SIEMENS

SIMATIC NET

Industrial Wireless LAN
Passive network components
IWLAN

System Manual

Legal information

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.

Table of contents

Preface

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Purpose of the system manual

This manual explains the entire IWLAN cabling that you require for your IWLAN application. For a flexible combination and installation of the individual IWLAN components both indoors and outdoors, a wide ranging selection of compatible coaxial accessories is available. The manual also covers connecting cables as well as a variety of plug-in connectors, lightning protectors, a power splitter and an attenuator.
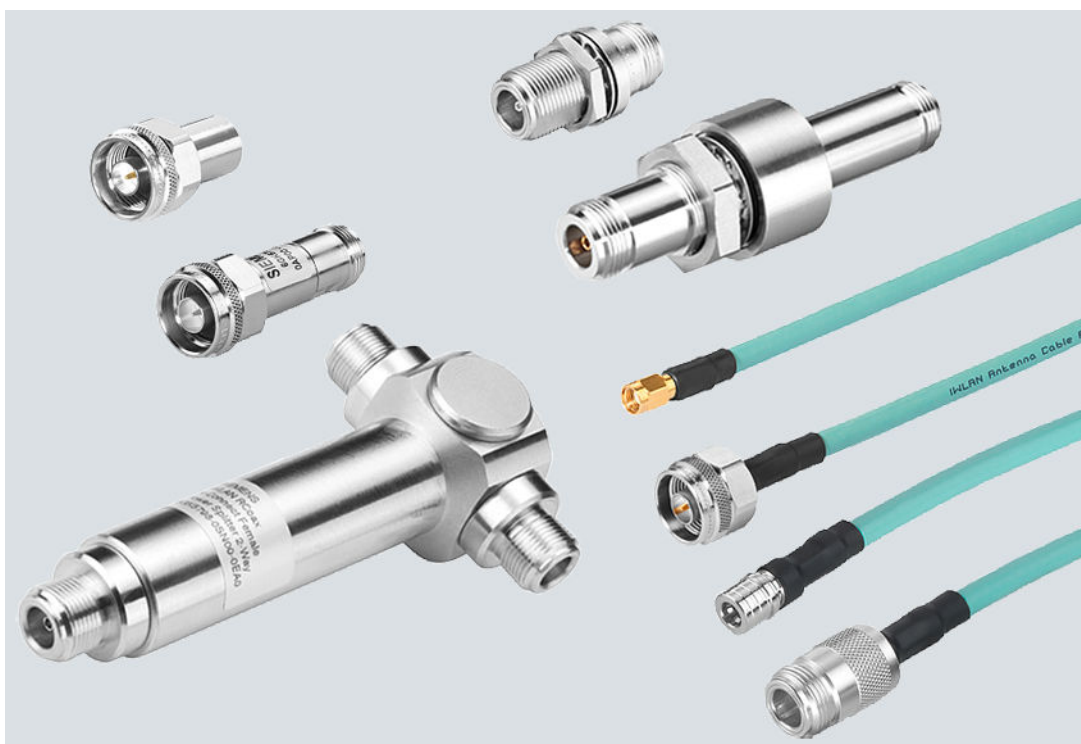
Figure 1-1   IWLAN product overview

Certification

The products and systems listed in this document are manufactured and marketed using a quality management system complying with DIN ISO 9001 (Certificate Register no. 2613) and certified by DQS. The DQS certificate is recognized in all IQNet countries (reg. no.: 2613).

Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit
https://www.siemens.com/industrialsecurity (https://www.siemens.com/industrialsecurity).

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under
https://www.siemens.com/industrialsecurity (https://www.siemens.com/industrialsecurity).

Decommissioning

Shut down the device properly to prevent unauthorized persons from accessing confidential data in the device memory.

To do this, restore the factory settings on the device.

Also restore the factory settings on the storage medium.

Recycling and disposal

The products are low in pollutants, can be recycled and meet the requirements of the WEEE directive 2012/19/EU for the disposal of electrical and electronic equipment.

Do not dispose of the products at public disposal sites.

For environmentally friendly recycling and the disposal of your old device contact a certified disposal company for electronic scrap or your Siemens contact (Product return (https://support.industry.siemens.com/cs/ww/en/view/109479891)).

Note the different national regulations.

Device defective

If a fault develops, send the device to your SIEMENS representative for repair. Repairs on-site are not possible.

SIMATIC NET glossary

Explanations of many of the specialist terms used in this documentation can be found in the SIMATIC NET glossary.

You will find the SIMATIC NET glossary on the Internet at the following address:

50305045 (https://support.industry.siemens.com/cs/ww/en/view/50305045)

Trademarks

The following and possibly other names not identified by the registered trademark sign ® are registered trademarks of Siemens AG:

SCALANCE, C-PLUG, RCoax

Product overview

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This section introduces you to the IWLAN products. You will find technical specifications in the section "Technical data (Page 23)".

2.1 Cabling technique

2.1.1 Overview

The following passive IWLAN components are available:

Flexible connecting cables

SIEMENS IWLAN RCoax N-Connect/N-Connect male/male Flexible connecting cable for linking two RCoax cables or an antenna to a SCALANCE W700 access point with N-Connect connectors. Preassembled with two N-Connect male connectors: • 6XV1875-5AH10 (length 1 m) • 6XV1875-5AH20 (length 2 m) • 6XV1875-5AH50 (length 5 m) • 6XV1875-5AN10 (length 10 m)	
SIEMENS IWLAN QMA/N-Connect male/female Adapter cable for connecting a MIMO antenna with QMA connectors with the flexible connecting cables. Preassembled with two connectors QMA male and N-Connect female: • 6XV1875-5JH10 (length 1 m)	

SIEMENS SIMATIC NET IWLAN RCoax/Antenna Connection Cable R-SMA/SMA male/male Flexible connecting cable for connecting a SCALANCE W700 or IWLAN/PB Link PN IO to components with R-SMA and SMA connectors, for example cabinet feedthrough.- Preassembled with two connectors R-SMA male to SMA male: • 6XV1875-5DE30 (length 0.3 m) • 6XV1875-5DH20 (length 2 m)	
SIEMENS SIMATIC NET IWLAN RCoax/Antenna Connection Cable N-Connect/R-SMA male/male Flexible connecting cable for connecting an RCoax cable or an antenna to a SCALANCE W700. Preassembled with two N-Connect male and R-SMA male connectors: • 6XV1875-5CE30 (length 0.3m) • 6XV1875-5CH10 (length 1 m) • 6XV1875-5CH20 (length 2 m) • 6XV1875-5CH50 (length 5 m) • 6XV1875-5CN10 (length 10 m)	

Flexible connecting cables for railway applications

SIEMENS SIMATIC NET Cable N-Connect male/male railway Flexible connecting cable, e.g. for connecting antennas; suitable for IWLAN and mobile wireless; for railway applications. Preassembled with two N-Connect male/male connectors • 6XV1875-5SH10 (Länge 1m) • 6XV1875-5SH20 (Länge 2m) • 6XV1875-5SH50 (Länge 5m)	
SIMATIC NET Cable QMA /N-Connect male/female railway Flexible adapter cable of antenna with QMA socket for antenna connecting cable, for railway applications. Preassembled with two QMA /N-Connect male/female connectors • 6XV1875-5VH10 (Länge 1m)	
SIEMENS SIMATIC NET Cable N-Connect/ R-SMA male/male railway Flexible connecting cable, e.g. for access point antenna, for railway applications. Preassembled with two N-Connect R-SMA male/male connectors • 6XV1875-5TH10 (Länge 1m) • 6XV1875-5TH20 (Länge 2m) • 6XV1875-5TH50 (Länge 5m)	

Terminating resistors

SIEMENS SIMATIC NET IWLAN RCoax N-Connect Male Termination Impedance 50 Ω TI795-1N Terminating impedance for RCoax cables and open wireless interfaces on SCALANCE W devices with N-Connects, impedance 50 ohms, • 6GK5795-1TN00-1AA0	
SIEMENS SIMATIC NET IWLAN Termination Impedance TI795-1R R-SMA terminator for fitting to the unused antenna socket of a SCALANCE W7xx when using one antenna only. Impedance 50 Ω, R-SMA male connector. • 6GK5795-1TR10-0AA6	

Lightning protectors

SIEMENS SIMATIC NET IWLAN Lightning Protector with N/N female/female connector LP 798-2N Lightning protector with maintenance-free quarter-wave technology for frequencies in the range 2 to 6 GHz. • 6GK5798-2LP10-2AA6	
SIEMENS SIMATIC NET IWLAN Lightning Protector with N/N female/female connector LP 798-1N Lightning protector with gas discharge capsule, also suitable for DC current on the flexible connecting cable 0 to 6 GHz. • 6GK5798-2LP00-2AA6	

