

- 24V or 36V variants
- 45A – 200A power ratings
- Advanced drive algorithm
- Three programmable auxiliary outputs
- Belly-Button functionality
- Battery lockout features
- Hours run timer
- Powerful on-board diagnostics
- System error log
- Electronics sealed to IPx5
- Compact, small footprint
- Self-protecting outputs
- UL recognized component



The i-Drive permanent magnet motor speed controller has been designed specifically for applications such as walk-behind floorcare machines and small materials handling vehicles. 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, 180A and 200A 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 three 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 via PG Drives Technology's hand-held devices or PC based programming software. In addition, all of the models in the i-Drive range are compatible with both the TruCharge and iGauge displays from PGDT.

i-Drive is designed to the requirements of EN60335-2-72 and all models are UL recognized.

## SPECIFICATIONS

### ELECTRICAL

|                         |  |                    |                         |
|-------------------------|--|--------------------|-------------------------|
| 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 / 200A         |                    |                         |
| PWM FREQUENCY           | 20kHz $\pm$ 1%                         |                    |                         |
| AUX 1 OUTPUT            | 1.25A                                  |                    |                         |
| AUX 2 & 3 OUTPUT        | 0.8A (i24-45 / 70)                     | 0.4A (i36-45 / 70) | 1A (i140 / i180 / i200) |
| STATUS OUTPUT           | Programmable, 12V 50mA, sink or source |                    |                         |
| INHIBIT INPUT           | Programmable mode                      |                    |                         |

### MECHANICAL

|                   |                             |                                   |
|-------------------|-----------------------------|-----------------------------------|
| POWER CONNECTIONS | 6.35mm Faston (i45 / i70)   | M6 (i140 / i180 / i200)           |
| AUX 1 OUTPUT      | 2-way Molex® Mini-Fit, Jr.  |                                   |
| CONTROL CONNECTOR | 14-way Molex® Mini-Fit, Jr. |                                   |
| LENGTH            | 132mm / 5.2" (i45 / i70)    | 170mm / 6.8" (i140 / i180 / i200) |
| WIDTH             | 74mm / 2.9" (i45 / i70)     | 122mm / 4.8" (i140 / i180 / i200) |
| HEIGHT            | 40mm / 1.6" (i45 / i70)     | 48mm / 1.9" (i140 / i180 / i200)  |

### ENVIRONMENTAL

|                       |   |
|-----------------------|---|
| MOISTURE RESISTANCE   | Electronics to IPx5, Connections to IPx4 with optional terminal cover |
| OPERATING TEMPERATURE | -25°C to 50°C   |
| STORAGE TEMPERATURE   | -40°C to 65°C   |
| EMC                   | Tested to EN12985   |
| ESD                   | IEC 61000-4-2   |

## PRODUCT CODES

### CONTROLLERS

|            |                |                                  |                 |
|------------|----------------|----------------------------------|-----------------|
| iXX-YYY ZZ | X = 24V or 36V | Y = 45A, 70A, 140A, 180A or 200A | Z = Blank or UL |
|------------|----------------|----------------------------------|-----------------|

### DISPLAYS

|           |                          |
|-----------|--------------------------|
| iGAUGE    | 52mm diameter, LCD gauge |
| TRUCHARGE | 10 segment, LED gauge    |

### PROGRAMMERS

|             |   |
|-------------|---|
| DTT         | Diagnostic Test Tool, hand-held programmer  |
| i-DRIVE PCP | PC Programmer, OEM and manufacturing access |

### ANCILLARY

|                         |                                |
|-------------------------|--------------------------------|
| iCOVER – I45/I70        | Water resistant sealing system |
| iCOVER – I140/I180/I200 | Water resistant sealing system |