SIEMENS

Product type designation	**SCALANCE W788-1 M12**
	IWLAN ACCESS POINT, SCALANCE W788-1 M12, FOR USE OUTSIDE USA, 1 RADIO, 3 N-CON. ANT.CONNECT., IEEE 802.11A/B/G/H/N, 2.4/5GHZ, BRUTTO 450 MBIT/S PRO RADIO, 1 X M12 (MAX. 1 GBIT/S), POE, 24VDC, IP65 (-20-+65 DGR. C), POE, WPA2/802.11I/E, PLEASE NOTE NATIONAL APPROVALS! (CERT ID: RAPN-W1-RJ-E3) SCOPE OF SUPPLY: MANUALS ON CD ROM GERMAN/ENGLISH.

Transmission rate

Transfer rate	
• with WLAN / maximum	450 Mbit/s
• for Industrial Ethernet	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Interfaces

Number of electrical connections	
• for network components or terminal equipment	1
• for power supply	1
• for redundant voltage supply	1
Type of electrical connection	
• for network components or terminal equipment	M12 interface (8-pole, X-coded), PoE
• for power supply	M12 interface (4-pole, A-coded)
design of the removable storage	
• C-PLUG	Yes
• KEY-PLUG	Yes

Interfaces / wireless

Number of radio cards / permanently installed	1

Transmission mode / for multiple input multiple output (MIMO)	3x3
Number of spatial streams	3
Number of electrical connections / for external antenna(s)	3
Type of electrical connection / for external antenna(s)	N-Connect (socket)
Product property / external antenna can be mounted directly on device	Yes

Supply voltage, current consumption, power loss

Type of voltage / of the supply voltage	DC
Supply voltage / 1	
• from M12 Power Connector (A-coded) for redundant power supply	19.2 V
Supply voltage / 2	
• from M12 Power Connector (A-coded) for redundant power supply	28.8 V
Supply voltage	
• from Power-over-Ethernet acc. to IEEE802.3at for type 1 and IEEE802.3af	48 V
• from Power-over-Ethernet acc. to IEEE802.3at for type 2	50 V
Consumed current	
• at DC / at 24 V / typical	0.45 A
• with Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af / typical	0.22 A
Active power loss	
• at DC / at 24 V / typical	10.7 W

Permitted ambient conditions

Ambient temperature	
• during operation	-20 ... +60 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C
Relative humidity / at 25 °C / without condensation / during operation / maximum	90 %
Ambient condition / for operation	When used under hazardous conditions (Zone 2), the SCALANCE W788-x or W748-x product must be installed in an enclosure. To comply with EN 50021, this enclosure must meet the requirements of at least IP 54 in compliance with EN 60529.
Protection class IP	IP65

Design, dimensions and weight

Width / of the enclosure / without antenna	200 mm
Height / of the enclosure / without antenna	176 mm
Depth / of the enclosure / without antenna	79 mm

Net weight	1.7 kg
Mounting type	For mounting on 35 mm DIN rail, an additional mounitng adapter is required
• S7-300 rail mounting	Yes
• S7-1500 rail mounting	Yes
• wall mounting	Yes

Wireless frequencies

Operating frequency	
• for WLAN in 2.4 GHz frequency band	2.41 ... 2.48 GHz
• for WLAN in 5 GHz frequency band	4.9 ... 5.8 GHz

Product properties, functions, components / general

Product function / Access Point Mode	Yes
Product function / Client Mode	Yes
Number of SSIDs	8
Product function	
• Dual Client	No
• iPCF Access Point	Yes; Only in combination with the 'KEY-PLUG W780 iFeatures'
• iPCF client	Yes; Only in combination with the 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'
• iPCF-MC Access Point	No
• iPCF-MC client	Yes; Only in combination with 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'
Number of iPCF-capable radio modules	1
Product function / iREF	Yes; In combination only with 'KEY-PLUG W780 iFeatures'
Number of iREF-capable radio modules	1

Product functions / management, configuration

Number of manageable IP addresses / in client	8
Product function	
• CLI	Yes
• web-based management	Yes
• MIB support	Yes
• TRAPs via email	Yes
• Configuration with STEP 7	Yes
• configuration with STEP 7 in the TIA Portal	Yes
• operation with IWLAN controller	No
• operation with Enterasys WLAN controller	No
• forced roaming with IWLAN	Yes
• WDS	Yes
Protocol / is supported	
• Address Resolution Protocol (ARP)	Yes
• ICMP	Yes

