

iPackACCESS Power Calculations

Introduction

The iPackACCESS must remain in an active state to support continuous communication with the MODBUS/SCADA system. This application note describes the iPackACCESS's power consumption under different conditions and provides examples to assist with designing an appropriate power system if grid power is unavailable. This application note does not apply when using the iPackACCESS for wind resource assessment with a BGAN M2M Satellite module.

Beginning May 2016, a new version of the iPackACCESS was released (SN 716900300 and higher) which has double the battery capacity of the original iPackACCESS. The SymphoniePLUS3 and SymphoniePRO loggers have negligible power differences for SCADA applications, and will be referred to in calculations as "logger".

General Power Calculation

Power (Watts) = Voltage (Volts) x Current (Amps)

Continuous Power Consumption Calculation

Total Continuous Power = (iPackACCESS and logger Continuous Power) + Sensor Power
= (12V x 100mA) + Sensor Power
= 1.2W + Sensor Power

Continuous power will remain the same as the input voltage varies.

Example:

Total Continuous Power = (14V x 86mA) + Sensor Power

Maximum Charging Power Consumption Calculation

Maximum Charging Power = iPackACCESS Max Charging Power
= (28V x 750mA)
= 21W

Maximum charging current will remain the same as input voltage varies.

Example:

Charging Power = (15V x 750mA)
= 11.25W

Stand Alone Operational Time Calculation iPackACCESS (SN 716900299 or lower)

Stand Alone Operational Time = Battery Capacity / (iPackACCESS and logger Current + Sensor Current)
= 2200 mA-hr / (100mA + Sensor Current)

With no sensors attached:

Stand Alone Operational Time = 22 hr

Stand Alone Operational Time Calculation iPackACCESS (SN 716900300 and higher)

Stand Alone Operational Time = Battery Capacity / (iPackACCESS and logger Current + Sensor Current)
= 4400 mA-hr / (100mA + Sensor Current)

With no sensors attached:

Stand Alone Operational Time = 44 hr

Typical power configuration

