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Ingenuity for life

SICAM SGU

Compact and cost efficient device for Smart Grid applications

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Smart Grid Unit to connect your Grid

Balancing supply and load is a challenge in a market with a growing energy demand and multiple decentralized energy resources. Even the most advanced management systems require numerous field devices to monitor and control the process level. Those devices have usually to be compact, cost-efficient and provide a secure communication interface even in remote locations.

SICAM SGU 7XV5676 has such a secure and cellular communication build to connect with an energy management system. It can be used for smart grid purposes as various as demand response, DER controller for virtual power plants, renewable integration in micro grids, or small RTU.

SICAM SGU – simply powerful

Based on a powerful and future-proof hardware and software platform, SICAM SGU is designed for substations and rough industrial environment requirements. SICAM SGU is ready for today's and tomorrow's needs.

The parameter setting of the SICAM SGU is simply carried out with a standard Web browser at the PC which is connected via the Ethernet interface. No special engineering tool is required.

OpenADR - Fit for demand response

The SICAM SGU can be used as a field device in any demand response management system (DRMS) via the use of the interoperable and secure communication protocol OpenADR, a growing Smart Grid standard where Siemens plays a key role with its expertise and integrated solutions.



Even cellular wireless integrated

The SICAM SGU can be used with an integrated GPRS modem to connect remote distributed energy resources. SICAM SGU provides a cost-efficient alternative to expensive wired installations and separate configuration of an external cellular modem.

The SICAM SGU is supporting the most widespread 2G communication technology worldwide, GSM/GPRS, perfectly adapted to the required bandwidth of IEC 60870-5-104.

And an optimal end-to-end security on top

A VPN connection, based on IPsec, provides your application a secure way without intermediates.

Even without IPsec, the integrated TLS provides end-to-end security for the OpenADR communication.

Compact and cost efficient

Function overview for both variants

Inputs, outputs and LEDs

- Ruggedized EMC – hardened binary inputs with pickup voltage threshold settable to DC 19 V, DC 88 V or DC 176 V for different station battery voltages
- Command relay outputs. Safe state of contacts after loss of connection settable by the user
- Signal / Alarm outputs: 4 LED
- 0-20mA analog inputs and outputs

Housing

- Plastic housing for DIN rail mounting
- Dimensions : 96 x 96 x 100 mm (W x H x D)
- Protection class : IP20

Standards

- CE, UL, IEC 60255, IEEE 61000

Temperature range

- From -25 °C to +70 °C

Protocols, communication

- Electrical RJ45 Ethernet interface (100Base-TX)
- HTTP server, incl. password protection for critical actions
- SNTP Client for time synchronization

Variant 1:

7XV5676-0JJ00-7AA1 6DI / 6DO

- OpenADR 2.0a, with integrated secure TLS
- Wide-range power supply: DC 24–250 V \pm 20 % and AC 100–230 V, 45–65 Hz

Variant 2:

7XV5676-1JJ70-8AA2 6DI / 6DO

7XV5676-1JL70-8AA2 3DI / 3DO / 2AI / 2AO

General information

- IEC 60870-5-104 communication protocol
- Power supply: DC 24V connected to SELV power supply

GPRS communication

- Frequency bands: 850/ 900/ 1800/ 1900 MHz
- SIM card replaceable without opening device's cover
- 2 LEDs for GPRS status, SMA socket for external antenna
- Approvals: R&TTE (Europe)

VPN security

- IPSec in Tunnel Mode with ESP
- Authentication / encryption based on pre-shared key
- Internet Key Exchange protocol: IKEv1, IKEv2



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For all products using security features of OpenSSL, the following shall apply:

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (www.openssl.org), cryptographic software written by Eric Young (eay@cryptsoft.com) and software developed by Bodo Moeller.