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• Telnet	Yes
• HTTP	Yes
• HTTPS	Yes
• TFTP	Yes
• DCP	Yes
• LLDP	Yes
Identification & maintenance function	
• I&M0 - device-specific information	Yes
• I&M1 – higher-level designation/location designation	Yes

Product functions / Diagnosis

Product function	
• PROFINET IO diagnosis	Yes
• Link Check	No
• connection monitoring IP-Alive	No
• localization via Aeroscout	No
• SysLog	Yes
Protocol / is supported	
• SNMP v1	Yes
• SNMP v2	Yes
• SNMP v3	Yes

Product functions / VLAN

Product function	
• function VLAN with IWLAN	Yes

Product functions / DHCP

Product function	
• DHCP client	Yes
• in Client Mode / DHCP server via LAN	No

Product functions / Redundancy

Protocol / is supported	
• STP/RSTP	Yes

Product functions / Security

Product function	
• Management security, ACL-IP based	Yes
• IEEE 802.1x (radius)	Yes
• NAT/NAPT	No
• access protection according to IEEE802.11i	Yes
• WPA/WPA2	Yes
• TKIP/AES	Yes
Protocol / is supported	

• SSH	Yes

Product functions / Time

Protocol / is supported

• SNTP	Yes
• SIMATIC Time	Yes

Standards, specifications, approvals

Standard

• for FM	FM 3611: Class I, Division 2, Groups A,B,C,D, T4 / Class 1, Zone 2, Group IIC, T4
• for hazardous zone	EN 60079-15:2005, EN 60079-0:2006, II 3 G Ex nA II T4 KEMA 07 ATEX 0145X
• for safety / from CSA and UL	UL 60950-1 CSA C22.2 No. 60950-1
• for hazardous zone / from CSA and UL	ANSI/ISA 12.12.01-2013, CAN/CSA C22.2 No.213-M1987, CL. 1, Div. 2, GP. A,B,C,D, T4 / CL. 1, Zone 2, GP IIC

Certificate of suitability

• EC declaration of conformity	Yes
• CE marking	Yes
• C-Tick	Yes
• CCC	No
• E1 approval	Yes
• Railway application in accordance with EN 50155	Yes
• Fire protection in accordance with EN 45545-2	No
• NEMA TS2	No
• IEC 61375	No
• IEC 61850-3	No
• NEMA4X	No
• Power-over-Ethernet according IEEE802.3at for type 1 and IEEE802.3af	Yes
• Power-over-Ethernet according to IEEE802.3at for type 2	Yes

Standard for wireless communication

• IEEE 802.11a	Yes
• IEEE 802.11b	Yes
• IEEE 802.11e	Yes
• IEEE 802.11g	Yes
• IEEE 802.11h	Yes
• IEEE 802.11i	Yes
• IEEE 802.11n	Yes

Wireless approval	You will find the current list of countries at: www.siemens.de/funkzulassungen
Marine classification association	

• American Bureau of Shipping Europe Ltd. (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	No
• Germanische Lloyd (GL)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (NK)	No
• Polski Rejestr Statkow (PRS)	No

Accessories

accessories	-

Further Information / Internet Links

Internet-Link	
• to website: TIA Selection Tool	http://www.siemens.com/tia-selection-tool
• to the website: IWLAN	http://www.siemens.com/iwlan
• to website: Industry Mall	https://mall.industry.siemens.com
• to website: Information and Download Center	http://www.siemens.com/industry/infocenter
• to website: Image database	http://automation.siemens.com/bilddb
• to website: CAx Download Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com

Security information

Security information	Siemens provides products and solutions with industrial security functions that support the secure operation of plants, solutions, machines, equipment and/or networks. They are important components in a holistic industrial security concept. With this in mind, Siemens' products and solutions undergo continuous development. Siemens recommends strongly that you regularly check for product updates. For the secure operation of Siemens products and solutions, it is necessary to take suitable preventive action(e.g. cell protection concept) and integrate each component into a holistic, state-of-the-art industrial security concept. Third-party products that may be in use should also be considered. For more information about industrial security, visit http://www.siemens.com/industrialsecurity. To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit http://support.automation.siemens.com. (V3.4)

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