

## Application Note – Monitoring remote power in Nepal

### Customer Requirements

In the remote village of Humla in the northwestern corner of Nepal even a simple thing like electric light in their homes can change a life. The current method of lighting is to burn sticks covered in tree resin. The resin is a poor light source and produces smoke that can have detrimental effects on the health of the people in the household.

Kathmandu University is investigating using Solar Panels to provide electrical power to run high intensity White Light Emitting Diodes (WLEDs) to provide basic lighting.

As part of the investigation they are monitoring Photo Voltaic performance, current consumption battery and voltage inverter performance as well as temperature readings.



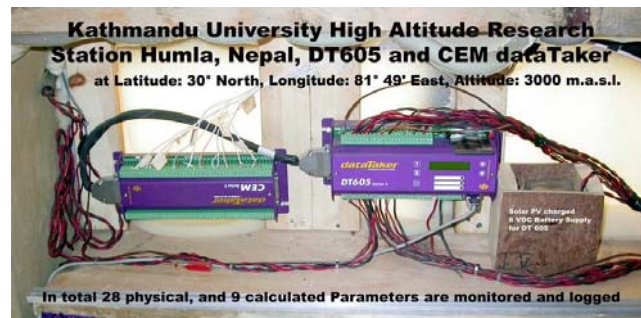
*Resin sticks are used for lighting.  
Note the amount of smoke in the room.*

### Equipment

DT605  
Channel Expansion Module  
DeLogger™ 4 Pro

### Sensors

Thermocouples.  
Current shunts.  
Direct voltage measurement.  
Solar radiation sensor.



*Pictures courtesy of Katmandu University.*

### Datataker Solution

The DT605 was configured by Kathmandu University to measure and log a number of key parameters in order to monitor and assess the long-term performance of Photo Voltaic (PV) cells at high altitude.

Parameters the dataTaker DT605 is measuring include Photo Voltaic performance (PV Voltage, PV Current, total daily solar radiation, PV temperate and power) Battery performance. (Voltage, current and temperature.) And voltage inverter performance (Load voltage, Load current and load power)

This data is recovered and analyzed as part of an ongoing research project. Later developments will include performance of solar hot water systems at high altitude.

**If you need more detail on this application please contact [joyce.reid@datataker.com.au](mailto:joyce.reid@datataker.com.au)**

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