



MD Plus Series Digital Closed Loop DC Drive

**IDEAL FOR METERING PUMP AND OTHER APPLICATIONS
REQUIRING AN ISOLATED 4-20mA INPUT/OUTPUT SIGNAL**

The MD *plus* is a field-programmable closed loop DC drive system employing an advanced velocity-form PID algorithm for accurate and responsive control. The MD *plus* system also features an **optional isolated 4-20mA input and output** for easy integration with existing Process Control systems.

The MD *plus* system is ideally suited for metering pump applications by efficiently combining all of the application requirements into a single compact package. **The MD *plus* system, when used with the OPT420 option, not only accepts a 4-20mA signal to control the pump speed, but it also provides a 4-20mA output signal back to the Process Control that is proportional to the actual running speed. Both the input and output signals are isolated from each other and from the control itself. The MD *plus* system also has two field-programmable Form C relay contacts that can be set to indicate a wide variety of conditions such as the pump is running, a “fault” condition exists, and many other events.**

The MD *plus* system is available in both enclosed and panel-mount versions. The MD50E version comes in a NEMA 4X enclosure complete with an auto/off/manual switch on the cover. The 1/8 DIN MD40P and 1/4 DIN MD50P panel-mount versions come complete with a NEMA 4X rated faceplate, gasket kit, stainless steel mounting hardware, and connections for an external auto/manual switch.

STANDARD FEATURES

- 1/50 to 2.0 HP range
- Universal power supply supports 85-265 VAC input
- 1/8 or 1/4 DIN panel mount with NEMA 4X faceplate, or NEMA 4 stand-alone enclosure
- Front panel field-programming (with lock-out jumper)
- Target and actual speed can be any engineering unit of measure
- Two alarm relay outputs
- Large 1/2" LED display
- Master/Follower modes
- Displays set point or actual running speed
- Adjustable PID settings

AVAILABLE OPTIONS

- Custom faceplates for your Brand Name
- Pluggable euro-style terminal strip
- Provision for Remote Up/Down pushbutton switches

OPERATING SPECIFICATIONS

Ambient Temp.....	-10° to +45° C
Line Input Frequency	50/60 Hz
Overload Capacity	200% for 1 minute
Transducer Input.....	0-5 to 0-24 VDC
On-board transducer	
Power Supply.....	5 VDC, 50mA
4-20mA input/output accuracy.....	±1%

MD plus SERIES SELECTION GUIDE

MODEL NUMBER	MAX. ARM DC AMPS	MAX H.P.	INPUT	OUTPUT
MD40P	5	1/2	120 VAC	0-90 VDC
	5	1.0	240 VAC	0-180 VDC
MD50P	10	1.0	120 VAC	0-90 VDC
	10	2.0	240 VAC	0-180 VDC
MD50E	10	1.0	120 VAC	0-90 VDC
	10	2.0	240 VAC	0-180VDC

DIMENSIONS (INCHES)

MODEL	WIDTH	HEIGHT	DEPTH
<i>MD40P (1/8 DIN)</i>			
Housing	3.620	1.656	4.625
Lens	4.539	2.289	0.375
<i>MD50P (1/4 DIN)</i>			
Housing	3.620	3.497	4.625
Lens	4.539	4.179	0.375
<i>MD50E (NEMA 4 enclosed)</i>			
Housing	3.620	3.497	4.625
Lens	4.539	4.179	0.375

APPLICATIONS

The MD plus system is ideal in many process applications requiring a closed-loop DC variable speed drive with an optional isolated 4-20mA input and output.

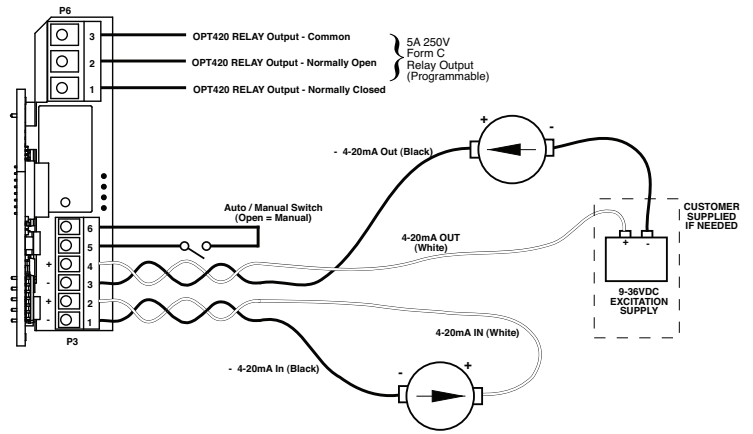
Typical applications include:

- Waste water treatment
- Chemical metering processes
- Laboratory mixing equipment
- Industrial auger/mixing equipment
- Polymer injection processes

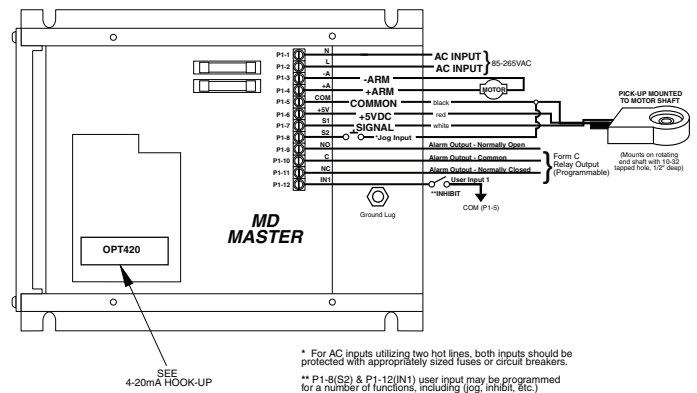
OPT420 OPTION

The OPT420 Option may be factory or field installed to any drive in the MD Plus Series. The 4-20mA output is Loop Powered, relying on another device in the loop for its power. Both the 4-20mA input and output are individually isolated. A second relay output is available when this option is used to indicate alarm and status information.

OPT420 OPTION WIRING DIAGRAM



MD50E DRIVE TYPICAL WIRING DIAGRAM



WIRING DIAGRAM – MASTER/FOLLOWER

