

SIMATIC NET

Industrial Wireless LAN SCALANCE W760/W720

Operating Instructions

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Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Information on the Internet

Bitte beachten Sie die Warnhinweise und zusätzlichen Informationen in der Kompaktbetriebsanleitung in Ihrer Sprache im Internet:

<http://support.automation.siemens.com/ww/view/at/10806097>

<http://support.automation.siemens.com/ww/view/ch/10806097>

<http://support.automation.siemens.com/ww/view/de/10806097>

<http://support.automation.siemens.com/ww/view/li/10806097>

<http://support.automation.siemens.com/ww/view/lu/10806097>

Please observe the warnings and additional information in the compact operating instructions in your language in the Internet:

<http://support.automation.siemens.com/ww/view/au/10806097>

<http://support.automation.siemens.com/ww/view/ca/10806097>

<http://support.automation.siemens.com/ww/view/gb/10806097>

<http://support.automation.siemens.com/ww/view/ie/10806097>

<http://support.automation.siemens.com/ww/view/us/10806097>

<http://support.automation.siemens.com/ww/view/za/10806097>

Veuillez tenir compte des avertissements et informations supplémentaires de la notice de service dans votre langue sur Internet:

<http://support.automation.siemens.com/ww/view/be/10806097>

<http://support.automation.siemens.com/ww/view/ch/10806097>

<http://support.automation.siemens.com/ww/view/fr/10806097>

<http://support.automation.siemens.com/ww/view/lu/10806097>

Si prega di tenere conto delle avvertenze e ulteriori informazioni nell'istruzione operativa compatta nella relativa lingua in Internet:

<http://support.automation.siemens.com/ww/view/it/10806097>

Se ruego tener en cuenta las advertencias y las informaciones complementarias contenidas en las instrucciones de servicio (resumen) en español en Internet:

<http://support.automation.siemens.com/ww/view/cl/10806097>

<http://support.automation.siemens.com/ww/view/es/10806097>

Dbejte prosím na výstražné pokyny a doplňkové informace v kompaktním návodu k obsluze ve vašem jazyce na internetu:

<http://support.automation.siemens.com/ww/view/cz/10806097>

Vær venligst opmærksom på de advarselsanvisninger og ekstra informationer der findes på dit sprog i kompaktdriftsvejledningen på internettet:

<http://support.automation.siemens.com/ww/view/dk/10806097>

Noudata lyhyen käyttöoppaan sisältämiä varoituksia ja huomio sen muutkin tiedot. Oman kielisesi käyttöoppaan löydät internetistä osoitteesta:

<http://support.automation.siemens.com/ww/view/fi/10806097>

Λάβετε υπόψη τις υποδείξεις προειδοποίησης και τις πρόσθετες πληροφορίες των συνοπτικών οδηγιών χρήσης που παρέχονται στη γλώσσα σας στο Διαδίκτυο:

<http://support.automation.siemens.com/ww/view/gr/10806097>

请注意互联网上精编版操作说明相应语言版本中的警告提示和附加信息：

<http://support.automation.siemens.com/ww/view/cn/10806097>

<http://support.automation.siemens.com/ww/view/hk/10806097>

<http://support.automation.siemens.com/ww/view/sg/10806097>

Kérjük, vegye figyelembe az interneten található, az Ön anyanyelvén íródott kompakt használati útmutatóban található figyelmeztetéseket és további információkat:

<http://support.automation.siemens.com/ww/view/hu/10806097>

Skoðið vel viðvaranir og aðrar upplýsingar í notkunarleiðbeiningunum á ykkar tungumáli á internetinu:

<http://support.automation.siemens.com/ww/view/is/10806097>

インターネットサイトにある各言語の注意事項および追加情報を参照してください:

<http://support.automation.siemens.com/ww/view/jp/10806097>

사이트에 있는 귀하의 언어로 된 콤팩트 사용 설명서에 명시된 경고 지침 및 추가 정보를 준수하십시오:

<http://support.automation.siemens.com/ww/view/kr/10806097>

يجب التنبيه إلى

ارشادات التحذير و المعلومات الإضافية المذكورة في دليل التشغيل الملخص بلفتكم و الموجود على شبكة الانترنت

<http://support.automation.siemens.com/ww/view/kw/10806097>

Neem goed nota van de waarschuwingen en extra informatie in de compacte gebruiksaanwijzing in uw taal op internet:

<http://support.automation.siemens.com/ww/view/be/10806097>

<http://support.automation.siemens.com/ww/view/nl/10806097>

Vennligst følg advarslene og annen informasjon i den kompakte bruksanvisningen, som du finner på ditt språk på internett:

