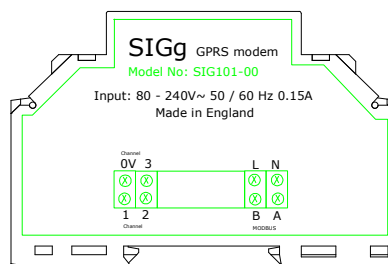
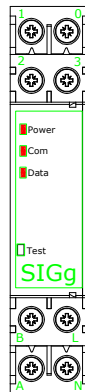


SIGg Micro-Telemetry Unit User & Installation Guide



Document

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Product Conformity

R&TTE 09/2012

CAT II 

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Important Information.

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About SIGg

Smart Innovations Grid Ltd, otherwise known as SIG, is a company whose product portfolio includes a product known as 'SIGg'. SIGg is a GPRS based micro energy monitoring system which, when attached to a utility meter, can provide vital statistical information on energy consumed or generated.

The brand name 'g' denotes the product type as a GPRS unit.

Configuration

The SIGg product has a default configuration which enables it to operate around the world. Further configuration can be remotely configured from the dedicated data hosting server using the config Tool.

SIGg Features

User Interface

The user has access to the following:

- Input(s) CH1, CH2, CH3, 0V, RS485 (A), RS485 (B), LIVE, Neutral – connections
- Commission button
- LED 'p' – Power Status LED
- LED 'c' – Communication Status LED
- LED 'd' – Data Status LED

If LED 'p', 'c', and 'd' are RED in colour then the unit is in commissioning mode triggered by the test.

LED	LED State	LED Colour	SIG micro telemetry unit
p	Flashing	Amber	Unit Searching for Available SIM Network
	Solid	Off	Unit in Sleep Mode
		Green	Unit in Operation
		Amber	Unit Signal Strength OK
		Red	Unit connected to GPRS Network
d	Solid	Off	-
		Green	Flash rate determines number of MODBUS meters read
		Amber	Unit Configuration updated
		Red	Flash rate determines which channel has picked up pulse
	Flashing	Red	1 flash every 1 second = CH1
		Red	2 flash every 1 second = CH2
		Red	3 flash every 1 second = CH3
c	Flashing	Off	-
		Green	Initialising to SIM Network
		Red	GPRS / Server Connection Issue
	Solid	Red	Connected to Server and data acknowledged
		Green	GPRS Internet Error, No IP Allocated
		Amber	Configuration downloading from server

Electrical Interface

One interface is available for the user to only commission the unit by pressing the inset button on the front face.

Technical Information:

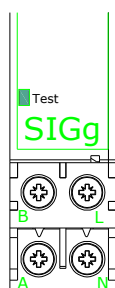
- Mains Power, AC MAINS 90 – 240 AC @ 0.15A
- Internal Temperature Sensor, -30 to +85°C
- Internal battery backed up real time clock

The default unit has only configuration to read 18 IME, 5 RAIL350, 5 RD-19 & 4 Pro Digital meters, please refer to manufacturer for other meter versions.

Commission Button

The commission button is on the lower part of the front face, using a small screwdriver or pen nib, press and hold button down for 5 seconds until all 3 LEDs on the front face turn red. Quickly release the button and wait for the commission sequence to complete. If the unit is already commissioned then the unit will only connect to the server and check for any updates and upload current data logs, if any.

In this mode the unit shall read all active meters and send data via GPRS to the remote server before entering sleep mode.



If the unit is already commissioned then by pressing the commission button for 1 second and releasing will show the last LED colour state, this LED state can be used to reference the state of the SIGg.

Installation / Safety

The SIGg unit must be installed by a qualified electrician within a fixed consumer unit with a minimum IP rating of IP20 and suitable protected entry and exit points. An overload protection / supply disconnect device must not exceed 6 Amps.

All connections to the SIGg need to be fully tight and cable needs to be tugged with small pressure to make sure no loose connections can occur.

The SIGg must be fitted in the text readable format with A, B, L & N facing downwards. Fitting in this orientation will stop any cable becoming loose and then re-inserting itself to power SIGg up or interconnect A,B into L,N or vice versa, this is a fail-safe-install state.

If an external antenna SIGg is used then the exit point of the antenna must be suitably chosen and isolated using typical 16 or 20mm gland, part numbers TE 16MM GREY (Farnell 1174593), TE 20MM GREY (Farnell 1174594) respectively.

The SIGg can operate between 89 and 250V AC with a tolerance of +6 and -10% (80 – 265V).

The SIGg is designed to operate within a fixed temperature range, temperature exceeding 100°C applied directly to case plastic can and will deform the case, which will effect the operation of the SIGg.



SPECIFICATION

Standard	▪ R&TTE ▪ EN61000-6-2:2005, EN61000-6-3:2007 +A1:2011 ▪ EN60950-1:2006 +A2:2013
Networks supported	▪ GSM 850/900/1800/1900 MHz @ maximum 2 Watt
Physical specification	▪ Dimensions: 90 x 65 x 19mm ▪ Weight: 20g ▪ Operating temperature: -10 to 85°C, limited modem communication > 60°C
Power specification	▪ Input voltage range 89 - 250 V AC -6 to +10%, ▪ Real Time Clock – battery backed up ▪ Standby Mode (Logging Sensors and the modem is off) < 32mA ▪ Idle Mode (Modem is on but not transmitting data) < 100mA ▪ Live Mode (Max Ave current consumption during GPRS transmission) ~ 450mA
Features	▪ 3 configurable inputs ▪ digital > 2.2 for logic 1, < 0.8 for logic 0 ▪ analogue 0 – 10 VDC, temperature probe 10K3A1@25 °C ▪ pulse count ▪ pull-up / down control ▪ 0V connection ▪ RS485 Interface ▪ MODBUS RTU Interface ▪ Maximum 32 Slaves^{#1#2} ▪ Internal Serial Interface and Expansion Bus ▪ Internal micro SIM socket ▪ Over air configuration and firmware update capability^{#3}
SIGg Variations	▪ SIGg : Internal GSM Antenna ▪ SIGg\e : External GSM Antenna SMA bulkhead
Included	▪ SIGg with Internal GSM Antenna
Meter Interface	▪ IME Cont 4D : ▪ Meter Connection 33 to SIGg – A ▪ Meter Connection 34 to SIGg – B ▪ Meter Connection 35 to SIGg – 0 ▪ PRO75D / 125D : ▪ Meter Connection 8 to SIGg – A ▪ Meter Connection 7 to SIGg – B

^{#1} Maximum 32 slaves (ID 1 - 32), slave ID's 1 - 5 with full power meter data capability, For > 32 Slaves please contact Smart Innovation Grid.

^{#2} Additional 15 slaves (ID 33 - 48) reserved for future use.

^{#3} Over air configuration controlled by SIG server, firmware upgrade to enhance performance only applicable in field.