

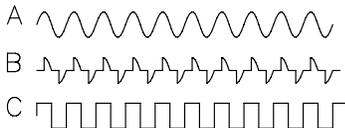
MODEL IMH - INTELLIGENT AC CURRENT METER

- 5 AMP INPUT (25 - 400 Hz AC)
- 1 mA RESOLUTION
(can be scaled to display $\pm 99,999$)
- OVER-RANGE INDICATION
- EASY, ONE-PASS SCALING
- FULL 6-DIGIT, HIGH VISIBILITY, 0.56" (14.2 mm) HIGH RED LED DISPLAY
- INTEGRATOR/(Totalizer) AND LINEARIZER (Optional)
- PEAK/VALLEY MEMORY AND TARE (Re-zero) FUNCTION (Optional)



Product Features

The Apollo Intelligent 5 Amp AC Current Meter (IMH) accepts AC currents up to 5 amps and precisely scales them into engineering units with high resolution. With the use of an external 5 amp AC current transformer, of any ratio, currents of any magnitude can be measured and displayed. The meter is calibrated from the factory to display RMS value of a pure sinusoidal waveform. The input is AC coupled to eliminate any DC effects in the signal. True RMS readings are not obtained from complex waveforms, such as square waves, signals that have been rectified or chopped due to a circuit with an SCR or Triac output. These kinds of complex waveforms will cause average value readings. Examples of such waveforms are shown below.



Example A is an undistorted sinewave and the IMH will indicate TRUE RMS. With the complex waveforms shown in examples B and C, the meter will indicate average value.

State-of-the-art digital circuitry virtually eliminates errors due to drift. A full complement of option packages is available to fulfill many process applications.

The indicator features a choice of two different scaling procedures which greatly simplifies initial set-up. A full 6-digit display accommodates virtually any process engineering unit. English-style display prompts and front panel buttons aid the operator through set-up and operation. A front panel lock-out menu protects set-up data and operation modes from unauthorized personnel. A programmable remote input "E1-

CON" can be utilized to control a variety of totalizing, alarm control, display hold and tare operations. All set-up data is stored in non-volatile E²PROM.

The indicator has several built-in diagnostic functions to alert operators of most any malfunction. Extensive testing of noise interference mechanisms and full burn-in makes the indicator extremely reliable in industrial environments. The die-cast front bezel meets NEMA 4/IP65 requirements for washdown applications, when properly installed. Plug-in style terminal blocks simplify installation and wiring change-outs.

OPTIONS

An optional integrator (totalizer)/linearizer can be used to totalize or integrate signals up to a maximum display value of 999999. It features independent scaling and a low signal cut-out to suit a variety of signal integration applications. Programmable remote input "E2-CON" pin is included with this option and can be utilized to control a variety of functions, such as totalizing, alarm control, peak/valley readings, display hold or tare operations, simultaneously with "E1-CON" pin. Additionally, nine slopes and offsets can easily be programmed to provide linear indication over the entire range. Peak/valley (max/min) reading memory, and a signal re-zeroing (tare) function are included and they are easily recalled and controlled by the front panel. All readings are retained at power-down.

Optional dual relays with parallel solid state outputs are fully programmable to operate in a wide variety of modes to suit many control or alarm applications.

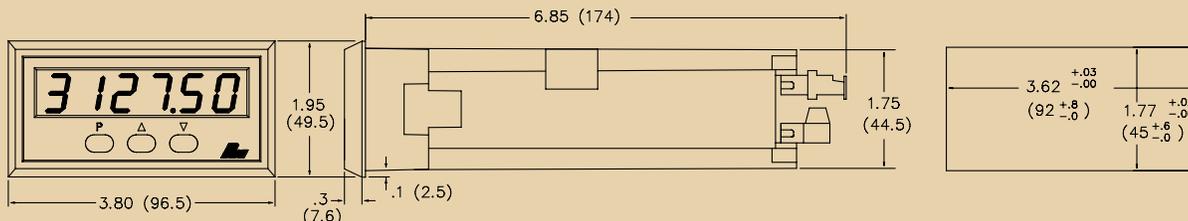
An optional 4 to 20 mA or 0 to 10 VDC re-transmitted analog output can be scaled by the user to interface with a host of recorders, indicators and controllers.



