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



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and Ride-on
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SK79008/04/11



- 24V or 36V system voltages
- 45A, 70A, 140A and 180A power ratings
- Advanced drive algorithm
- 3 programmable auxiliary outputs
- Belly-button function
- Battery lockout function
- Hours run timer function
- Powerful on-board diagnostics
- System log
- Environmentally sealed
- Low impedance inputs
- Self-protecting outputs

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 PGDT hand-held devices or PC based programming software.

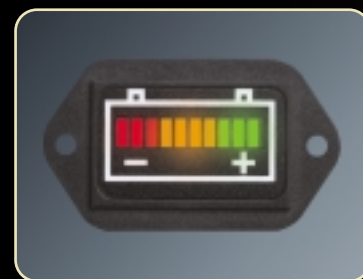


Safe and reliable functionality in the harshest of environments



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.



PRODUCT CODES

| | | | | | |
|---------|-----------|------------|------------|-----------|------------|
| i24-45 | 24V, 45A | Max Output | i24-180 | 24V, 180A | Max Output |
| i36-45 | 36V, 45A | Max Output | i36-180 | 36V, 180A | Max Output |
| i24-70 | 24V, 70A | Max Output | i24-140 UL | 24V, 140A | Max Output |
| i36-70 | 36V, 70A | Max Output | i36-140 UL | 36V, 140A | Max Output |
| i24-140 | 24V, 140A | Max Output | i24-180 UL | 24V, 180A | Max Output |
| i36-140 | 36V, 140A | Max Output | i36-180 UL | 36V, 180A | Max Output |

ANCILLARY ITEMS

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

PROGRAMMING

| | |
|-------------|--|
| SP1A | Basic dealer/service level hand-held programming device |
| DTT | Advanced dealer/service level hand-held programming device |
| i-Drive PCP | 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, i45/i70: 0.3A i140/i180: 1A | |
| Aux 3 Output: | Programmable mode, i45/i70: 0.3A i140/i180: 1A | |
| 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 Designed to EN60335/2/67 | |
| 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 SK76977

DIMENSIONS

| | i45/i70 | | i140/i180 | |
|--------------------------|---------|------|-----------|------------|
| Length | 132mm | 5.2" | Length | 170mm 6.8" |
| Width | 74mm | 2.9" | Width | 122mm 4.8" |
| Height | 40mm | 1.6" | Height | 48mm 1.9" |
| TruCharge Display | | | | |
| Length | 53mm | 2.1" | | |
| Width | 31mm | 1.2" | | |