



# MFMM

SENTINEL®

The Multifunction Meter Module (MFMM) resides within the SENTINEL meter and transmits metering and diagnostic information via radio frequency (RF). It operates in the unlicensed 902-928 MHz frequency range using spread-spectrum technology. Active and reactive energy are transmitted in separate RF data packets every five minutes. The MFMM leverages the SENTINEL meter's advanced functionality by adding support for Itron fixed network technology. Each of the packets contains a unique meter ID, total consumption (either active or reactive), interval data, specific diagnostic flags, as well as the cyclic redundancy check (CRC) to ensure message integrity. SENTINEL meter and SiteScan™ diagnostic information is transmitted via an additional RF data packet randomized up to 30 times a day.

## FEATURES

### Key Features

- » Supports advanced metering such as demand, time of use, and load profile
- » Operates in the unlicensed
- » 902-928 MHz frequency range using spread-spectrum technology
- » Provides active and reactive energy information
- » Monitors and transmits meter and SiteScan diagnostic information
- » Factory programmed for desired functionality

- » All components are housed within the meter
- » Patent-pending Embedded Antenna
- » Optional outputs: Two Form C KYZ outputs and one Form A low-current, solid-state contact output

### Standard Features

- » Electronic LCD register
- » Polycarbonate cover
- » Test LED

### Product Availability

- » Socket-base only
- » Measurement Levels 1 through 4

### Reference Information

- » SENTINEL Meter Technical Reference Guide
- » SENTINEL Meter Overview Brochure
- » SENTINEL Meter Specification Sheet
- » Electricity Price Bulletin
- » SENTINEL Fixed RF Network Order Specification Form

## SPECIFICATIONS

### Dimensions

Polycarbonate				
A	B	C	D	E
6.95"	6.31"	5.46"	6.00"	7.30"
17.65 cm	16.03 cm	13.87 cm	15.24 cm	18.54 cm

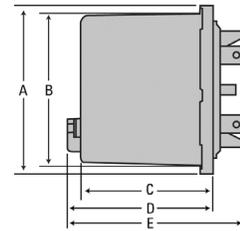
### Shipping Weights

Polycarbonate		
	Pounds	Kilograms
4 Meter Cartons	20.2 lbs.	9.2 kg
1 Socket Base	7.5 lbs.	3.4 kg

### Specifications

Power Requirements	Voltage Rating: -20% to +10% of nominal voltage (1 or 3 phase) Operating Range: 45 to 65 Hz	Operating Voltage: ±20% Frequency: 50-60 Hz	
Load Profile/ TOU Battery	Voltage: 3.6 V nominal Carryover: 12 years minimum Shelf Life: 25 years min.	Operating Range: 3.4 V- 3.8 V	
Time	Line Sync: Power line frequency		
Operating Environment	Temperature: -40° to +85°C Humidity: 0% to 95% non-condensing		
Transient / Surge Suppression	ANSI C37.90.1-1989 FCC Part 15, Class B ANSI C62.41-1991		
Accuracy	ANSI C12.20: 1997 for class 0.2 meters		
Characteristic Data	Starting Current:		
	0.005 amps (Class 20)		
	0.050 amps (Class 200)		
	0.080 amps (Class 320)		
Burden Data	Voltage	Watts	VA
	120	1.3	2.2
	240	1.6	3.1
	277	1.7	3.4
	480	2.4	5.2

### Polycarbonate Dimensions



At Itron, we're dedicated to delivering end-to-end smart grid and smart distribution solutions to electric, gas and water utilities around the globe. Our company is the world's leading provider of smart metering, data collection and utility software systems, with over 8,000 utilities worldwide relying on our technology to optimize the delivery and use of energy and water.

To realize your smarter energy and water future, start here: [www.itron.com](http://www.itron.com)

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