



STANDARD FEATURES

- Compact 1/8 or 1/4 DIN sturdy aluminum housing for panel mounting; or NEMA 4/12 enclosure
- Microprocessor based
- Field Programmable operating parameters
- Displays actual or desired speed directly in RPM, FPM, process time, or other engineering units
- P-I-D digital closed loop control; gains setable for optimum system performance; Fast settling time
- Accuracy $\pm 1/2$ RPM of set speed
- Master/Follower operation
- Variety of pick-up inputs; Hall-Effect, Photoelectric, or any TTL; control accepts up to 1.2 million pulses/min. max
- Non-volatile memory retains speed setting and all field programmable parameters
- Internal A/D interface permits using potentiometer, 4 to 20mA or 0 to +5 VDC signal in lieu of digital pick-up signal or to control target speed, current program or frequency generator output
- Inhibit circuit permits start and stop without breaking AC lines; pre-selecting speed, or simultaneous start-up of multiple control units
- Up/down pushbuttons for set points - slow-fast sweep; front panel lockout prevents accidental setting changes
- Self-contained power supply for transducer (+5V, 25mA)
- Transient voltage protection
- Exclusive user assignable outputs - to drive relays, alarms, etc. Can be activated by any combination of conditions; upper speed limit exceeded, etc.
- Independent frequency generator allows units to produce own leader frequency.
- European style terminal strip
- G.E. Lexan™ membrane seals faceplate from environment
- Multi-mode of operation allows multiple constants, settings, and upper/lower limits. Up to six different configurations can be selected from the front panel via the up/down pushbutton switches

PROGRAMMING FEATURES

- All programming from front panel "Menu Driven"
- User selectable "programming protect" prevents unauthorized access
- LED function indicators
- Programmable parameters include:
 - Lower/upper limits for speed setting
 - Accel/decel 0 to 30 seconds for 0-1000 RPM change
 - Pick-up pulses per revolution
 - P-I-D gain settings
 - Constants to allow display in desired user engineering units - rate or time
 - Decimal point or colon
 - "Stall detector" time-out for annunciation and shutdown
 - Multiple programs permit up to six different desired set-ups to be programmed
 - Selectable display blanking point
 - Operation mode (master rate, master time, standard follower, Network Follower)
 - Unit address for multiple control networking
 - Selectable serial communication rate
 - Front panel lockout for speed setting and/or program changes
 - Numerous other features

MDII Series Programmable Digital Closed Loop DC Speed Control with P-I-D and RS Communication

The MDII Series digital motor speed controls, employing an advanced 16-bit microprocessor, are designed for digital closed loop operation of up to 2 horsepower DC permanent magnet motors. This control features a true P-I-D algorithm, for extremely responsive and precise control over a wide variety of desired speeds and applications. The MDII Series is designed as a companion or direct replacement control to the MD Series, while offering expanded performance features.

Set or actual speed is displayed directly in RPM, FPM, PROCESS TIME, or other engineering units. Field programming permits customizing specific operating parameters.

The integrated RS485/RS422/RS232 serial interface port is perfect for monitoring or control using almost any computer or process controller. Units can even be attached in a Local Area Network, and can then be controlled and programmed either individually or all at once. Multiple programs allow the user to choose between a "menu" of up to six programmed configurations.

The MDII series is the ultimate answer for precise, responsive, cost-effective and flexible closed loop motor speed control.

COMMUNICATION FEATURES

- RS485; RS422; RS232 serial interface port for remote monitoring/control/programming allows the following:
 - Continuous output of actual shaft speed
 - Remote speed setting
 - Programming or listing of all field programmable parameters
 - Dartnet network allows multiple controls to be attached via one cable. Controls can be individually programmed or integrated.
 - Programmable communication baud rate - 300 to 9600 baud
- Network Follower mode allows widely remote controls to be followed together over single RS485 twisted pair wire or over existing network

