

Start-up and maintenance of control systems  
**Remote via Industrial Wireless LAN**



**simatic net**  
CONFIGURATION 1

**SIEMENS**

# Start-up, diagnostics, maintenance

## Remote via Industrial Wireless LAN

IT integration and “wireless” communication make servicing easier and more flexible. SIMATIC NET provides the “core” for Industrial Wireless LAN (IWLAN) with wireless PC-cards and access points. They are described here in greater detail as configurations along with typical environments for many applications: SIMATIC Field PG and controllers in conjunction with IT CP.

SIMATIC Field PG's, equipped with SIMATIC NET CP 7515 cards for IWLAN access, become remote service devices that are used for configuration and testing without the need for cabling. The IWLAN wireless network is achieved via the SCALANCE W access point. The CP343-1 IT on the controller enables access to databases on site in order to, for example, review service and maintenance schedules.

## Quick and easy start

### SIMATIC NET configurations

SIMATIC NET provides all necessary components to build integrated network solutions based on open, international standards. SIMATIC NET makes the advantages of Ethernet available in demanding industrial applications, and it ensures that the fieldbus systems integrate easily.

SIMATIC NET configurations represent components that are system-tested and recommended for typical applications in industrial communication. Additional components from the wide and diverse SIMATIC NET product line can be added at any time for more comprehensive solutions.



### 1 SCALANCE W788-1PRO: access point for setting up a mobile radio network

<b>Ports</b>	
Industrial Ethernet	1 x IE Hybrid RJ45 plug pro (10/100Mbit/s)
External antennas	2x external (R-SMA) attached to housing; both antennas are exchangeable
Industrial Wireless LAN	Reservation of data rates, deterministic data communication, cyclical wireless channel monitoring, "IP Alive", automatic roaming if the connection is interrupted
<b>Supply voltage</b>	– 24V DC via FC modular outlet with power insert and IE FAC standard cable 4x2 – Power-over-Ethernet 30V – 42V DC (IEEE 802.3af) – 1 x M12 power connector for redundant 24V DC supply voltage
<b>Operating/transport/storage temperature</b>	-20°C to +60°C (resistant to condensation); -40°C to +70°C
<b>Data security, encryption</b>	WEP, WPA with AES and TKIP, IEEE 802.1x with EAP-TLS, AES, Mac-filter, Admin password
<b>Radio certification</b>	You can find current certification information online at <a href="http://www.siemens.de/simatic-net/ik-info">www.siemens.de/simatic-net/ik-info</a>
<b>Degree of protection</b>	IP65
<b>Software</b>	Web-based access point manager
<b>Dimensions</b>	125 mm x 90 mm x 118 mm (wxhxd)

### 2 SIMATIC FIELD PG

Application example: not part of the SIMATIC NET configuration

### 3 CP 7515, PC card/communications processor

<b>Ports</b>	
Connection to PG/PC/Notebook	PC card model II (32-bit CardBus)
<b>Supply voltage</b>	DC 3.3V
<b>Operating/transport/storage temperature</b>	0°C to +55°C; -20°C to +75°C; relative humidity < 90 %
<b>Data security, encryption</b>	EAP-TLS, TTLS, PEAP, WEP, WPA with AES and TKIP
<b>Radio certification</b>	You can find current certification information online at <a href="http://www.siemens.de/simatic-net/ik-info">www.siemens.de/simatic-net/ik-info</a>
<b>Degree of protection</b>	IP20
<b>Software</b>	Driver software and client manager for 32 bit Windows 2000 Professional, XP Professional, 2003 server

### 4 SIMATIC S7-300

Application example: not part of the SIMATIC NET configuration

### 5 Industrial Ethernet FastConnect (IE FC) RJ45 modular outlet with power insert

<b>Ports for connecting:</b>	
Terminal equipment, network components	1 x RJ45-socket (10/100Mbit/s), 1 x 24V DC terminal
Industrial Ethernet FC cables	8 integrated insulation displacement terminals
<b>Supply voltage</b>	19V DC to 57V DC
<b>Operating/transport/storage temperature</b>	-20°C to +70°C; -40°C to +80°C; relative humidity < 95 %
<b>Degree of protection</b>	IP40
<b>Dimensions</b>	50 mm x 115.25 mm x 58.95 mm (wxhxd)
<b>Certification</b>	Reflects category 6 of the international cabling standards ISO/IEC 11801 and EN 50173

