

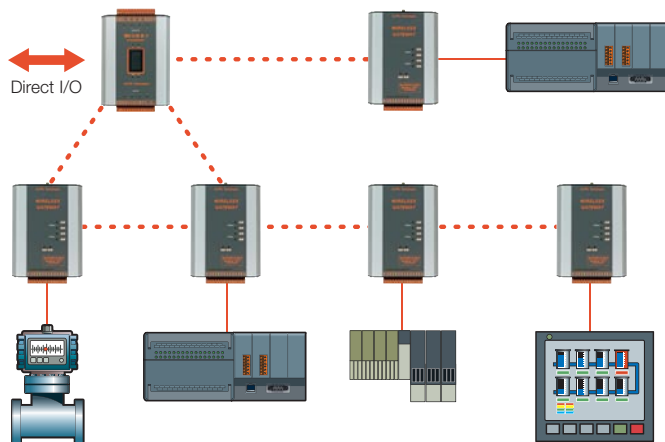
## Wireless Gateways WI-GTWY-9

Wireless gateways interface between other Weidmuller wireless devices and control systems (such as PLC's, DCS, and SCADA). In addition to channeling the wireless network data into one central control system, they can also act as an eight input/output transceiver.



### Applications

- Wirelessly connect PLCs on a new machine to an existing factory automation system
- Interface different automation systems in different sections of a plant
- Connect protocol devices into a common wireless network
- Weidmuller wireless units are used to wirelessly transmit signals for PLCs or DCS



Wireless gateways connect to popular process control and automation databuses, and convert signal information to the proven *WIB-net* wireless protocol.

### Main benefits:

- Wireless extension of factory automation, providing a high security firewall. The wireless gateway connects to a databus and transfers I/O values to another wireless

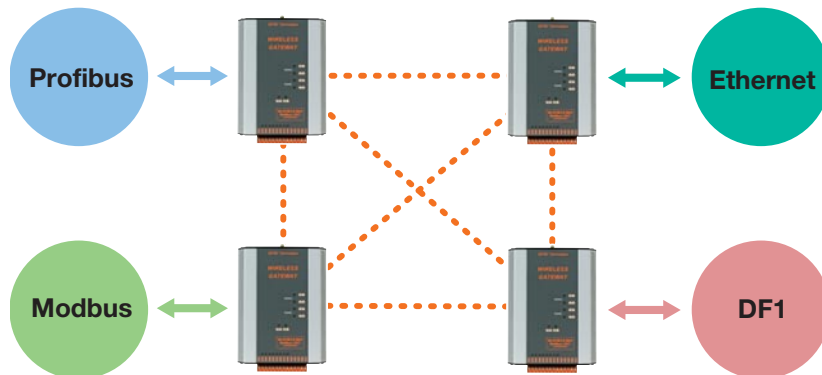
gateway unit via *WIB-net* communications. The other gateway interfaces to its own databus. Multiple gateway units can communicate in a *WIB* peer-to-peer network.

- There is an efficient wireless protocol conversion in the modules enabling an efficient transfer of data to Modbus, Profibus, Ethernet and DeviceNet.
- Interface between PLCs, DCS, HMI, or SCADA and Weidmuller wireless units. The wireless gateway keeps an “image” of the remote wireless network in its memory and interfaces this image to the databus.
- Network wireless units and gateways to connect sensor signals and control systems

