



- **Four model types designed to fit a wide range of applications**
- **One meter to measure current, voltage and power**
- **Compact DIN (96 x 96 mm) case needing only 2.80" (71 mm) behind the panel**
- **Remote Monitoring with use of optional Modbus® communications module**
- **Optional Analog Output Module**
- **Easy installation - software detection/ correction of wiring errors**
- **Wide backlit LCD display for easy viewing**
- **Easy and safe to use - four keys select all parameters**
- **Configurable for single or three-phase applications**

### The GIMA® Series of Digital Panel Meters:

The GIMA series measures values by replacing ammeters, voltmeters, switches, power factor, kW indicators & kWh meters and provides a single source of instrumentation for all measurement and metering requirements.

GIMA provides accurate, high-speed, continuous measurements irrespective of harmonics and waveform interruptions and features "Auto-commissioning" to ensure that a reverse current transformer connection will not cause reading errors. Per-Phase kW and Power Factor allow a cross-phase connection error to be quickly and easily detected.

Other capabilities include minimal mode testing with full four-digit resolution of single-phase values and five-digit resolution of three-phase values.

GIMA also gives maximum visibility with a custom backlit LCD display. The display is fully visible under most conditions and from most angles. Clear display legends ensure simple readings with no multipliers required.

The GIMA unit installs quickly and easily, ready to measure low voltage occurrences normally found in institutional and industrial applications.

*Simpson offers a range of accessories to enhance the GIMA® Series such as serial communications, analog outputs and three-phase current transformers. Some of these accessories have retro-fit options. With these accessories, the GIMA® series is able to fit most applications.*

# GIMA® Series Models & Parameters

	G100	G200	G300	G400
Phase Amps	•	•	•	
Phase Volts	•	•	•	•
Line Volts	•	•	•	•
Per phase PF	•	•	•	•
Per phase kW	•	•	•	•
Per phase kvar			•	•
Per phase kVA				•
3 Phase PF	•	•	•	•
3 Phase kW	•	•	•	•
3 Phase kvar			•	•
3 Phase kva				•
Frequency	•	•	•	•
kWh		•	•	•
Capacitive kvarh			•	•
Inductive kvarh			•	•
Total kvarh			•	•
Import kVah				•
Current Demand	•	•	•	•
Voltage Demand	•	•	•	•
kW Demand			•	•
Peak Amps				•
Peak Phase Volts				•
Peak Current Demand	•	•	•	•
Peak Voltage Demand	•	•	•	•
Neutral Current				•

## GIMA® Series Specifications

### Inputs

**System:** 3-phase, 3 or 4-wire unbalanced load  
**Voltage:** 120/208, 120/240, 277/480, 63/110

Measurement Range: 0.5% to 120%

**Current:** 5 amp from external CTs Fully Isolated

Measurement Range: 0.5% to 120%

### Operating

**Frequency:** 45 to 65 Hz  
**Harmonics:** Up to the 20<sup>th</sup> harmonic

### Input Loading:

Voltage: Less than 0.1VA per phase  
 Current: Less than 0.1VA per phase

### Overload

Voltage: x2 for 2 seconds max.  
 Current: x40 for 1 second max.

### Auxiliary Supply

Standard: 115V±15% 45-65Hz  
 Optional: 230V±15% 45-65Hz  
 Load: 5 VA max.