<http://support.automation.siemens.com/ww/view/no/10806097>

Proszę zwrócić uwagę na ostrzeżenia oraz dodatkowe informacje w kompaktowej instrukcji obsługi, dostępnej w odpowiednim języku w internecie:

<http://support.automation.siemens.com/ww/view/po/10806097>

Observera varningshänvisningarna och extrainformationerna i kompaktbruksanvisningen som finns på ditt språk på internet:

<http://support.automation.siemens.com/ww/view/se/10806097>

İnternette kendi dilinizdeki kompakt işletim kılavuzunda yer alan uyarı notlarına ve ek bilgilere lütfen dikkat edin:

<http://support.automation.siemens.com/ww/view/tr/10806097>

Introduction

2.1 Information on the Operating Instructions

Validity of the Operating Instructions

These operating instructions cover the following products:

	Article no. of the RoW version	Article no. of the US version
Access point		
SCALANCE W761-1 RJ-45	6GK5761-1FC00-0AA0	6GK5761-1FC00-0AB0
Ethernet client modules		
SCALANCE W722-1 RJ-45 (iFeatures)	6GK5722-1FC00-0AA0	6GK5722-1FC00-0AB0
SCALANCE W721-1 RJ-45	6GK5721-1FC00-0AA0	6GK5721-1FC00-0AB0

These operating instructions apply to the following software version:

- SCALANCE W760/W720 with firmware as of Version 5.2

Purpose of the Operating Instructions

Using the Operating Instructions, you will be able to install and connect the SCALANCE W760/W720 correctly. The configuration and the integration of the device in a WLAN are not described in these instructions.

Documentation on the accompanying CD

You will find detailed information about configuration in the SCALANCE W700 configuration manuals on the accompanying SIMATIC NET IWLAN CD under the file name:

PH_SCALANCE-W760-W720-WBM_76.pdf and PH_SCALANCE-W760-W720-CLI_76.pdf

Note

Make sure that you read the explanations and instructions in the README.txt file

License conditions

Note

Open source software

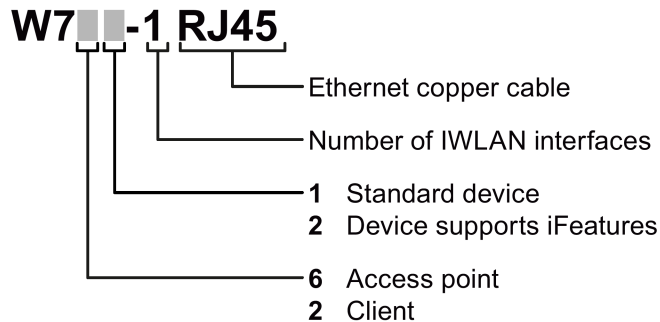
Read the license conditions for open source software carefully before using the product.

You will find license conditions in the following documents on the supplied data medium:

- DOC_License_74.pdf
- DOC_LicenseScalanceW_76.htm

2.2 Structure of the type designation

The type designation of the device is made up of several parts that have the following meaning:



2.3 Security information

Siemens provides automation and drive products with industrial security functions that support the secure operation of plants or machines. They are an important component in a holistic industrial security concept. With this in mind, our products undergo continuous development. We therefore recommend that you keep yourself informed with respect to our product updates. Please find further information and newsletters on this subject at: <http://support.automation.siemens.com>.

To ensure the secure operation of a plant or machine it is also necessary to take suitable preventive action (e.g. cell protection concept) and to integrate the automation and drive components into a state-of-the-art holistic industrial security concept for the entire plant or machine. Any third-party products that may be in use must also be taken into account. Please find further information at: <http://www.siemens.com/industrialsecurity>

3

Description

3.1 Components of the product

The following components are supplied with the product:

