SIEMENS

4700 Power Meter

Application

The Siemens 4700 power meter is designed for high-accuracy current and power metering of power distribution in industrial, commercial, institutional and utility applications. The 4700 power meter continuously collects, displays and communicates real-time and min/max data. Data may be viewed at the meter's high visibility display or via communications at a supervisory computer. Operators may select data to be displayed or configure the meter by pressing the sealed membrane keypad.

The 4700 power meter is built for use in industrial environments. Rugged microprocessor-based technology meets ANSI/IEEE C37.90 requirements for radio frequency interference (RFI), surge withstand and fast transient tests. Complies with FCC/DOC emissions standard. Recognized under UL 1244. All configuration data is stored in nonvolatile memory which does not require batteries.

Features

- Metering includes phase currents and average phase current, amp demand, neutral current, phase voltages and average phase voltage, line voltages and average line voltage, kW, kW demand, kW hours, kVA, kVAR, kVAR hours. power factor. and frequency.
- Records min/max data for each measured parameter.
- Large, easy to read 20 character display.
- Simultaneous display of volts, amps and power function. All values are displayed in meaningful engineering units rather than codes.
- Communications module connects to the ACCESS™ electrical distribution communications system.
- 4700 meter setup may be configured at the meter or remotely through communications. All setup is password protected.
- Three output relays can be programmed to operate based on the measured value of any parameter, e.g. "if kW demand exceeds 10,000 kW, activate relay #3." (Not intended for primary protection schemes.) Relays can be programmed to pulse on kWHr or kVARHr.
- Can provide single programmable analog output for input to SCADA, DCS or other analog system.
- Accepts discrete inputs and communicates their status to supervisory computers.
- Provides waveform capture through hi-speed sampling of any of the four current or four voltage inputs (128 samples per cycle). Communicates data to supervisory computers for display and calculation of the harmonic content up to the 64th harmonic

Metered Values

Parameter	Accuracy	Resolution	Range
Volts	0.2%	0.1%	0–999,999[1]
Amps	0.2%	0.1%	0–9,999
kVA	0.4%	0.1%	0–999,999[2]
kW	0.4%	0.1%	±999 999[2]
kVAR	0.4%	0.1%	±999 999[2]
Power Factor	1.0%	1.0%	0.6–1.0 Lead, Lag
Frequency	0.2Hz	0.1 Hz	40Hz to 70Hz
kW Demand	0.4%	0.1%	±999,999
Amps Demand	0.2%	0.1%	0–9,999
kW Hour - Forward	0.4%	1 kWHr	0–999,999,999
kW Hour - Reverse	0.4%	1 kWHr	0–999,999,999
kVAR Hour - Forward	0.4%	1 kVARHr	0–999,999,999
kVAR Hour - Reverse	0.4%	1 kVARHr	0–999,999,999
V_{AUX} (1VAC scale)	0.25%	0.1%	0–999,999
Neutral Current	0.2%	0.1%	0–9,999

1. Reads in kV (x1000) for readings over 9,999
2. Reads in M (x1,000,000) for readings over 9,999

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4700 Power Meter

Ratings

Voltage inputs	
Standard–120VAC Overload withstand Input impedance	120VAC nominal full-scale input 1500VAC continuous, 2500VAC for 1 sec. 2 MΩ
Option–277VAC Overload withstand Input impedance	277VAC nominal full-scale input 1500VAC continuous, 2500VAC for 1 sec. 2 MΩ
Option–347VAC Overload withstand Input impedance	347VAC nominal full-scale input 1500VAC continuous, 2500VAC for 1 sec. 2 MΩ
Auxiliary voltage input (V_{AUX})	
Standard Overload withstand Input impedance	1.0VAC VDC nominal full scale input (1.25VACNDC max) 120V continuous/ 1000V for 1 second 10 kΩ
Current inputs	
Standard Overload withstand Input impedance Burden	5.0A AC nominal full-scale input 15A continuous, 300A for 1 second 0.05Ω 0.05VA
Status inputs	
Standard Overload withstand Input impedance	>20VAC VDC = active, <9VAC VDC = inactive 1500V continuous, 2500V for 1 second 49.2 kΩ from S1, S2, S3, S4 to SCOMM. Optically isolated to 1000V from main circuit board
Power supply	
North American European Optional	85 - 132VAC / 0.2A / 47 to 440Hz or 110 - 170VDC / 0.2A 85 - 264VAC / 0.2A / 47 to 440Hz or 110 - 340VDC / 0.2A 24VDC and 48VDC
Operating temp. Optional	0°C to 50°C ambient air -20°C to +70°C
Storage temp. Humidity	-30°C to +70°C 5% to 95%, non-condensing
Outputs	
Control relays	Form-C dry contact relays 277VAC or 30VDC @ 10A maximum load current
Analog output	Provides analog input to SCADA, PLC and DCS (0-20mA or 4-20mA)

Ordering Data

4700B–DR ☐ – ☐ ☐ H N ☐

Base Unit

Basic	—
Communications, waveform capture, event log, snapshot log	**MC3**

Power Supply

120 VAC/125 VDC	**1**
240 VAC/250 VDC	**2**
24/48 VDC	**3**

Input Voltage

120 VAC	**1**
277 VAC	**2**
347 VAC	**3**

Extended Temperature Range
(For standard temperature range leave box Blank)

Extended Temperature: -4°F to +198°F (-20°C to + 70°C)	**T**

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