**Order information**

Order number

**CP 7515 communications processor**

IWLAN PC card (32 bit; CardBus) for connecting a PG/PC/Notebook to Industrial Wireless LAN according to IEEE 802.11b/g/a (2.4GHz, up to 54 Mbit/s), country certifications; including client manager and driver for 32 bit server, XP Professional/Server, XP Professional; manual on CD-ROM (German/English)

6GK1 751-5AA00

**SCALANCE W788-1PRO Access-Point**

For Industrial Wireless LAN with integrated wireless interface; wireless network IEEE 802.11b/g/a at 2.5/5GHz up to 54 Mbit/s. Scope of delivery: 2x AnT795-4MR antennas, IP67 hybrid connector, assembly material, manual on CD-ROM (German/English)

Country certification for operation outside the USA and Canada

6GK5 788-1ST00-2AA6

Country certification for operation inside the USA and Canada

6GK5 788-1ST00-2AB6

**Industrial Ethernet FastConnect (IE FC) RJ45 modular outlet with power insert**

**IE FC RJ45 modular outlet with power insert**

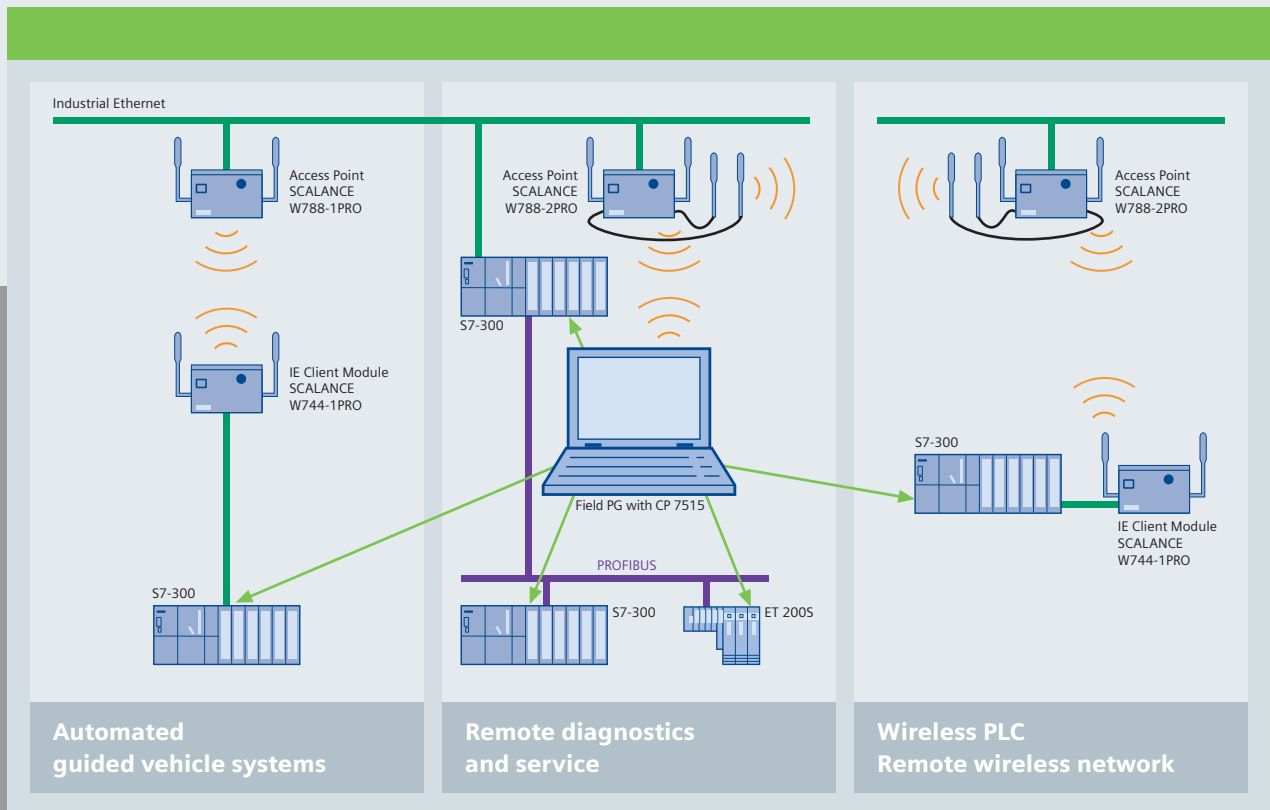
For Industrial Ethernet with a replacement set for 1 x DC 24V and 1 x 100Mbit/s port