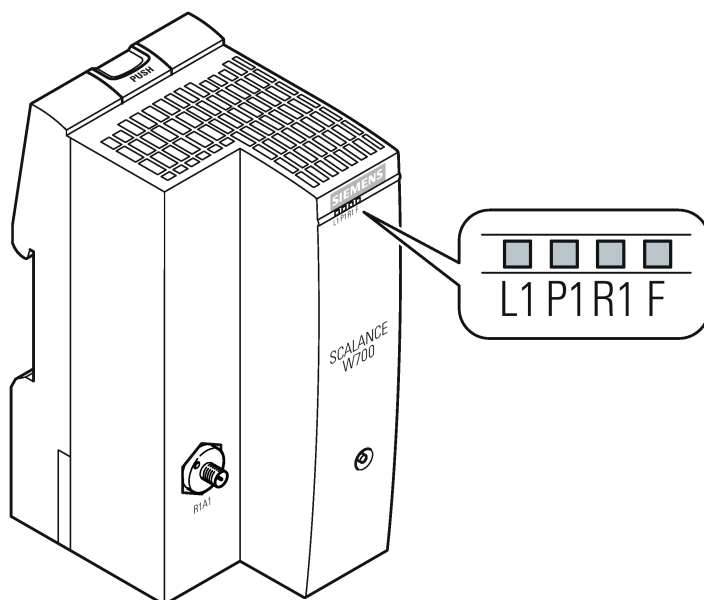
- SCALANCE W761 or SCALANCE W722 or SCALANCE W721
- 1 protective cap for the antenna socket
- 1 connector for the power supply
- SIMATIC NET Industrial Wireless LAN CD

Please check that the consignment you have received is complete. If the consignment is incomplete, contact your supplier or your local Siemens office.

3.2 LED display

Information on operating status and data transfer

On the front of the housing, several LEDs provide information on the operating status of the device:



LED	Color	Meaning
L1	Green	Power supply L1.
P1	Green	There is a connection via the Ethernet interface (Link).
	Green and yellow flashing alternately	Data transfer via the Ethernet interface.
R1	Green	<i>SCALANCE W760 in access point mode:</i> The WLAN interface is initialized and ready for operation. <i>SCALANCE W760 in client mode or SCALANCE W720:</i> There is a connection via the WLAN interface.
	Green and yellow flashing alternately	Data transfer over the WLAN interface.
	Green flashing briefly	<i>SCALANCE W760 in access point mode:</i> With 802.11h, the channel is scanned for one minute for primary users before the channel can be used for data traffic. <i>SCALANCE W760 in client mode or SCALANCE W720:</i> The client waits for the MAC address due to the setting "Automatic" for the "MAC mode" parameter and is connected to no access point.
	Green flashing 3 x short, 1 x long	<i>SCALANCE W760 in client mode or SCALANCE W720:</i> The client waits for the MAC address due to the setting "Automatic" for the "MAC mode" parameter and is connected to an access point.
F	Red	An error occurred during operation with the device.
	Red R1 flashing yellow at the same time	A primary user was detected on all enabled channels. (only when DFS is enabled or according to IEEE 802.11h)
P1 R1	Flashing yellow	"Flashing" enabled using SIMATIC NET Primary Setup Tool (PST).

Note

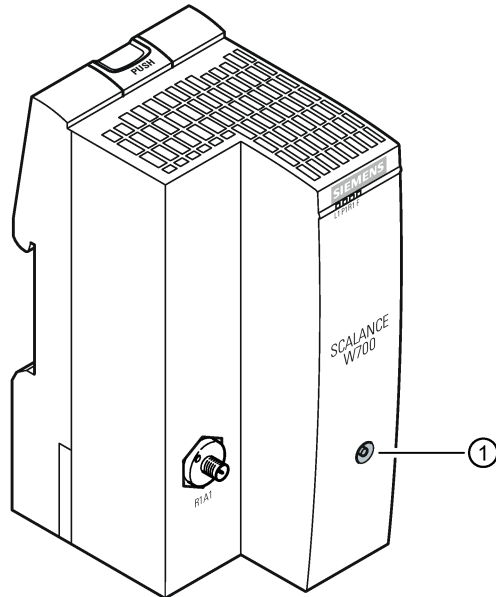
Primary user (radar) on all enabled channels (only when DFS is enabled)

If the device detects a primary user (for example radar signals) on all enabled channels of the WLAN interface, the LED **F** is lit and **R1** flashes. No data traffic is then possible for the next 30 minutes. After this time, the device runs the scan again and checks whether a primary user still exists. If no primary user is detected, data traffic is possible again.

The wait time of 30 minutes is necessary due to legal requirements and cannot be shortened even by restarting the device.

3.3 Reset button

The reset button (position ①) is on the front of the housing:



Functions of the reset button

The reset button has the following functions:

- Restart of the device

Note

If you make changes to the configuration and restart immediately afterwards with the reset button, the changes may be lost. If you restart the device using the WBM (menu command "System > Restart") or using the CLI (command "restart" in the Privileged EXEC Modus), the configuration changes are always retained.

