ControlLogix®
1756-RMS-SC
Power Monitoring Input Module

Extend the life of critical components within your manufacturing processes with our 1756-RMS-SC power monitoring input module. The RMS module simultaneously measures single-phase volts AC RMS and amps AC RMS and calculates real power, apparent power, reactive power, and leading or lagging power factor. When these modules are used as part of a system monitoring power consumption of dedicated equipment, your controller can respond in real time to power variances outside of your predetermined envelope of proper operation. The RMS module easily mounts into a standard ControlLogix® rack.

Quick specifications
• Eight isolated input channel pairs; one current and one voltage.
• Easily configured using RSLogix software.
• Features 250 VAC channel-to-chassis ground isolation.
• Features 250 VAC channel pair to channel pair isolation
• Non-typical AC waveforms supported
• Minimal power consumption.

www.spectrumcontrols.com
### Input Types

- 8-channels voltage and current.
- For each channel (inputs from CT dropping resistor and PT) the module provides: real power, apparent power, reactive power, power factor, RMS voltage, and RMS current.

### Input Ranges

<table>
<thead>
<tr>
<th>Range</th>
<th>Voltage (V peak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range 1</td>
<td>7.071</td>
</tr>
<tr>
<td>Range 2</td>
<td>3.535</td>
</tr>
<tr>
<td>Range 3</td>
<td>1.414</td>
</tr>
<tr>
<td>Range 4</td>
<td>0.707</td>
</tr>
</tbody>
</table>

- Voltage: Channel voltage provided by customer Potential Transformer
- Current: Current input is converted to voltage and provided by a load resistor across secondary of customer Current Transformer.

### Resolution

- 16 bits

### Accuracy (AC & DC)

- 0.25% of full scale typical @ 25°C, 0.5% full scale maximum (AC: 47 to 63 Hz)
- Temperature coefficient: +/- 50 ppm

### Update Rate

- AC: 50 scans/second at 50 Hz; 60 scans/second at 60 Hz
- DC: Depends on RPI and filter constant.

### Scaled Input Range

- Scaled at PLC input (current and voltage)

### Electrical Isolation

- 250 VAC channel-pair-to-channel-pair isolation; 250 VAC channel-to-chassis ground

### Input Impedance (resistance)

- 40 MΩ, single-ended. Both channels share the same reference terminal, polarity must be observed when connecting the current channel

### Over range detection

- Protected to 50 VDC or 50 VAC continuous

### Backplane Current Required

- 160 mA at 5 V maximum, 100 mA at 24 V maximum

### Environmental Conditions

- Operational Temperature: 0 °C - 60 °C (32°F - 140 °F)
- Storage Temperature: -40 °C - 85 °C (-40 °F - 185 °F)
- Relative Humidity: 5% - 95% (non-condensing)

### Thermal Dissipation

- 4.0 Watts, maximum

### Certifications

- ANSI 12.R.01 (Class 1 Div 2, ABCD), UL 61010-1, CE

### Recommended Conductor

- Shielded, twisted-pair
- 22 to 14 AWG (2.0 mm) stranded maximum
- 3/64-inch (1.2 mm) insulation maximum
- Order a 1756-TBCH separately