StarXBridge

STARLINK

TETRA

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Innovative TETRA Solutions

StarBridge - Connecting to your TETRA network via StarLink

The StarBridge is an innovative solution that combines TETRA radio technology with modern IP-based infrastructures. It enables seamless communication between TETRA radios in Direct Mode Operation (DMO) and the TETRA network, even in remote areas without direct TETRA coverage. By leveraging IP networks such as Starlink, the StarBridge provides a reliable, flexible, and scalable extension of communication capabilities for authorities, public safety organizations (BOS), and industrial users.

Based on the DVI-100, the StarBridge utilizes TETRA DMO functionality, allowing radios to communicate with one another. This mode is particularly advantageous in remote operational areas or during network outages, as it enables communication without base stations. The StarBridge extends this functionality by connecting DMO devices to the TETRA network via the Starlink satellite network. The system consists of a compact gateway module housed in a practical, rugged case, serving as an interface between TETRA radios in DMO mode and the TETRA network via Starlink.

The StarBridge acts as a relay device, integrating DMO communication into the TETRA network (TMO) or to other remote DMO clusters. A DMO-capable radio transmits voice to the StarBridge gateway, which forwards the signals over an IP connection via the Starlink satellite network to a TETRA network. This enables operational teams in remote areas or buildings with poor TETRA coverage to establish a connection with control rooms. The latency of IP-based transmission is minimized through optimized protocols to support time-critical communication.

The StarBridge offers versatile applications across various domains. For public safety organizations (BOS) such as fire departments, police, or emergency services, it ensures reliable communication in areas without TETRA network coverage, such as rural regions, tunnels, or disaster scenarios. In industry and transportation, companies in logistics, public transit, or heavy industry benefit from the StarBridge, as it guarantees stable communication across large operational sites. In emergency and disaster response, integration with satellite networks like Starlink ensures uninterrupted communication, even in the unlikely event of terrestrial infrastructure failure.

The solution provides numerous advantages for reliable and secure communication. It ensures stable connectivity in areas without network coverage or during infrastructure failures, guaranteeing uninterrupted communication. Additionally, it integrates seamlessly into existing TETRA systems without requiring extensive modifications. Thanks to its compact design and intuitive configuration, it is particularly user-friendly and easy to operate on-site.