- Loading new firmware
- Restoring the default parameters (factory defaults)

You will find more detailed information in the configuration manual SCALANCE W760/W720 WBM.

Mounting

CAUTION

Minimum distance to antennas

Fit the device so that there is a minimum clearance of 20 cm between antennas and persons.

WARNING

If a device is operated in an ambient temperature of more than 50 °C, the temperature of the device housing may be higher than 70 °C. The device must therefore be installed so that it is only accessible to service personnel or users that are aware of the reason for restricted access and the required safety measures at an ambient temperature higher than 50 °C.

WARNING

When used in hazardous environments corresponding to Class I, Division 2 or Class I, Zone 2, the device must be installed in a cabinet or a suitable enclosure.

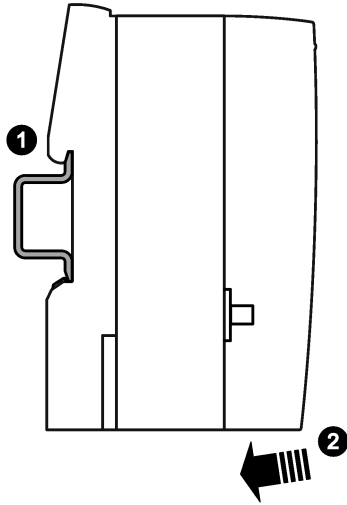
General notes on use according to ATEX and IECEx

WARNING

To comply with EC Directive 94/9 (ATEX95) or the conditions of IECEx, this enclosure or cabinet must meet the requirements of at least IP54 in compliance with EN 60529.

4.1 Installing on a DIN rail / removing

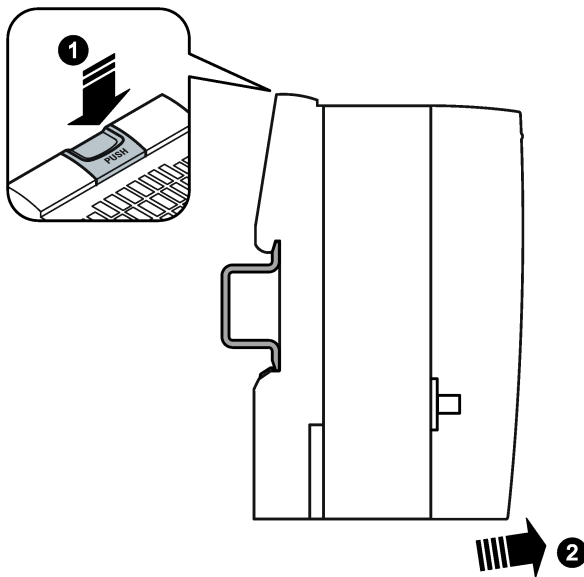
Procedure for installation



Follow the steps below to fit the SCALANCE W760/W720 to a DIN rail:

1. Place the device on the upper edge of the DIN rail as shown in the figure.
2. Press the device against the DIN rail until the DIN rail slider catch locks in place.

Procedure when removing



Follow the steps below to remove the SCALANCE W760/W720 from a DIN rail:

1. Press the release button on the top of the device to release the DIN rail catch.
2. Tilt the SCALANCE W760/W720 forward and remove the device from the DIN rail.

Connection

5.1 Lightning protection, power supply and grounding

Lightning protection



WARNING

Danger due to lightning strikes

Antennas installed outdoors must be within the area covered by a lightning protection system. Make sure that all conducting systems entering from outdoors can be protected by a lightning protection potential equalization system.

When implementing your lightning protection concept, make sure you adhere to the VDE 0182 or IEC 62305 standard.

Suitable lightning protectors are available in the range of accessories of SIMATIC NET Industrial WLAN:

- Lightning protector LP798-1N (order no. 6GK5798-2LP00-2AA6)
- Lightning protector LP798-2N (order no. 6GK5798-2LP10-2AA6)

Note

We recommend that you use the maintenance-free lightning protector LP798-2N.

Exception: When there is also DC power supplied via the antenna cable. In this case, only the lightning protector LP798-1N can be used.



! WARNING

Danger due to lightning strikes

Installing this lightning protector between an antenna and a SCALANCE W700 is not adequate protection against a lightning strike. The LP798-1N lightning protector only works within the framework of a comprehensive lightning protection concept. If you have questions, ask a qualified specialist company.