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DIMENSIONS "In inches (mm)"



MODEL IMH - INTELLIGENT AC CURRENT METER

General Specifications

- DISPLAY:** 6-digit, 0.56" (14.2 mm) High LED. Flashing display during totalizer overflow, and "....." during input display out of range. "OLOLOL" is displayed during input overload, which is any AC current greater than 5.3 amps AC.
- POWER:** Switch selectable 115/230 VAC, $\pm 10\%$, 50/60 Hz, 14 VA.
- CONTROLS:** Three front panel push buttons for modifying alarm values and indicator set-up. Two external inputs for disabling the front panel and controlling programmable functions.
- TOTALIZER:** Front panel button for input/total display select. Programmable decimal point, time-base, scale factor (0.001 to 100.000) and low-end cut-out. Response Time = 0.2 sec. max.
- ENVIRONMENTAL CONDITIONS:**
Operating Temperature Range: 0° to 50°C
Storage Temperature Range: -40° to 80°C
Temperature Coefficient: ± 200 ppm/oC.
Operating and Storage Humidity: 85% max. relative humidity (non-condensing) from 0 to 50°C.
Altitude: Up to 2000 meters.
- LINEARIZER/PEAK/VALLEY/TARE/E2-CON (optional):** 9-segment multiple slope scaling for non-linear inputs. Peak and Valley recording. Signal re-zero (tare).
- CERTIFICATIONS AND COMPLIANCES:**
SAFETY
 EN 61010-1, IEC 1010-1
ELECTROMAGNETIC COMPATIBILITY
 Immunity to EN 50082-2
 Emissions to EN 50081-2
- CONSTRUCTION:** Die-cast metal front bezel that meets NEMA 4/IP65 requirements for indoor use when properly installed. Installation Category II, Pollution Degree 2. Case body is black, high impact plastic (panel gasket and mounting clips included).
- CONNECTION:** Removable terminal blocks
- WEIGHT:** 1.2 lbs (0.54 Kg)

Input Specifications

- INPUT RANGE:** 0.000 to 5.300 AMPS AC @ 25 to 400 Hz.
- INPUT RESISTANCE:** 0.02 Ω ; 2 WATTS
- MAXIMUM SHUNT CURRENT:** 50 AMPS for 1 second; 10 AMPS continuous.
CAUTION: In circuits where fault currents can exceed the maximum shunt current, a fast blow fuse should be installed in series with the input signal.
- ACCURACY:** (23°C, 85% RH) (45 to 500 Hz) $\pm(0.5\%$ of reading + 5 digits)
- RESOLUTION:** 1 mA
- PROGRAMMABLE DISPLAY READING RANGE:** -99999 to 999999
- SIGNAL CONNECTION:** 2-Wire
- READING RATE:** 2.5 readings/second
- RESPONSE TIME:** 2 seconds to settle for step input (increases with programmable digital filtering)
- E1-CON & E2-CON:** External remote inputs that allow activation of various functions (reset total, peak indicator mode, trigger mode, etc.)
 $V_{IL} = 0.8 V_{MAX}$; $V_{IH} = 2.0 V_{MIN}$; Response Time = 0.2 sec max.

Output Specifications

- ALARMS (Optional):**
Solid State: Two, isolated, sinking open collector NPN transistors acting in parallel with relays.
 I_{MAX} : 100 mA. $V_{SAT} = 1 V @ 100 mA$. $V_{MAX} = 30 VDC$.
Relays:
Type: Form C (2)
Max. Rating: 5 Amps @ 120/240 VAC or 28 VDC (resistive load), 1/8 hp @ 120 VAC (inductive load).
Relay Life Expectancy: 100,000 cycles at max. rating. (As load level decreases, life expectancy increases.)
- ANALOG OUTPUT (Optional):**
4 to 20 mA: Digital scaling and offsetting within a 4 to 20 mA range
Accuracy: 0.1% of full scale
Resolution: 12 bits
Compliance Voltage: 10 VDC (500 Ω max. loop impedance)
0 to 10 VDC: Digital scaling and offsetting within a 0 to 10 VDC range
Accuracy: $\pm(0.1\%$ of reading +35 mV)
Resolution: 12 bits
Min. Load Resistance: 10 K Ω (1 mA max.)

Ordering Information

MODEL NO.	DESCRIPTION	TOTALIZER/ LINEARIZER/ PEAK/VALLEY TARE/E2CON	DUAL ALARMS	ANALOG OUTPUT	PART NUMBERS FOR AVAILABLE SUPPLY VOLTAGES
					115/230 VAC
IMH	5 AMP AC Intelligent Current Meter	NO	NO	NO	IMH40060
		NO	YES	NO	IMH40062
		YES	NO	NO	IMH43060
		YES	YES	NO	IMH43062
		YES	YES	4 to 20 mA	IMH43066
		YES	YES	0 to 10 VDC	IMH43068