### General

**Display:** Custom backlit supertwist LCD 3 lines of .47" (12mm) digits plus .15" (3.8mm) legends

### Environmental

**Temperature:** 14°F to 149°F (-10°C to 65°C) operating

**Humidity:** <75% RH non-condensing

### Programming

CT Primary: 5amp to 6500amp  
 VT Primary: 60v to 50,000v

### Pulse Output

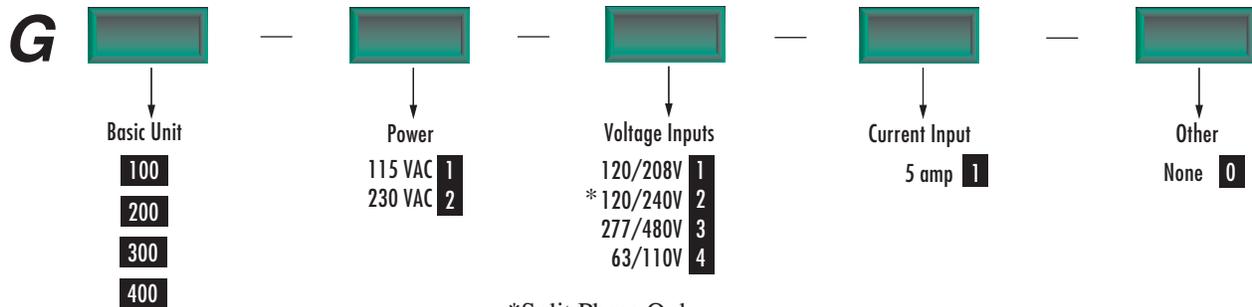
#### Function:

Output 1 Wh (G200, G300 & G400 only)  
 Output 2 Total varh (G300 & G400 only)  
 Pulse Length: 100ms  
 Isolation: 2500V (50 Output 1 to Output 2)  
 Scaling: Can be set 1, 10 or 100 pulse output rate

### Accuracy

	Per Phase	3 Phase
<b>Current</b>	±0.2%FS	N/A
5% to 120%FS	±1% Rdg*	
<b>Voltage LN</b>	±0.2%FS	N/A
20% to 120%FS	±1% Rdg*	
<b>Voltage LL</b>	±0.3%FS	N/A
20% to 120%FS	±1% Rdg*	
<b>Watts:</b>	±0.4% FS	±0.6% FS
5% to 120% FS	±1% Rdg	±1% Rdg*
<b>VA:</b>	±0.6% FS	±1% FS
5% to 120% FS	±1.5% Rdg	±1.5% Rdg
<b>var:</b>	±0.8%FS	±1.5% FS
5% to 120% FS	±2% Rdg	±2% Rdg
<b>PF:</b>	±0.2°FS	±0.2° FS
<b>Frequency</b>		±0.05 Hz
<b>Neutral Current:</b>	N/A	±0.6% FS
5% to 120%FS		±2% Rdg
<b>Wh Register:</b>	N/A	Class 1 EN 61036
<b>VAh Register:</b>	N/A	Class 2
<b>varh Register:</b>	N/A	Class 2

## Ordering Information



### GIMA® Modbus Communications

The Communications Option Module is available in two formats:

GIMA® Standard .....Catalog No. 46240  
 GIMA® All Value .....Catalog No. 46241

# GIMA® Options Modbus® Communications

The Modbus Communications Option Module for the GIMA Series adds multi-drop serial communications to any standard GIMA meter. The device uses a high speed microprocessor to extract information from the meter and interface to an industry standard Modbus system.

Use of a dedicated communications processor guarantees optimum efficiency and allows fast access to data on systems with multiple meters. At 19200 baud, it is possible to access and download the main data tables (24 values) from 10 GIMA meters in one second.

The use of Modbus® protocol ensures compatibility with existing systems and/or many readily available software packages.



This Options Module may be configured as RS485 or RS422 providing 2 or 4-wire communications over distances up to 3/4 mile. Data rates of 4800, 9600 or 19200 baud may be selected to suit system requirements.

The Communications Option Module is available in two formats:

- Standard** Only parameters displayed on the GIMA meter can be accessed via Modbus® **Cat. No. 46240**
- All Value** The full set of GIMA parameters can be accessed via Modbus® from any GIMA® **Cat. No. 46241**

## GIMA® Options Modbus® Specifications

External Supply	Mechanical (Options Module)	Modbus® Serial Comms
<b>Option Module:</b> 115VAC or 230VAC 50/60-Hz ±15% Automatic voltage selection when inserted into GIMA® meter. GIMA® meters MUST be rated to match either selection.	<b>Enclosure:</b> Custom options enclosure. Material Mablex UL94-V-0 <b>Dimensions Options:</b> 2.95"x2.32"x3.43" (75mmx59mmx87mm) <b>Unit Unfitted:</b> <b>GIMA® Meter + Options:</b> 5.43"x3.78"x3.78" (138mmx96mmx96mm) <b>Behind Panel:</b> 5.12" (130mm) <b>Weight:</b> Approx. 7oz (200g) <b>Terminals:</b> Rising Cage. Cable (max) .06" (1.5mm <sup>2</sup> ) Solid, .04" (1.0mm <sup>2</sup> ) Stranded	<b>Bus Type:</b> RS422 / RS485 4/2 wires + 0V. Half Duplex <b>RX Loading:</b> 1/4 unit load / options module <b>TX Drive:</b> 32 unit loads <b>Protocol:</b> Modbus® RTU with 16 bit CRC. (JBUS compatible) <b>Baud Rate:</b> 4800, 9600 or 19200 user programmable User-programmable (1-247) <b>Address:</b> <b>Speed:</b> <b>Max Data Packet:</b> Any complete table (energy, instantaneous, set-up, etc.) <b>Command Rate:</b> New command within 5ms of previous one
<b>Load:</b> 3VA maximum <b>Isolation:</b> 2.5kV continuous (internally wired to GIMA® auxiliary mains inputs)		