Note

The requirements of EN61000-4-5, surge immunity tests on power supply lines, are met only when a Blitzductor is used with 24 VDC:

BVT AVD 24

type no. 918 422

Manufacturer: DEHN+SÖHNE GmbH+Co.KG, Hans Dehn Str. 1, Postfach 1640, D - 92306 Neumarkt, Germany

Supply voltage

! WARNING

Safety extra low voltage

The equipment is designed for operation with Safety Extra-Low Voltage (SELV) by a Limited Power Source (LPS).

This means that only SELV / LPS (Limited Power Source) complying with IEC 60950-1 / EN 60950-1 / VDE 0805-1 must be connected to the power supply terminals or the power supply unit for the equipment power supply must comply with NEC Class 2, as described by the National Electrical Code (r) (ANSI / NFPA 70).

If the equipment is connected to a redundant power supply (two separate power supplies), both must meet these requirements.

! WARNING

Transient overvoltages

Take measures to prevent transient voltage surges of more than 40% of the rated voltage. This is the case if you only operate devices with SELV (safety extra-low voltage).

Grounding

**! WARNING****Danger to life from overvoltage, fire hazard**

When using outdoor antennas, the shared or even grounded pin of the circuit must be connected to the shield of the coaxial cable and with all touchable conductive parts and circuits. Otherwise, in the event of a fault there may be illegally high voltages on touchable parts.

NOTICE**Damage to the device due to potential differences**

To fully eliminate the influence of electromagnetic interference, the device must be grounded. There must be no potential difference between the following parts, otherwise the device or other connected device could be severely damaged:

- Grounding pin of the SCALANCE W700 and the ground potential of the antenna.
- Grounding pin of the SCALANCE W700 and the ground potential of a device connected over Ethernet.
- Grounding pin of the SCALANCE W700 and the shield contact of the connected Ethernet cable.

Connect both grounds to the same foundation earth or use an equipotential bonding cable.

! WARNING**EXPLOSION HAZARD**

SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2 OR ZONE 2.

! WARNING**EXPLOSION HAZARD**

DO NOT OPEN WHEN ENERGIZED.

General notes on use according to ATEX and IECEx

! WARNING**EXPLOSION HAZARD**

DO NOT CONNECT OR DISCONNECT EQUIPMENT WHEN A FLAMMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.

General notes on use in hazardous areas according to UL-HazLoc

WARNING
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EXPLOSION HAZARD

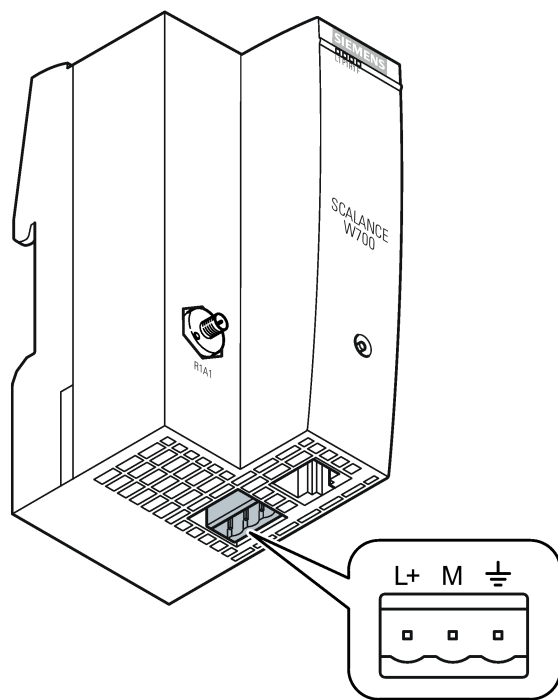
DO NOT DISCONNECT WHILE CIRCUIT IS LIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or non-hazardous locations only.

This equipment is suitable for use in Class I, Zone 2, Group IIC or non-hazardous locations only.

5.2 Power supply

The power is supplied to the SCALANCE W760/W720 via the three-pin socket.



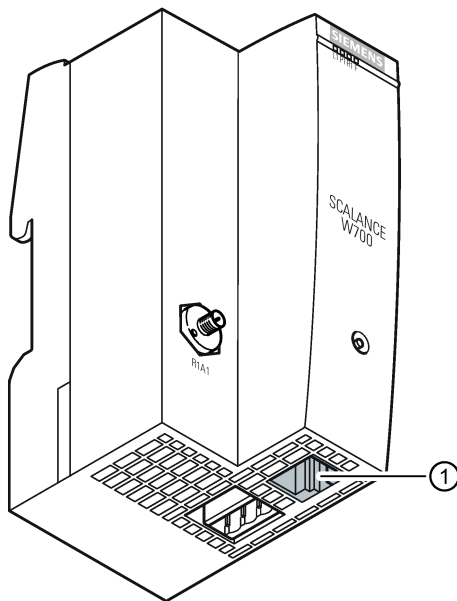
Socket

The three-pin socket has the following pin assignment:

Pin	Assignment
L+	+24 VDC
M	Ground
	Grounding

5.3 Ethernet

The SCALANCE W760/W720 has two Ethernet interfaces located on the underside of the device (position ①).