Panel feedthroughs

SIEMENS SIMATIC NET IWLAN Antenna N-Connect/N-Connect female/female Panel Feedthrough Panel feedthrough/adapter N-N for wall thicknesses up to a maximum of 4.5 mm, N-Connect/N-Connect connectors • 6GK5798-2PP00-2AA6	
SIEMENS SIMATIC NET IWLAN RCoax N-Connect/SMA Female/Female Panel Feedthrough Panel feedthrough with securing flange for wall thicknesses up to a maximum of 5.5 mm, SMA female and N-Connect female connectors • 6GK5798-0PT00-2AA0	

Attenuator

SIEMENS SIMATIC NET IWLAN RCoax N-Connect Male/Female Attenuator 10 dB Attenuator with N-Connect male / N-Connect female connectors • 6GK5798-0AP00-4CA0	

Power splitter

SIEMENS SIMATIC NET IWLAN RCoax N-Connect Female Power Splitter 2-Way Two-way power splitter, Y element for splitting the RCoax cable or for the use of two antennas on one wireless interface. • 6GK5798-0SN00-0EA0	

HF coupler

RCoax N-Connect male/male Coupler HF coupler, among other things for connecting two RCoax cables; two N-Connect male connectors. • 6GK5798-0CP00-1AA0	

HF angle adapter

HF angle adapter 90° angle adapter with R-SMA male /R-SMA female connectors • 6GK5798-1CS00-4AA0	

2.1.2 Area of application

Flexible connecting cables

• The flexible IWLAN RCoax/antenna connecting cables are required for connecting RCoax segments or antennas to active devices.

• The cables provide low attenuation so that the quality of the wireless signal is only minimally impaired.

• The antenna cables are flame retardant, chemical resistant and silicone-free.

Terminating resistors

• To avoid impairing wireless quality, terminating resistors are required to close unused antenna connectors on the access points and clients.

• RCoax segments must be terminated at the end with a terminating resistor.

Lightning protectors

When using separate antennas outdoors, there is a risk of lightning strikes. To protect the equipment, a lightning protector can be used.

Panel feedthroughs

The panel feedthroughs along with the antenna connecting cables allow simple connection of separately installed antennas and the active components installed in cabinets or cubicles.

Attenuator

The 10 dB attenuator is always used when the transmitted power both in the send and receive direction needs to be reduced. Typical areas of application are short RCoax segments or directional wireless links that need to be restricted in terms of spread.

Power splitter

With the aid of the power splitter, the transmit power of an access point is distributed over two RCoax or antenna segments. This allows wireless coverage in two different areas with only one access point.

Product variants

Flexible connecting cables

- Preassembled cable lengths (0.3 m to 10 m)

- Different connector types and combinations:

  – N-Connect

  – R-SMA

  – SMA

  – QMA

Terminating resistors

- TI795-1R: Terminating resistor for R-SMA antenna sockets

- TI795-1N: Terminating resistor for N-Connect antenna sockets or RCoax segments

Lightning protectors

- LP798-2N
  Maintenance-free lightning protector for N-Connect connectors:

  – Quarter wave technology (lambda quarter) for the frequency range 2 to 6 GHz

  – forms a short circuit for direct voltages so that all kinds of overvoltages can be diverted reliably

  – not suitable for DC supply via antenna cable

- LP798-1N
  Lightning protector for N-Connect connectors:

  – with gas discharge protector for the frequency range 0 to 6 GHz for N-Connect connectors

  – suitable for DC supply via antenna cable

Panel feedthroughs

- N-Connect female/SMA female with securing flange for wall thicknesses up to a maximum of 5.5 mm.

- N-Connect female/N-Connect female without flange for wall thicknesses up to a maximum of 4.5 mm. This can also be used as a link between two antenna connecting cables.

2.2 Further passive components

2.2.1 Antennas

Product connections

The products described up to now are used to connect the following passive components to access points and clients:

Type	Properties	Article number
IWLAN RCoax Antenna ANT792-4DN	RCoax helical antenna with circular polarization for RCoax systems, 4 Bi, 2.4 GHz, IP65, N-Connector female.	6GK5792-4DN00-0AA6
ANT792-6MN	Omnidirectional antenna, mast/wall mounting, 6 dBi 2.4 GHz, IP67, N-Connect female	6GK5792-6MN00-0AA6
ANT792-8DN	Directional antenna, mast/wall mounting, 14 dBi 2.4 GHz, IP32, N-Connect female	6GK5792-8DN00-0AA6
IWLAN RCoax ANT793-4MN	RCoax λ4 antenna with vertical polarization for RCoax systems, 6 dBi, 5 GHz, IP65, N-Connector female	6GK5793-4MN00-0AA6
ANT793-6DG	Wide angle antenna, mast/wall mounting, 9 dBi 5 GHz, IP66/67, 2 x N-Connect female	6GK5793-6DG00-0AA0
ANT793-8DJ	Directional antenna, mast/wall mounting, 18 dBi 5 GHz, IP67, 2 x N-Connect female	6GK5793-8DJ00-0AA0
ANT793-8DK	Directional antenna, mast/wall mounting, 23 dBi 5 GHz, 2 x N-Connect female	6GK5793-8DK00-0AA0
ANT793-8DL	Directional antenna vertical-horizontal polarized, 5 GHz, 14dBi, IP66, 2xN-Connect female	6GK5793-8DL00-0AA0
ANT793-8DP	Directional antenna, mast/wall mounting, 13 / 13.5 dBi 4.9 GHz and 5 GHz, N-Connect female This antenna is not available in Korea	6GK5793-8DP00-0AA0
ANT795-4MA	Omnidirectional antenna, directly on the device, 3/5 dBi 2.4 GHz and 5 GHz, IP30, R-SMA connector male for direct installation on the device, angle connector adjustable 0° - 180°.	6GK5795-4MA00-0AA3
ANT795-4MB	Omnidirectional antenna, 2/3 dBi 2.4 GHz and 5 GHz, IP30, R-SMA connector female for direct mounting on the device, angle connector adjustable 0° to 90°.	6GK5795-4MB00-0Ax0
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.	6GK5795-4MC00-0AA3
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.	6GK5795-4MD00-0AA3
ANT795-4MX	Omnidirectional antenna, 2/2.5 dBi, 2.4 GHz and 5 GHz, IP69K, N-Connect male	6GK5795-4MX00-0AA0

Type	Properties	Article number
ANT795-6DC	Wide angle antenna, mast/wall mounting, 9 dBi 2.4 GHz and 5 GHz, N-Connect female	6GK5795-6DC00-0AA0
ANT795-6MN	Omnidirectional antenna, mounted on roof/vehicle, 6/8 dBi 2.4 GHz and 5 GHz, N-Connect female	6GK5795-6MN10-0AA6
ANT795-6MT	Omnidirectional antenna (MIMO), mounted on roof/vehicle/ceiling, 5/7 dBi 2.4 GHz and 5 GHz, 3 x QMA connector female	6GK5795-6MT00-0AA0
ANT795-6MP	Omnidirectional antenna, 5/7 dBi, 2.4 GHz and 5 GHz, IP65/67, N-Connect female	6GK5795-6MP00-0AA0

Note

You will find further information in the compact operating instructions of the individual components.

2.2.2 RCoax cables

Component	Description	Article number	
IWLAN RCoax cable	Radiating cables for areas with difficult wireless conditions as a special antenna for SCALANCE W access points. For the expanded temperature range (-40 °C to +85 °C).	2.4 GHz	6XV1875-2A
		5 GHz	6XV1875-2D
	Sold by the meter, minimum order 20 meters		

Note
Further information

You will find further information in the system manual for RCoax (https://support.industry.siemens.com/cs/de/en/view/84922825).

2.3   Active components

2.3.1   Access points

2.3.1.1   IEEE 802.11n

SCALANCE W700

The SCALANCE W700 access points with one or more wireless interfaces are suitable for setting up Industrial Wireless LANs. Both infrastructure networks and point-to-point links can be implemented. The most important characteristics of the various product variants are shown in the table below. You will find detailed information in the documentation of the relevant device.

