



New IDS1000

Intelligent Digital Servo

Introducing the smart power choice for embedded OEM multi-axis motion and machine control.

Benefit from the latest advancements in drive resident microprocessor technology.

All IDS amplifiers are covered by our two-year "no hassle" warranty.

New, Unique & Reliable

The new Intelligent Digital Servo (IDS) series of torque mode amplifiers eliminates inventoried product variations by using a single drive component electronically configured for each unique application on an "as needed" basis.

The IDS series incorporates the latest advancements in drive resident microprocessor technology. This unique series maximizes brushless DC servo performance by offering digital current loop tuning, serial diagnostics, user-configured drive fault responses, and a status histogram.

Once configured and installed, the IDS drive provides valuable operational information. Service technicians benefit from expanded diagnostics and a significant reduction in field troubleshooting time and guess work. The more precise diagnostics can pinpoint field problems immediately and more accurately, cutting service calls from hours to minutes.

Engineers can use the IDS status histogram to evaluate key field application parameters such as AC line quality, loading levels and operating temperatures.

IDS drives are highly integrated, compact devices, EMC hardened with multiple layer double-sided surface mount PCB construction.

Powerful IDS Standard Features Include:

- **Universal AC or DC power input (48 to 264 VAC, single phase or 50 to 400 VDC)**
 - **Serial drive status diagnostics, user-configurable status output, and status histogram**
 - **Safety compliance 3000 VAC SELV, meets EN60950, UL1950 and CSA22.2.14 standards**
 - **EMC-hardened, high-reliability, minimal-component design. Multi-layer PCB and SMT**
 - **RS232/485 serial communications**
 - **Seven-segment status display**
 - **High capacity internal shunt**
 - **Windows™ 95/98/NT compatible set-up utility**
- And much more...**

IDS1000

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The New IDS Series is Unmatched in its Intelligent Features:

- Digitally tunable, torque mode operation eliminates all POT adjustments and the need for older style personality modules.
- Serial diagnostics and user-configurable drive response minimize field trouble-shooting and support.
- Configurable feedback, encoder or optional resolver, each with a unique "pass through" feature, provide easy connections to all popular motion controllers.
- Rugged IGBT output bridge with complete short circuit protection. Operates from universal line voltages worldwide: 48 to 264 VAC, 50/60Hz, or 50 to 400 VDC.
- Dual current control, either +/- 10 VDC analog or PWM + direction.
- Exclusive "Auto-Null" software feature that guarantees precise phase-to-phase current balancing, minimizes torque ripple.

