

Power One PVI-WEBLOGGER-CENTRAL – T.E.R.N.I. TRSun

Rev.3 – 02-11-2008



The PVI-WEBLOGGER-CENTRAL is the complete solution for the remote monitoring of photovoltaic plant where are installed **Power One Aurora** centralized inverters. The monitoring system is based on the **TerniEnergia's TRSun** product.

- Monitoring of central inverters and string combiner boxes (up to 64 devices);
- Complete configuration of the monitoring system through internal webserver (no additional software required) or display;
- Complete plant's data acquisition (from inverters and string combiners);
- Complete plant's status monitoring (inverter's status and string combiner's status);
- Remote connection through Ethernet or GSM/GPRS connection;
- Automatic alarm sending via SMS and/or via e-mail;
- Automatic daily report sending via e-mail;
- Stored data downloading and FW updating via USB memory stick;
- External devices connections: 4 analog input channels, 2 analog output channels, 2 digital input channels, 2 digital output channels;
- Modbus port for external meter connection.

TECHNICAL DATA

Supply characteristic (external power supply included)

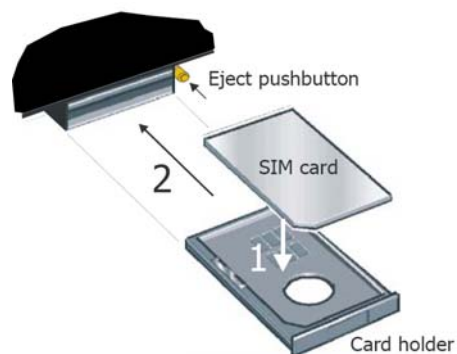
Parameter	Description/Value	Note
Input voltage range	Vin,min: 5Vdc	
	Vin,max: 5.5Vdc	
Nominal input voltage	Vin: 5.3Vdc	
Power Consumption	P<10W	

Wired communication

Parameter	Description	Note
Method of transmission data	Ethernet	Configurable for DHCP or static IP
Connection	RJ45 plug	Mating cable included

Wireless communication

Parameter	Description/Value	Note
Method of transmission data	GSM-GPRS	
Frequency Band	Tri-band 900/1800/1900 MHz	
GPRS downlink data rate	Up to 85.6kbps	
Internal SIM card socket	3V Micro-SIM card receptacle	Refer to picture no.1



Picture no. 1: SIM Card receptacle.

Antenna (included)

Parameter	Description/Value	Note
Frequency range 1	896 ~ 960 MHz	
Frequency range 2	1710 ~ 1990 MHz	
Impedance	50 Ohms	
VSWR	1:1.5	
Gain	4.15 dBi	
Polarization Form	Vertical	
Radiation	Directional	
Maximum Power	20 Watts	
Lightning Protection	DC Grounding	
Fixing	Self adhesive strip	Refer to picture no.2



Picture no.2: antenna's drawing.

Inverter communication port

Parameter	Description/Value	Note
Type of serial port (Port 5)	RS485	
Baud rate	19200 Bps	8/N/1
Protocol	Aurora Communication Protocol 4.0	Release 07/02/08
Termination resistor	Integrated - 120Ohm	

Analog inputs

Parameter	Description/Value	Note
Number of analog inputs	4 voltage inputs	
Input voltage range	0-10Vdc	Range: 0...10Vdc Bias current: 50nA max
Max input voltage	35Vdc	Without damaging
Resolution	2.44mV	

Analog outputs

Parameter	Description/Value	Note
Number of analog outputs	2 voltage outputs	
Output range	0-5Vdc - 8mA max	
Settling time	4s max	To $\pm 1/2$ LSB
Relative accuracy	± 1 LSB	

Digital inputs

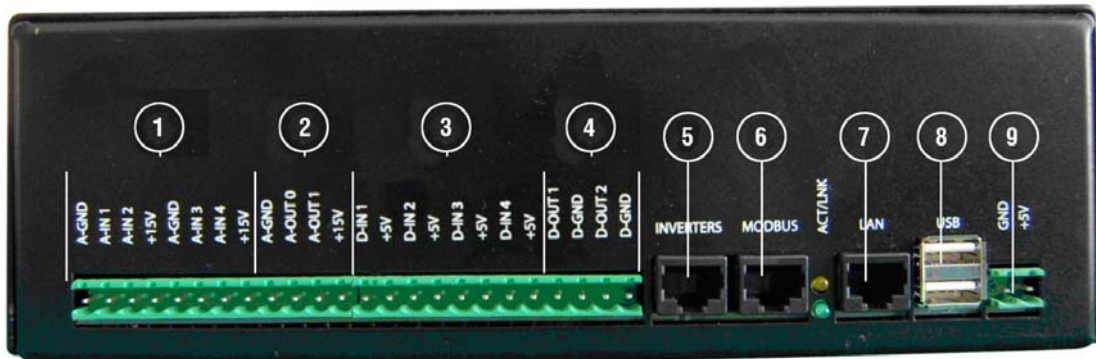
Parameter	Description/Value	Note
Number of digital inputs	4	HCT/TTL compatible
Voltage logic levels	Low	Min: 0Vdc Max: 0.8Vdc
	High	Min: 2Vdc Max: 5Vdc
Input current	± 1 mA max	

