

## Model 4500 Graphical Panel Instrument



The **Model 4500** panel mount instrument combines proven Daytronic technology from the **Series 4000** meter with the analog design of the **Series 5D** signal conditioners, and the graphical flexibility and speed of the **MeasuringPad** instrument. This creates a simple to use, multi-channel meter for industrial process, quality and production monitoring and control. Due to its precision measurement capability - applications such as flow efficiencies, press-fit qualification, pump / motor performance testing, horsepower, statistical process control and other "custom" configurations can be accomplished using a standard **Model 4500** meter.

*Key features of the Model 4500 include .....*

- **Graphic Touch Screen Menus**
- **User Configurable Displays**
- **Multi-Channel Analog & Digital I/O**
- **Limits, If/Then Control, Math Channels**
- **Precision Signal Conditioning**
- **Ethernet and RS232 communications**
- **Trend, O'scope and X-Y plotting**
- **On-board memory recorder**

### THE MODEL 4500 INSTRUMENT IS A FIELD SCALABLE UNIT WHICH THE USER CAN CONFIGURE FOR SPECIFIC APPLICATIONS

Using up to four 5D signal conditioning modules - for sensor inputs of DC Strain, AC Strain, AC LVDT, Frequency and Voltage - the user can configure the **Model 4500** to process these inputs for engineering units display in text and graphic form while processing the data for limits, cross channel calculations, and recording as required by the application. The **Model 4500** uses its high speed scanning process to perform its required task quickly and with repeatable, accurate results.

- **Multi-Channel Input & Outputs**

The **Model 4500** will accommodate up to 4 optional 5D conditioners. Standard I/O include - 8 Logic inputs & 8 Logic outputs - and 4 digitally controlled analog outputs. "Live" amplified analog signals available via installed 5D modules.

- **Scan rate - Analog section**

Each analog signal & cross channel calculation is updated at a rate of 10 KHz.

- **Touch screen setup**

Allows easy menu access to the unit's configuration, display pages, and sensor calibration via touch graphical icons.

- **Display Plotting**

Through simple icon based setup, the **4500** will graphically plot in-coming data and calculate channels versus time or other parameters (X/Y) using the O'scope mode.

- **Communications**

Local point to point communication using RS-232 protocol or Ethernet (4500i)

- **Command & Control**

Internal Execute statements and Touch Buttons allows user configured control functionality

## CUSTOM CONFIGURATIONS USING STANDARD SETUPS ALLOWS THE 4500 TO BE USED IN A WIDE NUMBER OF DEMANDING APPLICATIONS

### Display Editor

Through the 4500 icon Editor the user can define and create the layout and style of the display "page" that would best fit the operator's requirement

### Cross Channel Mathematics

The Model 4500 provides up to 16 additional pseudo channels that can be configured by the user for calculated measurements. Equations such as Max/Min - Average, RMS, Multiply/ Divide, Add and Subtract can be used to calculate values such as horsepower, thickness, corrected flow, Peak - Valley and other complex values.

### Data Recorder<sup>1</sup>

The user can configure the data recorder to store high speed or low speed data by time, limit triggers, logic inputs or by touch activation. Recorder speed is selectable from seconds to milliseconds along with manual "snapshots" for requirements that require pre and post recording values for base line qualification of measurements.

<sup>1</sup> Data Recorder to be added with Model 4500i

## Specifications

**Housing:** Panel Mount; 4.73" H x 7.75" W x 6.57" D

**Connections:** removable screw terminal, supplied

**Power Requirements:** 24 VDC ± 10%; 1.5 A max.

**Operating Temperature Range:** -10° C to 40° C (14° F to 104° F)

**Operating Relative Humidity:** 95%, noncondensing

**Transducer Types:** Up to Four units (See 5D Specifications)

5D30 : AC Excited LVDT (4,5 or 6 wire) 16 to 2500 mv/V

5D40 : Frequency, full scale ranges from 200 Hz to 400 KHz

5D64 : DC Voltages, full scale ranges from 0.05 to 150 Vdc

5D70 : DC Strain, full scale ranges from 0.1 to 16 mv/V

5D78 : AC Strain, full scale ranges from 0.5 to 4.5 mv/V

**Logic I/O :** 8 Inputs & 8 Outputs, individually controlled

Nominal 0 to Vcc, where Vcc is 5 to 24 Vdc. Vcc = True condition (logic 1). Internal pull down resistor of 4.7 K Ohm.

