ITEM CODE-301C

GSM/GPRS Based Solar Powered ULFM Monitoring System

An off-grid solar power system allows you to install and operate ultrasonic flow meters in locations where a traditional 230VAC wired power source may be impractical, expensive or not available. Solar power systems can be the perfect solution for saving money powering flow measurement equipment in remote locations.

A solar powered ultrasonic flow meter is a type of flow meter that measures the velocity of a fluid with ultrasound to calculate volume flow. Using ultrasonic transducers, the solar powered flow meter can measure the average velocity along the path of an emitted beam of ultrasound, by averaging the difference in measured transit time between the pulses of ultrasound propagating into and against the direction of the flow or by measuring the frequency shift from the Doppler effect. Solar powered ultrasonic flow meters are affected by the acoustic properties of the fluid and can be impacted by temperature, density, viscosity and suspended particulates depending on the exact flow meter.

Solar Powered Ultrasonic Flow Meter System

A solar power system for ultrasonic flow meter applications consists of a solar module, a solar charge controller, a rechargeable solar deep-cycle battery, power converter and a weather-proof outdoor enclosure. This system is used to collect solar energy and the store electrical power, and then convert the stored power into the correct voltage to operate the ultrasonic flow meter.

What Size Solar Power System For Ultrasonic Flow Meters?

To select the correct size solar power system to power an ultrasonic flow meter there are a few things that must be known.

1. What is operating voltage and power consumption in amps, or watts of the ultrasonic flow meter?
2. How many hours each day will the ultrasonic flow meter be required to operate.
3. What is the geographical location the solar powered flow meter will be installed.
4. How many days of battery reserve power are desired for "no sun" days?

Calculation of power

Example-- Require back up –24hr

Power consumption of ULFM—2W (24v ,85ma), 2w x 24 hr =48w

RTU--- 0.6 W (12V ,50ma) in normal , data poll 5 sec, 2W (12v 165ma), 0.6w x 24 = 14.5w

Data polling every 5 minute (5sec x (60/5) x 24)/3600) x 2 =0.8w

Boost converter and Charge controller--- 0.2w x 24 = 4.8w

Total consumption--- 48+14.5+0.8+4.8 = 68w

Require battery 68/12v = 5.67 A next size 7Ah for 24 hr backup

No Sun Period average—16 hr

Require power for current load and charge to **battery – (7Ah**/7 hr)+225ma =1.3A

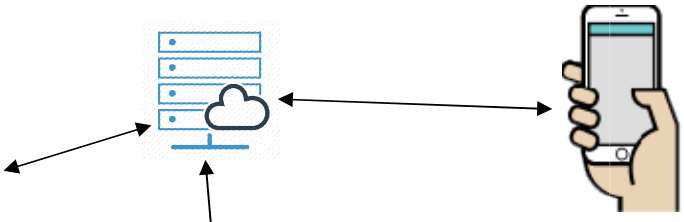
Solar power 1.3A X 7hr = 9w + 30% = 12w

We Suggest system for minimum with 36 Hr , Solar 50w, Battery 14Ah

Product Specification

Sr.no	Particular	Details
1	ULFM	• Rs485/4-20ma/pulse output • 10-30VDC
2	GSM/GPRS Based Data logger Model no. AE-10RS	• 10-30vdc, 2G • 2 Analog input,Pulse, rs485,DI • Can poll data from SMS and GPRS • MS Enclosure • Inbuilt watchdog • Save save data in case no network or server off, poll data if things ok
3	Solar power system	• 50w 12 Solar PV • 14AH lead acid battery • Solar charge controller • M.S Rain proof Enclosure 500*500*150mm
4	Software	• Web based • Industrial scada tag based • Mobile android scada

Flow Chart



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