

PG Drives Technology

Advanced PM Motor Controller

i-Drive

- 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
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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