5.4 Suitable cables for power supply and Ethernet

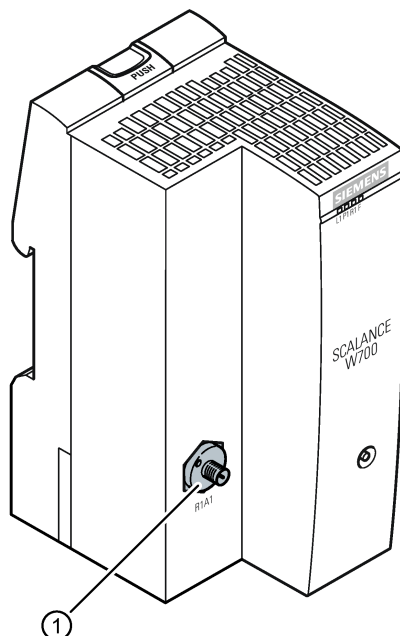
Cable specification

The following table lists the requirements for a cable depending on the application.

Application	Specification
Direct 24 VDC supply	- Round cable cross-section with 6 to 8 mm diameter. - Two-wire cable with 0.5 to 1.5 mm² cross-section per wire. - Permitted tensile load at least 100 N. - UL listing: Type PLTC or ITC
Ethernet	- IE FC TP standard cable GP 2 x 2 (type A) Order no.: 6XV1 840-2AH10 - IE TP torsion cable 2 x 2 (type C) Order no.: 6XV1 870-2F - IE FC TP trailing cable 2 x 2 (type C) Order no.: 6XV1 840 3AH10 UL listing: Type PLTC or ITC (the three named types have this approval)

5.5 Antenna connector

The SCALANCE W760/W720 has an antenna connector R1 A1 of the type R-SMA located on the front of the device (position ①).



Procedure

Follow the steps below to connect a cable for an external antenna to a SCALANCE W760/720:

1. Insert the connector on the antenna cable into the R-SMA socket R1 A1 (position ①) and tighten the retainer nut on the socket (key size SW8, tightening torque 0.6 Nm).

Note

Cabinet installation

When installing the SCALANCE W760/720 in a cabinet, you need to use a detached antenna. Suitable connecting cables for a connection between SCALANCE W760/720 and a detached antenna are available from SIMATIC NET. You will find detailed information in the following section.

5.6 Suitable antenna cables and antennas

N-Connect/R-SMA connecting cable

To connect an antenna with an N-Connector, the following cables are suitable:

Length	Order number
0.3 m	6XV1875-5CE30
1 m	6XV1875-5CH10
2 m	6XV1875-5CH20
5 m	6XV1875-5CH50
10 m	6XV1875-5CN10

Suitable antennas

Note

When you select an antenna, keep in mind the national approvals for your device.

Type	Properties	Order number
ANT792-6MN	Omni antenna, mast/wall mounting, 6 dBi 2.4 GHz, N-Connect female	6GK5 792-6MN00-0AA6
ANT793-6MN	Omni antenna, mast/wall mounting, 5 dBi 5 GHz, N-Connect female	6GK5 793-6MN00-0AA6
ANT793-8DJ	Directional antenna, mast/wall mounting, 18 dBi 5 GHz, 2 x N-Connect female	6GK5 793-8DJ00-0AA0
ANT793-8DK	Directional antenna, mast/wall mounting, 23 dBi 5 GHz, 2 x N-Connect female	6GK5 793-8DK00-0AA0
ANT793-8DP	Directional antenna, mast/wall mounting, 13 / 13.5 dBi 4.9 GHz and 5 GHz, N-Connect female	6GK5793-8DP00-0AA0
ANT795-6DC	Wide angle antenna, mast/ wall mounting, 9 dBi 2.4 GHz and 5 GHz, N-Connect female	6GK5 795-6DC00-0AA0
ANT793-6DG	Wide angle antenna, mast/ wall mounting, 9 dBi 5 GHz, 2 x N-Connect female	6GK5 793-6DG00-0AA0
ANT795-6MN	Omni antenna, mounted on roof/vehicle, 6/8 dBi 2.4 GHz and 5 GHz, N-Connect female	6GK5 795-6MN10-0AA6
ANT795-4MC	Omnidirectional antenna, 3/5 dBi, 2.4 GHz and 5 GHz, IP65, N-Connect male for direct installation on the device, straight connector.	6GK5 795-4MC00-0AA3

