Solar Equipment for Year Round Polar Programs

Low Power Solar Panel System

This solar panel system uses three Suntech STP020S (20W) Monocrystalline Silicon solar panels mounted in a triangle to take advantage of the 24 hours a day solar insolation. With the combination of cold temperature and solar reflection off the snow, this system produces close to 40W worth of solar power all day long in clear conditions. This is more than adequate for most seismic recorder configurations.

This solar panel system is also very simple and quick to install in snow. All that is needed is to have the base of the solar system buried in two feet or more of well compacted snow. No guying is necessary. Only one solar cable is needed to connect to a junction box located on the post.

High Power Solar Panel Systems

These solar panel systems use three Sharp NE-80EJEA panels each. They are efficient and robust 80W Polycrystalline Silicone panels. They are designed for rigorous weather conditions, and their frames are made of double wall aluminum, which makes them some of the strongest frame solar panels.

Like the previous solar panel system, this one is also mounted in a triangle shape to take advantage of the
constant sun light at high latitudes. As it uses 80W panels, with the cold temperature and solar reflection off the snow, it will produce close to 160W worth of power 24 hours a day in clear conditions. This can be useful for seismic stations that use extra power for telemetry for example.

This solar panel system requires more work for installation compared to the previous one because it requires anchors and guy cables to secure it.

See Also: Solar Panel Mounts Design Drawings

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