A3 ALPHA® meter

Honeywell's A3 ALPHA meter builds on the strengths of the ALPHA meter design. The patented digital measurement techniques offer high accuracy, repeatability, and low ownership costs.

Revenue metering

The A3 ALPHA meter is a very accurate revenue meter (0.2 accuracy Class). The meter provides advanced four-quadrant revenue functions, transformer and line loss compensation, and increased data profiling without adding hardware option boards.

| Meter type	Measured quantities
A3D	1 (watthours only)
A3T	1 (watthours only)
A3K, A3R, A3Q	2 (user selectable)
A3KA, A3RA, A3QA	6 (user selectable)

Each measured quantity is stored in nonvolatile memory and includes energy, demand, and TOU data. Note: TOU data is not available for A3D.

Power quality monitoring

PQM provides continuous service condition monitoring 24 hours a day. PQM looks for exceptions to user-defined thresholds for items such as voltage, current, and total harmonic distortion. Each of the 12 PQM tests can be configured to control relay activation, LCD warning, date/time stamp log entry, and even an automatic telephone call to report the condition.

AnyPhase™ power supply

With the optional AnyPhase power supply installed, the A3 ALPHA meter is powered from all wires of the electrical service. If one or more service wires are disconnected, the meter is automatically powered from any two service wires including line-to-line or line-to-neutral.

6.95 [177]

1.35 [34]

6.4 [162]

5.5 [139]

0.75 [19]
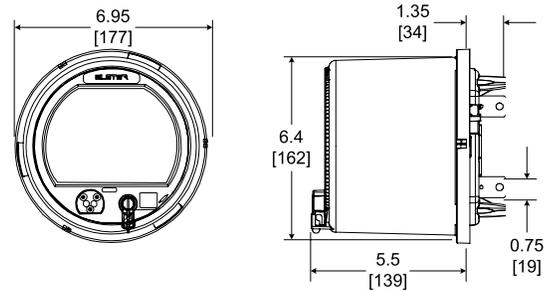
Approximate dimensions in inches [millimeters]
Contact Honeywell for A-base dimensions

A communication platform

Data can be retrieved using the standard optical communications port. Additional Honeywell communications interfaces are available for A3 ALPHA meters as a simple add-on option board

Honeywell communication modules

E-WIC (Ethernet)

W-WIC (CDMA and GSM)

ITM3 internal telephone modem (outage reporting optional)

RS-232

RS-485

Honeywell-installed partner modules

Aclara TWACS UMT-C-A3 (32 registers, 4 channel load profiling)

Sensus FlexNet Smartpoint NIC

Silver Spring Networks NIC

Itron Cellular Solutions 3G SmartMeter module

There are also other third party communications boards that are installed at their facilities.

Interval data recording and self reads

The main circuit board has nonvolatile memory for storing profile, data logs, and self read data. Recording options include interval profiles of instrumentation data and up to 15 self reads. If extensive profile recording is required, an extended memory option board can be easily added to increase total memory by 1 MB.

Instrumentation profiling

When optional instrumentation profiling is enabled, the meter stores 2 separate sets of instrumentation data. Each data set has an independent interval length and up to 16 channels. With instrumentation profiling, each meter becomes a powerful data collection tool to monitor data and diagnose problems without installing expensive temporary monitoring equipment.

One of over 50 instrumentation quantities can be assigned to each channel, and the storage algorithm for each channel can be independently selected. For storage algorithms, most quantities support the following options:

- Minimum value per interval
- Maximum value per interval
- Average value per interval
- End of interval snapshot

Maximum voltage	Continuous 528 VAC (AnyPhase option: L–L or L–N)	
Maximum current	Continuous at Class amperes; temporary (1 second) at 200 % of meter maximum current	
Surge voltage withstand	ANSI C37.90 Oscillatory	2.5 kV, 2500 strikes
	Fast transient	5 kV, 2500 strikes
	ANSI C62.41	6 kV at 1.2/50 µs, 10 strikes
	IEC 61000-4-4	4 kV, 2.5 Hz repetitive burst for 1 minute
	ANSI C12.1 Insulation	2.5 kV, 60 Hz for 1 minute
Voltage range	Nameplate nominal range	120 V to 480 V
	Operating range	96 V to 528 V
Current range	0 to Class amperes	
Frequency range	Nominal 50 Hz or 60 Hz ± 5 %	
Temperature range	-40 °C to +85 °C inside the meter cover	
Humidity range	0 % to 100 % noncondensing	
Power supply burden	Less than 4 W	
Per phase current burden	0.1 milliohms typical at 25 °C	
Per phase voltage burden	0.008 W at 120 V; 0.03 W at 240 V; 0.04 W at 480 V	
Accuracy	Meets ANSI 12.20 accuracy for accuracy Class 0.2 %	
Starting current	Forms 1S and 3S	10 mA for Class 20 / 100 mA for Class 200 / 160 mA for Class 320
	All other forms	5 mA for Class 20 / 50 mA for Class 200 / 80 mA for Class 320
Primary time base	Power line frequency (50 Hz or 60 Hz) with selectable crystal oscillator	
Secondary time base	Meets the ANSI limit of 0.02 % using the 32.768 kHz crystal. Initial performance is expected to be equal to or better than ± 55 seconds per month at room temperature.	
Communication rates	Optical port: 300 bps to 28,800 bps	
	Remote port: 1200 bps to 19,200 bps	
ANSI standards	C12.1; C12.10; C12.18; C12.19; C12.20; C12.21	

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