MDII SERIES SELECTION GUIDE

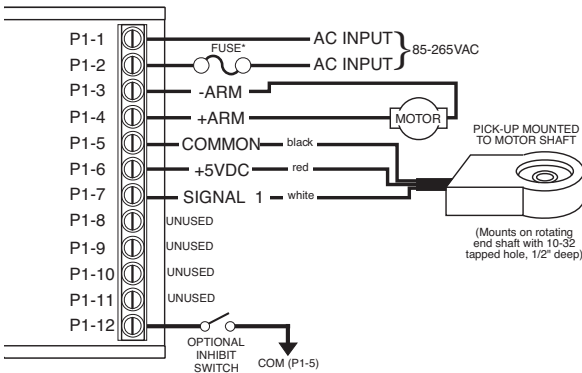
MODEL NUMBER	MAX. ARM DC AMPS	MAX H.P.	INPUT	OUTPUT
MD20P	5	1/2	120 VAC	0-90 VDC
	5	1	240 VAC	0-180 VDC
MD30P	10	1	120 VAC	0-90 VDC
	10	2	240 VAC	0-180 VDC
MD30E	10	1	120 VAC	0-90 VDC
	10	2	240 VAC	0-180 VDC

- All models accept 85-265 VAC Single Phase Input.
- Peak motor output voltage is equal to peak AC input voltage.
- Requires Dart PU-E or other suitable pick-up.
 - Sensor must have minimum output current of 10 mA.
 - Drive includes supply for external sensor of 5VDC @25 mA max.
 - Shipped set for 0-2400 RPM with one pulse per revolution.

OPTION DESCRIPTION

OPTION	SUFFIX
Auto-Off-Manual control for 4-20mA or 0-5 VDC analog signal input (MD30E only).....	-7
Magnetic pick-up input board	-3
Blank Lexan (MD20P, MD30P).....	-9
Pluggable terminal strip	-P

WIRING DIAGRAM - MASTER



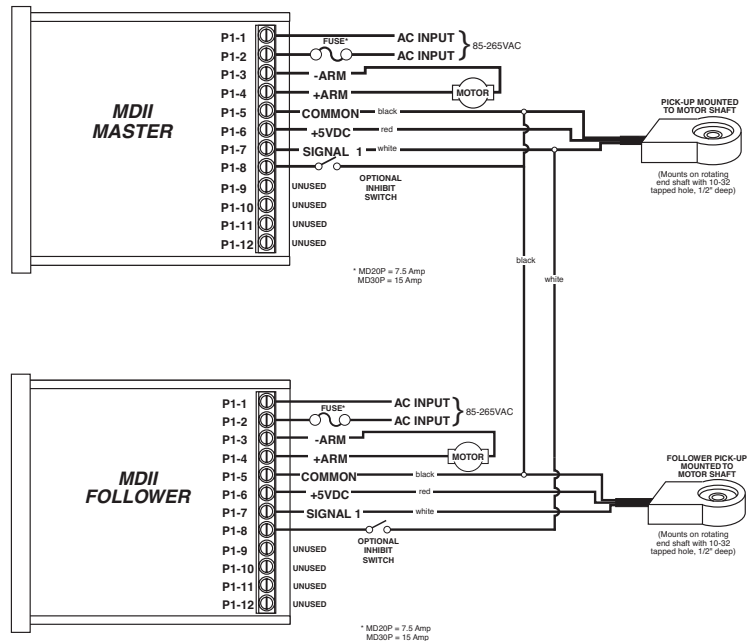
MOUNTING SPECIFICATIONS - MD30E



OPERATING SPECIFICATIONS

Temperature	-10° to +45° C.
AC Input Voltage	85-265 VAC
Input Frequency	50/60 Hz.
Overload Capacity	200% for 1 minute
Transducer Signal Input	0-5 to 0-25 VDC square wave

WIRING DIAGRAM—MASTER/FOLLOWER



* MD30E uses a 15 Amp fuse and internally mounted on-off switch. No external fusing or switch needed.

DIMENSIONAL SPECIFICATIONS

MODEL	WIDTH	HEIGHT	DEPTH
<i>MD20P inches (millimeters)</i>			
Housing	3.620 (91.95)	1.656 (42.06)	4.625 (117.47)
Lens	4.539 (115.29)	2.289 (58.13)	0.375 (9.52)
<i>MD30P inches (millimeters)</i>			
Housing	3.620 (91.95)	3.497 (88.82)	4.625 (117.47)
Lens	4.539 (115.29)	4.179 (106.15)	0.375 (9.52)

MOUNTING SPECIFICATIONS - MD20P / MD30P

