



Tetra Modems



www.TetraModem.com

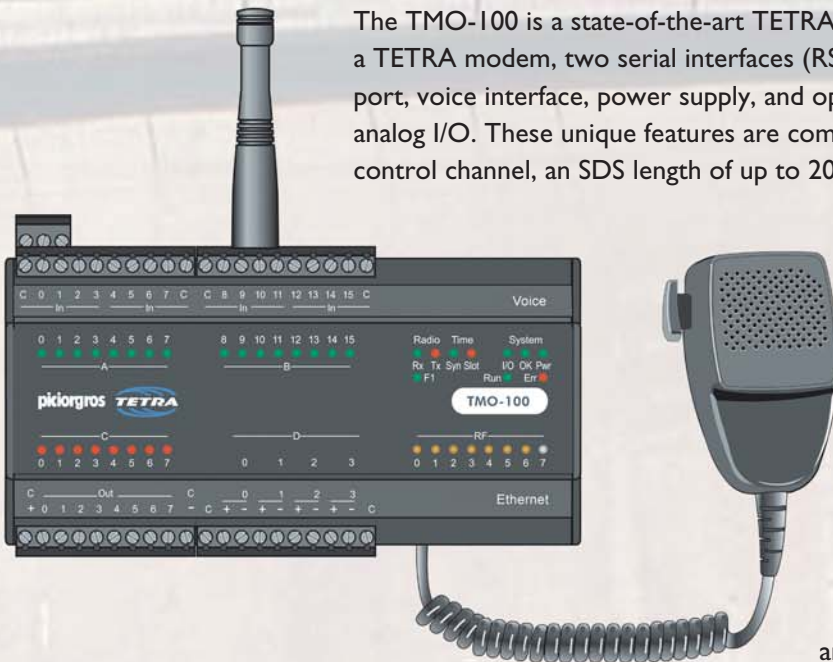
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Professional Tetra Modem

TMO-100, the All-In-One Solution

The TMO-100 is a state-of-the-art TETRA data communication device. It contains a TETRA modem, two serial interfaces (RS-232, or RS-485/RS-422), an Ethernet port, voice interface, power supply, and optional built-in or external digital and analog I/O. These unique features are combined with the ability to use a secondary control channel, an SDS length of up to 2047 bits, Multi Slot Packet Data, and automatic PPP link set up if enabled.

Multiple protocols, such as Modbus, Modbus/IP, DNP3, PakBus, Sinaut, and others, in combination with data compression, make the TMO-100 the ideal solution for any industrial application.



IP-Router, Data-Modem and RTU

As IP-communication becomes more and more important in automation industries, the TMO-100 data modem has been designed to support TCP as well as UDP

over TETRA infrastructure. Not only supporting the IP-protocols, but also being able to set up a PPP-link to the TETRA switch automatically, receiving the network IP-address and serving as a TETRA-router on the local IP-port. For this purpose the unit provides NAT (Network Address Translation), port forwarding, and also port translation.

Due to these features, the TETRA infrastructure is not actually visible to the application. The PLC or the outstation simply has to be set up by programming the IP-address, and then it can be connected directly to the Ethernet port of the TMO-100; starting to communicate with other devices or with the SCADA-server in the control room.

