VIVAVIS

DECODING THE FUTURE

Skalar.pro ETHN

Skalar.pro with Ethernet interface

The changeover of telecommunication grids to IP-based technology is well under way. Some providers have already completed the process; others are still proceeding with it. Skalar.pro is a device completely compatible with latest technology; it is therefore the ideal communication device for use in the field of energy data collection and energy data transfer.

Skalar.pro provides a practical solution to replace PSTN technology as it uses Ethernet standards 10BASE-T/100BASE-TX for remote communication and supports DSL connections with PPPoE via external DSL modems.

Secure VPN tunnels are used for communication as a rule; these tunnels are terminated in the device. Cryptographic functions of Skalar.pro are state of the art; they have been based on asymmetric cryptographic systems in accordance with RSA and meet highest demands on IT security.

In detail

- IP-based data transfer via DSL/Ethernet

- Compliance with demands caused by changeover to All-IP

- LCM with IP communication

- Secure data transmission in accordance with standards and requirements (by BSI)

- Connection option to SMGW and GWA secures investment

General

Housing
Material:	moulded insulation case for terminal cover mounting in accordance with DIN 43857
Dimensions:	L x W x H = 176 x 107 x 65 mm

Operation and storage conditions
Degree of protection:	IP51
Protection class of terminal area:	IP30
Storage temperature:	- 40 °C... + 70 °C
Operating temperature:	- 25 °C... + 55 °C

Voltage supply
Nominal voltage:	100...230 V AC +/- 10 %
Nominal frequency:	50 Hz
Average power consumption:	3 W

Connection technology

Mains supply, serial interfaces, inputs and outputs:	plug-in terminals finely stranded (flexible): 0.2 mm²...2.5 mm²
Ethernet interfaces:	RJ45 (8P8C)

µC System

Operating system:	embedded Linux
Program memory:	256 MB Flash
Data storage:	2 GB Flash

Real time clock
Accuracy:	+/-5 ppm over complete operating temperature range
Power reserve:	at least 6 days, typical 16 days

Information security

VPN and Cryptography
Standard:	in compliance with technical guideline BSI TR-02102
Key lengths:	AES: AES-128, AES-192, AES-256, RSA: 2048 bit
Optional:	Open VPN/IPsec in accordance with basic protection measures M5.148 by BSI

Protocols

Data transmission protocols for local communication
- IEC 62056-21, IEC 61107 (VDEW 2.1)
- EN 13757-2, EN 13757-3 (EN 1434/M-Bus)
- IEC 62056-5-3, IEC 62056-6-1, IEC 62056-6-2, IEC 62056-7-6 (DLMS/COSEM)

Data transmission protocols for remote communication
FTP, NTP, ToIP, HTTP/HTTPS, DNS, DHCP, PPPoE, OpenVPN, IPsec

Interfaces

Serial interface 1
Type:	RS232/RS485 half-duplex - type can be switched via software configuration
Insulation resistance:	galvanic separation of device electronics (1 kV DC)

Serial interface 2
Type:	CL1 (current loop in accordance with IEC 62056-21)

Serial interface 3 (optional*)
Type:	M-Bus master in accordance with EN 13757-2 (EN1434)
Number of standard loads:	8
Short-circuit protection:	limited to approx. 40 mA

WAN Interfaces

Ethernet interface
Type:	Ethernet interface
Standards:	10BASE-T / 100BASE-TX in accordance with IEEE 802.3 Clause 14 and 15, auto-crossover
Protocols:	PPPoE for DSL registration via external DSL modem DHCP client Dynamic DNS updates

Inputs/Outputs

Signalling input
Type:	active; prepared for connection of external passive contacts

Output
Type:	variable power supply output, short-circuit proof
Voltages:	+ 5 V, + 6 V, + 9 V or + 12 V
Maximum output current:	50 mA

Indicators

Operation:	bicoloured LED on the front of the housing
Status:	bicoloured LED on the front of the housing

Conformity/Standards

Conformity:	CE
EMV directive:	2014/30/EU
RoHS directive:	2011/65/EU
Low voltage directive (LVD):	2014/35/EU
- applied standard:	IEC 60950-1

Applied standards
- emitted radiation:	IEC 61000-6-3, EN 55022 Class B
- interference resistance:	IEC 61000-6-2, IEC 61000-4-2, -3, -4, -5, -11