Type	Connectors for external antennas		Number of connectable devices (3)	iPCF mode (1)	IEEE 802.11 a/b/g/h	IEEE 802.11n	Article number
	R-SMA	N-Connect					
W761-1 RJ45	1		4		●	1 x 1	6GK5761-1FC00-0AA0
							6GK5761-1FC00-0AB0 (4)
W774-1 RJ45	2		8	● (2)	●	2 x 2	6GK5774-1FX00-0AA0
							6GK5774-1FX00-0AB0 (4)
							6GK5774-1FX00-0AC0 (5)
W774-1 M12 EEC	2		8	● (2)	●	2 x 2	6GK5774-1FY00-0TA0
							6GK5774-1FY00-0TB0 (4)
W778-1 M12		2	8	● (2)	●	2 x 2	6GK5778-1GY00-0AA0
							6GK5778-1GY00-0AB0 (4)
W778-1 M12 EEC		2	8	● (2)	●	2 x 2	6GK5778-1GY00-0TA0
							6GK5778-1GY00-0TB0 (4)
W788-1 M12		3	8	● (2)	●	3 x 3	6GK5788-1GD00-0AA0
							6GK5788-1GD00-0AB0 (4)
W788-2 M12		6	8	● (2)	●	3 x 3	6GK5788-2GD00-0AA0
							6GK5788-2GD00-0AB0 (4)
W788-2 M12 EEC		6	8	● (2)	●	3 x 3	6GK5788-2GD00-0TA0
							6GK5788-2GD00-0TB0 (4)
							6GK5 788-2GD00-0TC0 (5)
W788-1 RJ-45	3		8	● (2)	●	3 x 3	6GK5788-1FC00-0AA0
							6GK5788-1FC00-0AB0 (4)
W788-2 RJ-45	6		8	● (2)	●	3 x 3	6GK5788-2FC00-0AA0
							6GK5788-2FC00-0AB0 (4)
							6GK5788-2FC00-0AC0 (5)
W786-1 RJ-45	3		8	● (2)	●	3 x 3	6GK5786-1FC00-0AA0
							6GK5786-1FC00-0AB0 (4)
							6GK5786-2FC00-0AC0 (5)

Type	Connectors for external antennas		Number of connectable devices (3)	iPCF mode (1)	IEEE 802.11 a/b/g/h	IEEE 802.11n	Article number
	R-SMA	N-Connect					
W786-2 RJ-45	6		8	● (2)	●	3 x 3	6GK5786-2FC00-0AA0
							6GK5786-2FC00-0AB0 (4)
W786-2IA RJ-45			8	● (2)	●	3 x 3	6GK5786-2HC00-0AA0
							6GK5786-2HC00-0AB0 (4)
W786-2 SFP	6		8	● (2)	●	3 x 3	6GK5786-1FE00-0AA0

● suitable

(1) The iPCF mode provides an optimized data throughput and minimum handover times.

(2) With KEY-PLUG inserted

(3) In client mode

(4) US variant

(5) IL variant

2.3.1.2   IEEE 802.11ac

SCALANCE W1700

The SCALANCE W1700 access points with two Ethernet and up to two WLAN interfaces are highly suitable for setting up Industrial Wireless LANs. Both infrastructure networks and point-to-point links can be implemented.

SCALANCE W1700 features multiuser MIMO and can transmit data to up to four WLAN clients simultaneously.

SCALANCE W1700 devices feature an integrated switch and can be networked in a variety of ways over their two managed Ethernet Gigabit ports.

SCALANCE W1700 is compatible with the IEEE 802.11n WLAN standards.

SCALANCE W1700 devices supports IP65 degree of protection, which means they are dust-proof and fully protected against contact and water jets (nozzle) from any direction. The SCALANCE W1788 EEC is suitable for use in harsh environments.

The most important characteristics of the various product variants are shown in the table below. You can find detailed information in the documentation of SCALANCE W1700 devices.

Type	Antennas		Spatial streams (data streams)	Max. data rate (gross in Mbps)	Ethernet interfaces	Article number
	Quantity	Connections				
SCALANCE W1788-1	4	N-Connect	1 to 4 (max. 4 per client)	1733	2 x M12 for 1000 Mbps, 1 x PoE	6GK5788-1GY01-0AA0 6GK5788-1GY01-0AB0 (USA)
SCALANCE W1788-2	8	N-Connect	1 to 8 (max. 4 per client)	1733	2 x M12 for 1000 Mbps, 1 x PoE	6GK5788-2GY01-0AA0 6GK5788-2GY01-0AB0 (USA)

Type	Antennas		Spatial streams (data streams)	Max. data rate (gross in Mbps)	Ethernet interfaces	Article number
	Quantity	Connections				
SCALANCE W1788-2 EEC	8	N-Connect	1 to 8 (max. 4 per client)	1733	2 x M12 for 1000 Mbps, 1 x PoE	6GK5788-2GY01-0TA0 6GK5788-2GY01-0TB0 (USA)
SCALANCE W1788-2IA	8	Internal	1 to 8 (max. 4 per client)	1733	2 x M12 for 1000 Mbps, 1 x PoE	6GK5788-2HY01-0AA0 6GK5788-2HY01-0AB0 (USA)

2.3.1.3   IEEE 802.11ax

SCALANCE WAM76x

The SCALANCE WxM76x support the WLAN standard IEEE 802.11ax (Wi-Fi6) and are suitable for simultaneous connection of mobile devices in very tight spaces. They offer similar service quality for each device.

The SCALANCE WxM76x have the sleep mode function and can switch off mobile devices in the network via the digital input/output interface.

The SCALANCE WxM766 have a rugged housing with IP65 degree of protection. The SCALANCE WAM766-1 EEC is suitable for use in harsh environments.

The most important characteristics of the product variants are shown in the table below. You can find detailed information in the documentation for SCALANCE W700ax devices.

Type	Antennas		Spatial streams (data streams)	Max. data rate (gross in Mbps)	Ethernet interfaces	Article number
	Quantity	Connections				
SCALANCE WAM766-1	2	N-Connect	1 to 2	1201	1 x M12 for 1000 Mbps, 1 x PoE	6GK5766-1GE00-7DA0 6GK5766-1GE00-7DB0 (USA)
SCALANCE WAM766-1 EEC	2	N-Connect	1 to 2	1201	1 x M12 for 1000 Mbps, 1 x PoE	6GK5766-1GE00-7TA0 6GK5766-1GE00-7TB0 (USA)

2.3.2 Client modules

2.3.2.1 IEEE 802.11n

SCALANCE W700

The SCALANCE W700 client modules establish a connection between wired Ethernet and Industrial Wireless LAN. The most important characteristics of the various product variants are shown in the table below. You will find detailed information in the documentation of the relevant device.

Type	Connectors for external antennas		Number of connectable devices (3)	iPCF mode (1)	IEE 802.11 a/b/g/h	IEEE 802.11n	Article number
	R-SMA	N-Connect					
W721-1 RJ45	1		4		●	1 x 1	6GK5721-1FC00-0AA0
							6GK5721-1FC00-0AB0 (4)
W722-1 RJ45	1		4	● (2)	●	1 x 1	6GK5722-1FC00-0AA0
							6GK5722-1FC00-0AB0 (4)
W734-1 RJ45	2		8	● (2)	●	2 x 2	6GK5734-1FX00-0AA0
							6GK5734-1FX00-0AB0 (4)
W738-1 M12		2	8	● (2)	●	2 x 2	6GK5738-1GY00-0AA0
							6GK5738-1GY00-0AB0 (4)
W748-1 M12		3	8		●	3 x 3	6GK5748-1GD00-0AA0
							6GK5748-1GD00-0AB0 (4)
W748-1 RJ-45	3		8		●	3 x 3	6GK5748-1FC00-0AA0
							6GK5748-1FC00-0AB0 (4)

● suitable

(1) The iPCF mode provides an optimized data throughput and minimum handover times.

(2) With KEY-PLUG inserted

(3) In client mode

(4) US variant

ET 200pro IWLAN

The SIMATIC ET 200pro is an I/O system that can be mounted directly on the machine. To achieve this, various interface modules are available for connection to PROFINET or PROFIBUS both in standard and fail-safe versions. For communication between the ET 200pro and higher-level controllers via Industrial Wireless LAN (IWLAN) networks, you require an interface module.

Type	Connectors for external antennas		iPCF mode [1]	IEEE 802.11 a/b/g/h	IEEE 802.11n	Article number
	R-SMA	N-Connect				
Interface module IM 154-6 PN HF IWLAN		2	●	●		6ES7154-6AB00-0AB0 6ES7154-6AB50-0AB0 [2]

● suitable

[2] US variant

2.3.2.2　　IEEE 802.11ac

SCALANCE W1700

The SCALANCE W1700 client modules establish a connection between wired Ethernet and Industrial Wireless LAN. The most important characteristics of the various product variants are shown in the table below. You will find detailed information in the documentation of the relevant device.

Type	Antennas		Number of connectable devices [1]	Max. data rate (gross in Mbps)	Ethernet interfaces	Article number
	Quantity	Connections				
SCALANCE W1748-1	4	N-Connect	8	1733	2 x M12 for 1000 Mbps, 1 x PoE	6GK5721-1FC00-0AA0 6GK5721-1FC00-0AB0 (USA)

[1] In client mode

2.3.2.3 IEEE 802.11ax

SCALANCE WUM76x

The client module SCALANCE WUM766-1 supports the WLAN standard IEEE 802.11ax and enables reliable wireless connection of a large number of mobile devices. The most important characteristics of the client module are shown in the table below. You can find detailed information in the documentation for SCALANCE W700ax devices.

Type	Antennas		Number of connecta-ble devices	Max. data rate (gross in Mbps)	Ethernet interfa-ces	Article number
	Quantity	Connections				
SCALANCE WUM766-1	2	N-Connect	8	1201	1 x M12 for 1000 Mbps, 1 x PoE	6GK5766-1GE00-3DA0 6GK5766-1GE00-3DB0 (USA)

Technical data

<div style="text-align: right; font-size: 2em;">3</div>

> **Note**
>
> The following tightening torques apply to the connectors:
> - with N-Connect connectors: 1.7 Nm
> - with SMA/R-SMA connectors: 1 Nm

> **Note**
>
> **Installation outdoors**
>
> Protect the connectors from environmental influences (e.g. with self vulcanizing adhesive tape or a shrink-on hose).

