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TEL-WLx Wireless LAN Communication System

Features

- ☐ **2.4 GHz operation**
- ☐ **Protected WLAN Network**
- ☐ **Up to 30 kilometre operating range**
- ☐ **Point to point / Point to multi point**
- ☐ **Weather resistant enclosure**
- ☐ **Easy connection and wiring**

Outline

GeoSIG's TEL-WLx Wireless LAN Communications 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 feature easy data acquisition and maintenance. The authorized 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 unauthorized 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.

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 Freq. 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	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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Details TEL-WLx Wireless LAN Communication System

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
	Ourdoor 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 solution (P2P)
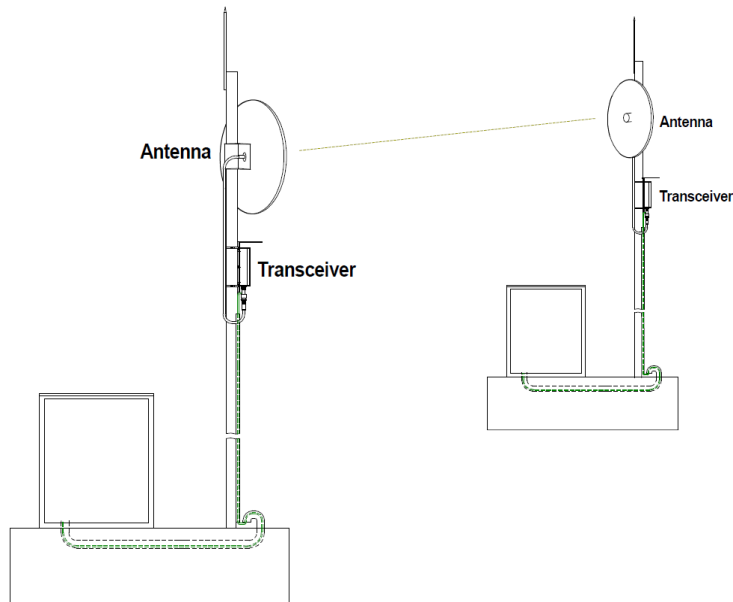
With a point to point connection it is possible to exchange data between two points over distances of up to 30km.

The solution consist of a transceiver connected to a parabolic antenna. The system is delivered with suitable over voltage 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 Sation Point to multi point solution (P2)
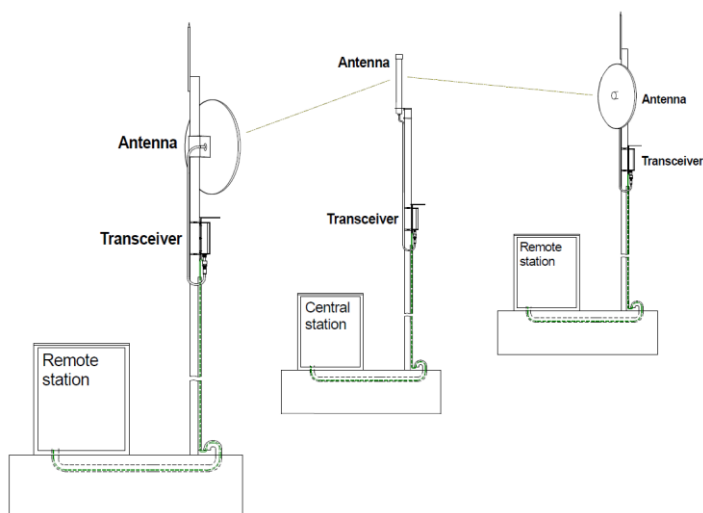
With a point to multi point system it is possible to exchange data between a central station and several remote stations. The implementation is mostly the same as for point to point solutions, the only difference being the central station and how it is configured for communicating with remote stations. The solution can be implemented as a cental station with one omnidirectional antenna and a single transceiver. This solution is cost effective, but 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.