

SolarTech Power Solutions

Communication Solar System Design



Overview

What communication technologies are used for distributed solar PV system integration?

Distributed solar PV systems generally are connected to HAN and NAN/FAN network, which is the so-called “last-mile” communication network. The following sections give an overview of existing and widespread communication technologies used for distributed solar PV system integration.

What are the communication & control functions used in solar projects?

The PV communication & control functions applied in the present solar projects in USA include: Active power of PV system: Required in some island systems, not yet in mainland. Voltage at grid coupling point of PV system: Required in some specific feeder conditions with relative high penetration. Curtailment/feed in management: Not yet required.

Are communication and control systems needed for distributed solar PV systems?

The survey results show that deployment of communication and control systems for distributed PV systems is increasing. The public awareness on the communication and control of grid-connected solar PV systems are raising. However the actual development of communication and control system for distributed solar PV systems are still in the early stage.

What is a communication system?

Communicating systems use well-defined formats (protocol) for exchanging various messages. The communication system arranges the information exchange between different grid members, such as substations equipment, DERs and control centers through the common frame of regulations for data format and transmission.

What is the role of communication systems in electrical power system infrastructure?

In the conventional electrical power system infrastructure, communication systems have played an important role in some aspects, such as operation, market transactions, security and integration of large generation and distribution systems.

Can a PV inverter communicate with a SCADA system?

In Japan, an existing project tries to develop PV inverters which can communicate with the SCADA system. The role of communication and control system in this project includes PV output control, reactive power control and collecting sales data. The replies from USA summarized the experiences from a number of existing PV projects.

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