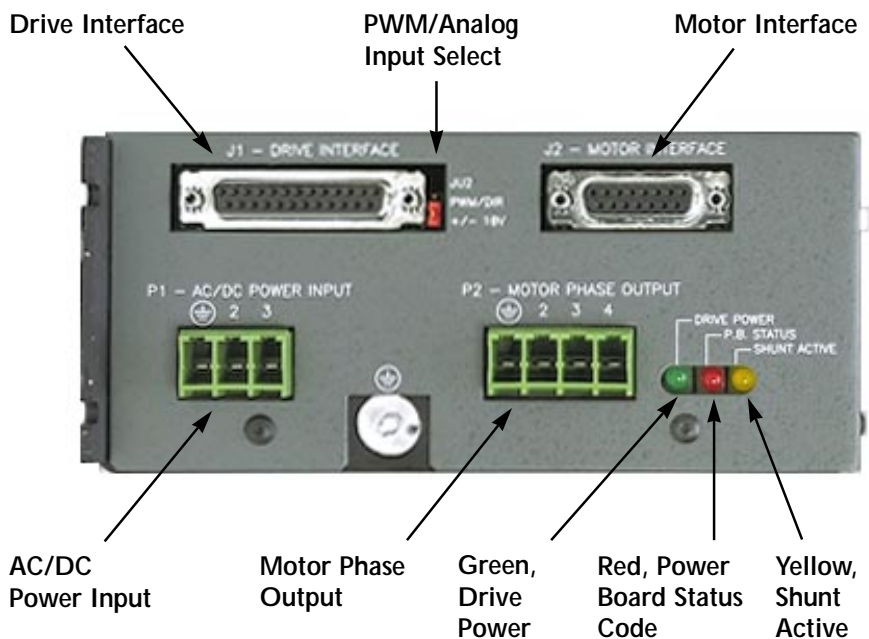
High Capacity Internal Shunt

- Thermal fuse protection
- Up to 110 watts continuous, 2000 watts peak
- External option for higher wattages

Large Seven-Segment LED

For user-defined, programmed application-specific status and fault diagnostic information

RS232/485 Serial Communications



Pinouts

Drive Interface—J1

Pin Description

- 1 +5 VDC, 250 mA, Output
- 2 Common, Return
- 3 +15 VDC, 25 mA, Output
- 4 -15 VDC, 25 mA, Output
- 5 Enable!/Reset Input
- 6 Run Command, Input
- 7 Dynamic Brake, Input
- 8 +Limit, Input
- 9 -Limit, Input
- 10 Common, Return
- 11 +Diff. Cur., or PWM Input
- 12 -Diff. Cur., or Direction Input
- 13 Analog Common, Return
- 14 Encoder A, Output
- 15 Encoder !A, Output
- 16 Encoder B, Output
- 17 Encoder !B, Output
- 18 Encoder Z, Output
- 19 Encoder !Z, Output
- 20 Common, Return
- 21 Comm. Tach., Output
- 22 Motor Overtemp., Output
- 23 !Fault, Output
- 24 Current, Analog Output
- 25 N.C. -Factory Selected

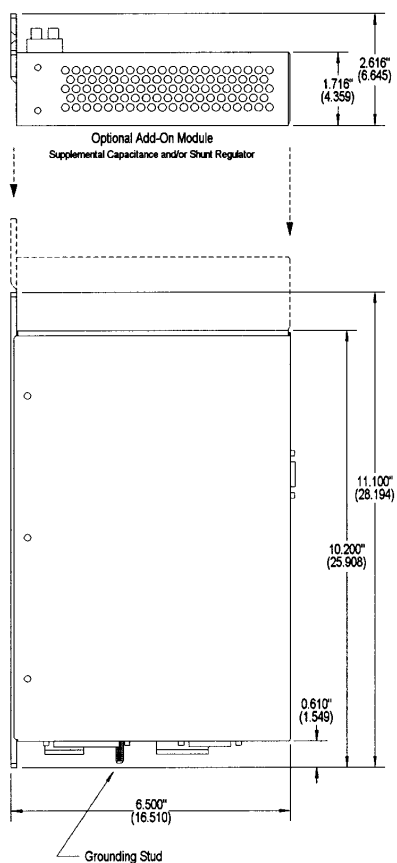
Motor Interface—J2 (Resolver - Optional)

- 1 Common, Return
- 2 S1 Sine, Input
- 3 Common, Return
- 4 S4 Cosine, Input
- 5 Common, Return
- 6 R3 Rotor, Output
- 7 Motor Temp./PTC Input
- 8 Common, Return
- 9 S3 Sine, Input
- 10 Common, Return
- 11 S2 Cosine, Input
- 12 Common, Return
- 13 R1 Rotor, Output
- 14 Frame Selected
- 15 Motor Temp./PTC Input