# GIMA® Options Quad Analog Output

The Quad Analog Output Options Module adds four DC analog outputs to any standard GIMA Series Power Meter. This unit is available with 4-20mA output. All outputs are isolated from the metering elements to provide safe connection to external systems. The device uses a high-speed microprocessor to extract information from the meter and a precision digital to analog converter to produce the output signals.

The Options Module provides four DC current sinks with a common signal return which allows connection to PLCs and other equipment fitted with a suitable interface. 4-20mA systems are commonly used where signals require transmission over long distances.

**Cat. No. 47130**



# GIMA® Options Quad Analog Output Specifications

## Auxiliary Supply

Option Module :	230V AC or 110V AC 50/60Hz±15% Automatic voltage selection when inserted into GIMA Power Meter. GIMA power Meter must be rated to match Option Module rating 4 VA Maximum
Load:	4 VA Maximum
Isolation:	2.5 kV continuous (Supply internally wired to GIMA Power Meter Auxiliary mains inputs)

## Mechanical (Options Module)

Enclosure:	Custom Options Enclosure. Material Mablex UL94-V-0
Dimensions:	
Options Unit Unfitted	W=87mm x H=59mm x L=75mm
Gima Power Meter + Options	W=96mm x H=96mm x L= 138mm (130mm behind panel)
Weight:	Approx. 200g
Terminals:	Rising cage. 0.2 —1.0mm <sup>2</sup> Conductors

## 4-20mA Output

Output:	Quad 4-20mA DC Current Sink with common signal return
Loop Supply:	Nominal 24V DC Max 28V DC (At Options Module) Min 5V DC (At Options Module)
Internal Supply:	Unregulated 18V DC Max 30V DC Min 10V DC
Load Impedance:	
External Supply	600Ω per channel (maximum 950Ω) 24V supply
Internal (Unreg) Supply	250Ω per channel (maximum 500Ω) at nominal V <sub>aux</sub>
Over Range:	Max Output 21mA
Resolution:	10 Bit (830 Levels from 4mA to 21mA)
Update Speed:	Outputs updated every second (As GIMA Power Meter)
Output Accuracy	Test Range 4mA to 20mA, Load Impedance = 250Ω I <sub>out</sub> <5.6mA ± 0.75% Reading + GIMA Power Meter Errors I <sub>out</sub> >5.6mA ±0.5% Reading + GIMA Power Meter Errors
Effect of Loop Impedance	<0.02% (0Ω to 250Ω)
Effect of Supply Voltage	<0.05% for V <sub>aux</sub> ±15% (Internal Supply, 250Ω load)

# Ordering Accessories

## Three-Phase Current Transformer

Catalog Number	Current Ratio	Accuracy At 60 Hz	Burden VA 60 Hz
37026	50:5	± 3%	2.0
37027	100:5	± 2%	2.0
37028	150:5	± 1%	4.0
37029	200:5	± 1%	5.0
37030	300:5	± 1%	10.0

A three-phase terminal style current transformer can be used with all the GIMA three-phase meters. Simpson's three phase current transformer can be used to monitor AC current when the current level is too high for the meter.

The current transformer is equipped with terminals to permit easy connection to the GIMA units. These terminals are #8-32 brass studs and come with a flatwasher, lockwasher and a regular nut.

Leads are not provided.



**Find Information on other Simpson products at [www.simpsonelectric.com](http://www.simpsonelectric.com)**

**Simpson Electric Company** 853 Dundee Avenue, Elgin IL 60120-3090  
PH: (847) 697-2260 • Fax: (847) 697-2272  
520 Simpson Avenue, Lac du Flambeau, WI 54536

