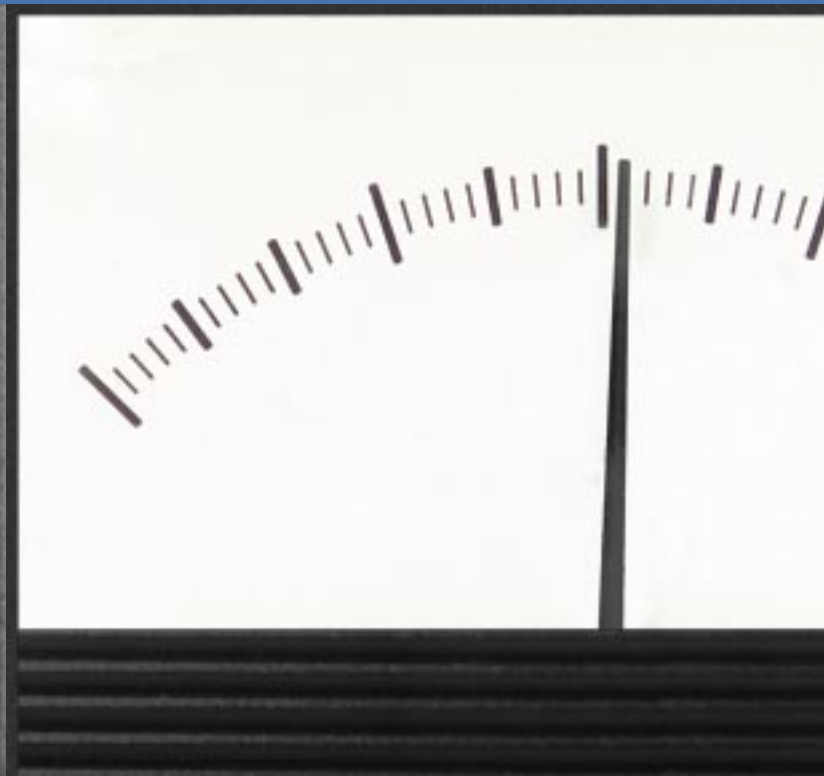


# Digital or Analog?



**Why Not Both!**



**With HOYT**

# Precision Analog *AND*

## The First Analog/Digital Meter — The HOYT Combo Series

Hoyt has resolved forever the question of choosing between digital or analog panel meters with the new Combo Series. For the first time, all of the advantages of both analog *and* digital panel meters are combined in *one* meter. The Combo Series features the same precision analog meter movement you expect from Hoyt, with the addition of a 3 1/2 digit, bright red, digital display featuring 0.37" high digits. For all their innovation, the new Combo Series meters are completely compatible with existing analog-only or digital panel meter applications.

## Signal- and Loop-Powered

With the addition of what amounts to a digital panel meter (DPM) in an analog panel meter case, questions immediately arise regarding input signal and power supply common, ground, "floating", single-ended, or differential inputs. Hoyt resolves these questions too, very simply — the new Combo Series meters are self-powered, 2-wire meters. That means there are only two connections, the + and - leads of the input signal. The entire meter, both analog and digital displays, is fully powered by the signal being measured. There are never any grounding or signal-reference questions.

## Significant Space Savings

Regardless of whether you use analog or digital panels meters now, incorporating Hoyt's new Combo Series will provide a significant space savings in your next application. If you are using analog panel meters now, you can instantly achieve the added benefit of both by upgrading to a Hoyt Combo Series meter. It's fast, easy, and the two-wire connections allow the Combo Series to upgrade virtually any analog meter application.

## Models for Your Application



Large, bright red LED digital displays are available in Combo Series meters to monitor a wide variety of AC voltage, DC voltage, and frequency ranges. Hour meters are available in the Combo Series with LCD digital displays. With the most popular signals and ranges addressed, Hoyt has a Combo Series meter to meet your specifications.

## Analog Meter Specifications

### All Meters 5035/5036 Series\*

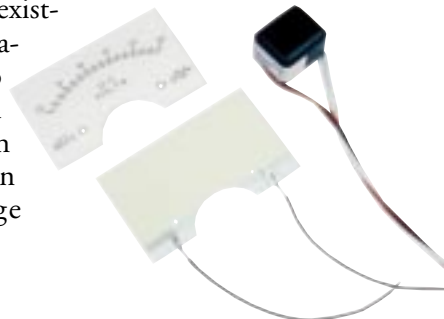
Accuracy	±2% of full scale
Overload	20% sustained
Ranges	AC and DC; many options available

\*Other 3 1/2" case styles available for special order.



## Panel Pizzazz! Add HOYT's New *ELumination*<sup>™</sup> Lighting Kit

Hoyt's patent-pending ELumination light kit technology provides bright, even backlighting, without the hassles of incandescent bulbs. No hot spots, no shadowing, no heat. No bulbs to burn out and replace. No holes to drill or added mirrors. Just bright white, electroluminescent (EL) light for a clearly visible meter with unmatched readability, functionality, and style. And Hoyt panel meters with the new lighting technology installed are completely compatible with existing lighted applications! All Combo Series meters can be ordered with the ELumination lighting package factory-installed.