3.1 Flexible connecting cables

3.1.1 Introduction

> **Note**
>
> The flexible connecting cable is intended for connection of fixed and mobile users where the permitted bend radiuses are only seldom reached.
> (Examples:
> - Connection of a client on a vehicle, where the cable vibrates but is not permanently bent.
> - Connection of an antenna to an access point when the antenna is occasionally aligned so that the cable position is changed).
>
> The flexible connecting cable is not designed for continuous bending or twisting.

3.1.2 IWLAN N-Connect male/male

Flexible connecting cable for connecting an RCoax cable or an antenna to a SCALANCE W access point with N connectors.

Technical specifications		
Article numbers	1 m	6XV1875-5AH10
	2 m	6XV1875-5AH20
	5 m	6XV1875-5AH50
	10 m	6XV1875-5AN10
Electrical data		
Impedance		50 Ω
Ratio of propagation speed		82%
Capacitance		82 pF/m
Return loss		≥ 23 dB
Frequency		≤ 6 GHz
Attenuation [1]	at 2.4 GHz	0.53 dB/m
	at 5.1 GHz	0.83 dB/m
	at 5.7 GHz	0.88 dB/m
Resistance to fire		
Flame retardant		UL 1685 (vertical tray) and UL 1581, Sec. 1090 (H)
Dimensions, materials and weight		
Number of plug-in connections		2
Outer diameter		6.3 mm
Materials	Inner conductor	• Silver-coated copper
		• Diameter: 1.4 mm
	Dielectric	• Polyethylene foam
		• Diameter: 3.8 mm
	Inner metal screen	• Tin plated copper wires with a wire diameter of 0.13 mm
		• Area coverage 95%
		• Diameter: 4.3 mm
	Outer metal shield	• Tin plated copper wires with a wire diameter of 0.13 mm
		• Area coverage 95%
		• Diameter: 4.8 mm
	Cable jacket	• Thermoplastic copolymer, pastel turquoise
		• Diameter: 6.3 mm
		• Jacket thickness: 0.76 mm
Degree of protection		IP67
Silicone-free		yes
Halogen-free		yes
UV resistant		resistant

Technical specifications		
Weight		0.075 kg/m
Permitted ambient conditions		
Ambient temperature		-40 °C ... +80 °C
Mechanical data		
Smallest bend radi-us	when bending once	3.2 cm
	when bending more than once	4.5 cm
Tensile strength		30 ... 80 N

(1) The specified attenuation values relate only to the cable without connectors. For the assembled cable, approximately 0.1 dB at 2.4 GHz and approximately 0.3 dB at 5 GHz must be added per plug-in connector.

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
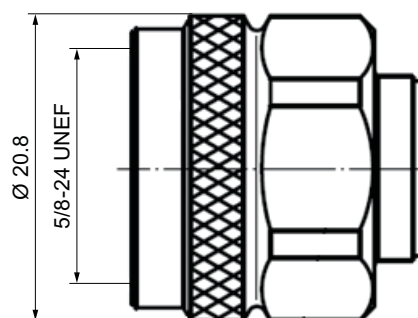

Figure 3-1   N-Connect male

3.1.3   IWLAN QMA/N-Connect male/female

Flexible adapter cable for connecting a MIMO antenna with QMA connectors.

Technical specifications		
Article number	1 m (pack of 3)	6XV1875-5JH10
Electrical data		
Impedance		50 Ω
Ratio of propagation speed		82%
Capacitance		82 pF/m
Return loss		≥ 23 dB
Frequency		≤ 6 GHz

Technical specifications		
Attenuation (1)	at 2.4 GHz	0.53 dB/m
	at 5.1 GHz	0.83 dB/m
	at 5.7 GHz	0.88 dB/m
Resistance to fire		
Flame retardant		UL 1685 (vertical tray) and UL 1581, Sec. 1090 (H)
Dimensions, materials and weight		
Number of plug-in connections		2
Outer diameter		6.3 mm
Materials	Inner conductor	• Silver-coated copper
		• Diameter: 1.4 mm
	Dielectric	• Polyethylene foam
		• Diameter: 3.8 mm
	Inner metal screen	• Tin plated copper wires with a wire diameter of 0.13 mm
		• Area coverage 95%
		• Diameter: 4.3 mm
	Outer metal shield	• Tin plated copper wires with a wire diameter of 0.13 mm
		• Area coverage 95%
		• Diameter: 4.8 mm
	Cable jacket	• Thermoplastic copolymer,pastel turquoise
		• Diameter: 6.3 mm
		• Jacket thickness: 0.76 mm
Degree of protection		IP67
Silicone-free		yes
Halogen-free		yes
UV resistant		resistant
Weight		0.075 kg/m
Permitted ambient conditions		
Ambient temperature		-40 °C ... +80 °C
Mechanical data		
Smallest bend radius	when bending once	3.2 cm
	when bending more than once	4.5 cm
Tensile strength		30 ... 80 N

(1) The specified attenuation values relate only to the cable without connectors. For the assembled cable, approximately 0.1 dB at 2.4 GHz and approximately 0.3 dB at 5 GHz must be added per plug-in connector.

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
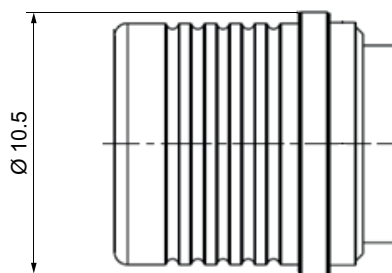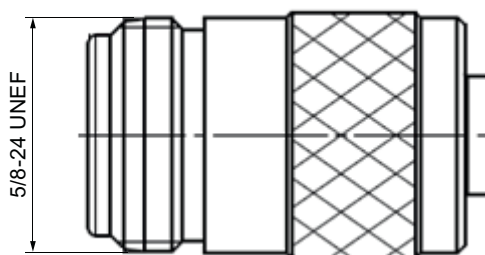

Figure 3-2   QMA male

Figure 3-3   N-Connect female

3.1.4   IWLAN R-SMA/SMA male/male

Flexible connecting cable for connecting an active device to components with R-SMA and SMA connectors, for example panel feedthrough. Preassembled with two R-SMA male to SMA male connectors:

Technical specifications		
Article numbers	0.3 m	6XV1875-5DE30
	2 m	6XV1875-5DH20
Electrical data		
Impedance	50 Ω	
Ratio of propagation speed	82%	
Capacitance	82 pF/m	
Return loss	≥ 23 dB	
Frequency	≤ 6 GHz	

Technical specifications		
Attenuation (1)	at 2.4 GHz	0.53 dB/m
	at 5.1 GHz	0.83 dB/m
	at 5.7 GHz	0.88 dB/m
Resistance to fire		
Flame retardant		UL 1685 (vertical tray) and UL 1581, Sec. 1090 (H)
Dimensions, materials and weight		
Number of plug-in connections		2
Outer diameter		6.3 mm
Materials	Inner conductor	• Silver-coated copper
		• Diameter: 1.4 mm
	Dielectric	• Polyethylene foam
		• Diameter: 3.8 mm
	Inner metal screen	• Tin plated copper wires with a wire diameter of 0.13 mm
		• Area coverage 95%
		• Diameter: 4.3 mm
	Outer metal shield	• Tin plated copper wires with a wire diameter of 0.13 mm
		• Area coverage 95%
		• Diameter: 4.8 mm
	Cable jacket	• Thermoplastic copolymer,pastel turquoise
		• Diameter: 6.3 mm
		• Jacket thickness: 0.76 mm
Degree of protection		IP67
Silicone-free		yes
Halogen-free		yes
UV resistant		resistant
Weight		0.075 kg/m
Permitted ambient conditions		
Ambient temperature		-40 °C ... +80 °C
Mechanical data		
Smallest bend radi-us	when bending once	3.2 cm
	when bending more than once	4.5 cm
Tensile strength		30 ... 80 N

(1) The specified attenuation values relate only to the cable without connectors. For the assembled cable, approximately 0.1 dB at 2.4 GHz and approximately 0.3 dB at 5 GHz must be added per plug-in connector.

Dimension drawing
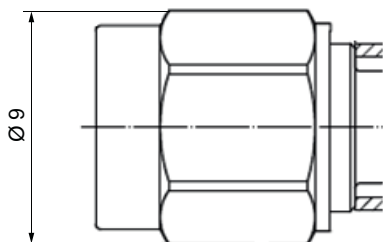
The dimensions are specified in mm.

Figure 3-4   R-SMA/SMA male

3.1.5   IWLAN N-Connect/R-SMA male/male

Flexible connecting cable for connecting an RCoax cable or an antenna to a SCALANCE W700 access point with R-SMA connectors. Preassembled with two connectors N-Connect male and R-SMA male.