All inputs assume Logic 0 state in absence of connection. Logic signal inputs can be used for relay / contact closures, quadrature inputs, frequency inputs - up to 10 KHz

**Display :** 1/4 VGA LCD; 320 x 240 Color with touch overlay.

**Scan Speed :** 10 KHz per channel

**A/D :** 16 Bit, floating point; Data is in a fixed engineering units format

**Accuracy :** ± 0.02% after calibration

**Communications:** Ethernet (10/100Base-T) with HTML & Modbus TCP-IP protocol; RS232 - ASCII command and response syntax

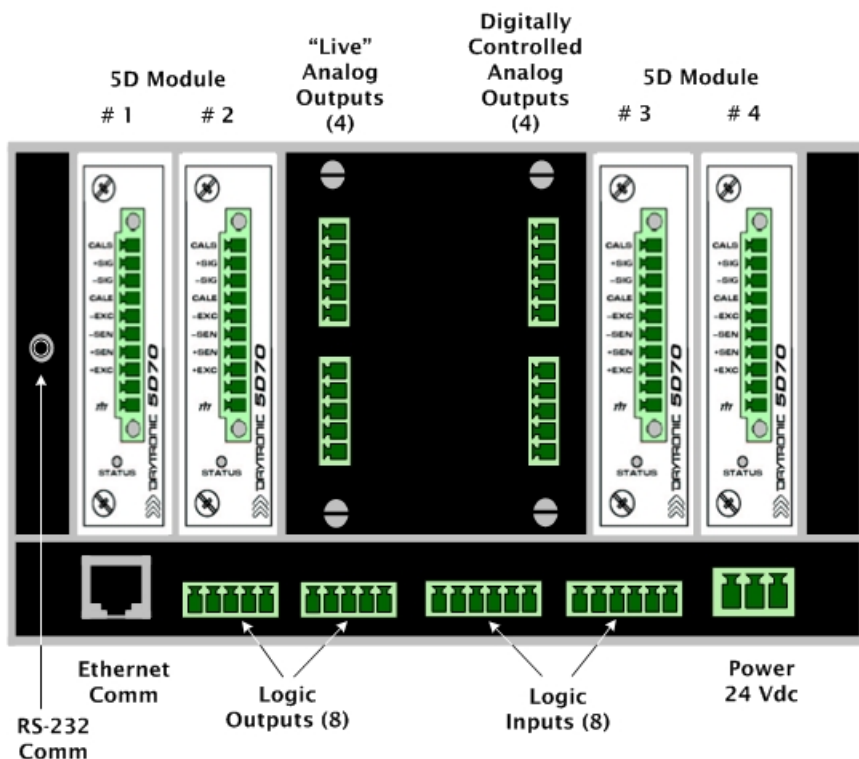
**Analog Outputs :** (4) Live - originating from the "B" output of the 5D module. ± 0 to 5 Vdc with 20% over-range, (4) Digitally controlled analog outputs of ± 0 to 5 Vdc originating from the cross channel math channel(s). DAC resolution is ± 1 mv, max load - 20ma each.

**Analog Filtering :** Per 5D Module, selectable

**Internal 10 Point Linearization :** Programmable for the 5D input signal.

**Onboard Memory Storage:** 256M for setups and data

**System Time Clock:** 1 Second resolution, recorder time 1ms resolution



User "Touch" composable display pages:

