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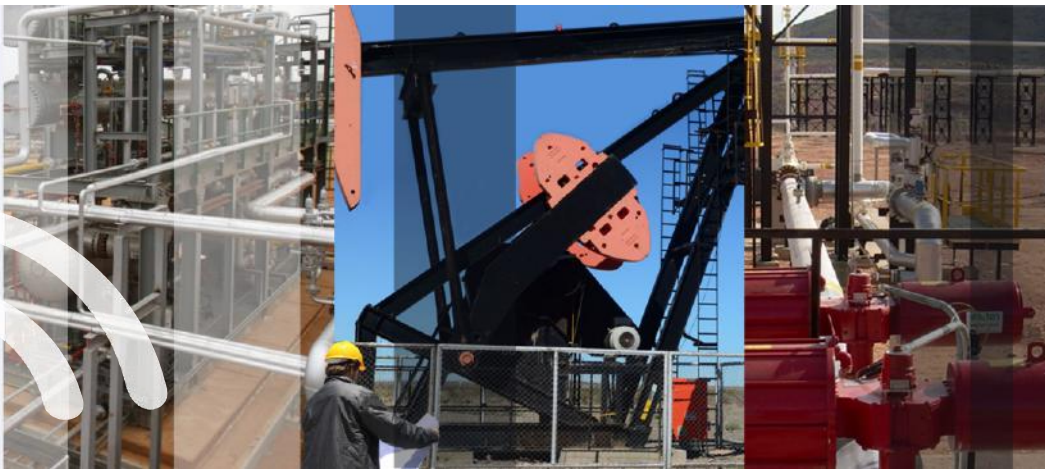
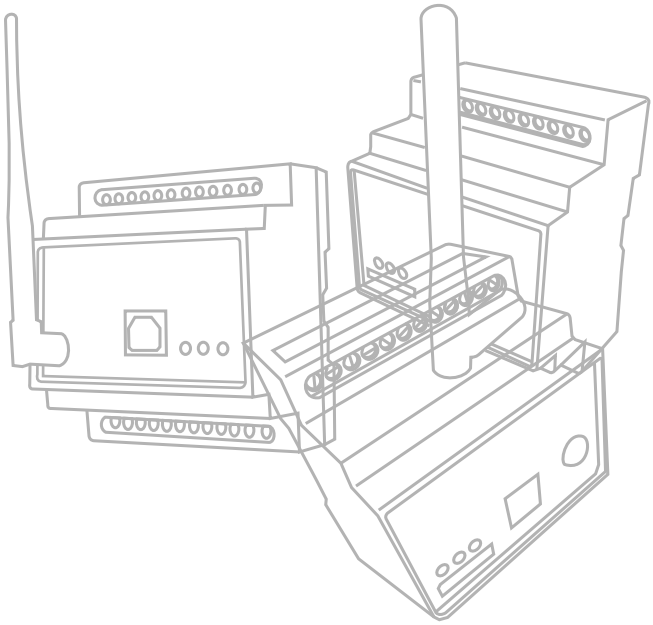


2.4 GHz

wSerial

Wireless Radio 2.4GHz
Mesh Network Technology



Contact

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- Argentine Business, founded in 1998
- Certification ISO9001:2008 (Quality)
- Certification of Products UL 60950 (Electrical Safety)
- Certification of Products CE (European Community suitable)
- Global Product Exportation
- Own Designs and Know How

