table>
<thead>
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<td>40mm</td>
</tr>
<tr>
<td>LT5401320</td>
<td>170mm</td>
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<td>TruCharge Display</td>
<td>35mm</td>
<td>2.1&quot;</td>
<td>1.9&quot;</td>
</tr>
</tbody>
</table>

**TRUCHARGE DISPLAY**

The optional TruCharge display module provides accurate battery status indication and displays useful diagnostic information when a problem occurs anywhere on the electrical system.