



## eTactica's PowerSync Network: Power Measurement to Branch Level

### Product Data Sheet

The PowerSync Network consists of eTactica's Gateway (EG-200), Power Meter (EM-SC/FC) and Power Bar (EB-3XX). The Gateway synchronizes voltage measurements on mains with current measurements on branches, allowing power and other quantities per branch to be calculated. This data can then be delivered to any configured service. The PowerSync Network can measure up to 3000A on mains and 63A on branches (extendable to 500A). The PowerSync Network can be scaled to further branches via addition of more Power Bars

### The PowerSync Network



#### Accuracy on measured quantities

Phase angle	Average $\pm 0.44^\circ$ , worst case $\pm 1^\circ$
Voltage from Power Meter EM-SC	$\pm 0.5\%$
Current measurement	$\pm 1\%$
Update interval	1sec

#### Accuracy on derived quantities

Power factor (above > 0.5)	$\pm 1.4\%$
kWh	Class B (EN 50470-3)
kVArh	Class 2 (EN 62053-23)

#### Environment

Protection rating	IP2X
Operating temperature	-25°C to 55°C
Storage temperature	-25°C to 70°C
Relative humidity	0% - 90% non-condensing@40°C

#### Device bus

Interface protocol	Modbus/RTU
Default modbus setting	19200, 8, E, 1 (baud/parity configurable from 600-115200 baud)
Max RS485-cable length	60m
Modbus cable	4 wire, power, ground, rs485 a+b

## Network Components: The Power Bar EB-3XX



### Power Bar EB-303, EB-306, EB-312

Product type	Branch level current/power measurement
Form factors	EB-303, 3 channel bar EB-306, 6 channel bar EB-312, 12 channel bar
Measurements	Current per channel Environmental temperature
Derived measurements with the PowerSync Network	kWh kVAh Power factor
Supply voltage	5-24 VDC $\pm$ 20%
Supply power	0.5W (at 24V)
Supply current	Max. 20mA
Grid frequency	50Hz/60Hz
Error in current measurement	$\pm$ 1% of reading

### Current transformer EC-63

Nominal voltage/insulation	300 V RMS
Rated impulse withstand voltage	4000 V
Rated working voltage	250 VAC
Measurement category	CAT III 300 V

### Current range for Power Bar EB-3XX

Rated current	63A
Minimum measured current	50 mA
Maximum measured current	70A
Sampling rate	5kHz
Split-core sensors	Available in 80A, 200A, 500A

## Network Components: The Power Meter EM-SC and EM-FC



### Power Meter EM-SC, EM-FC

Product type	Mains power measurement, 3 x single phase/1 x 3 phase
Form factors	EM-SC for use with split-core sensors EM-FC for use with flexible-coil sensors
Measurements	kWh, kVAh, Power factor, A, V, frequency, environmental temp.
Supply voltage	5-24 VDC $\pm$ 20%
Supply power	0.5W (at 24V)
Supply current	Max. 20mA
Grid frequency	50Hz/60Hz
Measurement range	110/230 VAC $\pm$ 10%, 0A - 3000A
Accuracy (kWh)	Class B (EN 50470-3)
Accuracy (kVAh)	Class 2 (EN 62053-23)

### Sensors

Nominal voltage/insulation	300 V RMS
Rated impulse withstand voltage	4000 V
Rated working voltage	250 VAC
Measurement category	CAT III 300 V
Split-core sensor range	80A, 200A, 500A
Flexible-coil sensor range	1000A, 2000A, 3000A

## Network Components: The Gateway EG-200



### Gateway EG-200

Product type	Network communications & Modbus master
Electrical connections	7-24 VDC $\pm$ 20%
Supply current	Max 1.1A
Supply power	Max 13W
Network communication	Ethernet 10/100, WiFi
Interface protocol	Modbus RTU/TCP, SNMP
External memory	Micro SD-card slot
App development	Scripting plugins and full SDK