6GK1 901-1BE00-0AA3

**IE Hybrid Cable 2x2+4x0.34**

Flexible cable, 4 x CU Cat5, shielded (0.75 mm) and 4 x CU (0.34 sqmm) with IE FC RJ45 modular outlet with power insert and IP67 hybrid connector, cabling sold by the meter

6XV1 870-2J



# Designed for Industry



Two antennas for diversity:  
Reliable sending and receiving



Well thought-out in every detail:  
Port with push-pull technology for IP67



For harsh industrial conditions:  
Access point with a high degree  
of protection IP67



For fast start after unit replacement:  
C-PLUG stores device data



For good connections:  
Electrical and LAN connection on power insert

Based on Standard Wireless LAN, Industrial Wireless LAN was specifically retrofitted to meet the requirement for reliable wireless communication even in demanding industrial environments.

Versatile design concepts, efficient configuration, rapid start-up, easier servicing, high reliability and investment protection are factors that were given special consideration when developing SIMATIC NET.

As a result, SIMATIC NET offers both the investor and the user many advantages even in the case of "wireless" communication:

All SIMATIC NET Industrial Wireless LAN products operate under the worldwide recognized industry standard IEEE 802.11 and are designed for 2.4GHz and 5GHz frequencies.

In a common wireless network, transferring critical process data (e.g. alarm signal) is also possible in addition to "uncritical" communication (e.g. service and diagnostics).

A fixed data rate can be reserved for important clients and deterministic data communication.

The SIMATIC NET FastConnect rapid mounting system saves installation time and costs. Because data is stored on easy-to-transfer C-PLUGs, devices do not have to be reconfigured when they are replaced.

Using wireless data transfer eliminates the need to use parts subject to wear on rotary or moving devices or plant components.

# Always up to date!

Information on how to start up  
SIMATIC NET Configuration 1

[www.siemens.de/simatic-net/configurations](http://www.siemens.de/simatic-net/configurations)

Information about SCALANCE network components:

[www.siemens.com/scalance](http://www.siemens.com/scalance)

Contact our online support service at:

[www.siemens.com/automation/service&support](http://www.siemens.com/automation/service&support)

Find your local contact partner:

[www.siemens.com/automation/partner](http://www.siemens.com/automation/partner)

*Extensive configuration and diagnostics functions (e.g. web server and network management) are provided via open protocols and interfaces in various SIMATIC NET components (e.g. communications processors with IT functions). These open interfaces provide access to components that can also be misused for dishonest activities. To use the above-mentioned functions and apply these open interfaces and protocols (e.g. SNMP, http, Telnet), suitable safety precautions must be taken that prevent unauthorized access to the components and the network, especially from the WAN/Internet. For this purpose, the automation network should be separated from the rest of the company network with suitable routers (e.g. proven firewall systems).*

## Advantages at a glance:

- You get standardized wireless technology
- Remote stations are easily integrated into the production organization
- Standard IT technologies are also used in industry
- Continuity throughout the plant thanks to standardized network structures
- Potential for process improvement
- Acquired expertise is further utilized
- Access the plant easily and continuously from a remote unit
- Data communication with increased availability

# [www.siemens.com/simatic-net](http://www.siemens.com/simatic-net)

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