ISO 9001:2008
Certification

IRAM GESTION DE LA CALIDAD RI-9000-6174 OAA

IQNet CERTIFIED MANAGEMENT SYSTEM

UL 60950
Products Certification

UL LISTED UL60950 16WU

SOFTWARE PROMOTION LAW
Company Approved

ArgenTIna

wSerial

2.4GHz Wireless Radio with Mesh Network Technology

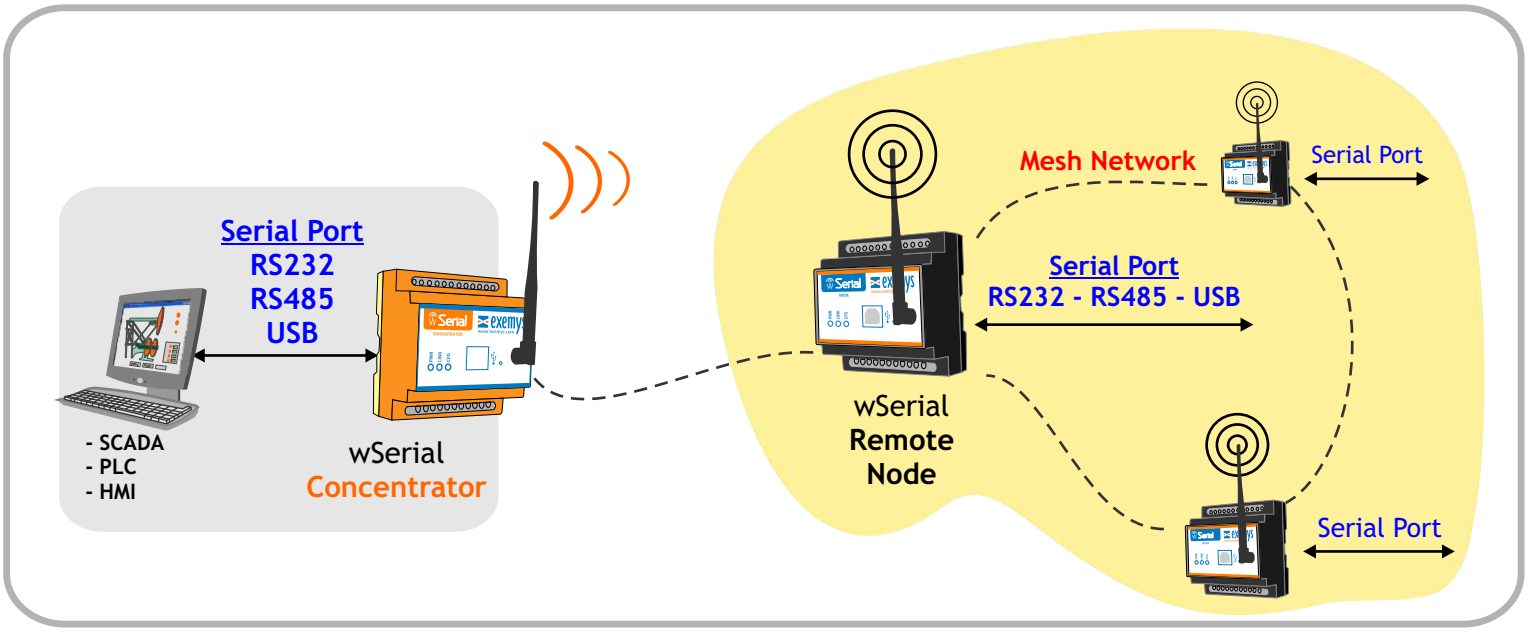
- Mesh Technology
- Wireless Communication 802.15.4
- Transparent Serial Tunnell
- RS232 - RS485 - USB Serial Port

wSerial is a new concept in Serial Radio, which introduces Mesh Networks technology to achieve not only point to point, but also multiple connections.

The system was designed to be a real network of serial ports to industrial facilities where need to gather information from remote and dispersed devices, reliably and inexpensively.
Beneficios

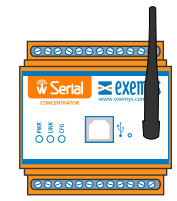
Benefits

- Secure Wireless Communication
- Multiple Remote nodes in one area
- Low cost of installation by point
- Mesh Network technology (redundancy and better range)



General Characteristics

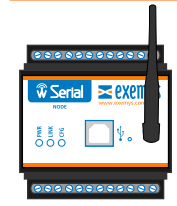
- Models: **Concentrator** and **Remote Nodes**
- Suitable for Industrial environments
- Communication IEEE 802.15.4 in 2.4GHz
- Mesh Network between devices
- Serial Port RS232/485/USB