Technical specifications		
Article numbers	0.3 m	6XV1875-5CE30
	1 m	6XV1875-5CH10
	2 m	6XV1875-5CH20
	5 m	6XV1875-5CH50
	10 m	6XV1875-5CN10
Electrical data		
Impedance		50 Ω
Ratio of propagation speed		82%
Capacitance		82 pF/m
Return loss		≥ 23 dB
Frequency		≤ 6 GHz
Attenuation [1]	at 2.4 GHz	0.53 dB/m
	at 5.1 GHz	0.83 dB/m
	at 5.7 GHz	0.88 dB/m
Resistance to fire		
Flame retardant		UL 1685 (vertical tray) and UL 1581, Sec. 1090 (H)
Dimensions, materials and weight		
Number of plug-in connections		2
Outer diameter		6.3 mm

Technical specifications		
Materials	Inner conductor	• Silver-coated copper
		• Diameter: 1.4 mm
	Dielectric	• Polyethylene foam
		• Diameter: 3.8 mm
	Inner metal screen	• Tin plated copper wires with a wire diameter of 0.13 mm
		• Area coverage 95%
		• Diameter: 4.3 mm
	Outer metal shield	• Tin plated copper wires with a wire diameter of 0.13 mm
		• Area coverage 95%
		• Diameter: 4.8 mm
	Cable jacket	• Thermoplastic copolymer,pastel turquoise
		• Diameter: 6.3 mm
		• Jacket thickness: 0.76 mm
Degree of protection	IP67	
Silicone-free	yes	
Halogen-free	yes	
UV resistant	resistant	
Weight	0.075 kg/m	
Permitted ambient conditions		
Ambient temperature	-40 °C ... +80 °C	
Mechanical data		
Smallest bend radius	when bending once	3.2 cm
	when bending more than once	4.5 cm
Tensile strength	30 ... 80 N	

(1) The specified attenuation values relate only to the cable without connectors. For the assembled cable, approximately 0.1 dB at 2.4 GHz and approximately 0.3 dB at 5 GHz must be added per plug-in connector.

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
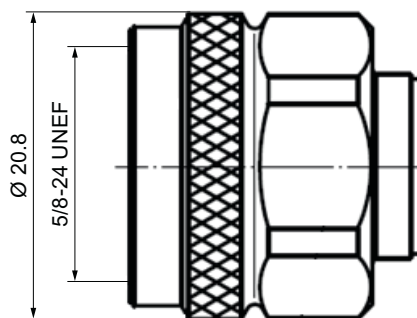

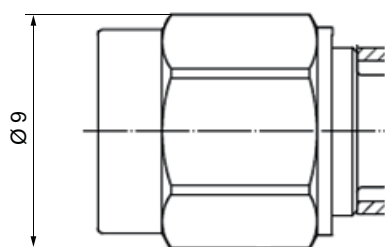Figure 3-5   N-Connect male

Figure 3-6   R-SMA male

3.1.6   IWLAN N-Connect male/male (railway applications)

Flexible connecting cable for connecting an antenna to a SCALANCE W access point with N-Connect connectors, suitable for IWLAN and mobile wireless. Preassembled with two N-Connect connectors. Suitable for railway applications.

Technical specifications		
Article numbers	1 m	6XV1875-5SH10
	2 m	6XV1875-5SH20
	5 m	6XV1875-5ASH50
Electrical data		
Impedance	50 Ω	
Ratio of propagation speed	83%	
Capacitance	80.2 pF/m	
Return loss	≥ 23 dB	
Frequency	≤ 6 GHz	

Technical specifications		
Attenuation (1)	at 2.4 GHz	0.47 dB/m
	at 5.1 GHz	0.77 dB/m
	at 5.7 GHz	0.83 dB/m
Resistance to fire		
Fire prevention		According to DIN 5510-2, NF F 16-101
Standard for fire behavior		
Smoke emission		EN 61034-2
Flame resistance		EN 60332-1-2, IEC 60332-3-22, EN 50305,9.1.2
Toxic gas emission		NF-X 70-100
Dimensions, materials and weight		
Number of plug-in connections		2
Outer diameter		5.5 mm
Materials	Inner conductor	• Silver-coated copper • Diameter: 1.4 mm
	Dielectric	• SPEX • Diameter: 3.8 mm
	Cable jacket	• RADOX, black • Diameter: 5.5 mm
Degree of protection		IP67
Silicone-free		yes
Halogen-free		yes
UV resistant		resistant
Weight		47.8 kg/km
Permitted ambient conditions		
Ambient temperature		-30 °C ... +100 °C
Mechanical data		
Smallest bend radius	when bending once	2.5 cm
	when bending more than once	9 cm
Number of bending cycles		50
Tensile strength		30 ... 80 N

(1) The specified attenuation values relate only to the cable without connectors. For the assembled cable, approximately 0.1 dB at 2.4 GHz and approximately 0.3 dB at 5 GHz must be added per plug-in connector.

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
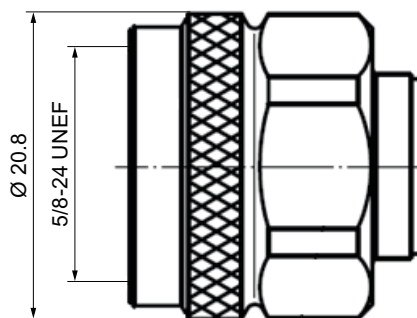

Figure 3-7   N-Connect male

3.1.7   IWLAN QMA/N-Connect male/female (railway applications)

Flexible adapter cable for connecting an antenna with QMA connectors to the antenna connecting cable. Assembled with two QMA/N-Connect male/female. Suitable for railway applications.

Technical specifications		
Article number	1 m (1 unit)	6XV1875-5VH10
Electrical data		
Impedance		50 Ω
Ratio of propagation speed		83%
Capacitance		80.2 pF/m
Return loss		≥ 23 dB
Frequency		≤ 6 GHz
Attenuation (1)	at 2.4 GHz	0.47 dB/m
	at 5.1 GHz	0.77 dB/m
	at 5.7 GHz	0.83 dB/m
Resistance to fire		
Fire prevention		According to DIN 5510-2, NF F 16-101
Standard for fire behavior		
Smoke emission		EN 61034-2
Flame resistance		EN 60332-1-2, IEC 60332-3-22, EN 50305,9.1.2
Toxic gas emission		NF-X 70-100
Dimensions, materials and weight		
Number of plug-in connections		2
Outer diameter		6.3 mm

Technical specifications		
Materials	Inner conductor	• Silver-coated copper
		• Diameter: 1.4 mm
	Dielectric	• SPEX
		• Diameter: 3.8 mm
	Cable jacket	• RADOX, black
		• Diameter: 5.5 mm
Degree of protection		IP67
Silicone-free		yes
Halogen-free		yes
UV resistant		resistant
Weight		47.8 kg/km
Permitted ambient conditions		
Ambient temperature		-30 °C ... +100 °C
Mechanical data		
Smallest bend radius	when bending once	2.5 cm
	when bending more than once	9.0 cm
Number of bending cycles		50
Tensile strength		30 ... 80 N

(1) The specified attenuation values relate only to the cable without connectors. For the assembled cable, approximately 0.1 dB at 2.4 GHz and approximately 0.3 dB at 5 GHz must be added per plug-in connector.

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
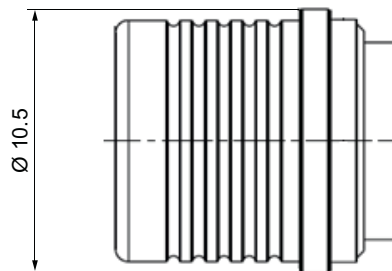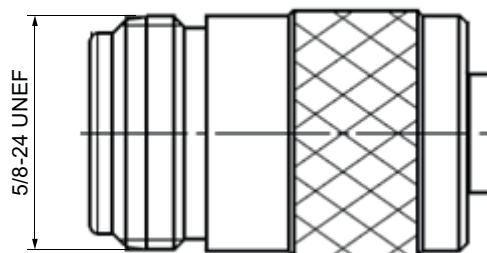

Figure 3-8   QMA male

Figure 3-9   N-Connect female

3.1.8 IWLAN N-Connect/R-SMA male/male (railway applications)

Flexible connecting cable for connecting an RCoax cable or an antenna to a SCALANCE W access point with R-SMA connectors. Preassembled with two connectors N-Connect male and R-SMA male. Suitable for railway applications.

