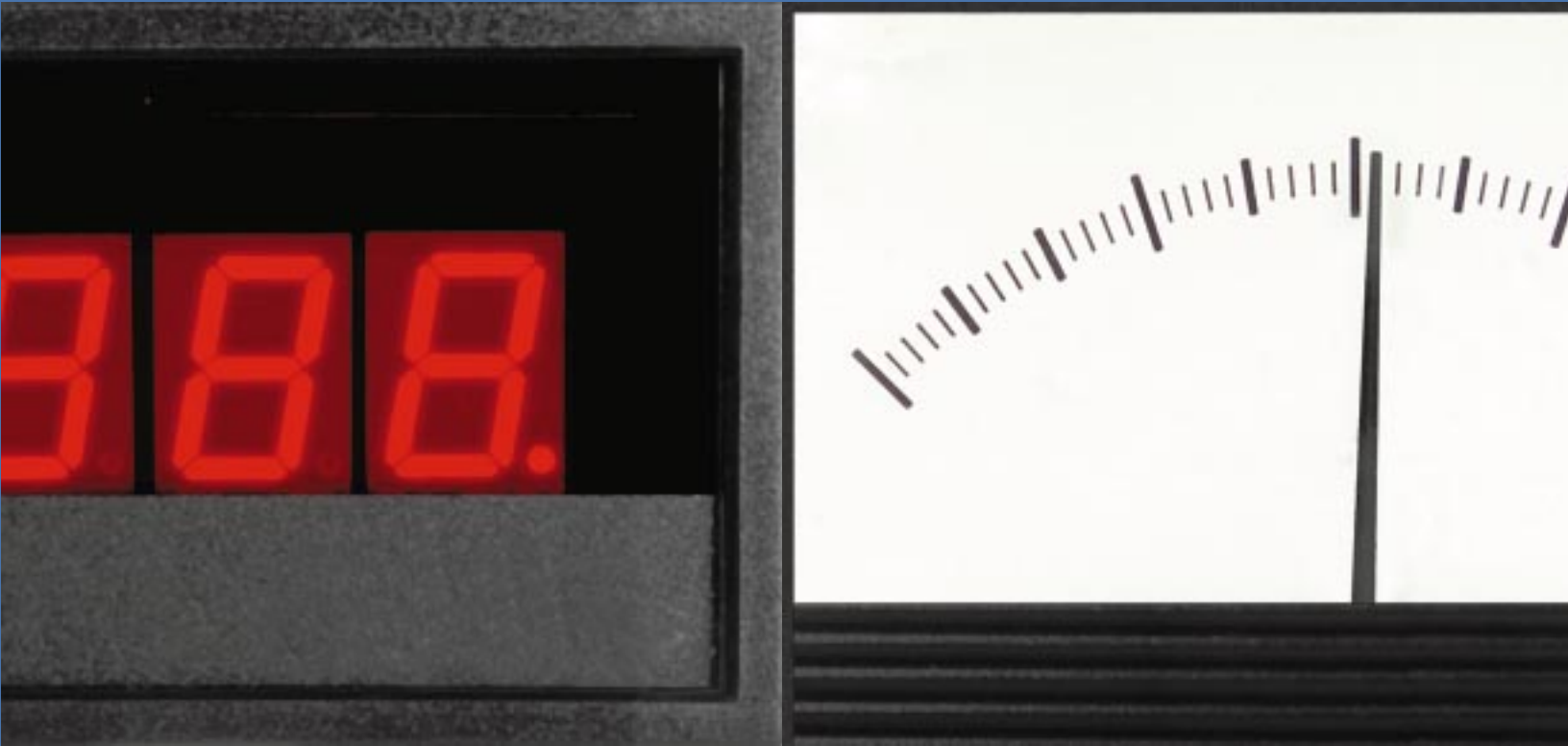


Digital or Analog?



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*

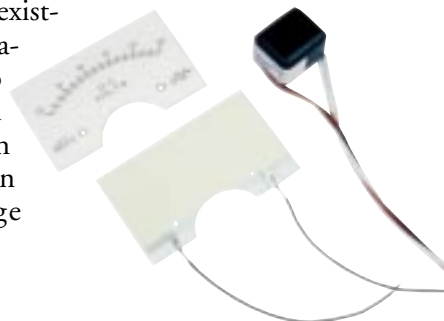
| | |
|----------|-----------------------------------|
| Accuracy | ±2% of full scale |
| Overload | 20% sustained |
| Ranges | AC and DC; many options available |

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



Panel Pizzazz! Add HOYT's New *ELumination™* 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 _{RMS} available |
| Input Frequency Range | 47 to 63Hz; 350-450Hz |
| Input Overload Protection | 300V _{RMS} (Overvoltage category II) |
| Accuracy | ±1V typical; ±2V 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 | ±0.1Hz; -25°C to +60°C |
| Display | 0.4"/10.1mm bright red LED |

Hour 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 | ±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 _{DC} ; 4.5 to 19.99V _{DC} ; 18 to 50V _{DC} ; 30 to 264V _{DC} |
| 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 _{DC} minimum |
| Input Voltage Range | 0 to 50mV _{DC} ; 0 to 100mV _{DC} |
| Resolution | 1 count |
| Accuracy | ±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 | 5V _{DC} |
| 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_{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 |

DC Ampere Ranges

| Input Range (mV_{DC}) | 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 $15V_{DC}$ | HR12VD |
| 9 to $60V_{DC}$ | HR24VD |
| 36 to $185V_{DC}$ | HR30VD |
| 75 to $270V_{AC}$ | HR24VA |

4-20mA Current Loop

| Input Range (mA_{DC}) | Hoyt Option # |
|---------------------------|---------------|
| 4 to 20 | 42LP102 |



HOYT

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.