

Operator Control & Monitoring via Industrial Wireless LAN



simatic net

CONFIGURATION 3

SIEMENS

Operator Control & Monitoring via Industrial Wireless LAN

The WinCC flexible HMI software enables the control and monitoring of a plant via Industrial Ethernet from a PC. Wireless access is possible via Industrial Wireless LAN.

The Configuration 3 is especially suited for mobile monitoring as well as for plant operation in large factories and parts of plants that are difficult to see or to access.

Get a fast start. SIMATIC NET Configurations

SIMATIC NET provides all the components required to build integrated network solutions based on open international standards. For demanding industrial applications, SIMATIC NET leverages the advantages of Ethernet and ensures the easy integration of fieldbus systems.

SIMATIC NET Configurations represent components that are system-tested and lend themselves to typical tasks in industrial communication. For more comprehensive solutions, additional components can be added as required from the broad and diverse SIMATIC NET program.



*Note: The 24 V power is supplied via the PS 307 5A power supply

1 SCALANCE W788-1PRO, Access Point for configuring a wireless network

Interfaces

■ Industrial Ethernet	1 x IE Hybrid RJ45 Plug pro (10/100 Mbps)
■ External antennas	2 x external (R-SMA) on enclosure, both antennas interchangeable
■ Industrial Wireless LAN	Data rate reservation, deterministic data traffic, cyclic monitoring of wireless channel, IP Alive, automatic roaming when connection is interrupted
Power supply	- 24 V DC via FC Modular Outlet with Power Insert and IE Hybrid Cable 2 x 2 + 4 x 0.34 - Power-over-Ethernet 30 V – 42 V DC (IEEE 802.3af) - 1 x M12 Power Connector for redundant DC 24 V power supply
Operating/transport/storage temperature	-20 °C to +60 °C (dew-resistant); -40 °C to +70 °C
Data security, encryption	WEP, WPA with AES and TKIP, IEEE 802.1x with EAP-TLS, AES, Mac filter, Admin password
Wireless certification	Current certifications can be found on the Internet at www.siemens.com/simatic-net/ik-info
Degree of protection	IP65
Software	Web-based Access Point Manager
Dimensions	125 mm x 90 mm x 118 mm (W x H x D)

2 SIMATIC Field PG

For plant operation and monitoring with WinCC flexible Runtime software

Loading of the STEP7 code example into the S7-300 and configuration of the WLAN Access Point requires a PG/notebook with Ethernet interface and installed STEP7 software from Version 5.3 SP1.

Supported operating systems for WinCC flexible 2004:
Windows 2000 Professional SP4, Windows XP Professional SP1

3 CP 7515, PC Card / Communications Prozessor

Interfaces

■ Connection to PG/PC/notebook	PC-Card Type II (32-bit Cardbus)
Power supply	3.3 V DC
Operating/transport/storage temperature	0 °C to +55 °C; -20 °C to +75 °C; humidity < 90 %
Data security, encryption	EAP-TLS, TTLS, PEAP, WEP, WPA with AES and TKIP
Wireless certification	Current certifications can be found on the Internet at www.siemens.com/simatic-net/ik-info
Degree of protection	IP20
Software	Driver software and Client Manager for 32-bit Windows 2000 Professional, XP Professional, 2003 Server

4 SIMATIC S7-300, Programmable Logic Controller

with CP 343-1 Lean communications processor for connection to Industrial Ethernet

5 Industrial Ethernet FastConnect (IE FC) RJ45 Modular Outlet with Power Insert

Interfaces for the connection of

■ Terminal devices, network components	1 x RJ45 jack (10/100 Mbps), 1 x 24 V DC terminal
■ Industrial Ethernet FC lines	8 integrated insulation displacement contacts (IDC)
Power supply	19 V DC to 57 V DC
Operating/transport/storage temperature	-20 °C to +70 °C; -40 °C to +80 °C; humidity < 95%
Degree of protection	IP40
Dimensions	50 mm x 115.25 mm x 58.95 mm (W x H x D)
Certification	Compliant with Category 6 of the international cabling standards ISO/IEC 11801 and EN 50173

5 Industrial Ethernet Switch SCALANCE X108

Interfaces for the connection of

■ Terminal devices or network components via Twisted Pair	8 x RJ45-jacks, 10/100 Mbps (half/full duplex)
■ From power supply	1 x 4-pin plug-in terminal strip
■ From signaling contact	1 x 2-pin plug-in terminal strip
Diagnostic LEDs	Power, Link status, data traffic
Power supply	2 x 24 V DC
Power consumption	140 mA
Degree of protection	IP30

Ordering Information

Order Number

CP 7515 Communications Processor

IWLAN PC Card (32-bit; CardBus) for the connection of a PG/PC/notebook on Industrial Wireless LAN according to IEEE 802.11b/g/a (2.4 GHz, to 54 Mbps), country certifications; includes Client Manager and drivers 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 built-in wireless interface; wireless networks IEEE 802.11b/g/a at 2.4/5 GHz to 54 Mbps. Includes: 2 antennas ANT795-4MR, IP67 hybrid connector, installation accessories, manual on CD-ROM; German/English

Country certifications for use outside the USA and Canada

6GK5 788-1ST00-2AA6

Country certifications for use 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 change block for 1 x 24 V DC and 1 x 100 Mbps interface