Technical specifications		
Article numbers	1 m	6XV1875-5TH10
	2 m	6XV1875-5TH20
	5 m	6XV1875-5TH50
Electrical data		
Impedance		50 Ω
Ratio of propagation speed		83%
Capacitance		80.2 pF/m
Return loss		≥ 23 dB
Frequency		6 GHz
Attenuation (1)	at 2.4 GHz	0.47 dB/m
	at 5.1 GHz	0.77 dB/m
	at 5.7 GHz	0.83 dB/m
Resistance to fire		
Fire prevention		According to DIN 5510-2, NF F 16-101
Standard for fire behavior		
Smoke emission		EN 61034-2
Flame resistance		EN 60332-1-2, IEC 60332-3-22, EN 50305,9.1.2
Toxic gas emission		NF-X 70-100
Dimensions, materials and weight		

Technical specifications		
Number of plug-in connections		2
Outer diameter		5.5 mm
Materials	Inner conductor	• Silver-coated copper • Diameter: 1.4 mm
	Dielectric	• SPEX • Diameter: 3.8 mm
	Cable jacket	• RADOX, black • Diameter: 5.5 mm
Degree of protection		IP67
Silicone-free		yes
Halogen-free		yes
UV resistant		resistant
Weight		47.8 kg/km
Permitted ambient conditions		
Ambient temperature		-30 °C ... +100 °C
Mechanical data		
Smallest bend radius	when bending once	2.5 cm
	when bending more than once	9.0 cm
Number of bending cycles		50
Tensile strength		30 ... 80 N

(1) The specified attenuation values relate only to the cable without connectors. For the assembled cable, approximately 0.1 dB at 2.4 GHz and approximately 0.3 dB at 5 GHz must be added per plug-in connector.

Dimension drawing

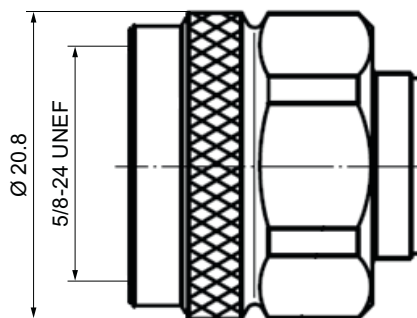All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
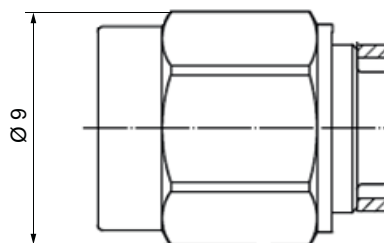

Figure 3-10   N-Connect male

Figure 3-11   R-SMA male

3.2 Terminating resistors
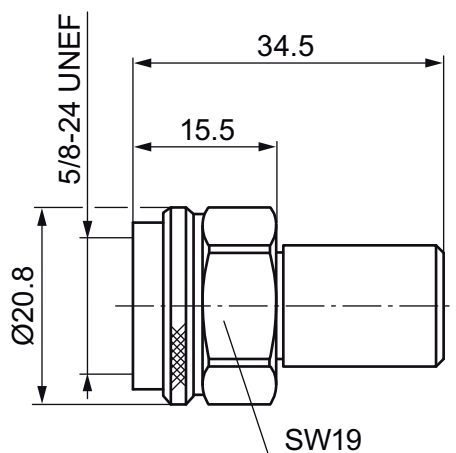
3.2.1 N terminating resistance 50 Ω – male

Technical specifications					
Article number		6GK5795-1TN00-0AA6			
Electrical data					
Standing wave ratio (VSWR)	f [GHz]	2.0	2.4	4.0	6.0
	Return flow attenuation [dB]	> 35	> 30	> 30	> 35
	VSWR	< 1.036	< 1.064	< 1.064	< 1.118
Frequency range		≤ 6 GHz			
Impedance		50 Ω			
Return loss		< 25 dB/6 GHz			
Power range		< 1 W			
Dimensions, materials and weight					
Number of plug-in connections		1			
Dimensions (length x diameter)		34.5 x 21 mm			
Materials	Inner conductor	• Core material: CuZn39Pb3 • Coating: Cu2Ag5			
	Outer conductor	• Core material: CuZn39Pb3 • Coating: CuSnZn3			
	Other metal parts	• Core material: CuZn39Pb3 • Coating: CuSnZn3			
	Insulation	• PTFE • Silicone-free			
	Seal	• WBR • Silicone-free			
Weight		45 g			

Technical specifications		
Degree of protection		IP65
Permitted ambient conditions		
Ambient temperature	During operation	-40 °C ... +70 °C
	During storage	-40 °C ... +70 °C
	During transportation	-40 °C ... +70 °C

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
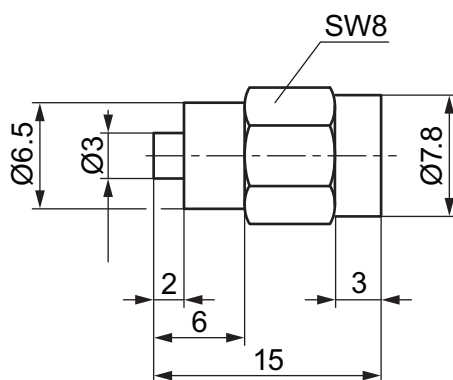

3.2.2   R-SMA terminating resistor 50 Ω – male

Technical specifications	
Article number	6GK5795-1TR10-0AA6
Electrical data	
Frequency range	≤ 6 GHz
Impedance	50 Ω
Return loss	< 25 dB/6 GHz
Power range	< 1 W
Dimensions, materials and weight	
Number of plug-in connections	1
Dimensions (length x diameter)	15 x 9 mm

Technical specifications		
Materials	Inner conductor	• Core material: CuBe2
		• Coating: Cu1Ni2Au1.27
	Outer conductor	• Core material: CuZn39Pb3
		• Coating: Cu1Ni2Au1.27
	Other metal parts	• Core material: CuZn39Pb3
		• Coating: Cu2Ni5Au0.8
	Insulation	• PTFE
		• Silicone-free
	Seal	• WBR
		• Silicone-free
Weight		5 g
Degree of protection		IP65
Permitted ambient conditions		
Ambient temperature	During operation	-40 °C ... +70 °C
	During storage	-40 °C ... +70 °C
	During transportation	-40 °C ... +70 °C

Dimension drawing

The dimensions are specified in mm.

3.3 Lightning protectors
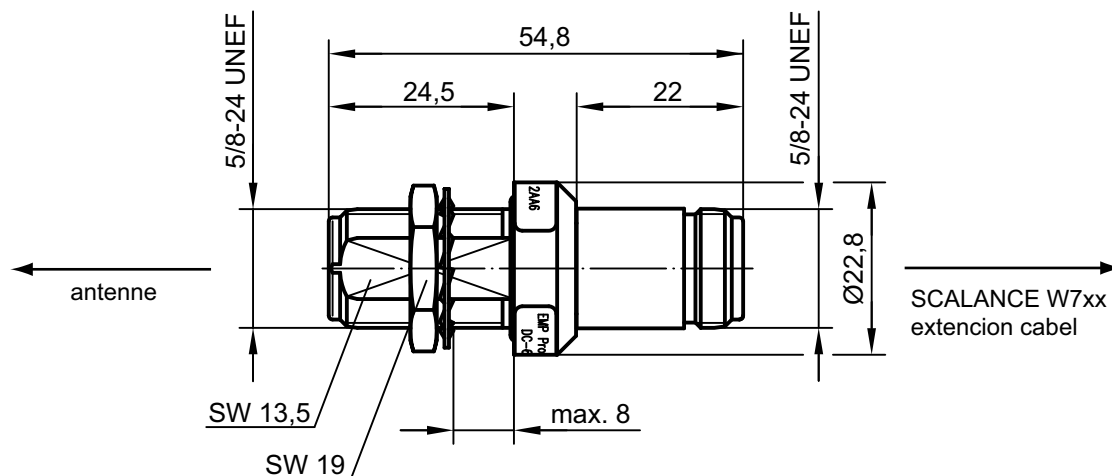
3.3.1 Lightning protector LP798-1N

Note

We recommend that you use the maintenance-free lightning protector LP798-2N with low residual voltage.

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

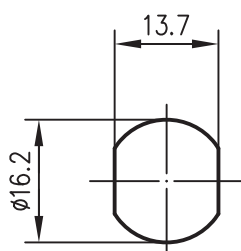| Technical specifications	
Article number	6GK5798-2LP00-2AA6
Electrical data	
Frequency range	0 to 6 GHz
Impedance	50 Ω
Operating voltage	< 36 V
Design, dimensions and weight	
Number of plug-in connections	2
Design of the plug-in connector	N-Connector female / female
Dimensions (length x diameter)	54.8 x ∅22.8 mm
Materials	Silicone-free
Degree of protection	IP67
Weight	50 g
Permitted ambient conditions	
Ambient temperature	-40 °C... + 85 °C

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameters are specified in inches.

Dimension drawing through hole

The dimensions are specified in mm.