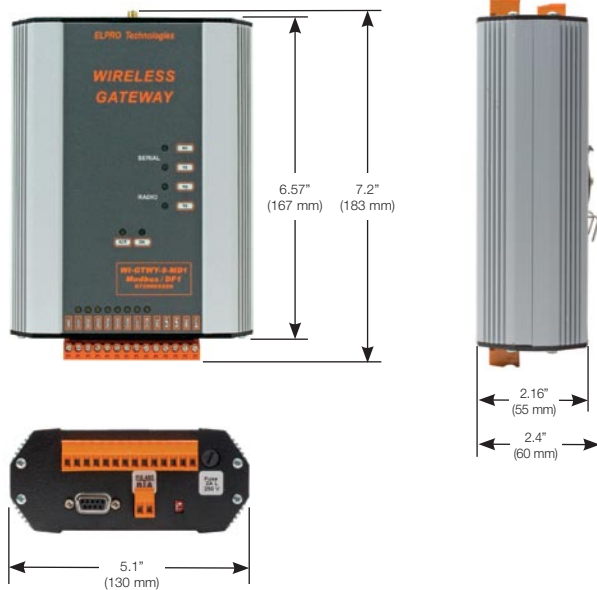
### Features

- Connects to data bus at full bus speed (e.g. 12Mb/s for Profibus, 100Mb/s for Ethernet)
- Provides Protocol Conversion (Profibus, Modbus, Ethernet, DeviceNet)
- Can interconnect master-slave, slave-slave and master-master
- Interconnects different data buses - wireless protocol conversion
- Provides a peer-to-peer wireless network using *WIB-net*
- High security data encryption
- Automatic acknowledgment and error-correction
- Multiple path routing
- Eight on-board discrete I/O, individually configurable as input or output
- Network configuration is performed with easy-to-use free software
- Wide range power supply with integral back-up battery-charging feature
- Frequency hopping spread spectrum
- 902-928 MHz 1W license-free USA/Canada/Mexico
- Configurable sub-bands license-free South America, Australia/NZ, Asia, Europe available on request

### Interconnection Flexibility



## Dimensions



## General Specifications

- **Frequency:** frequency hopping spread spectrum 902-928 MHz, sub-bands configurable
- **Power:** transmit power 1W, approved to FCC Part 15.247, RSS210
- **Sensitivity:** receiver data sensitivity – 108 dBm
- **Max. Range (line-of-sight):** USA/Canada, 4W ERP 20+ miles; other countries, 1W ERP, 15+ km depending on local conditions
- **Data Rate:** 19.2 Kb/s with forward-error correction
- **Antenna Connector:** SMA female coaxial
- **Temperature:** -40 to 60°C / -40 to 140°F
- **Humidity:** 0 - 99% RH
- **Regulatory Approvals:** EMC Compliant EN 301 489, FCC Part 15
- **Certifications:** Class I, Division 2 (USA, Canada)
- **Housing:** extruded aluminum case 130 x 183 x 60 mm, 5.1 x 7.2 x 2.4 inches, DIN rail mounting, removable terminal blocks for ease of module replacement, terminals suitable for 12 gauge (2.5 mm<sup>2</sup>) wire
- **Radio communications can be configured** for combination of event-reporting (change-of-state), update time, read/write blocks, and poll response. Radio message includes system addressing, unit addressing, error-checking, and configurable security encryption. Communication control includes message acknowledgments and up to four re-transmissions.
- **Peer-to-peer addressing.** Messages may be routed through five intermediate repeater addresses.
- **Fail-to-transmit and fail-to-receive** alarms are configurable

- **LED indication** for processor OK, radio TX and RX, serial TX and RX, active status
- **Modbus RTU** (binary), master / slave configurable; RS232 or RS485, 300 - 19200 bits/sec.

## Inputs and Outputs

- Eight discrete I/O, individually configurable as input or output. Inputs suitable for voltage-free contacts. Outputs are FET, 30VDC 500mA.

## Power Supply

- **Battery Supply:** battery charging circuit included for 12V back-up battery, max. charge current regulated to 0.7A (>12V supply)
- **Normal Supply:** 9 - 30VDC / 12 - 24VAC
- **Normal current drain:** 12V 150mA; 24V 90mA add 5mA per active I/O, current drain during radio transmission, add to above: 12V 350mA; 24V 200mA

## Set-point Status

- Modbus 4300 I/O points (analog plus discrete)

## Serial Port

- RS232 9 pin DB9 female connector
- RS485 terminal connections

## Configuration and Diagnostics

- Diagnostics include online read/write of I/O registers, radio signal strength values from remote units, and off-line testing of databus protocol.





