

M300DP

Expansion I/O Control

for M150B Series Control Panels

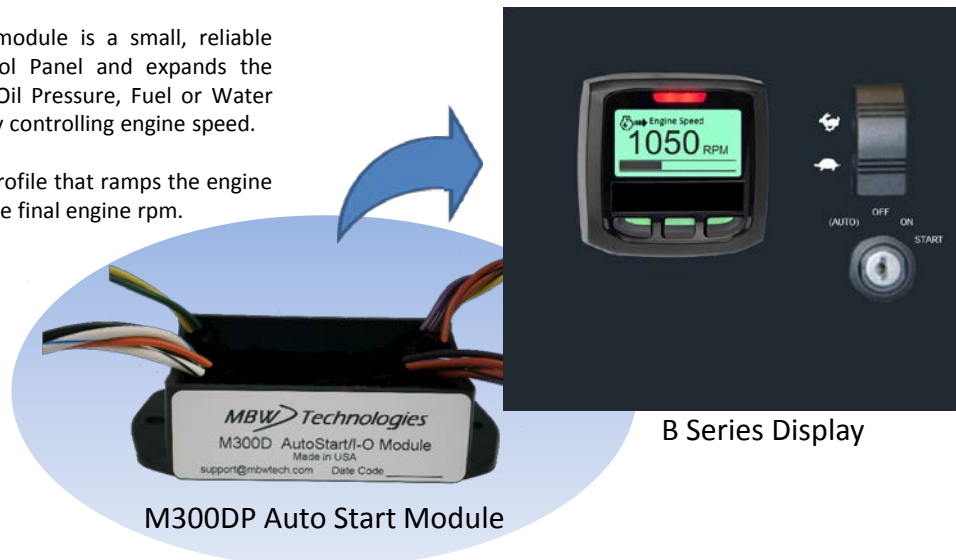
DESCRIPTION

The M300DP Dual Programmable I/O control module is a small, reliable module located inside the M150 Series Control Panel and expands the capabilities with 2 additional analog inputs for Oil Pressure, Fuel or Water Level and 2 additional discrete inputs for remotely controlling engine speed.

The Auto Start mode provides a robust throttle profile that ramps the engine through 2 intermediate speeds before reaching the final engine rpm.

The intuitive operator display is used to configure M300DP module for Auto Start (A/S), I/O Mode (I/O) or OFF.

The 2 analog inputs are available in all three modes. The two discrete inputs are only available when the MP300DP is configured for Auto Start (A/S) or I/O Mode (I/O)



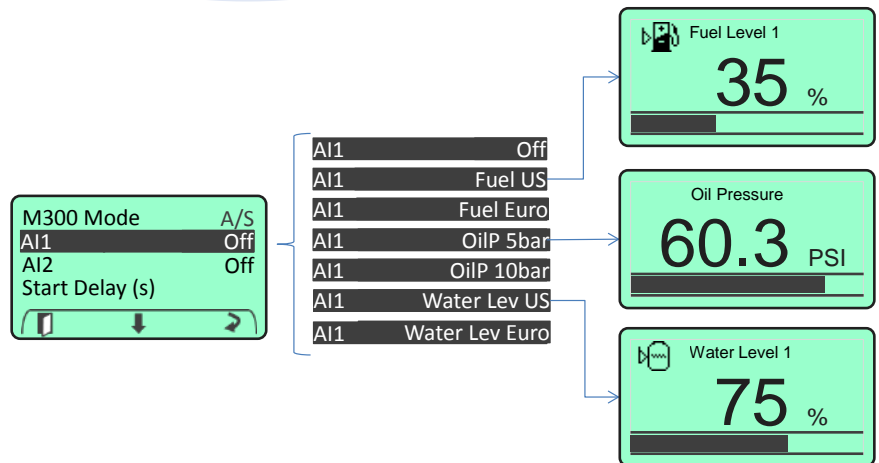
M300DP Auto Start Module

B Series Display

Analog Inputs

Two user configurable analog inputs can be set to 0-5 and 0-10 BAR VDO senders for oil pressure and US 240-33 and Euro 10-180 ohm senders can be selected for fuel level and water level inputs.

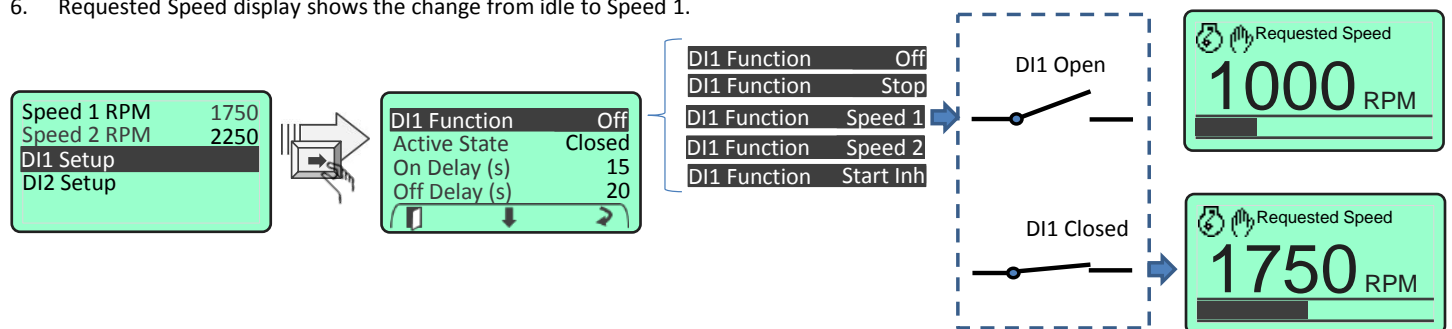
1. Use the **↓** softkey to move the cursor to AI1
2. Press the **↶** to increment through the 7 sender configurations.
3. Press the Exit Door to save settings and return to the Engine Display screen.
4. Press the **↶** to switch between Engine Displays.