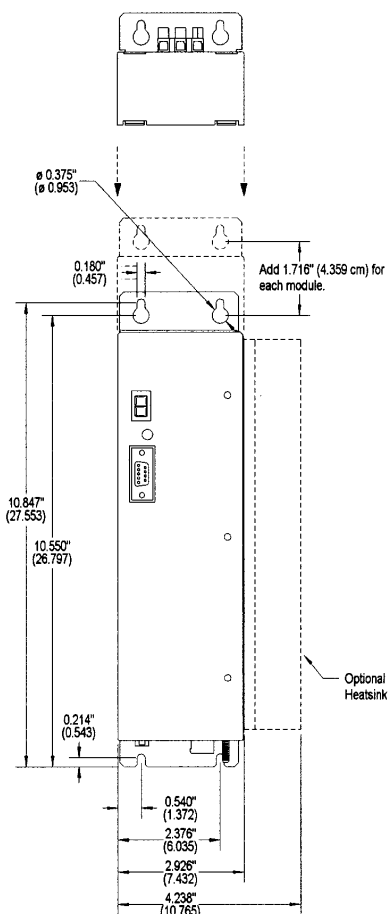
Motor Interface—J2 (Hall/Encoder - Standard)

- 1 Commutation S1, Input
- 2 Commutation S2, Input

Dimensions (in/mm)



Side View



Front View

- 3 Commutation S3, Input
- 4 +5 VDC, 250 mA, Output
- 5 Common, Return
- 6 Encoder A, Input
- 7 Encoder !A, Input
- 8 Common, Return
- 9 Encoder B, Input
- 10 Encoder !B, Input
- 11 Frame Selected
- 12 Encoder Z, Input
- 13 Encoder !Z, Input
- 14 Motor Temp./PTC Input
- 15 Motor Temp./PTC Input

Communications Port—J3

- 1 N.C.
- 2 RS485 TX-, RS232 TXD, Output
- 3 RS485 RX-, RS232 RXD, Input
- 4 N.C.

- 5 Common
- 6 +5 VDC, Optional
- 7 RS485 RX+, Input
- 8 RS485 TX+, Output
- 9 RS485/!232 Select, Input

AC/DC Power—P1

- 1 Frame Ground
- 2 AC "NEU" or DC Input
- 3 AC "HOT" or DC Input

Motor Phase—P2

- 1 Frame Ground
- 2 Phase 1 Output
- 3 Phase 2 Output
- 4 Phase 3 Output

Note: specifications subject to change without notice.



Windows 95/98/NT® — IDS Tuning and Configuration Utility

Options

Selectable commutation angle, pole count, current limit, current loop tuning, and serial communication parameters.

Response

Individual non-fatal fault enables, selectable reset modes, selectable coast or dynamic brake fault response, adjustable over speed threshold, locked rotor detection and automatic restart counter.

Status

Twenty-four individually annunciated status conditions, including short circuit, logic supplies, motor overspeed, shunt overstress, locked rotor and drive overtemp.

Terminal

Integrated IDS terminal window provides a simple method for IDS command level driver development and runtime communications monitoring.

Histogram

Provides fast and easy evaluation

of historically logged field service conditions and IDS status events.

Power Specifications

<i>Model</i>		10	20	30
Input Power	VAC	48 to 264, Single phase		
	Hz	50 to 60, or DC		
Motor Supply	VDC	50 to 400, 310 Nominal @ 220 VAC Input		
Output Power Peak	KW	2.2	4.3	6.5
Phase Cur. Peak ¹	A	10	20	30
Phase Cur. Cont. ¹	A	7	14	21
Shunt Power Peak	Watt	600 or 1200 for 10 Sec.		
Shunt Power Cont.	Watt	None, 55 or 110 - Optional		
Overtemp Trip	degC	70 on cold plate surface		
Bridge PWM	KHz	18		
C. Loop Bandwidth	Hz	Digitally Tunable, 2 KHz typ.		
Load Inductance	mH	0.25 to 50		
Motor Feedback & Interface Power	VDC	+5, +/-15 - 3% regulated		
	mA	250, 25, 25		
Drive Protection		See IDS Tuning and Configuration above		

¹ Peak limited values. All current values are measured at the peak of a six-step waveform. For estimated RMS values, multiply by 0.707.

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If you need more information, including custom user options available, please contact:
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