Radio communications can be configured for combination of event reporting (change-of-value), update time, read/write blocks and poll response. Radio message includes system addressing, unit addressing, error checking and configurable security encryption. Communication control includes message acknowledgments and up to four re-transmissions. Peer to peer addressing. Messages may be routed through four intermediate repeater addresses. Fail-to-transmit and fail-to-receive alarms configurable

**WI-GTWY-9-MD1  
Modbus (Master & Slave), DF1**



**WI-GTWY-9-PR1  
Profibus DP Slave**



**Technical Data**

**Power Supply**

Current drain during radio transmission

**I/O Capacity**

Register Size

Number of remote WI-GTWY-9 addresses

**General Data**

Operating Temperature

Humidity

EMC Standards

Approvals

Mounting

LED indication

**Dimensions mm (in)**

**Wireless Communications**

**On-board I/O**

**Configuration**

**Diagnostics**

**Radio Transceiver**

Frequency hopping spread spectrum

Transmit power

Receiver data sensitivity

Maximum line-of-sight range

Data rate

Antenna connector

**Ordering Data**

**Accessories:** DB9 Male - DB9 Female Serial config. cable

9 - 30VDC / 12 - 24VAC

Battery charging circuit included for 12V back-up battery, max charge current regulated to 0.7A (>12V supply)

Normal current drain

MD1 version 12V 150mA; 24V 90mA

Other version 12V 270mA; 24V 170mA

Add 5mA per active I/O

Add 12V 350mA; 24V 200mA to above

4300 I/O points (analog plus discrete)

16 bit

500

-40 to 60°C (-40 to 140°F)

0 - 99 %RH

EN 301 489, FCC Part 15,

Approved to FCC Part 15.247, RS210

Class 1 Div 2

DIN rail mounting,

for processor OK, radio TX and RX, serial TX and RX, active status

130 x 183 x 60 (5.1 x 7.2 x 2.4)

Modbus RTU (binary), master / slave configurable. RS232 or RS485, 300 - 19200 bits/sec.

Allen-Bradley DF1 full-duplex. RS232 only, 300 - 19200 bits/sec.

Eight discrete I/O, individually configurable as input or output. Inputs suitable for voltage free contacts.

Outputs are FET, 30VDC 500mA.

via free Windows software

on-line read/write of I/O registers, radio signal strength values from remote units, and off-line testing of data bus protocol.

902-908 MHz, sub-bands configurable

1W

-108dBm

USA/Canada, 4W ERP, 20+ miles

19.2 Kb/s with forward-error correction

SMA female coaxial

**Type**

WI-GTWY-9-MD1

WI-CSER-905-9

**Part No.**

6720005020

6720005105

9 - 30VDC / 12 - 24VAC

Battery charging circuit included for 12V back-up battery, max charge current regulated to 0.7A (>12V supply)

Normal current drain

MD1 version 12V 150mA; 24V 90mA

Other version 12V 270mA; 24V 170mA

Add 5mA per active I/O

Add 12V 350mA; 24V 200mA to above

416 I/O bytes up to 1952 DI/1952 DO, or up to 122 AI/122 AO

16 bit

500

0 to 60°C (30 to 140°F)

0 - 95 %RH

EN 301 489, FCC Part 15, Approved to FCC Part 15.247, RS210

Class 1 Div 2

DIN rail mounting,

for processor OK, radio TX and RX, serial TX and RX, active status

130 x 183 x 60 (5.1 x 7.2 x 2.4)

Profibus-DP functionality according to EN 50170. Modbus RTU

RS-485 optically isolated with on-board DC/DC converter, automatic baudrate detection (9600 bit/s - 12 Mbit/s)

Eight discrete I/O, individually configurable as input or output. Inputs suitable for voltage free contacts.

Outputs are FET, 30VDC 500mA.

via free Windows software

on-line read/write of I/O registers, radio signal strength values from remote units, and off-line testing of data bus protocol.

