SIEMENS

ACCESS™ Compatible

4720 Power Meter

Application

The Siemens 4720 power meter is designed for high-accuracy electrical metering of power distribution equipment in industrial, commercial, institutional and utility applications. The 4720 power meter continuously collects, displays and communicates real-time and minimum and maximum data. Data may be viewed at the meter's high visibility display or via communications at a supervisory computer. Operators may select specific data to display or configure the meter, via the sealed membrane keypad.

In addition to accurate power monitoring, the 4720 power meter has exceptional power quality monitoring capabilities, including on-board harmonic content calculations, snapshots or power profile over time and waveform capture of power disturbances. Additional inputs and outputs allow the 4720 to perform extended tasks which reduce overall monitoring and alarming system installed cost and increase traditional alarming and monitoring capabilities.Examples include breaker position, level switch and alarm contact monitoring, demand control, password protected remote control and temperature or other auxiliary signal monitoring.

The 4720 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.

4720 Power Meter Features

The 4720 Power Meter provides the following features:

- On-board harmonic analysis, with total harmonic distortion, total even harmonic distortion, total odd harmonic distortion and individual harmonic distortions for harmonics 2–15
- High-speed waveform capture, allowing the user to perform high-speed sampling of voltage and current inputs. Inputs are sampled at a rate of 128 samples per cycle
- Time stamping of events has a resolution of 1 msec.
- Over 300 high accuracy, 3-phase measurements including phase currents and average phase currents, amp demand, neutral current, phase voltages and average phase voltage, line voltages and average line voltage, harmonic content values, predicted demand, kW, kW demand, kW hours, kVA, kVAR, kVAR hours, power factor, frequency and auxiliary voltage
- Digital waveform recorder allows for the continuous sampling of all eight voltage and current inputs at a rate of 16 samples per cycle
- High response speed setpoint control system can be activated by a wide variety of user-defined conditions, including harmonic distortion levels and external signals, and is used to trigger waveform recordings of 4 msec duration events
- Extensive on-board data logging of date—and time—stamped records of digital input changes, setpoint/alarming and all output relay operations
- Three form-C output control relays, rated 10 amps, that can be automatically controlled by the setpoint system or through the communications link
- Four digital inputs for monitoring breaker status, protective relay status or any other external dry contact. These inputs can also be used as pulse counters
- Auxiliary analog voltage input which can be used to measure an external variable such as transformer temperature or battery voltage
- Auxiliary analog current output (0–20 or 4–20 mA) which can be made proportional to any measured parameter
- Communications module connects to the ACCESS™ electrical distribution communications system

Metered Values

The following table provides a listing of 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 to 1.0 to +0.6
Frequency	0.2 Hz	0.1 Hz	50, 60 Hz
kW Demand	0.4%	0.1%	0–999,999
Amps Demand	0.2%	0.1%	0–9,999
kW Hour–Forward	0.4%	1 kWH	0–999,999,999
kW Hour–Reverse	0.4%	1 kWH	0–999,999,999
kVAR Hour–Forward	0.4%	1 kVARH	0–999,999,999
kVAR Hour–Reverse	0.4%	1 kVARH	0–999,999,999
V_{AUX} (1VAC scale)	0.25%	0.1%	0–9,999
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

Input Ratings

The following table provides inputs, power supply, and outputs for the 4720 Power Meter.

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	(self-excitation): +30 VDC differential SCOM output to S1, S2, S3, or S4 input. Min Pulse Width: 40 msec. 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 temperature Optional	0°C to 50°C ambient air -20°C to +70°C
Storage temperature 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)

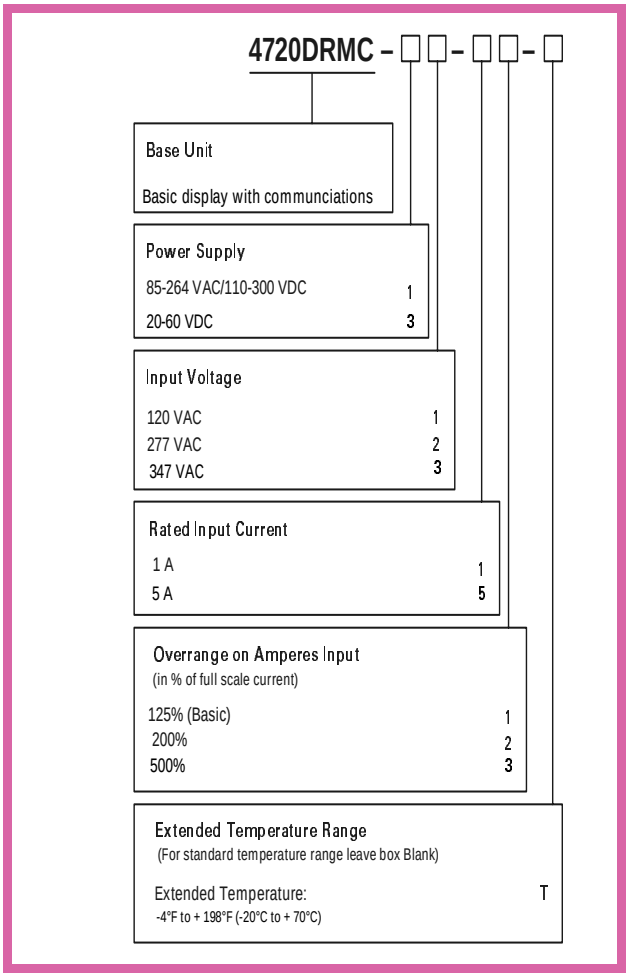
Sampling Rates

Sampling rates are provided below:

Fault Analysis Waveform Recording	16 Samples per Cycle
Harmonic Analysis Waveform Capture	128 Samples per Cycle

Ordering Information

The order number is generated by inserting the selection code into the appropriate box. For additional information on ordering SIEMENS ACCESS products, please call 1-800-427-2256 or your SIEMENS representative.



Siemens Energy & Automation, Inc.
Power Distribution Solutions
3333 Old Milton Parkway
Alpharetta, GA 30005

For Nearest Sales Office
1.800.964.4114
www.sea.siemens.com/sales/salesoffices.html

For More Information Visit
www.sea.siemens.com/access

Order No. XXTA-00108-0899
3M0799CP Printed in the U.S.A.