3.3.2   Lightning protector LP798-2N

Technical specifications	
Article number	6GK5798-2LP10-2AA6
Electrical data	
Frequency range	2 to 6 GHz
Impedance	50 Ω
Return loss	≥ 20 dB
Insertion loss	≤ 0.2 dB
RF CW power	≤ 300 W
Peak current capacity test pulse 8/20 µs	50 kA

Technical specifications		
Residual pulse energy (test pulse 4 kV 1.2/50 µs or 2 kA 8/20 µs)		0.2 µJ
Starting voltage		150 to 250 VDC (100V/s)
Dimensions, materials and weight		
Number of plug-in connections		2
Design of the plug-in connector		N-Connector female / female
Dimensions (length x diameter)		89.6 x ∅29 mm
Materials	Housing material	Aluminum
	Contacts	Copper beryllium alloy with gold coating
	Silicone-free	
Meets 2002/95/EC (RoHS)		
Degree of protection		IP68
Weight		80 g
Permitted ambient conditions		
Ambient temperature		-40 °C ... + 85 °C
Mechanical data		
Ports		N/N female/female
Maximum possible number of assembly procedures		100

Dimension drawing LP798-2N and through hole

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
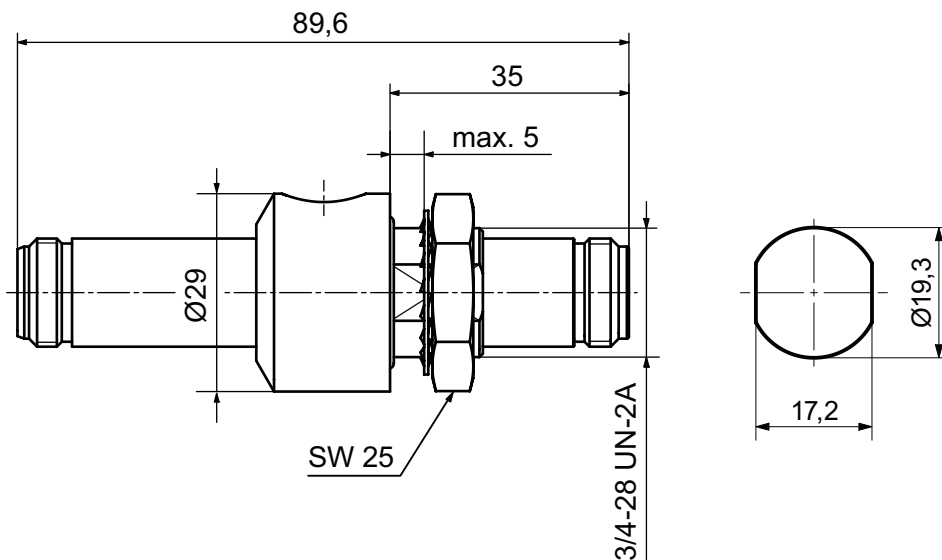
3.4   Panel feedthroughs

3.4.1   Panel feedthrough N-Connect female/female

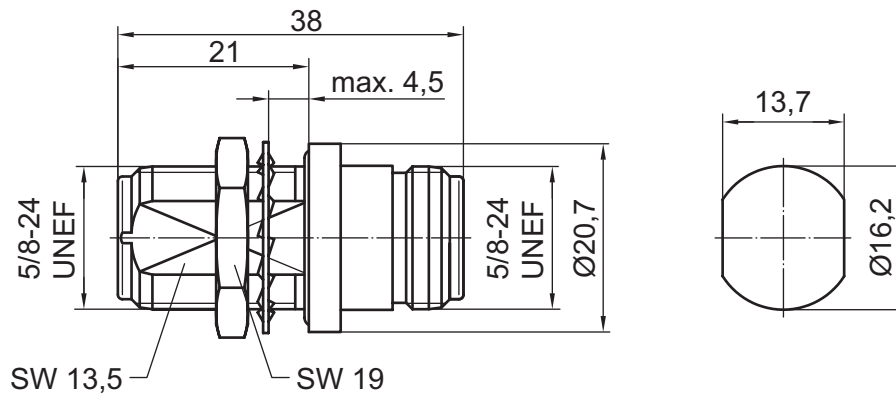Panel feedthrough for wall thicknesses up to a maximum of 4.5 mm, two N-Connect female connectors.

Technical specifications					
Article number		6GK5798-2PP00-2AA6			
Electrical data					
Frequency range		≤ 11 GHz			
Characteristic impedance		50 Ω			
Contact resistance	Inner conductor	≤ 2 mΩ			
	Outer conductor	≤ 0.5 mΩ			
Standing wave ratio (VSWR)	f [GHz]	1	2	4	10
	VSWR	1.018	1.020	1.036	1.094
Recommended coupling torque		4 ... 6 Nm			
Service life (insertions)		≥ 500			
Dimensions and materials					
Dimensions (length x diameter)		38 x ø20.7			
Materials	Inner conductor	Cu2Ag5			

	Outer conductor	• Core material: CuZn39Pb3
		• Coating:
		  – CuSnZn3 (Telealloy)
		  – Ag2CuSnZn0.5 (Optargen)			

	Metallic parts	• Core material: • Coating:			
	Insulation	PTFE			
	Seal	Silicone-free			
	Spring contacts	CuBe2, CuPb1.15Ni1 (C97)			

	Other metal parts	• Core material: CuZn39Pb3
		• Coating:
		  – CuSnZn3 (Telealloy)
		  – Cu2Ni5			

Meets 2002/95/EC (RoHS)					
Degree of protection		IP68			
Permitted ambient conditions					
Ambient temperature		-30°C... +100 °C			

> **Note**
>
> The N-N adapter also be used as a coupler between two IWLAN RCoax / antenna connecting cables.

Dimension drawing of the feedthrough and through hole

All dimensions except thread diameters are in millimeters. The thread diameters are specified in inches.

3.4.2 Panel feedthrough N/SMA female/female

Panel feedthrough for wall thicknesses up to a maximum of 5.5 mm, two N-Connect/SMA female connectors.

Technical specifications				
Article number		6GK5798-0PT00-2AA6		
Electrical data				
Standing wave ratio (VSWR)	f [GHz]	1.0	2.0	2.4
	VSWR	1.012	1.088	< 1.171
Dimensions and materials				
Dimensions (length x width x height)		31.3 x 25.4 x 25.4 mm		

Technical specifications

Materials	Inner conductor	•	Core material: CuBe2
		•	Coating: Ni2Au1.27
	Outer conductor N end	•	Core material: CuZn39Pb3
		•	Coating: CuSnZn3
	Outer conductor SMA end	•	Core material: CuZn39Pb3
		•	Coating: Ni2Au0.8
	Insulation	•	PTFE
		•	Silicone-free
	Inner seal	Silicone-free	
	Outer seal	•	NBR
		•	Silicone-free

Permitted ambient conditions

Ambient temperature	-40°C ... +70 °C

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameters are specified in inches.
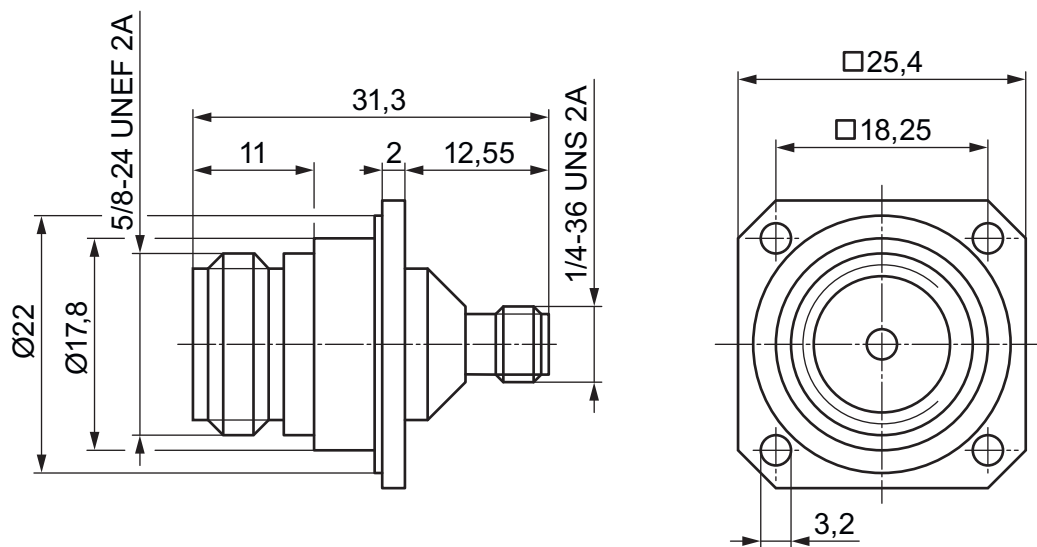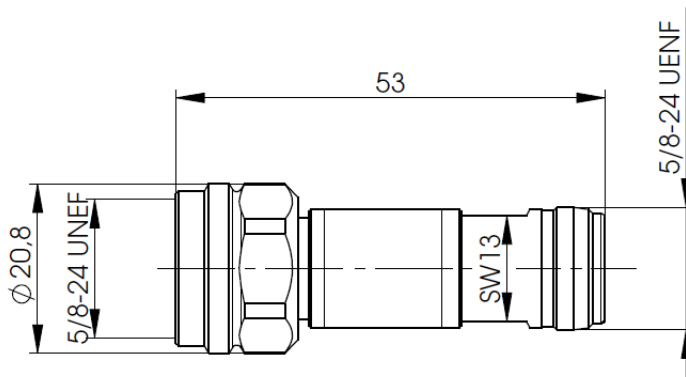
3.5 Attenuator N-Connect male/female