902-908 MHz, sub-bands configurable

1W

-108dBm

USA/Canada, 4W ERP, 20+ miles

19.2 Kb/s with forward-error correction

SMA female coaxial

**Type**

WI-GTWY-9-PR1

WI-CSER-905-9

**Part No.**

6720005021

6720005105



Radio communications can be configured for combination of event reporting (change-of-value), update time, read/write blocks and poll response. Radio message includes system addressing, unit addressing, error checking and configurable security encryption. Communication control includes message acknowledgments and up to four re-transmissions. Peer to peer addressing. Messages may be routed through four intermediate repeater addresses. Fail-to-transmit and fail-to-receive alarms configurable

**WI-GTWY-9-PR2**  
Profibus DP Master



**WI-GTWY-9-ET1**  
Ethernet IP, Modbus TCP, TCP/IP functions



**Technical Data**

**Power Supply**

Current drain during radio transmission

**I/O Capacity**

Register Size

Number of remote WI-GTWY-9 addresses

**General Data**

Operating Temperature

Humidity

EMC Standards

Approvals

Mounting

LED indication

**Dimensions mm (in)**

**Wireless Communications**

**On-board I/O**

**Configuration**

**Diagnostics**

**Radio Transceiver**

Frequency hopping spread spectrum

Transmit power

Receiver data sensitivity

Maximum line-of-sight range

Data rate

Antenna connector

**Ordering Data**

**Accessories:** DB9 Male - DB9 Female Serial config. cable

9 - 30VDC / 12 - 24VAC

Battery charging circuit included for 12V back-up battery, max charge current regulated to 0.7A (>12V supply)

Normal current drain

MD1 version 12V 150mA; 24V 90mA

Other version 12V 270mA; 24V 170mA

Add 5mA per active I/O

Add 12V 350mA; 24V 200mA to above

2048 bytes input and 2048 bytes output up to 4300 discrete I/O points, or up to 1024 analog in / 1024 analog out

16 bit

500

0 to 60°C (30 to 140°F)

0 - 95 %RH

EN 301 489, FCC Part 15, Approved to FCC Part 15.247, RS210

Class 1 Div 2

DIN rail mounting,

for processor OK, radio TX and RX, serial TX and RX, active status

130 x 183 x 60 (5.1 x 7.2 x 2.4)

Profibus-DP functionality according to EN 50170.

RS-485 optically isolated with on-board DC/DC converter, automatic baudrate detection (9600 bit/s - 12 Mbit/s)

Eight discrete I/O, individually configurable as input or output. Inputs suitable for voltage free contacts.

Outputs are FET, 30VDC 500mA.

via free Windows software

on-line read/write of I/O registers, radio signal strength values from remote units, and off-line testing of data bus protocol.

902-908 MHz, sub-bands configurable

1W

-108dBm

USA/Canada, 4W ERP, 20+ miles

19.2 Kb/s with forward-error correction

SMA female coaxial

**Type**

WI-GTWY-9-PR2

**Part No.**

6720005022

WI-CSER-905-9

6720005105

9 - 30VDC / 12 - 24VAC

Battery charging circuit included for 12V back-up battery, max charge current regulated to 0.7A (>12V supply)

Normal current drain

MD1 version 12V 150mA; 24V 90mA

Other version 12V 270mA; 24V 170mA

Add 5mA per active I/O

Add 12V 350mA; 24V 200mA to above

2048 bytes input and 2048 bytes output up to 4300 discrete I/O points, or up to 1024 analog in / 1024 analog out

16 bit

500

0 to 60°C (30 to 140°F)

0 - 95 %RH

EN 301 489, FCC Part 15, Approved to FCC Part 15.247, RS210

Class 1 Div 2

DIN rail mounting,

for processor OK, radio TX and RX, serial TX and RX, active status

130 x 183 x 60 (5.1 x 7.2 x 2.4)

10/100 Mbit/s, RJ45 connector, Transformer isolated interface

Modbus/TCP class 0, class 1 and partially class 2 slave

EtherNet/IP level 2 I/O Server

Embedded Web system (Dynamic HTTP), on-board file system (1.4MB flash disc), user downloadable web pages through FTP server, Email functionality (SMTP)

Eight discrete I/O, individually configurable as input or output. Inputs suitable for voltage free contacts.

Outputs are FET, 30VDC 500mA.

via free Windows software

on-line read/write of I/O registers, radio signal strength values from remote units, and off-line testing of data bus protocol.