Concentrator

Model: **wSerial-C**

↔ 1 x Serial Port
RS232, RS485 or USB



Remoto Node

Model: **wSerial-N**

↔ 1 x Serial Port
RS232, RS485 or USB

exemys

Technical Specifications

RF Wireless

- Protocol: IEEE 802.15.4
- Frecuency: 2.4000 to 2.4835 Ghz Free Band
- Channels: 16
- Separation between channels: 5 MHz
- Transmission Power: +20 dBm (100 mW)
- Reception Sensitivity: -104 dBm
- Antenna: 2dBi Connector RP-SMA (other antennas optional)
- Scope: 2Km between nodes, with antenna of 2dBi and line of sight
- Module Certifications: FCC, IC, Europe/ETSI, Australia/Ctick
- Mesh Network - Amount of Nodes: Up to 50 max.
- Mesh Network - Repetition between nodes: Up to 4

Communications

- Serial Port: 1 Port RS232 / RS485, Modbus Protocol RTU/ASCII
- USB Port: 1 Port for configuration or Modbus slave (in the Concentrator)
- Configuration: For USB or for radio for the remote nodes.
- Modbus Slaves: 239 maximum slaves
- Encryption of information: Owner

General

- Indicators of Leds: On / Link / Data
- Cabinet: Industrial, Rail DIN
- Dimensions: 70 x 90 x 65 mm (Width x Height x Depth)
- Operation Temperature: -15°C to +65°C
- Guarantee: 1 year

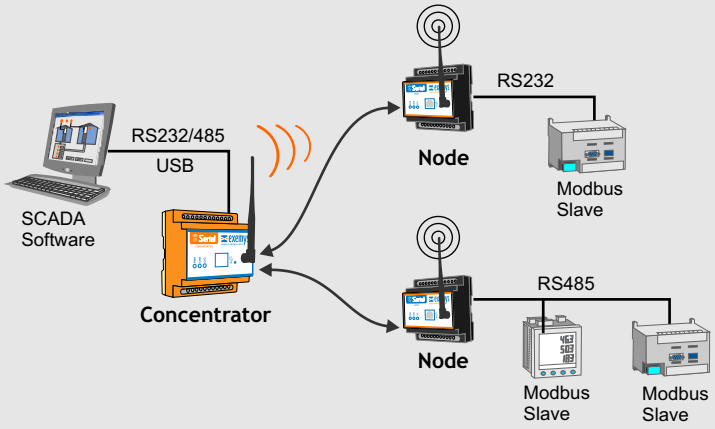
Power

- Power Input: +10Vdc min. to +30 Vdc max.
- Average Consumption: 15mA@24Vdc, 25mA@12Vdc
- Maximum Consumption: 20mA@24Vdc, 30mA@12Vdc

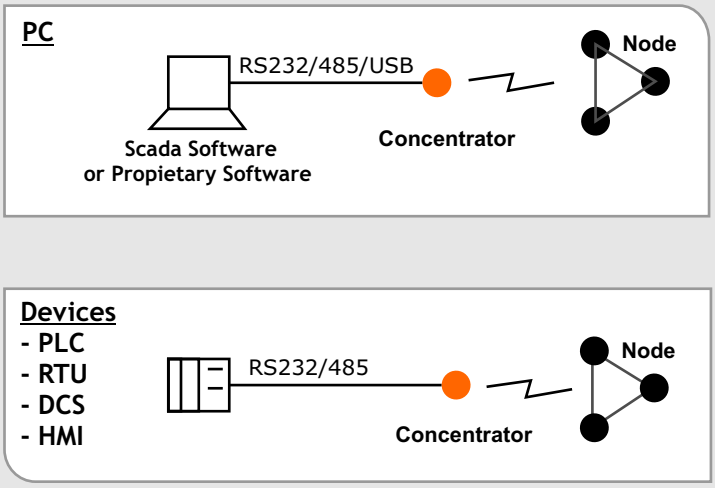
Examples of Application

Access to Remote Serial Ports

This solution allows us to connect the "Nodes, either through the port RS232, RS485 or USB port, and make queries from the"Concentrator"

