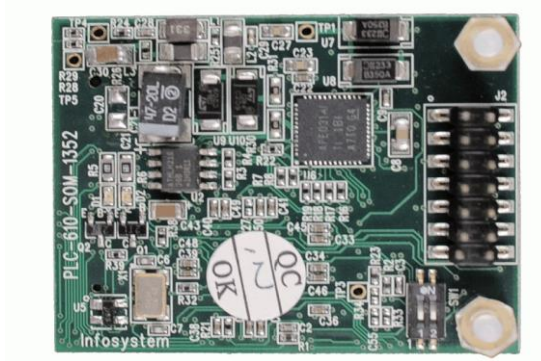


- **SOM-G3-PLC: System on Module for G3-PLC Power Line Communication (CENELEC frequency band)**



Order Information:
Model No.: SOM-G3-PLC

● FEATURES

- Supports CENELEC frequency bands
- G3-PLC Standard Compatible
- Comprehensive 2 chip solution includes an MCU and integrated analog front end
- 34pin mini header provides flexibility for interfacing to custom board and other Infosystem Designs like the ADC-2000 Advance Data Concentrator and PLC-610.
- Small form factor: 1.5" X 1.9"

● APPLICATIONS

- Streetlight Control
- Power Line Communication (PLC) Modem
- Smart E-Meter: AMR and AMI
- Solar Power Inverter

● GENERAL DESCRIPTIONS

The SOM-G3-PLC is same as the SOMPLC-F28PLC83 of TI's. The SOMPLC-F28PLC83 is a single-board System on Module(SOM) for G3-PLC in the CENELEC frequency band. Texas Instruments' production-ready G3-PLC software is available along with the SOMPLC-F28PLC83. Engineers can take the SOM design and integrate it into their overall system board or

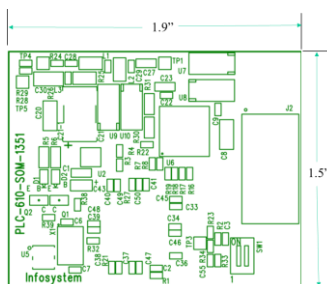
keep the design as an add-on board to their application. The only additional hardware required is the AC mains line coupling circuitry. The included hardware schematics and Gerber files simplify the task for engineers to add PLC to their end system. OEMs will benefit from having the ability to rapidly evaluate and prototype Power Line Communications technology in their application.

● 34-Pin Connector Details

PIN#	NAME	I/O	ELECTRICAL	DESCRIPTION
1	L1	I/O	0 V (GND)	Neutral (analog ground), connected to the PL coupler
2	L2	I/O	0 V (±6-V)	Analog PLC signal, connected to the PL coupler
3	NC	NC	—	Unused
4	NC	NC	—	Unused
5	GND	—	—	Ground
6	GND	—	—	Ground
7	V15	—	15 to 18 V	Power supply pin (15 V). Peak current 400 mA in transmit mode (average 100 mA).
8	3V3	—	3.14 to 3.47 V	CPU and Logic Digital Power pin (3.3 V). Max current 1000 mA.
9	EN	I-I/O	-0.3 V to VCC+0.3 V	System enable (logical level, active high). Controls power up/down function of the module. When low, the module goes to power down mode. This feature is not yet implemented in software or GPIO13.
10	ZC	I	-0.5 to 6.5 V	Buffered ZC input. This input must be isolated from the power line before entering this pin.
11	RX-A	I	-0.3 V to VCC+0.3 V	Asynchronous serial host-transmit, SCI-A
12	TX-A	O	-0.3 V to VCC+0.3 V	Asynchronous serial host-receive, SCI-A
13	Phase B/GPIO	I-I/O	-0.3 V to VCC+0.3 V	Phase B Enable signal (for 3-phase selection) or GPIO5
14		I/O	-0.3 V to VCC+0.3 V	Phase C enable signal (for 3-phase selection) or GPIO10
15		I/O	-0.3 V to VCC+0.3 V	I2C data pin
16		I	-0.3 V to VCC+0.3 V	I2C clock pin
17		I	-0.3 V to VCC+0.3 V	Unused ADC input. (ADC-B0)
18		—	—	Analog ground
19		I/O	-0.3 V to VCC+0.3 V	Unused multi-purpose I/O, GPIO26
20		—	—	Ground
21		I/O	-0.3 V to VCC+0.3 V	Unused multi-purpose I/O, GPIO27
22		—	—	Ground
23		I-I/O	-0.3 V to VCC+0.3 V	CAN RX interface or GPIO30
24		O-I/O	-0.3 V to VCC+0.3 V	CAN TX interface or GPIO31
25		I	-0.3 V to VCC+0.3 V	SPI clock or general purpose I/O (GPIO18)
26		I	-0.3 V to VCC+0.3 V	SPI slave transmit enable or general purpose I/O (GPIO19)
27		I	-0.3 V to VCC+0.3 V	SPI slave in, master out or general purpose I/O (GPIO16)
28		O	-0.3 V to VCC+0.3 V	SPI master in, slave out or general purpose I/O (GPIO17).
29		I	-0.3 V to VCC+0.3 V	Reset of SOMPLC (active low)
30		I/O	-0.3 V to VCC+0.3 V	Unused multi-purpose I/O pin, GPIO04.

31		NC	—	Unused
32		NC	—	Unused
33		I	-0.3 V to VCC+0.3 V	Asynchronous serial host-receive, SCI-B
34		O	-0.3 V to VCC+0.3 V	Asynchronous serial host-transmit, SCI-B

● Dimension



● Block Diagram