902-908 MHz, sub-bands configurable

1W

-108dBm

USA/Canada, 4W ERP, 20+ miles

19.2 Kb/s with forward-error correction

SMA female coaxial

**Type**

WI-GTWY-9-ET1

**Part No.**

6720005023

WI-CSER-905-9

6720005105



Radio communications can be configured for combination of event reporting (change-of-value), update time, read/write blocks and poll response. Radio message includes system addressing, unit addressing, error checking and configurable security encryption. Communication control includes message acknowledgments and up to four re-transmissions. Peer to peer addressing. Messages may be routed through four intermediate repeater addresses. Fail-to-transmit and fail-to-receive alarms configurable

**WI-GTWY-9-DE1  
DeviceNet Slave**



**WI-GTWY-9-M+1  
Modbus Plus Slave**



**Technical Data**

**Power Supply**

Current drain during radio transmission

**I/O Capacity**

Register Size

Number of remote WI-GTWY-9 addresses

**General Data**

Operating Temperature

Storage Temperature

Humidity

EMC Standards

Approvals

Mounting

LED indication

**Dimensions mm (in)**

**Wireless Communications**

**On-board I/O**

**Configuration**

**Diagnostics**

**Radio Transceiver**

Frequency hopping spread spectrum

Transmit power

Receiver data sensitivity

Maximum line-of-sight range

Data rate

Antenna connector

**Ordering Data**

**Accessories:** DB9 Male - DB9 Female Serial config. cable

9 - 30VDC / 12 - 24VAC

Battery charging circuit included for 12V back-up battery, max charge current regulated to 0.7A (>12V supply)

Normal current drain

MD1 version 12V 150mA; 24V 90mA

Other version 12V 270mA; 24V 170mA

Add 5mA per active I/O

Add 12V 350mA; 24V 200mA to above

512 bytes input and 512 bytes output up to 4300 discrete I/O points, or up to 256 analog in / 256 analog out

16 bit

500

0 to 60°C (30 to 140°F)

0 - 95 %RH

EN 301 489, FCC Part 15, Approved to FCC Part 15.247, RS210

Class 1 Div 2

DIN rail mounting,

for processor OK, radio TX and RX, serial TX and RX, active status

130 x 183 x 60 (5.1 x 7.2 x 2.4)

DeviceNet 2.0 Slave, optically isolated RS422 with selectable baudrate between 125, 250 and 500 Kbit/sec.

Eight discrete I/O, individually configurable as input or output. Inputs suitable for voltage free contacts. Outputs are FET, 30VDC 500mA.

via free Windows software

on-line read/write of I/O registers, radio signal strength values from remote units, and off-line testing of data bus protocol.

902-908 MHz, sub-bands configurable

1W

-108dBm

USA/Canada, 4W ERP, 20+ miles

19.2 Kb/s with forward-error correction

SMA female coaxial

**Type**

WI-GTWY-9-DE1

WI-CSER-905-9

**Part No.**

6720005024

6720005105

9 - 30VDC / 12 - 24VAC

Battery charging circuit included for 12V back-up battery, max charge current regulated to 0.7A (>12V supply)

Normal current drain

MD1 version 12V 150mA; 24V 90mA

Other version 12V 270mA; 24V 170mA

Add 5mA per active I/O

Add 12V 350mA; 24V 200mA to above

2048 bytes input and 2048 bytes output up to 4300 discrete I/O points, or up to 1024 analog in / 1024 analog out

16 bit

500

0 to 60°C (30 to 140°F)

0 - 95 %RH

EN 301 489, FCC Part 15, Approved to FCC Part 15.247, RS210

Class 1 Div 2

DIN rail mounting,

for processor OK, radio TX and RX, serial TX and RX, active status

130 x 183 x 60 (5.1 x 7.2 x 2.4)

Modbus RTU (binary), master / slave configurable. RS232 or RS485, 300 - 19200 bits/sec.

Eight discrete I/O, individually configurable as input or output. Inputs suitable for voltage free contacts. Outputs are FET, 30VDC 500mA.

via free Windows software

on-line read/write of I/O registers, radio signal strength values from remote units, and off-line testing of data bus protocol.

902-908 MHz, sub-bands configurable

1W

-108dBm

USA/Canada, 4W ERP, 20+ miles

19.2 Kb/s with forward-error correction

SMA female coaxial

**Type**

WI-GTWY-9-M+1

WI-CSER-905-9

**Part No.**

6720005025

6720005105