Technical specifications		
Article number		6GK5798-0AP00-4CA0
Electrical data		
Frequency range		≤ 6 GHz
Impedance		50 Ω
Insert attenuation		10 dB
Power range		1 W
Dimensions, materials and weight		
Number of plug-in connections		2
Dimensions (length x diameter)		45.7 x 21 mm
Materials	Inner conductor	• Core material: CuBe2 • Coating: Cu1Ni2Au0.8
	Metallic parts	• Core material: CuZn39Pb3 • Coating: CuSnZn3
	Insulation	PTFE
	Seal	Silicone-free
Weight		-
Degree of protection		-
Permitted ambient conditions		
Ambient temperature	During operation	-40 °C ... +70 °C
	During storage	-40 °C ... +70 °C
	During transportation	-40 °C ... +70 °C

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.
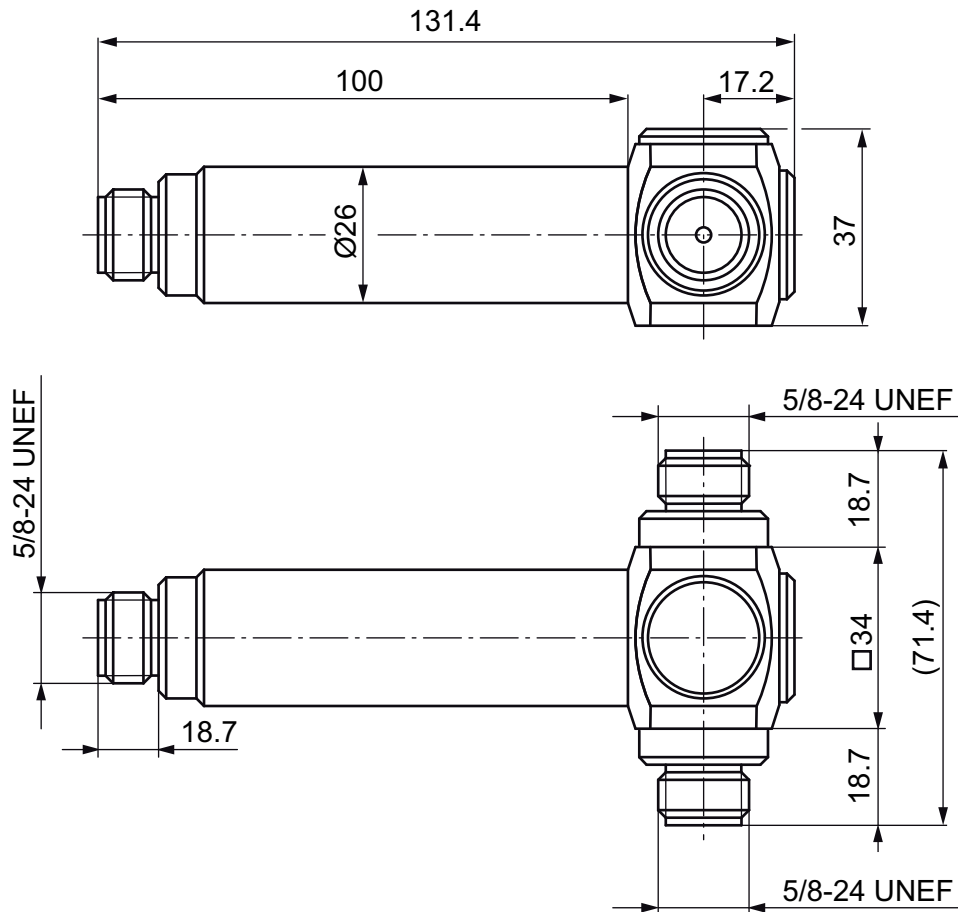
3.6 Power splitter N-Connect female

Double power splitter, Y element for splitting RCoax cables.

Technical specifications		
Article number		6GK5798-0SN00-0EA0
Electrical data		
Frequency range		2.4 to 6 GHz
Impedance		50 Ω
Return loss		≥ 24 dB
Insert attenuation		≤ 3.05 dB
Power range		250 W
Dimensions, materials and weight		
Number of plug-in connections		3
Dimensions (length x width x depth)		131.4 x 71.4 x 34 mm
Materials	Inner conductor	• Core material: Beryllium copper • Coating: Silver
	Outer conductor	• Core material: Brass • Coating: Optargen
	Housing	Brass
	Dielectric	PTFE
	Seal	NBR
Weight		937 g
Degree of protection		IP66/67, IP 68 (0.5 bar, 1h)
Permitted ambient conditions		
Ambient temperature	Temperature range	-40 °C... +110 °C
	During operation	-25 °C ... +110 °C
	During storage	-25 °C ... +110 °C
	During transportation	-25 °C ... +110 °C
Salt spray test	IEC 60068-2-52	Severity 3

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameters are specified in inches.

3.7　HF coupler N-Connect male/male
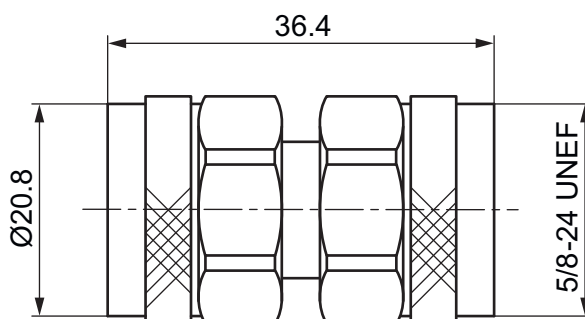
Technical specifications			
Article number		6GK5798-0CP00-1AA0	
Electrical data			
Frequency range		6 GHz	
Power range		1 W	
Return loss		≥ 0.1 dB	
Standing wave ratio (VSWR)	f [GHz]	1.0	2.4
	VSWR	1.012	< 1.048
Construction and dimensions			
Dimensions (length x diameter)		36.4 x Ø20.8 mm	

Technical specifications			
Materials	Inner conductor	•	Core material: CuZn39Pb3
		•	Coating: Ag5
	Outer conductor	•	Core material: CuZn39Pb3
		•	Coating: CuSnZn3
	Metallic parts	•	Core material: CuZn39Pb3
		•	Coating: CuSnZn3
	Insulation	PTFE	
	Seal	•	MVQ
		•	Silicone-free
Permitted ambient conditions			
Ambient temperature		-40 ... +70 °C	

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameter is specified in inches.


3.8 R-SMA angle adapter

Technical specifications	
Article number	6GK5798-1CS00-4AA0
Mechanical data	
Plug-in cycles	> 500
Coupling torque	79 .. 113 Ncm
Electrical data	
Frequency range	≤ 18 GHz
Impedance	50 Ω
Return loss	typ.: 6 GHz -17.5 dB
Operating voltage	≤ 335 V_{eff} / 50 Hz
Test voltage	1 kV_{eff} / 50 Hz

Technical specifications		
Dimensions, materials and weight		
Number of plug-in connections		2
Dimensions (length x width)		17.1 x 15.1 mm
Material	Inner contact, pin	• Core material: Brass • Coating: Au 0.75
	Inner contact, socket	• Core material: CuBe • Coating: Au 0.75
	Outer contact	• Core material: Brass • Coating: Au 0.125
	Metallic parts	• Core material: Brass • Coating: Au 0.125
	Insulation	PTFE
	Seal	NBR
Weight		-
Degree of protection		IP 61 (IEC 60529)
RoHS compliant		2011/65//EU
Permitted ambient conditions		
Ambient temperature	During operation	-20 °C ... +80 °C
	During storage	-20 °C ... +80 °C
	During transportation	-20 °C ... +80 °C

Dimension drawing

All dimensions except thread diameters are in millimeters. The thread diameters are specified in inches.
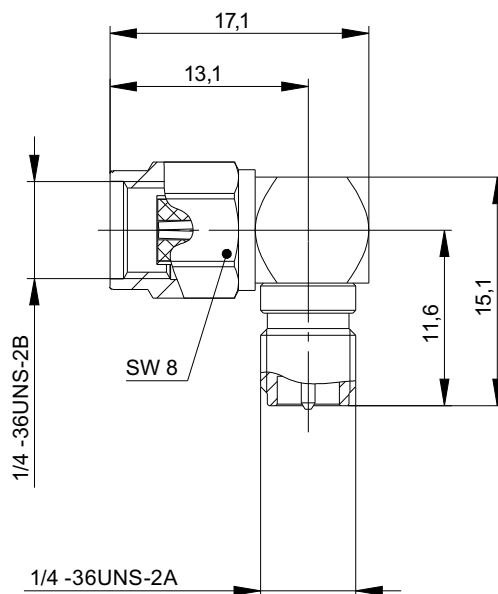
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