6GK1 901-1BE00-0AA3

IE Hybrid Cable 2 x 2 + 4 x 0.34

flexible cable, 4 x CU Cat5, shielded (0.75 mm²) and 4 x CU (0.34 mm²) with IE FC RJ45 Modular Outlet with Power Insert and IP67 hybrid connector, by the meter

6XV1 870-2J

SCALANCE X108 Industrial Ethernet Switch

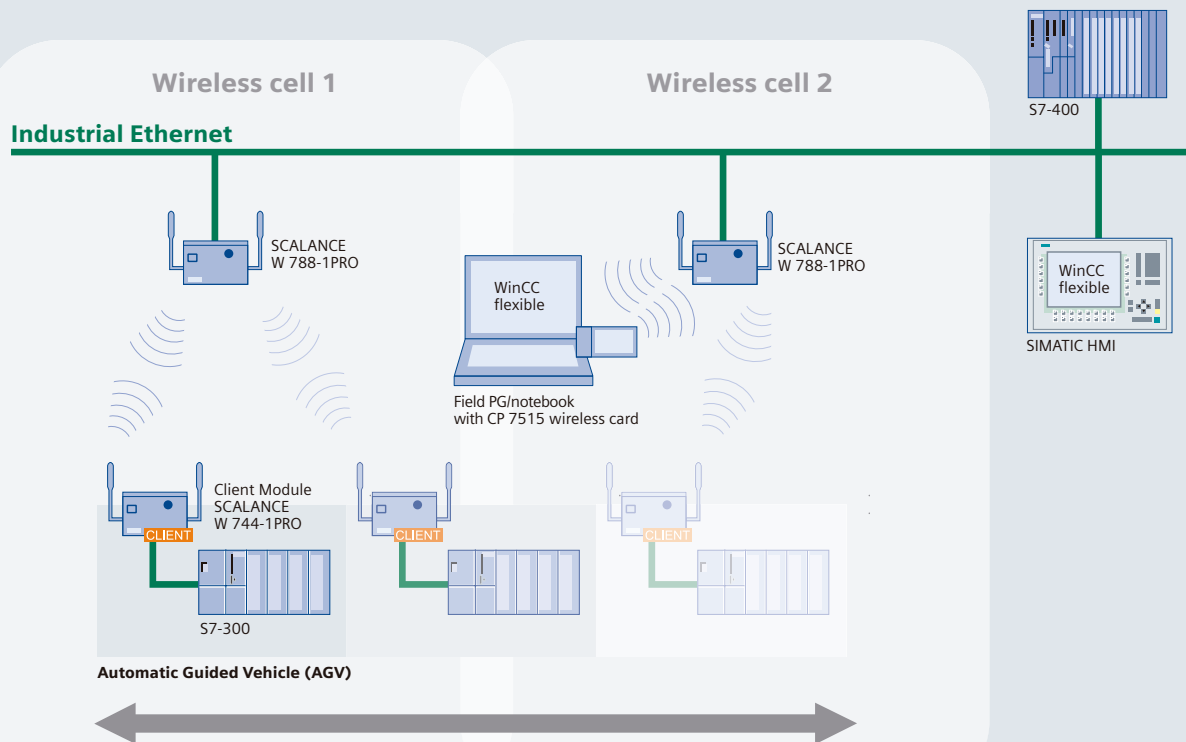
Industrial Ethernet Switches for 10/100 Mbps with eight 10/100 Mbps RJ45 ports for star configurations

6GK5 108-0BA00-2AA3

CP 343-1 Lean Communications Processor

For connection of the SIMATIC S7-300 to Industrial Ethernet

6GK7 343-1CX00-0XE0



Designed for Industry



Two antennas for diversity:
Reliable transmission and reception



Perfect in every detail: Port for
hybrid connector with degree of
protection IP65



For harsh industrial environments:
Access Point in high degree of
protection IP65



For a quick start after device
replacement: C-Plug stores device
data



Always a good connection: Power and
LAN connection on the Power Insert



For efficient engineering: SIMATIC
WinCC flexible visualization software

The example consists of a S7-300 station with Industrial Ethernet-CP 343-1 Lean and a SCALANCE W788-1PRO Access Point, which are wired via the SCALANCE X108 Switch. A programming device (PG)/notebook with Wireless LAN CP 7515 is connected to this network via the Access Point. For plant operation and monitoring, the WinCC flexible runtime software featuring the sample project is launched on the PG, after which the plant can be accessed wirelessly within the limits of the wireless network.

IWLAN – A hybrid cable is all that is needed to connect the Access Point, and it includes additional power supply wires (Power-over-Ethernet). The supply voltage is fed into the cable from the Power Insert of the Modular Outlet.

The SCALANCE X108 Switch and the Modular Outlet are interconnected by means of a normal patch cable (IE TP Cord).

Alternatively, for a test setup, the power for the W788-1PRO Access Point can be directly supplied via a special jack (Power M12 Cable Connector Pro).

Always up to date!

Information on the commissioning of
SIMATIC NET Configuration 3
www.siemens.com/simatic-net/configurations

Information on the SCALANCE network components
www.siemens.com/scalance

Contact our Online Support at
www.siemens.com/automation/service&support

Contacts near you can be found at
www.siemens.com/automation/partner

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Benefits at a glance:

- The wireless network enables flexible access to machines and plants.
- Increase of productivity through quick elimination of faults or downtimes.
- Easy access to the plant through a PG. STEP 7 can be used for wireless access to the controller.
- Easy installation of the SCALANCE W788-1PRO IWLAN Access Point through Power-over-Ethernet.
- No need for stationary operator stations/panels.

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