

MOOG

IDBS/IDBM Intelligent Digital Brushless Single/Modular Servo Motion Controllers



DESCRIPTION

Complex motion control tasks characterize today's processing machines.

IDBS and IDBM combine high performance motion control with integrated machine control and industry-standard connectivity.

IDBS and IDBM are fully digital servodrives for servomotors from 0.5 to 710 Nm nominal torque. They work directly from the 400 V_{AC} (Europe) or 460 V_{AC} (USA) lines.

The single axis IDBS is mainly employed in very high performance applications. On the other hand, the modular IDBM supports up to three axes with one control module, saving space and installation costs.

The integrated open machine control system (PC-compatible i386EX system) with real time multitasking can be programmed or modified by the customer. In many cases no additional PLC is required. IDBS and IDBM can be networked to external periphery or to a host controller using the CAN bus.

Turn-key motion control systems are available for plastic injection molding machines.

OPTIMIZED AND MODULAR SYSTEMS

The optimized design of IDBS offers a very flexible drive unit for single axis applications (built-in power supply, softstart circuit and fans with internal power supply).

The modular design of IDBM offers a very compact and flexible drive unit for multi-axes applications (3 axes in one module, built-in softstart circuit and line filter). The IDBM set consists of one IDBM-PS (Power Supply) and a number of IDBM modules. Both IDBM and IDBS units offer a cost-effective modern drive for specific application needs.

DIGITAL CLOSED LOOP CONTROL

IDBS and IDBM standard features perform digital closed loop control of velocity and position. Both IDBM and IDBS utilize a Processor (i386EX) that handles the position control and has immediate access to all control parameters. Furthermore, its 32-bit calculation capability can be used to realize various kinds of electrical gears or multi-axis interpolations.

Therefore, as far as the 3-axis modular IDBM drive is concerned, any external communication delay is avoided.

OUTSTANDING DYNAMICS AND ACCURACY

All digital control assures the accuracy and the digital repeatability of the operation. There is no analog signal distortion and no analog drift. All digital control also means response time of less than 1 millisecond. Programmable filter can be adapted to satisfy the application needs, allowing higher gains, higher speeds and faster position capability. In addition, online parameter change makes up for variable inertia and allows to speed up the movement.

INDUSTRY-STANDARD CONNECTIVITY VIA CAN BUS

The built-in CAN interface guarantees high-speed real-time communication at up to 1 Mbaud within an industrial grade network environment. This link may be used to access all drive parameters including a number of signals previously transmitted by discrete wires.

INTEGRATED OPEN MACHINE CONTROL SYSTEM

IDBS and IDBM consist of a PC-compatible hard-and software environment based on the Intel i386EX processor. Position control, communication and a number of support functions such as real-time data logging may be customized using a standard C programming environment. The entire software is stored in a FLASH memory and any change can be easily downloaded to the IDBS and IDBM drives via a RS232/485 serial link.

STAND-ALONE OPERATION CAPABILITY

IDBS and IDBM drives can operate as self-contained control systems by accessing remote I/O-modules via the CAN bus and executing multiple PLC and control tasks internally.

They may also act as master controllers for additional IDBS or IDBM drives connected to the CAN bus.

WIDE POWER RANGE

10 current ratings and an input voltage between 360 and 506 V_{AC} cover a wide power range. Matching motors with nominal torque from 0.5 to 710 Nm at speeds up to 6000 rpm. are available (check our FASTACT T, N, W SERIES Motors catalogs).

EMC

IDBS and IDBM meet the EMC product standard EN 61800-3 for industrial environment according to the Directive 89/336/EC. Product conformity is subjected to filters installation and recommended procedures as from the Installation Manual and the "Electromagnetic Compatibility" booklet (available on request).

CURRENT RATINGS AND DIMENSIONS

Please refer to our DBS-PDBS and DBM 04 catalogs for information on current ratings and dimensions. Catalogs are also available on www.moog.com.

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