Speed Control

Two user configurable discrete inputs can be setup for remote speed control.

1. Set the M300 Mode to I/O
2. Use the **↓** softkey to move the cursor to Speed 1 and Speed 2. Press **➡** to edit the speed. Use the + and - softkeys to change the value.
3. Use the **↓** softkey to move the cursor to DI1 Setup and DI2 Setup. Press the **↶** to set mode: Off, Stop, Speed 1, Speed 2 or Start Inhibit.
4. Use the **↓** softkey to move the cursor to set the Active State for DI1 and DI2. Press the **↶** to set to either open or closed.
5. Activate the discrete input. For example close DI1 set for Speed 1.
6. Requested Speed display shows the change from idle to Speed 1.



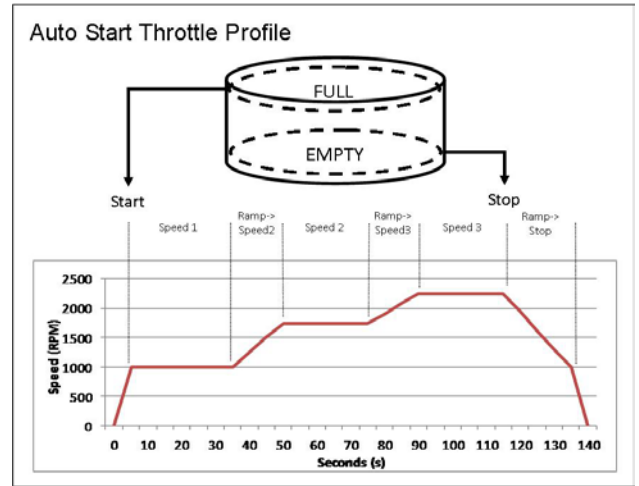
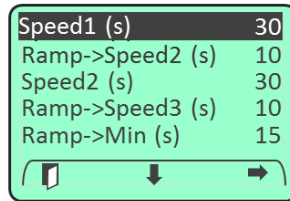
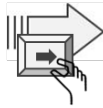
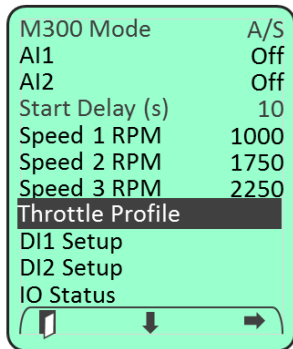
Auto Start Feature

The Auto Start features provides unattended control of the engine via two discrete inputs. Use the display to setup this feature:

1. Use the **↓** softkey to move the cursor to M300 Mode and press the **↵** to change the mode to A/S
2. Use the **↓** softkey to move the cursor to Start Delay, Speed 1, 2 and 3. Press **➡** to edit the numeric values using the + and – softkeys.
3. Use the **↓** softkey to move the cursor to the Throttle Profile and press **➡** to edit the throttle profile values.
4. Use the **↓** softkey to move the cursor to DI1 Setup and DI2 Setup. See the Speed Control section for setting up DI1 and DI2.
5. Press the Exit Door to save settings and return to the Engine Display screen.

Typical Application

DI1 is configured for Start/Stop. A float on DI1 closes when the tank is full to activates a Start sequence. After a 10 second warning, the engine will be commanded to start activating the Auto Start throttle profile. Based configuration the start profile ramps the engine from Speed 1, then Speed 2 and finally Speed 3. When the tank is empty, the float on DI1 opens and the Engine is ramped down to idle before turning off.



CONNECTOR

A water tight 21-pin connector is used for plug-in installation.

Signal	PIN Number	Engine Harness Connector – P2	Contact Size	Wire Color
B+	B	Battery + (10A)	12	Red
Start	D	Starter (30)	12	Red/Black
Ground	E	Ground	12	Black
Ignition Out	G	ECU Power (Ignition)	12	Violet
Key On	J	Accessory (15)	16	Violet
Charge In	R	Charge Lamp	16	Dark Green
CAN Lo	U	CAN Low (twisted pair)	16	Light Green
CAN Hi	V	CAN High (twisted pair)	16	Yellow
Oil Press	P	A/S - Oil Press Sender	16	Orange
Fuel	N	A/S - Fuel Sender	16	Green/Black
Float1	X	A/S - Float Switch 1	16	White
Float2	W	A/S - Float Switch 2	16	White/Black
Common	C	A/S – Common	16	Black
Alarm	T	A/S – Alarm (Switch Closure to ground LO-2 Amp Max)	16	White/Blue
No Connection	A, F,H,K,L,M, S,T			

A kit is available for upgrading existing M150B Series control panels in the field.

SPECIFICATIONS

GENERAL

Operating Voltage 9 VDC to 32 VDC
 Operating Temperature -30C to 70C
 Storage Temperature -40C to 80C
 Reverse Polarity Protection Yes
 Salt Spray Designed to IEC60068-2-52: 1996
 EMC Designed to IEC61000 and EN55022
 Degree of Protection IP67
 Dimensions..... 102.294mm x 53.39mm x 27.3mm
 (4.053" x 2.102" x 1.075")
 System Protection..... Provided Externally

INPUTS

Analog Inputs 2
 • Configurable for Fuel Level:
 - 240 to 33 ohms (US)
 - 10 to 180 ohms (EURO)
 • Configurable for Oil Pressure:
 - 10 to 180 ohms (0 – 5 BAR)
 - 10 to 180 ohms (0-10 BAR)
 Digital Inputs 2
 • Configurable Mode, Active State and On Delay and Off Delay