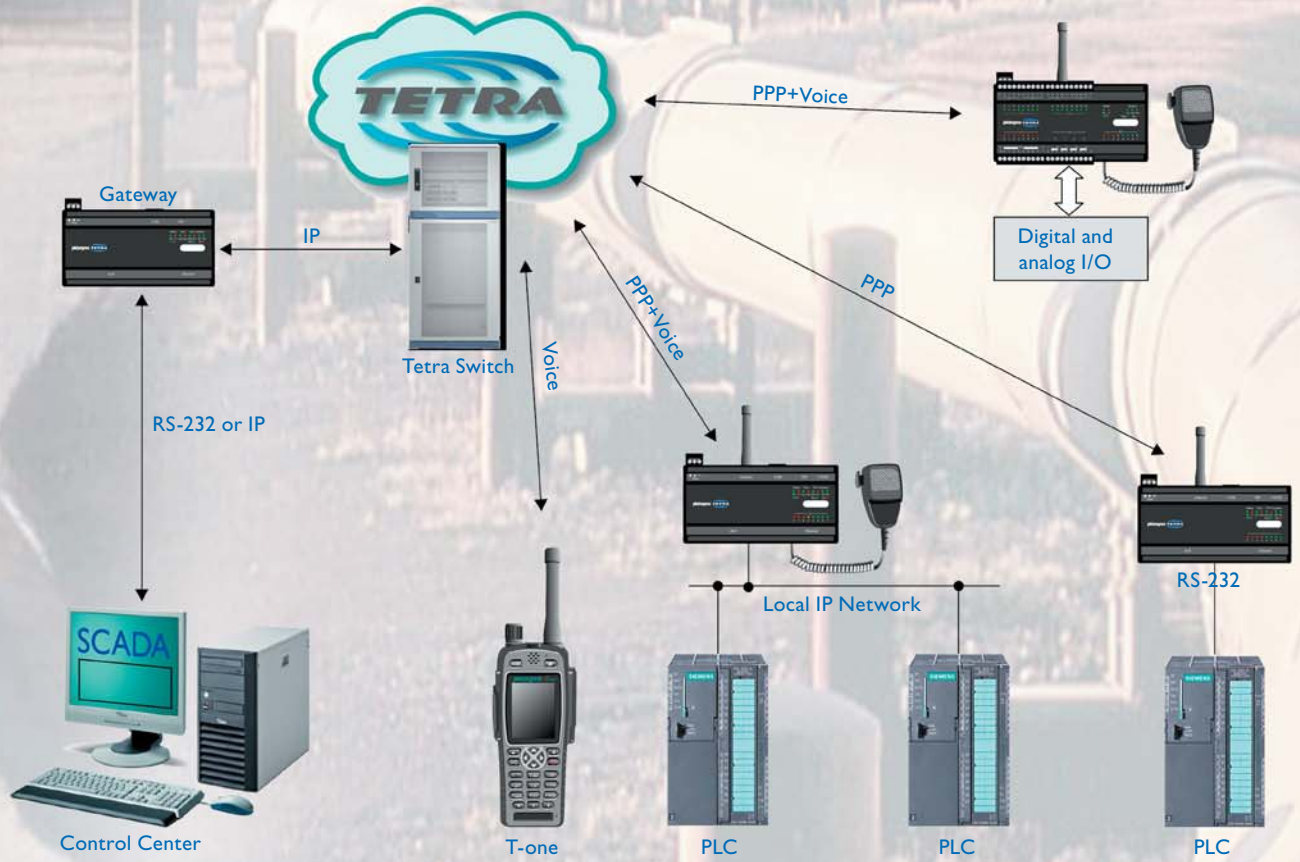
The TMO-100 can be configured either via the embedded web server, the Modbus-RTU/TCP protocol using its serial interface or remotely via the TETRA infrastructure.