5.6 Suitable antenna cables and antennas

ANT795-4MD	Omnidirectional antenna, 3/5 dBi, 2.4 GHz and 5 GHz, IP65, N-Connect male for direct installation on the device, 90° connector.	6GK5 795-4MD00-0AA3
ANT795-4MA	Omni antenna, directly on the device, 3/5 dBi 2.4 GHz and 5 GHz, IP30, R-SMA connector male for direct mounting on the device, connector angle adjustable 0° to 180°.	6GK5 795-4MA00-0AA3
ANT792-4DN	RCoax helical antenna, circular polarization, 4 dBi, 2.4 GHz, N-connect female.	6GK5 792-4DN00-0AA6
ANT793-4MN	RCoax $\lambda/8$ antenna with vertical polarization, 6 dBi, 5 GHz, N-connect female.	6GK5 793-4MN00-0AA6
ANT795-4MX	Omni Antenna, 2/2,5 dBi, 2,4 GHz and 5GHz, IP69K, N-Connect male	6GK5795-4MX00-0AA0
ANT795-6MP	Omni Antenna 5/7 dBi, 2,4 GHz and 5GHz, IP67, N-Connect female	6GK5795-6MP00-0AA0
ANT896-6MM	Omni Antenna for Mobile Wireless, WLAN and GPS, WLAN: 6/7 dBi, 2,4 GHz and 5GHz, IP68, IP69 K, QMA-Connect female, Port 2	6GK5896-6MM00-0AA0
ANT793-8DL	Directional Antenna, 5 GHz, 14dBi, IP66, 2xN-Connect female	6GK5793-8DL00-0AA0
IWLAN RCoax cable 2.4 GHz PE 1/2"	Omni antenna, 0 dBi 2.400 - 2.485 GHz, N-Connect female.	6XV1875-2A
IWLAN RCoax cable 5 GHz PE 1/2"	Omni antenna, 0 dBi 5.150 - 5.875 GHz, N-Connect female.	6XV1875-2D

NOTICE

ANT795-4MA

The ANT795-4MA antenna has degree of protection IP30 and is therefore suitable for dry environments.

Note

ANT793-8DJ

The antenna ANT793-8DJ may only be used with the antenna cable 6XV1875-5CH50 (5 m length) or 6XV1875-5CN10 (10 m length). Other antenna cables are not permitted.

Notice for USA/Canada

Only one antenna per device can be used (connected to R1A1, R1A2 or R2A1, R2A2).

Note

ANT793-8DK

The antenna ANT793-8DK may only be used with the antenna cable 6XV1875-5CN10 (10 m length). Other antenna cables are not permitted.

Notice for USA/Canada

Only one antenna per device can be used (connected to R1A1, R1A2 or R2A1, R2A2).

Technical data

6.1 Technical specifications W761/W722/W721 RJ-45

The following technical specifications apply to the following devices:

- SCALANCE W761-1 RJ-45
- SCALANCE W722-1 RJ-45
- SCALANCE W721-1 RJ-45

Note

You will find detailed information on the transmit power and receiver sensitivity in the document "Performance data 802.11 abgn SCALANCE W760/W720" on the supplied data medium (REF_W760-RadioInterface.pdf).

SCALANCE W761/W722/W721	
Data transfer	
Ethernet transfer rate	10 / 100 Mbps
Wireless transmission rate	1 ... 150 Mbps
Wireless standards supported	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n
Attachment to Industrial Ethernet	
Quantity	1
Design	RJ-45 jack
Properties	Half duplex/full duplex, autocrossover, autonegotiation, autosensing, floating
Permitted cable lengths (Ethernet)	(Alternative combinations per length range)
0 ... 55 m	• Max. 55 m IE TP Torsion Cable with IE FC RJ45 Plug 180 • Max. 45 m IE TP Torsion Cable with IE FC RJ45 + 10 m TP Cord via IE FC RJ45 Outlet
0 ... 85 m	• Max. 85 m IE FC TP Marine/Trailing/Flexible/FRNC/Festoon/Food Cable with IE FC RJ45 Plug 180 • Max. 75 m IE FC TP Marine/Trailing/Flexible/FRNC/Festoon/Food Cable + 10 m TP Cord via IE FC RJ45 Outlet
0 ... 100 m	• Max. 100 m IE FC TP Standard Cable with IE FC RJ45 Plug 180 • Max. 90 m IE FC TP Standard Cable + 10 m TP Cord via IE FC RJ45 Outlet

