

TEL-WLx Wireless LAN Communication System



Overview

GeoSIG's TEL-WLx Wireless LAN Communication System offers versatility and ease of use in a variety of locations and applications.

TEL-WLx allows combining a number of field stations to one single network, which features easy data acquisition and maintenance. The authorised user has access to the data from every node inside the network. Additionally it is possible to change the settings of every field station and the equipment attached to it from a remote location. At the same time the network is fully protected from unauthorised access by WEP encryption.



In point-to-point mode, wireless connections up to 30 km are possible. If the distance is shorter, point-to-multi-point configurations are possible. GeoSIG is able to assist its customers in finding the right equipment for their project as well as in the evaluation of potential telemetry links. Global terrain data allows GeoSIG to calculate line of sight profiles anywhere around the world.

Key Features

- ▶ 2.4 GHz operation
- ▶ Protected WLAN network
- ▶ Up to 30 km operating range
- ▶ Point-to-point / Point-to-multi-point
- ▶ Weather-resistant enclosure
- ▶ Easy connection and wiring

System Specifications

Radio Characteristics

Frequency range: 2300 to 2500 MHz
 RF output power: 20 dBm (100mW)
 Range, line-of-sight*: 30 km
 RX sensitivity: 802.11g: -87 dBm @ 6Mbps
 802.11b: -92dBm @ 1Mbps

Method: 802.11b/g
 RF connector: Type N female
 Impedance: 50 Ohm
 Antenna type: 610mm dish
 Antenna gain: 21dBi
 Antenna frequency range: 2400-2485 MHz
 Antenna VSWR: ≤ 1.7:1

System Connections

Data connection: RJ45
 Power connection: PoE via RJ45

Power Requirements

Supply voltage: 18-28 VDC (PoE)
 Power consumption: Typical ~3W; Maximum 12W

Environment

Operating Temperature: -30 °C to +60 °C
 Operating Humidity: 0-90% relative (outdoor parts)
 0-70% relative (indoor parts)











Dimensions

Mast diameter required: 35-50 mm
 Antenna diameter: 610 mm
 Antenna depth 1: 150 mm excl mounting bracket
 250 mm incl mounting bracket
 Transceiver dimensions: 200 x 150 x 55 mm
 260 x 260 x 120 mm (Weather shield)
 Ethernet OVP dimensions: 75 x 36 x 19 mm
 PoE injector dimensions: 85 x 76 x 36 mm






* in not urbanized areas

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Standard Package Contents

	Description	P2P	P2M		Description	P2P	P2M
	610mm parabolic antenna	YES	YES		Transceiver module	YES	YES
	Dipole omnidirectional antenna	NO	YES		Transceiver module weather protection	YES	YES
	Clamp for mounting parabolic antenna on a mast.	YES	YES		Clamp for mounting transceiver module	YES	YES
	Antenna cable (up to 3m)	YES	YES		OVP for Ethernet (DIN rail mountable)	YES	YES
	Antenna cable surge protector	YES	YES		PoE injector (DIN rail mountable)	YES	YES

Optional Equipment

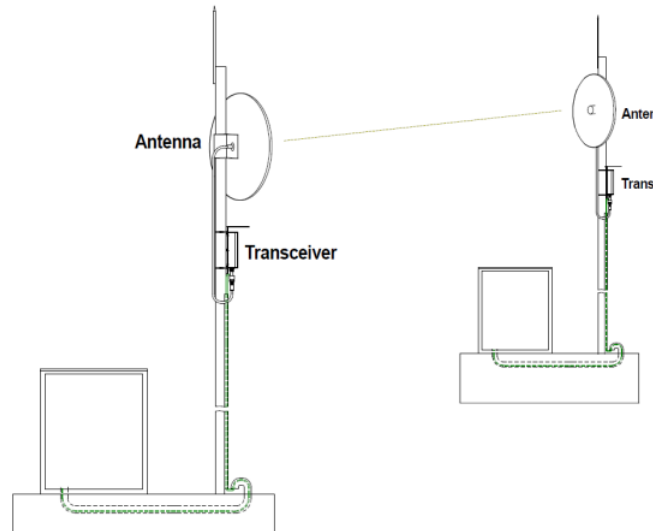
	Description	P2P	P2M		Description	P2P	P2M
	Power supply capable of powering the telemetry equipment and one GMSplus.	YES	YES		100W solar panel, including fixation kit, kit for installation on mast and 2x10m of cable.	YES	YES
	Outdoor protective housing (steel) 600 x 400 x 700mm. Including DIN rail, assorted wires and internal wiring of related equipment.	YES	YES		Includes solar controller (DIN mountable), OVP equipment, external battery cable for GMSplus, fuse folder and battery cable for internal wiring. Battery to be ordered separately.	YES	YES
	Battery. Capacity specified at time of order.	YES	YES				

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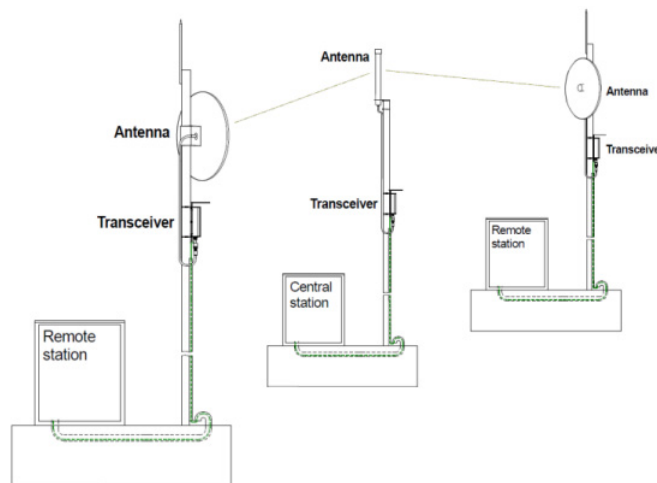
TEL-WLRS: Telemetry WLAN Remote Station Point-to-Point (P2P) Solution

With a point-to-point connection it is possible to exchange data between two points over distances of up to 30km.

The solution consists of a transceiver connected to a parabolic antenna. The system is delivered with suitable overvoltage protection. The transceiver is normally placed on a mast along with the antenna and is powered using PoE technology. This allows using a single Cat5e or Cat6 cable for both data and power transfer. The solution includes OVP and PoE injector, both of which can be installed on a DIN rail in a cabinet or other enclosure.



TEL-WLCS: Telemetry WLAN Central Station Multi-Point (P2) Solution



With a point-to-multi-point system it is possible to exchange data between a central station and several remote stations. The implementation is mostly the same as for point-to-point solutions, the only difference being the central station and how it is configured for communicating with remote stations. The solution can be implemented as a central station with one omnidirectional antenna and a single transceiver. This solution is cost effective, but it limits the

distance between the central station and the remote station to a few kilometres. Furthermore it limits the number of remote stations to just a few. An alternative configuration is a central station with multiple directional antennas and transceivers. This solution is the most efficient, consisting of a dedicated transceiver and directional antenna for each remote station, allowing the full distance of up to 30km and many stations.