TGW-100 Professional

TETRA Gateway

TETRA

2012 MEMBER

IOP CERTIFIED

piciorgros TGW SMS

piciorgros TGW 100R
- SDS Tx
- SDS Rx
- Line
- TxD
- RxD
- OK
- Per1
- Pwr2
- TxD
- TxD
- RxD

COM   AUX

piciorgros TGW 100R
- SDS Tx
- SDS Rx
- Line
- TxD
- RxD
- OK
- Pwr1
- Pwr2
- TxD
- TxD
- RxD

COM   AUX

piciorgros TGW 100R
- SDS Tx
- SDS Rx
- Line
- TxD
- RxD
- OK
- Pwr1
- Pwr2
- TxD
- TxD
- RxD

COM   AUX

Power   Power

Pwr + −

COM   DIP

piciorgros TETRA

Radio Time Com System
Rx Tx Syn Slot RxD I/O OK Pwr
F1   Run   Err

TMO-100

C
0 1 2 3 4 5 6 7

AUX   Ethernet

www.TetraModem.com

piciorgros

Professional TETRA Gateway

TGW-100 and TGW-100R

The TGW-100 (Tetra Gate Way) converts serial Protocols to TETRA IP-Data and/or to TETRA SDS Messages. The device has two serial ports for interfacing to a SCADA Server or NMS Server and one IP Port. The 19 inch Rack version of the TGW-100 (TGW-100R) has a build in IP switch and provides two IP (Ethernet) ports.
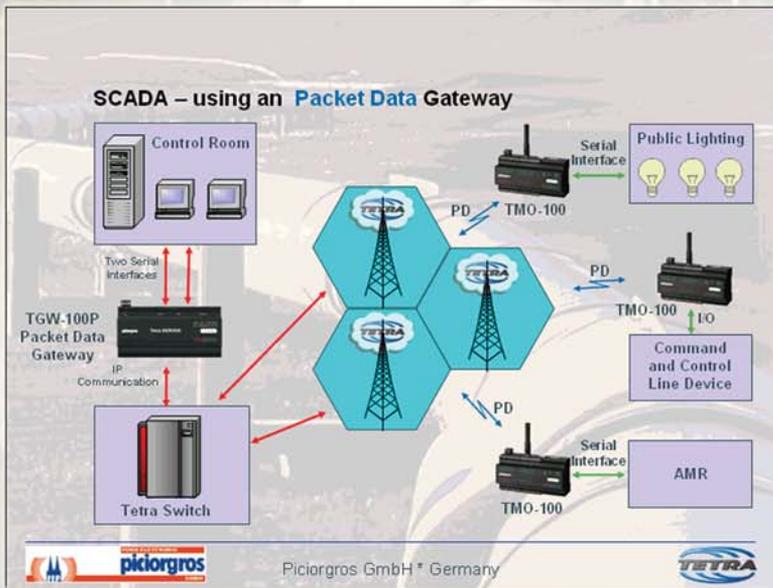
The TGW-100 has an embedded Web-Server and can be configured easily using a standard WEB browser on a Windows PC or MAC device. Individual driver software is needed to interface the TGW to the different TETRA infrastructure manufacturers only for the usage of SDS. Packet Data does not require any additional software.

Mode of Operation

Each of the serial ports can be configured independent for a protocol such as Modbus RTU, DNP3, Sinaut and many others. And for each of these ports a Routing Table as well as an IP Reference Table will be used to rout the received serial data over the TETRA infrastructure either as an SDS message or as Packet Data stream to the outstation(s).

An optional trigger threshold can be used to operate the device in mixed mode and to send the data depending on its length as an SDS Message or as a Packet Data stream. If the messages will be send as an SDS, only individual ISSI addressing is used and the data will be compressed to keep the network load as low as possible.

TETRA Solutions Made in Germany

SCADA – using an **Packet Data** Gateway

Piciorgros GmbH * Germany

Serial Ports

The two serial communication ports can be ordered as RS-232, RS485 or RS-422 in any combination. As these are hardware options, the chosen configuration can not be changed in the field.

