



Hoyt Combo Meter

Digital Meters

Precision Analog AND Digital
In One Panel Meter



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.

FEATURES

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 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.



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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
Standard "+"; Ground "-"

DC:

Accuracy: At 25°C unless noted otherwise

Temperature Drift

AC Volts: $\pm 0.15\text{V}/^\circ\text{C}$ maximum; -25°C to $+60^\circ\text{C}$

DC Volts: ± 0.3 counts/ $^\circ\text{C}$ maximum

Current Consumption: 50mA maximum; range dependent

Environmental

Operating Temp.: -25°C to $+60^\circ\text{C}$

Storage Temp.: -40°C to $+75^\circ\text{C}$

Humidity: 0 to 95%

(Non-condensing)

AC LINE VOLTAGE

Input Voltage Range: 85 to 600V_{RMS} available

Input Frequency Range: 47 to 63Hz; 350-450Hz

Input Overload Protection: 300V_{RMS} (Overvoltage category II)

Accuracy: $\pm 1\text{V}$ typical; $\pm 2\text{V}$ maximum

Resolution: 1V

AC LINE FREQUENCY

Input Voltage Range: 85 to 140V_{AC}; 170 to 264V_{AC}

Input Frequency Range: 47 to 99Hz; 350 to 450Hz

Input Overload Protection: 200V_{RMS}, maximum for 120V;
300V_{RMS}, maximum for 240V

Sample Rate: 4 readings/second

Accuracy: $\pm 0.1\text{Hz}$; -25°C to $+60^\circ\text{C}$

Display: 0.4"/10.1mm bright red LED

HOURLY METER

Input Voltage Range: 4.5 to 19V_{DC}; 9 to 60V_{DC};
36 to 185V_{DC}; 75 to 270V_{AC}

Resolution: 0.1 Hour

Accuracy: $\pm 0.1\%$ Hours, ± 1 count

Non-Volatile Memory: -40°C to $+89^\circ\text{C}$; SAE

Display: 5mm; 6 digits (99,999.9 Hours)

DC VOLTAGE

Input Voltage Range: 2 to 6V_{DC}; 4.5 to 19.99V_{DC};
18 to 50V_{DC}; 30 to 264V_{DC}

Resolution: 0.5% to 3.3%, range dependent*

Accuracy: $\pm 0.5\%$ to $\pm 3.3\%$, range dependent*

*Refer to DC Voltage Ranges table

DC AMPERES

Source Voltage: 5VDC minimum

Input Voltage Range: 0 to 50mV_{DC}; 0 to 100mV_{DC}

Resolution: 1 count

Accuracy: $\pm 1\%$

Shunts: External; 50 or 100mV_{DC}
compatible; Field adjustable

Scaling: Application-specific

4-20mA CURRENT LOOP

Input Range: 4mA_{DC} minimum; 20mA_{DC} maximum

Voltage Drop: 5VDC

Accuracy: $\pm 0.05\%$, ± 1 count

Resolution: 0.01mA minimum; scale dependent

Zero: Field adjustable

Gain: Field adjustable

Scale: Between 0 to 1999; DIP selectable





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OPTIONS FOR DIGITAL: ORDERING INFORMATION

AC VOLTAGE RANGES

Input Range (V _{AC})	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 _{AC})	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 _{DC})	Resolution (V _{DC})	Accuracy (V _{DC})	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
0 to 5*	DIP Switch Selectable Scaling 5PVD		
0 to 10*	DIP Switch Selectable Scaling 10PVD		

*Aux Power Required (15 - 40VDC)

DC AMPERE RANGES

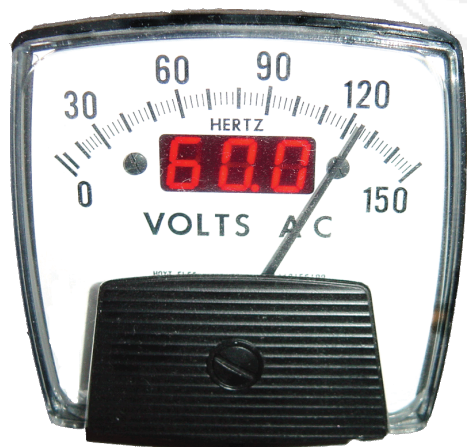
Input Range (mV _{DC})	Hoyt Option #
0 to 50	50MVA SCALED (specify)
0 to 100	100MVA SCALED (specify)

HOURLY METER INPUT VOLTAGE RANGES

Input Range	Hoyt Option #
5 to 15VDC	HR12VD
9 to 60VDC	HR24VD
36 to 185VDC	HR30VD
75 to 270VAC	HR24VA

4-20MA CURRENT LOOP

Input Range (mA _{DC})	Hoyt Option
4 to 20 (Specify Scaling)	42LP102



HOW TO ORDER COMBO METERS

To order Hoyt 5000 Series 3-1/2" combo meter please specify the following:

ANALOG METER AND SCALE

(Specify what you want) (Choose one)

P/N: 5035 DC _____ Input Range: _____ Scale: _____

P/N: 5036 AC _____

**EXAMPLE: 5036 AC VOLTMETER,
0-300 VAC INPUT/SCALED 0-300 VAC
P/N = 5036, 0-300 VAC / 300 VAC**

ANALOG + HOURLY METER

To add options add the following:

LCD Hourmeter: -HR24VA

EXAMPLE: HOYT P/N: 5036, 0-300 VAC / 300 VAC-HR24VA

ANALOG + DIGITAL COMBO

To add options for digital add the following Hoyt option#:

50 or 60 HZ Frequency Meter: -56HZ240

**EXAMPLE: 5036, 0-300 VAC (ANALOG),
Frequency Meter/56HZ240 (DIGITAL)
P/N = 5036 - COMBO - 300 VAC - 56HZ240**

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