SCALANCE W761/W722/W721

Wireless interface

Antenna connector	Quantity	1
	Design	R-SMA female
	Impedance	50 Ω nominal
Frequency range		2412 ... 2480 MHz
		4920 ... 5875 MHz

Electrical data

Power supply	Supply voltage	24 VDC Safe Extra Low Voltage (SELV)
	Permitted range	19.2 to 28.8 VDC
	Design	Terminal block, 3 terminals
Fusing		2.5 A / 24 VDC
Current consumption	Typical	150 mA
Power loss at 24 VDC	Typical	3.6 W

Permitted ambient conditions

Ambient temperature	During operation with the rack installed horizontally	0 °C to +55 °C
	During operation with the rack installed vertically	0 °C to +55 °C
	During storage	-40 °C to +85 °C
	During transportation	-40 °C to +85 °C
Relative humidity	During operation	≤ 95% at 25 °C, no condensation
Operating altitude	During operation	≤ 2,000 m above sea level at max. 55 °C ambient temperature
Contaminant concentration	According to IEC 60721	

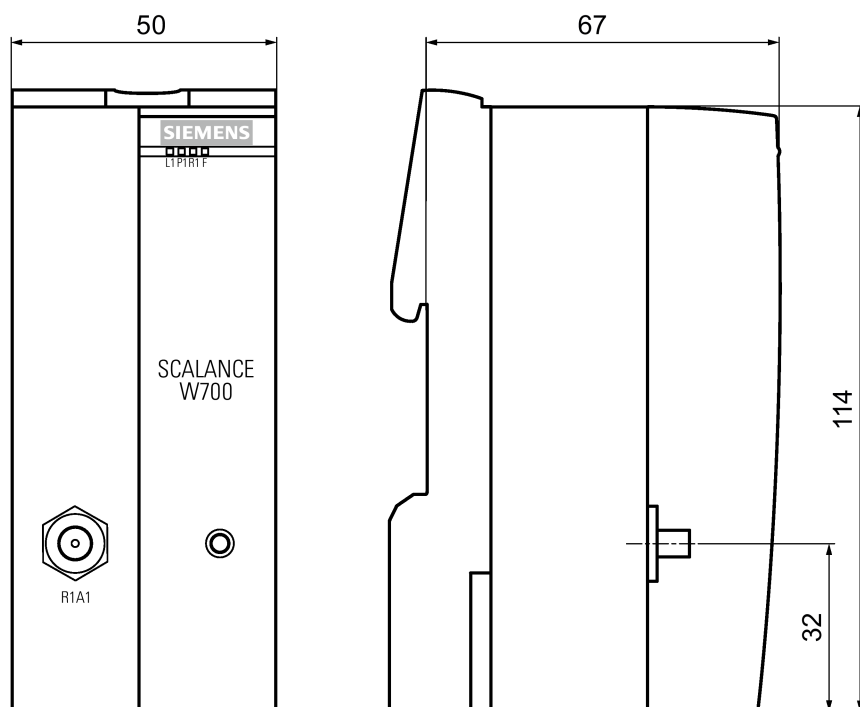
Design, dimensions and weight

Degree of protection	IP20
Weight	130 g
Dimensions (W x H x D)	50 x 114 x 74 mm
Installation options	Installation on a DIN rail

Mean time between failure (MTBF)

	at 40 °C ambient temperature	106.51 years
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Dimension drawings



Approvals

You will find the approvals of the products in the reference work "Approvals SCALANCE W700 802.11n" on the Internet pages of Siemens Industry Online Support:

- Using the search function:
support.automation.siemens.com (<http://support.automation.siemens.com/WW/view/en>)
Enter the entry ID of the relevant manual as the search item.
- In the navigation panel on the left-hand side in the area "Industrial Communication":
Industrial communication
(<http://support.automation.siemens.com/WW/view/en/10805878/133300>)
Go to the required product group and make the following settings:
"Entry list" tab, Entry type "Manuals / Operating Instructions"

You will find the documentation for the SIMATIC NET products relevant here on the data storage medium that ships with some products:

- Product CD / product DVD
- SIMATIC NET Manual Collection
- SIMATIC NET IWLAN CD

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