Data Communication plus Voice

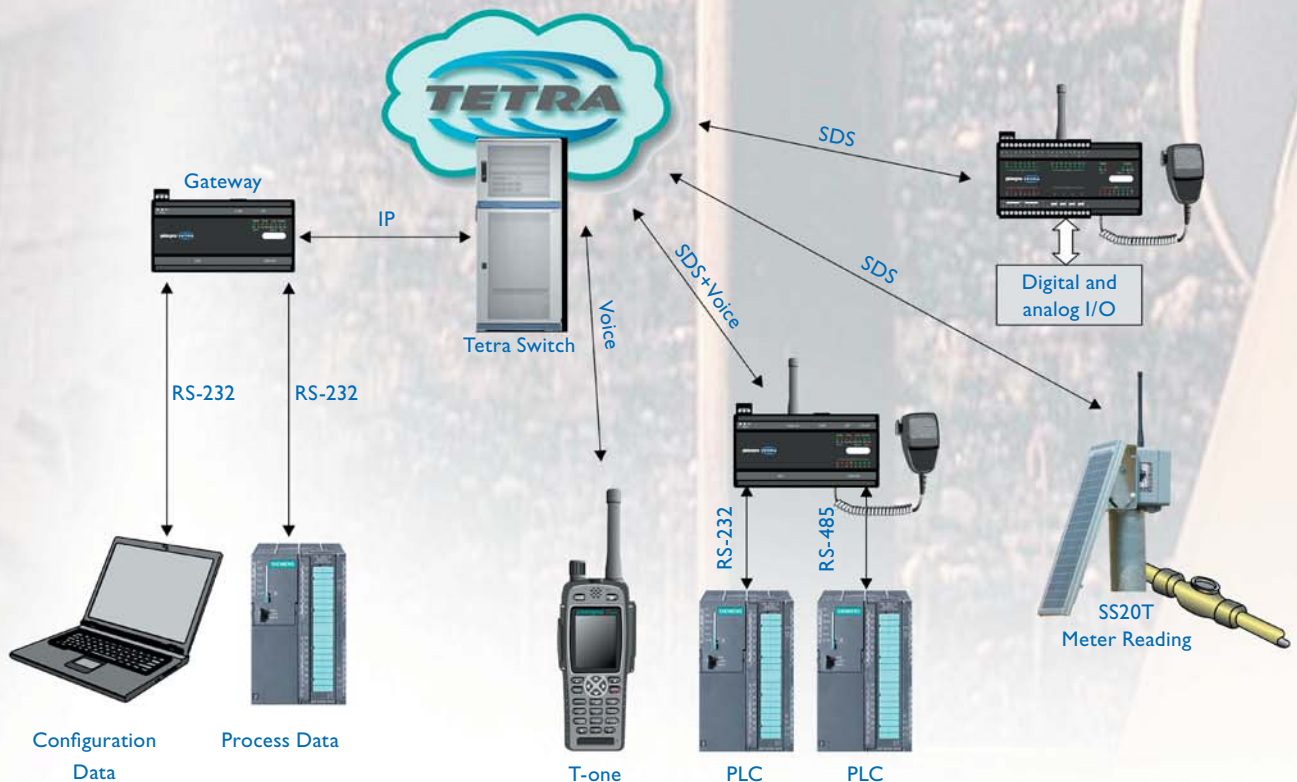
An important characteristic for data modems is the ability to set up a voice connection. Using an eight-pole RJ45 plug, an RSM (Remote Speaker Microphone handset) can be attached to the TMO-100. When the PTT (Push To Talk) button on the RSM is pressed, the modem disconnects all data connections (SDS, CSD, PSD) and automatically switches into voice mode. A voice call is set up to either a preset ISSI or GSSI. After finishing the conversation, the data communication will automatically be restarted by the device. When switching from voice mode to data mode or vice versa, the modem can optionally send an information status message to the control center.



Data Communication via Tetra Infrastructure, using Packet Switched Data and Voice



SDS-controlled mixed Data Network with SS20T Solar Tetra Outstation



Technical Features

General Info	Technical Info
<p>Type of Device: Tetra Modem for Serial Communications Alarm Device for SDS and Status Messages Tetra IP-Router Tetra RTU</p> <p>Voice: Via Microphone Speaker Set</p> <p>Field Strength Display: LED-bargraph on the Device</p> <p>Operating Voltage: 12-24 Volt DC +/- 20%</p> <p>Average Current Consumption: Receive: <110mA @ 24V Transmit: <210mA @ 12V</p> <p>Enclosure: Anodized aluminum with plastic ends; according to DIN 43880</p> <p>Mounting: 35 mm DIN rail</p> <p>Dimensions: 80mm x 162mm x 62mm (excluding antenna and socket)</p> <p>Frequency Range: According to Tetra-Standard</p>	<p>Switching Bandwidth TMO: 30 MHz (350 to 470) 19 MHz (806-825; 851-869)</p> <p>Interfaces: COM: RS-232 or RS-485/422, Subin-D AUX: RS-232 or RS-485, RJ12 Ethernet: Ethernet interface 10/100 MBit</p> <p>Operating Mode: SDS-based data transfer Status Message via alarm inputs Packet Data based Communication Circuit Switched Data</p> <p>Protocols: Modbus-RTU, MODBUS/TCP IEC-60870-5-101, IEC-60870-5-104 DNP3 PakBus Sinaut Customer Specific Protocols</p> <p>Special Features: Secondary Control Channel Multi Slot Packet Data SDS size up to 2047 Bit Auto PPP-Link set up after Power on</p>



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