# Digital In One Panel Meter

## Digital Meter Specifications

### General

Digital Display	0.37"/9.4mm digits; bright red LED
Sampling Rate	2.5 readings/second
Measurement Type	
AC	half-wave average, rms; calibrated for sinusoidal input
DC	Standard "+"; Ground "-"
Accuracy	At 25°C unless noted otherwise
Temperature Drift	
AC Volts	±0.15V/°C maximum; -25°C to +60°C
DC Volts	±0.3 counts/°C maximum
Current Consumption	50mA maximum; range dependent
Environmental	
Operating Temp.	-25°C to +60°C
Storage Temp.	-40°C to +75°C
Humidity (Non-condensing)	0 to 95%

### AC Line Voltage

Input Voltage Range	85 to 600V <sub>RMS</sub> available
Input Frequency Range	47 to 63Hz; 350-450Hz
Input Overload Protection	300V <sub>RMS</sub> (Overvoltage category II)
Accuracy	±1V typical; ±2V maximum
Resolution	1V

### AC Line Frequency

Input Voltage Range	85 to 140V <sub>AC</sub> ; 170 to 264V <sub>AC</sub>
Input Frequency Range	47 to 99Hz; 350 to 450Hz
Input Overload Protection	200V <sub>RMS</sub> , maximum for 120V; 300V <sub>RMS</sub> , maximum for 240V
Sample Rate	4 readings/second
Accuracy	±0.1Hz; -25°C to +60°C
Display	0.4"/10.1mm bright red LED

### Hour Meter

Input Voltage Range	4.5 to 19V <sub>DC</sub> ; 9 to 60V <sub>DC</sub> ; 36 to 185V <sub>DC</sub> ; 75 to 270V <sub>AC</sub>
Resolution	0.1 Hour
Accuracy	±0.1% Hours, ±1 count
Non-Volatile Memory	-40°C to +89°C; SAE
Display	5mm; 6 digits (99,999.9 Hours)

### DC Voltage

Input Voltage Range	2 to 6V <sub>DC</sub> ; 4.5 to 19.99V <sub>DC</sub> ; 18 to 50V <sub>DC</sub> ; 30 to 264V <sub>DC</sub>
Resolution	0.5% to 3.3%, range dependent*
Accuracy	±0.5% to ±3.3%, range dependent*

\*Refer to DC Voltage Ranges table

### DC Amperes

Source Voltage	5V <sub>DC</sub> minimum
Input Voltage Range	0 to 50mV <sub>DC</sub> ; 0 to 100mV <sub>DC</sub>
Resolution	1 count
Accuracy	±1%
Shunts	External; 50 or 100mV <sub>DC</sub> compatible; Field adjustable
Scaling	Application-specific

### 4-20mA Current Loop

Input Range	4mA <sub>DC</sub> minimum; 20mA <sub>DC</sub> maximum
Voltage Drop	5V <sub>DC</sub>
Accuracy	±0.05%, ±1 count
Resolution	0.01mA minimum; scale dependent
Zero	Field adjustable
Gain	Field adjustable
Scale	Between 0 to 1999; DIP selectable



## Ordering Information

### AC Voltage Ranges

Input Range (V <sub>AC</sub> )	Frequency (Hz)	Hoyt Option #
85 to 264	47.0 to 63.0	56VA124
85 to 140	350 to 450	40VA120
240 to 310	47.0 to 99.0	56VA240
350 to 600	47.0 to 63.0	56VA480

### AC Frequency Ranges

Input Range (V <sub>AC</sub> )	Frequency (Hz)	Resolution (Hz)	Hoyt Option #
85 to 140	47.0 to 99.0	0.1	56HZ120
85 to 140	350 to 450	1.0	40HZ120
190 to 264	47.0 to 99.0	0.1	56HZ240

### DC Voltage Ranges

Input Range (V <sub>DC</sub> )	Resolution (V <sub>DC</sub> )	Accuracy (V <sub>DC</sub> )	Hoyt Option #
+2.00 to +6.00	0.01	±0.01	26VD
+4.50 to +19.99	0.01	±0.01	520VD
+18.0 to +50.0	0.1	±0.1	1850VD
+30 to +264	1.0	±1	30264VD

### DC Ampere Ranges

Input Range (mA <sub>DC</sub> )	Hoyt Option #
0 to 50	50MVA SCALED (specify)
0 to 100	100MVA SCALED (specify)

### Hour Meter Input Voltage Ranges

Input Range	Hoyt Option #
5 to 15V <sub>DC</sub>	HR12VD
9 to 60V <sub>DC</sub>	HR24VD
36 to 185V <sub>DC</sub>	HR30VD
75 to 270V <sub>AC</sub>	HR24VA

### 4-20mA Current Loop

Input Range (mA <sub>DC</sub> )	Hoyt Option #
4 to 20	42LP102



# HOYT

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#### Specification

HOYT believes in continuous product development and reserves the right to modify and alter the specifications contained in this brochure as required, and without notice.

#### Warranty

HOYT at its discretion, agrees to repair, replace, or refund the purchase price of the products contained herein that are found to be defective in material or workmanship, or do not conform to specifications, if written notice is received by HOYT within 1 year from date of shipment. HOYT assumes no liability, expressed or implied beyond the obligation to repair, replace or refund the purchase price of the defective material.