

ALPHA[®] 4 RES METER

The Alpha 4 Residential (A4Res) meter is packed with industry-leading capabilities and processing power for advanced grid applications, delivering real-time data insights and edge intelligence for today's metering needs. Built on the same platform as the Alpha 4 Commercial and Industrial meter (A4CI), the A4Res has the capacity to grow with future smart grid applications.

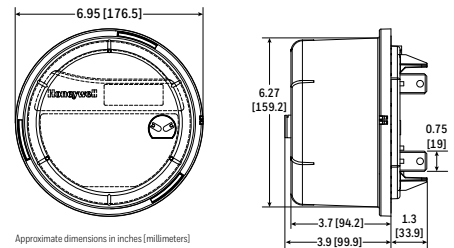


REVENUE METERING

The Alpha A4Res meter provides advanced four-quadrant revenue functions, records voltage sag/swell events, and has extensive load profiling and instrument profiling capabilities, all without adding hardware option boards.

POWER QUALITY MONITORING

By sharing a common platform with the Alpha A4CI meter, Honeywell is able to bring PQM to every residential endpoint. Power Quality Monitoring (PQM) provides continuous service condition monitoring 24 hours a day, including open neutral alerts for form 2S services. PQM looks for exceptions to user-defined thresholds for items such as voltage, current, and total harmonic distortion. Each of the 23 PQM tests, run every 200 milliseconds, can be configured to show LCD warnings, record date/time stamp log entries, and send push notifications to a NIC to report the condition. PQM tests do not interfere with any meter functions related to energy ment, and the tests run separately from the metering and instrumentation functions.



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 A4Res meters as a simple add-on option board. The A4Res also supports push notifications.

ENHANCED SECURITY

The Alpha 4 offers all the safety features you come to expect in the Alpha family of meters: magnetic tamper detection, motion detection, and secure 128-bit encryption using ANSI C12.22 communication (even on the optical port). In addition to its extensive event and history logs (1000 entries each), the Alpha 4 meter has the legally relevant parameters (LRP) log beginning with metrology version 3.0. Metercat helps document the features of the LRP log as well as what constitutes a legally relevant parameter.

INTERVAL DATA RECORDING AND SELF READS

The A4Res is packed with 8 MB of nonvolatile memory for storing extensive profile, data logs, self read data and midnight snap shots. Recording options include interval profiles of instrumentation data and up to 40 self reads. The A4Res also stores up to 366 midnight snapshots of the present register data.

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INSTRUMENTATION PROFILING

When instrumentation profiling is enabled, the A4Res meter is capable of recording up to 12 channels of instrumentation data. With instrumentation profiling, each meter becomes a powerful data collection tool to monitor and diagnose problems without installing expensive temporary monitoring equipment. Instrumentation profiling is stored in 1-minute intervals, and the A4Res records up to 79,200 intervals (55 days). The meter can aggregate the data back to the head-end system.

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

Processor	ARM, dual core, 100 MHz, 32-bit CPU
Service control switch	Optional, 200 A
Non-Volatile storage	8 MB
Energy Register	6 kWh, kVARh, and kVAh in Del, Rec, Sum, and Net programmable value options
Demand Register	6 kW, kVAR, kVA in Del, Rec, Sum, and Net programmable value options
Multiple Season TOU	5-tier, 12-season
Bi-Directional Metering	Yes
Tamper Detection	Yes
Extensive Load Profiling Capability	1 minute interval
	Up to 6 quantities
	60 days storage capability, regardless of resolution
Extensive Instrument Profiling Capability	1,5,15,30 and 60 minute intervals
	Up to 12 values including per phase Voltage, Current, Demand, and Power Factor with Min, Max, Average, and End of Interval capture algorithms
	55-day storage capability regardless of resolution
Midnight Snapshots	366
Self Reads	Up to 40
PQM Tests Available	23
PQM Log Entries	1000
Voltage Sag/Swell	Yes
Sag/Swell Log Entries	1000
Forms	1S, 2S, 3S, 4S, 12S, 2S and 12S 320A

Maximum Voltage	Continuous 264 VAC	
Maximum Current	Continuous at Class amperes	
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 μ s, 10 strikes
	IEC 61000-4-4	4 kV, 2.5 Hz repetitive burst for 1 minutes
	ANSI C12.1 Insulation	2.5 kV, 60 Hz for 1 minute
Voltage range	120 V to 240 V	
	96 V to 264 V	
Current range	0 to Class Amperes	
Frequency range	Nominal 50 Hz or 60 Hz \pm 2 %	
Temperature range	-40 °C to +85 °C inside the meter cover	
Humidity range	0 % to 100 % noncondensing	
Power supply burden	Less than 1 W (meter only), up to 10W to support radios	
Accuracy	Meets ANSI 12.20 accuracy for accuracy Class 0.5 %	
Starting current	Class 20: 10 mA Class 200: 100 mA Class 320: 160 mA	
Primary time base	TCXO crystal keeps time. The meter uses relative time until real time is set by the communications network.	
Real Clock Time (RTC)	8 hours of RTC during outage using capacitor	
Communication rates	Optical port: 28,800 bps Remote port: 115,200 bps	
ANSI standards	C12.1; C12.10; C12.20; C12.21; C12.22	

For more information

<https://pmt.honeywell.com/us/en/businesses/smart-energy>

Honeywell Smart Energy and Thermal Solutions

55 S Mint Street
Charlotte, NC 28202

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