Technical Advantages

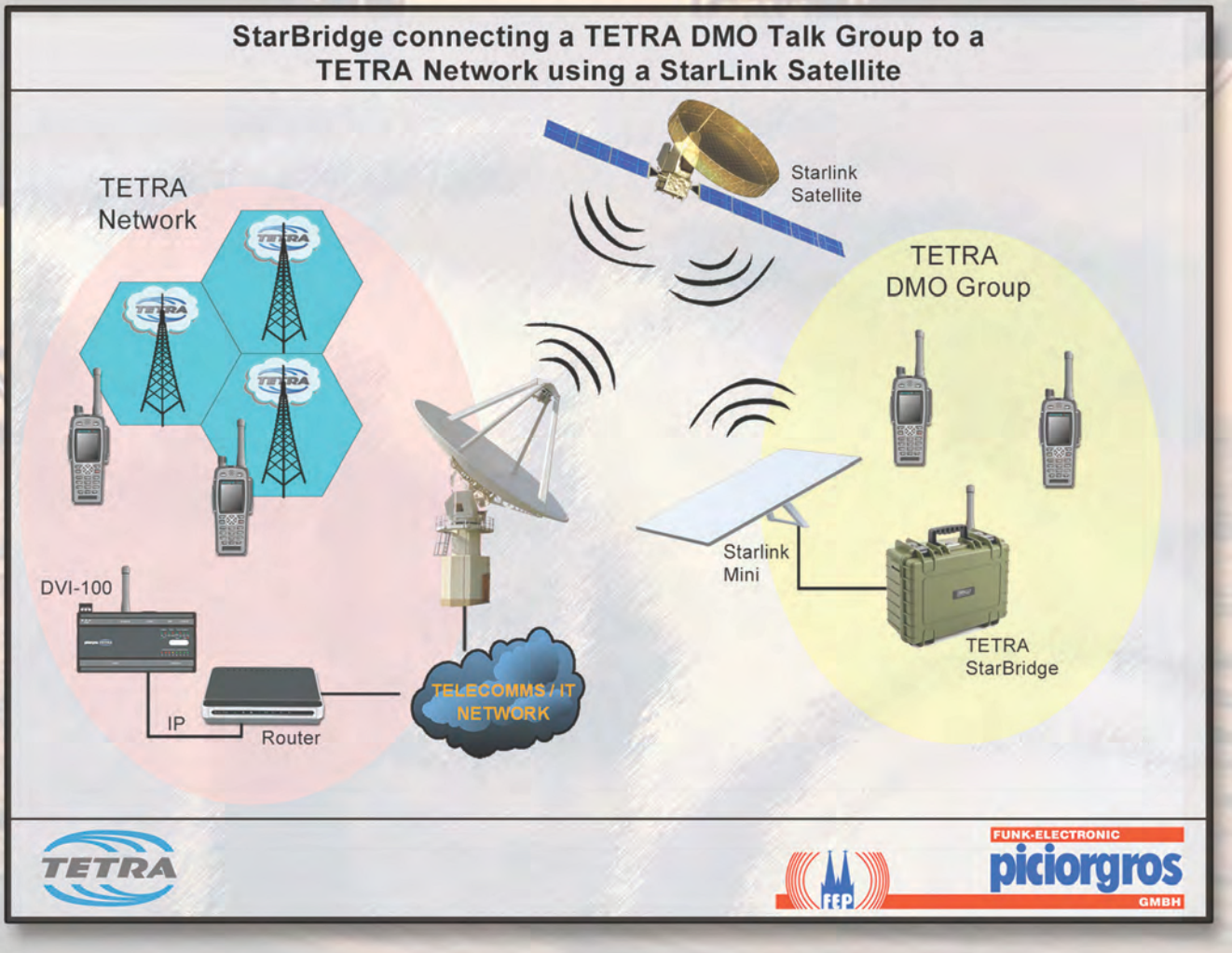
The technical specifications ensure flexible and high-performance communication. The DMO range extends up to 1 km in urban areas and up to 5 km in open fields, depending on the end device and antenna technology used. The solution is compatible with all ETSI-compliant TETRA end devices. Power is supplied via 24 V DC, with the option to operate in a car using a DC/AC converter.

Commercial Benefits

The StarBridge offers a cost-effective solution to extend the range and flexibility of existing TETRA systems without the need for additional base stations. It reduces dependency on terrestrial infrastructure and enables future-proof communication through the use of modern IP technologies. Its seamless integration into existing systems minimizes installation and training efforts, while its robust design and support for standard protocols ensure long-term usability.

The StarBridge revolutionizes TETRA communication by bridging the gap between network-independent DMO operation and the powerful TETRA infrastructure. With its ability to establish reliable connections over IP-based networks like Starlink, it is the ideal solution for demanding scenarios in public safety, industry, and disaster response.

Interconnecting a DMO MircoSpot to a TETRA network via StarLink



Other Products:

TTS-2000 - TETRA Coverage Analyzer

The TTS-2000 is a complete TETRA Site Survey Test Device to take measures of the RSSI Field Strength of the TETRA carrier as well as all reported neighbour cells. The data is stored as a -dBm value together with the location coordinates, bit error rate, antenna gain or attenuation value, and the RSSI values from all reported neighbour cells.
Additional (Option) a TETRA Spectrum Scanner and a Manual Application, for analysis where no GPS is available (in-doors), can be added to the TTS-2000 package.
With the powerful Google Maps based “CoverMap” application the user can view the data as graphical coverage overview on a PC or process it with their own Excel application.

TMO-100 - TETRA Data Modem and RTU

The TMO-100 is a data modem for TETRA infrastructures. With this device data can be transmitted to one or more devices within a TETRA infrastructure. The TMO-100 is the all-in-one solution including controller, router, modem and mobile radio, which turns it into the ideal Turn-Key Solution.
Both serial as well as IP-based protocols can be communicated by this device. This is the reason, why the TMO-100 is equipped with two serial interfaces (optional RS-232 or RS-422/485) and also with one Ethernet port (10/100 MBits/s). For the data communication via a TETRA infrastructure the user can choose between SDS-based or Packet Data transfer.
The TMO-100 is integrated into a robust anodized aluminum enclosure, which can easiliy be impemented to a DIN rail. The broad operating voltage range of 12-24 V (+/- 20%) makes it easy to integrate the device in automation facilities.

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