Digital outputs

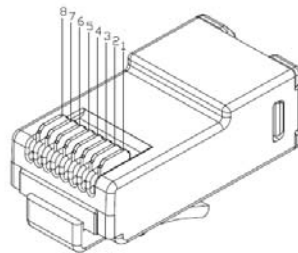
Parameter	Description/Value	Note
Number of digital outputs	2	HCT/TTL compatible
Voltage logic levels	Low	Min: 0Vdc Max: 0.33Vdc
	High	Min: 3.8Vdc Max: 5Vdc
Output current	± 4 mA max	

External connections (refer to picture no.3 and no.4)

Connector no.	Type	Pin assignment	
Connector 1: Analog in	Phoenix Contact 2x4 Male connectors (mating part included)	Pin1: Analog GND	Pin5: Analog GND
		Pin2 : Analog In 1	Pin6: Analog In 3
		Pin3 : Analog In 2	Pin7: Analog In 4
		Pin4: 15 Vdc	Pin8: 15 Vdc
Connector 2: Analog out	Phoenix Contact 1x4 Male connectors (mating part included)	Pin1: Analog GND	
		Pin2 : Analog Out 0	
		Pin3 : Analog Out 1	
		Pin4: 15 Vdc	
Connector 3: Digital in	Phoenix Contact 2x4 Male connectors (mating part included)	Pin1: Digital In 1	Pin5: Digital In 3
		Pin2 : 5 Vdc	Pin6: 5 Vdc
		Pin3 : Digital In 2	Pin7: Digital In 4
		Pin4: 5 Vdc	Pin8: 5 Vdc
Connector 4: Digital out	Phoenix Contact 1x4 Male connectors (mating part included)	Pin1: Digital Out 1	
		Pin2 : Digital GND	
		Pin3 : Digital Out 2	
		Pin4: Digital GND	
Inverter Port (RS 485) 120 Ohm terminated	RJ45 Female (mating cable included) (connector pin-out: See Fig.4)	Pin1: N/A	Pin5: N/A
		Pin2 : +T/R	Pin6: RTN
		Pin3 : N/A	Pin7: N/A
		Pin4: -T/R	Pin8: N/A
MODBUS Port (RS 485) 120 Ohm terminated	RJ45 Female (connector pin-out: See Fig.4)	Pin1: N/A	Pin5: N/A
		Pin2 : +T/R	Pin6: RTN
		Pin3 : N/A	Pin7: N/A
		Pin4: -T/R	Pin8: N/A
Ethernet Port	RJ45 Female		
USB Ports	USB Type A		
Power Supply Port	Phoenix Contact 1x2 Male connectors (mating part included)	Pin1: GND	Pin2: +Vcc
Antenna connector	SMA Female		



Picture no.3: connector's layout.



RJ45		CABLE COLOR
2	+	ORANGE
4	-	WORANGE
6	GND	GREEN

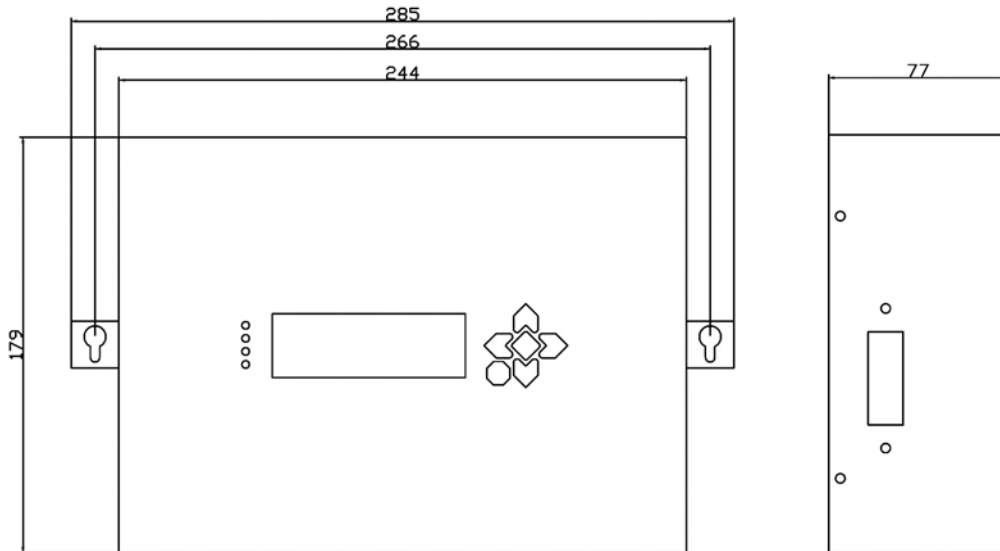
Picture no.4: RS485 connector (Inverter and Modbus communication)

Environmental data

Parameter	Description/Value	Note
Operating ambient temperature range	-20°C / +55°C	
Storage temperature range	-40°C / +75°C	
Operating humidity	25% ... 95% non condensing	@ +55°C
Case material	Aluminum	

Mechanical data

Parameter	Description/Value	Note
Dimension BxLxH	244x179x77 mm	Refer to picture no.4
Weight	1,5 kg	
Case material	AL	



Picture no.4: mechanical layout.

Appearance