All port parameter as Baud Rate, Parity, Numbers of Data Bits … are configured using the embedded WEB Browser and each of the two ports can be used individually for different applications or for one application if redundant ports are required.

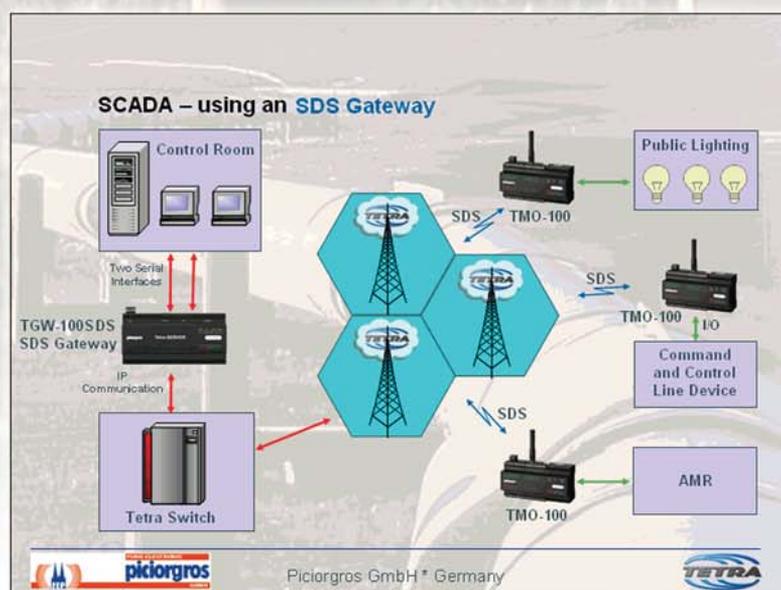## Power Supply and Mechanical Design TGW-100

The TGW-100 is designed for DIN-Rail mounting and it needs a 12-24 (+/- 20%) Volt DC power supply.

Ethernet Port

The Ethernet (IP) Port is used for configuring the device and also for interfacing to the TETRA infrastructure. Once connected to the TETRA Network, the physical port is occupied at the TGW-100, where at the TGW-100R a second physical IP port is available and a Computer for configuration or service can be connected even during TGW operation without the need of an external ethernet switch.

Power Supply and mechanical design TGW-100R

Up to four TGW-100R fit into one 19 inch rack (TGW-Rack). The Rack has a redundant 230 Volt AC power supply.

SCADA – using an **SDS Gateway**

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Technical Features

General Info

Type of Device:
Gateway for connecting serial based equipment directly to the TETRA infrastructure (Switch to radio communication)

Hardware Options:
TGW-100: Gateway for DIN-Rail-Mounting
TGW-100R: Rack version (19") with redundant power supply

Operating Voltage:
12-24 Volt DC +/- 20%
TGW-100R: 100-240V AC, redundant power supply

Power Consumption:
TGW-100: P <= 3 Watt
TGW-100R: TBD

Operating Temperature:
-20 deg C to +70 deg C

Enclosure:
TGW-100: Anodized aluminum with plastic ends according to DIN 43880
TGW-100R: 19" rack mount enclosure

Sustainability:
Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS) compliant

Technical Info

Interfaces:
COM: RS-232 or RS-485/422, Subin-D pole female
AUX: RS-232 or RS-485, RJ12 pole female
Ethernet: One (TGW-100) or two (TGW-100R) Ethernet interfaces, RJ-45, 10/100 Mbit

Operating Modes:
Data gateway for interfacing two serial ports directly to the TETRA infrastructure for data communication to TMO-100 TETRA modems.
The mode of transmission on the TETRA network can be either packet data or SDS
(SDS needs infrastructure manufacturer specific implementation)

Protocols:
MODBUS-RTU
IEC60870-5-101
DNP3
ROC
BSAP
PakBus
Siemens SINAUT
any customer specific or proprietry protocols

Flexibility:
The serial ports can be used totally independent from each other, even with different protocols
A routing table with up to 1024 entries for each port provides individual routing of the data to the affected outstations

Special Device Features:
Embedded webserver for the complete configuration, no need for software installation
Embedded event logger for recording exceptions and errors
19" rack mount version available

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GMBH

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