



Model 5035 / 5036 Combo

Combo Panel Meter



3.5" 5035 Combo DC Moving Coil

3.5" 5036 Combo AC Repulsion

Precision Analog & Digital (Two-in-one)
Panel Meter

Analog meter specifications

ALL METERS 5035/5036 SERIES*

Accuracy: $\pm 2\%$ 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.
DC: Standard "+"; Ground "-".
Accuracy: At 25°C unless noted otherwise.
Temperature Drift: AC Volts: $\pm 0.15V/^{\circ}C$ maximum; -25°C to +60°C.
DC Volts: ± 0.3 counts/ $^{\circ}C$ maximum.
Current Consumption: 50mA maximum; range dependent.
Operating Temperature: -25°C to +60°C.
Storage Temperature: -40°C to +75°C.
Humidity: 0 to 95% (Non-condensing).

AC LINE VOLTAGE

Input Voltage Range: 85 to 600VRMS available.
Input Frequency Range: 47 to 63Hz; 350-450Hz.
Input Overload Protection: 300VRMS (Overvoltage category II)
Accuracy: $\pm 1V$ typical; $\pm 2V$ maximum.
Resolution: 1V.

AC AMPERES

Input Current Range: 0 to 2000AAC.
Power: 85 to 264 VAC.
Resolution: 0.1 Amps, 0-500 AAC.
1.0 Amps, 1000-2000 AAC.
Accuracy: ± 1 Amp.

AC LINE FREQUENCY

Input Voltage Range: 85 to 140VAC; 170 to 264VAC.
Input Frequency Range: 47 to 99Hz; 350 to 450Hz.
Input Overload Protection: 200VRMS, maximum for 120V;
300VRMS, maximum for 240V.
Sample Rate: 4 readings / second.
Accuracy: $\pm 0.1Hz$; -25°C to +60°C.
Display: 0.4" / 10.1 mm bright red LED.

HOURLY METER

Input Voltage Range: 4.5 to 19VDC; 9 to 60VDC.
36 to 185VDC; 75 to 270VAC.
Resolution: 0.1 Hour.
Accuracy: $\pm 0.1\%$ 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 6VDC; 4.5 to 19.99VDC.
18 to 50VDC; 30 to 264VDC.
Resolution: 0.5% to 3.3% *.
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 50mVDC; 0 to 100mVDC.
Resolution: 1 count.
Accuracy: $\pm 1\%$.
Shunts: External; 50 or 100mVDC compatible; Field adjustable.
Scaling: Application-specific.

4-20mA CURRENT LOOP

Input Range: 4mADC minimum;
20mADC 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 (VAC)	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

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

AC AMPERES (POWER: 85-264 VAC) (5AAC CT RATED)

Input Range (AAC)	Resolution	Accuracy	Hoyt Option #
0 to 100	0.1A	±1A	56AA101
0 to 200	0.1A	±1A	56AA201
0 to 300	0.1A	±1A	56AA301
0 to 500	0.1A	±1A	56AA501
0 to 1000	1.0A	±1A	56AA102
0 to 2000	1.0A	±1A	56AA202

4-20MA CURRENT LOOP

Input Range (mA DC)	Hoyt Option
4 to 20	42LP102

(Specify Scaling)

AC FREQUENCY RANGES

Input Range (VAC)	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 (VDC)	Resolution	Accuracy	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 (mVDC)	Hoyt Option #
0 to 50	50MVA SCALED (specify)
0 to 100	100MVA SCALED (specify)

HOW TO ORDER COMBO METERS

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 + HOURMETER

Add the following Hoyt option#:
 LCD Hourmeter: -HR24VA

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

ANALOG + DIGITAL COMBO

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