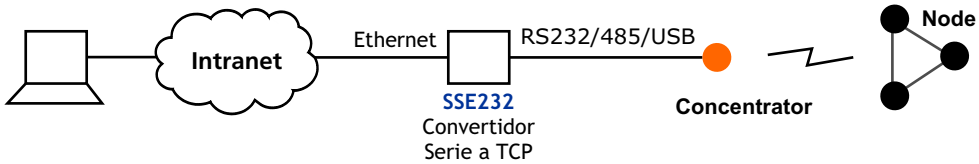


Connection of Concentrador

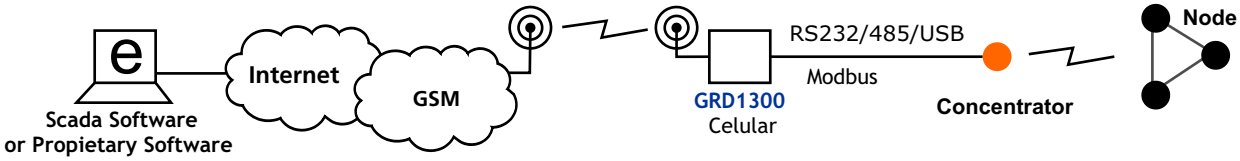


Connectivity with other Networks

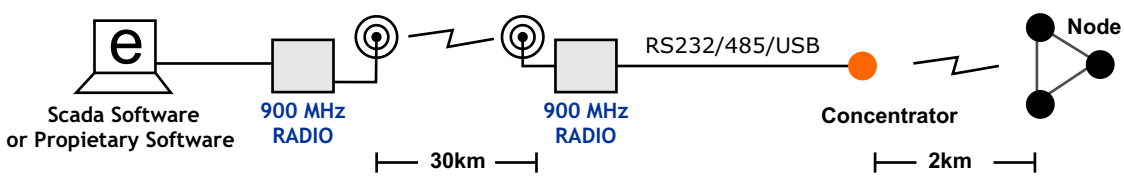
Ethernet Connectivity



GSM Cellular Connectivity



900Mhz Serial Radios Connectivity



Accesories

2.4GHz Antennas

Type	Code	Gain	Polarization	Horizontal Angle	Vertical Angle	
Omnidirectional	OM-2.4GHz-8dBi	8 dBi	Vertical	360°	18.2°	
	OM-2.4GHz-12dBi	12 dBi	Vertical	360°	7.2°	
	OM-2.4GHz-15dBi	15 dBi	Vertical	360°	3.6°	
Yagi	YG-2.4GHz-8.5dBi	8.5 dBi	Vertical	85°	69°	
	YG-2.4GHz-12dBi	12 dBi	Vertical	75°	35°	
	YG-2.4GHz-15dBi	15 dBi	Vertical	57°	23°	
Parabolic	PB-2.4GHz-21dBi	21 dBi	V/H	18.1°	18.1°	
	PB-2.4GHz-23dBi	23 dBi	Vertical	14.5°	14.5°	
	PB-2.4GHz-24dBi	24 dBi	V/H	12.8°	12.8°	
	PB-2.4GHz-27dBi	27 dBi	V/H	9.1°	9.1°	
	PB-2.4GHz-30dBi	30 dBi	V/H	6.4°	6.4°	
Panel	PS-2.4GHz-12dBi	12 dBi	Vertical	120°	21.7°	
	PS-2.4GHz-14dBi	14 dBi	Vertical	90°	18.2°	
	PS-2.4GHz-17dBi	17 dBi	Vertical	90°	9.1°	
	PS-2.4GHz-19dBi	19 dBi	Vertical	60°	8.7°	

Coaxial Cables

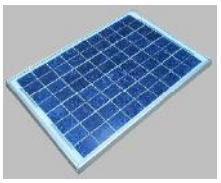
Code	Model	Impedance	Dielectric	Gauge	Lost at 2.4GHz	Figure
CBL-RG316	RG-316	50 ohm	PTFE	26AWG	1.35 dB/m	1
CBL-RG058	RG-58C/U	50 ohm	PE	20AWG	1.40 dB/m	2


Figura 1


Figura 2

Solar Panels

Code	Power	Voltage	Current	Weight	Large
PNL-10W	10W	17.4V	0,58A	352mm	304mm
PNL-20W	20W	17.4V	1,16A	352mm	520mm



Batteries

Code	Voltage	Capacity
BAT12V-7Ah	12V	7 Ah
BAT12V-17Ah	12V	17 Ah

Regulators

Code	Voltage	Current
REG-R4	12V	4A
REG-R5.5	12/24V	5A