

### 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-M12-E3) Contains MPCIE-R1-ABGN-U3 SCOPE OF SUPPLY:MANUALS ON CD, GERMAN/ENGLISH.



### Transmission rate

#### Transfer rate

- with WLAN / maximum
- for Industrial Ethernet

450 Mbit/s

10 Mbit/s, 100 Mbit/s, 1000 Mbit/s, 10 Mbit/s, 1000 Mbit/s

### Interfaces

#### Number of electrical connections

- for network components or terminal equipment
- for power supply
- for redundant voltage supply

1

1

1

#### Type of electrical connection

- for network components or terminal equipment
- for power supply

M12 interface (8-pole, X-coded), PoE

M12 interface (4-pole, A-coded)

#### design of the removable storage

- C-PLUG
- KEY-PLUG

Yes

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 feature / 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 <ul style="list-style-type: none"> <li>from M12 Power Connector (A-coded) for redundant power supply</li> </ul>	19.2 V
Supply voltage / 2 <ul style="list-style-type: none"> <li>from M12 Power Connector (A-coded) for redundant power supply</li> </ul>	28.8 V
Supply voltage <ul style="list-style-type: none"> <li>from Power-over-Ethernet acc. to IEEE802.3at for type 1 and IEEE802.3af</li> <li>from Power-over-Ethernet acc. to IEEE802.3at for type 2</li> </ul>	48 V 50 V
Consumed current <ul style="list-style-type: none"> <li>at DC / at 24 V / typical</li> <li>with Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af / typical</li> </ul>	0.45 A 0.22 A
Power loss [W] <ul style="list-style-type: none"> <li>at DC / at 24 V / typical</li> </ul>	10.7 W

#### Permitted ambient conditions

Ambient temperature <ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul>	-20 ... +60 °C -40 ... +85 °C -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 mounting adapter is required
<ul style="list-style-type: none"> <li>• S7-300 rail mounting</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• S7-1500 rail mounting</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• wall mounting</li> </ul>	Yes

### Wireless frequencies

Operating frequency	
<ul style="list-style-type: none"> <li>• for WLAN in 2.4 GHz frequency band</li> </ul>	2.41 ... 2.48 GHz
<ul style="list-style-type: none"> <li>• for WLAN in 5 GHz frequency band</li> </ul>	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	
<ul style="list-style-type: none"> <li>• Dual Client</li> </ul>	No
<ul style="list-style-type: none"> <li>• iPCF Access Point</li> </ul>	Yes; Only in combination with the 'KEY-PLUG W780 iFeatures'
<ul style="list-style-type: none"> <li>• iPCF client</li> </ul>	Yes; Only in combination with the 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'
<ul style="list-style-type: none"> <li>• iPCF-MC Access Point</li> </ul>	No
<ul style="list-style-type: none"> <li>• iPCF-MC client</li> </ul>	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	
<ul style="list-style-type: none"> <li>• CLI</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• web-based management</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• MIB support</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• TRAPs via email</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Configuration with STEP 7</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• configuration with STEP 7 in the TIA Portal</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• operation with IWLAN controller</li> </ul>	No
<ul style="list-style-type: none"> <li>• operation with Enterasys WLAN controller</li> </ul>	No
<ul style="list-style-type: none"> <li>• forced roaming with IWLAN</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• WDS</li> </ul>	Yes
Protocol / is supported	
<ul style="list-style-type: none"> <li>• Address Resolution Protocol (ARP)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ICMP</li> </ul>	Yes

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

### Product functions / Diagnosis

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

### Product functions / VLAN

<b>Product function</b>	
• function VLAN with IWLAN	Yes

### Product functions / DHCP

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

### Product functions / Redundancy

<b>Protocol / is supported</b>	
• STP/RSTP	Yes

### Product functions / Security

<b>Product function</b>	
• 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
<b>Protocol / is supported</b>	

- SSH

Yes

## Product functions / Time

Protocol / is supported

- SNTP
- SIMATIC Time

Yes

Yes

## Standards, specifications, approvals

Standard

- for FM
- for hazardous zone
- for safety / from CSA and UL
- for hazardous zone / from CSA and UL

FM 3611: Class I, Division 2, Groups A,B,C,D, T4 / Class 1, Zone 2, Group IIC, T4

EN 60079-15:2005, EN 60079-0:2006, II 3 G Ex nA II T4 KEMA 07 ATEX 0145X

UL 60950-1 CSA C22.2 No. 60950-1

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
- CE marking
- C-Tick
- CCC
- E1 approval
- Railway application in accordance with EN 50155
- Fire protection in accordance with EN 45545-2
- NEMA TS2
- IEC 61375
- IEC 61850-3
- NEMA4X
- Power-over-Ethernet according IEEE802.3at for type 1 and IEEE802.3af
- Power-over-Ethernet according to IEEE802.3at for type 2

Yes

Yes

Yes

No

Yes

Yes

Yes

No

No

No

No

Yes

Yes

Standard for wireless communication

- IEEE 802.11a
- IEEE 802.11b
- IEEE 802.11e
- IEEE 802.11g
- IEEE 802.11h
- IEEE 802.11i
- IEEE 802.11n

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Wireless approval

You will find the current list of countries at:  
[www.siemens.de/funkzulassungen](http://www.siemens.de/funkzulassungen)

Marine classification association

- American Bureau of Shipping Europe Ltd. (ABS)
- Bureau Veritas (BV)
- Det Norske Veritas (DNV)
- Germanische Lloyd (GL)
- Lloyds Register of Shipping (LRS)
- Nippon Kaiji Kyokai (NK)
- Polski Rejestr Statkow (PRS)

No  
No  
No  
No  
No  
No  
No

## Further Information / Internet Links

### Internet-Link

- to website: TIA Selection Tool
- to the website: IWLAN
- to website: Industry Mall
- to website: Information and Download Center
- to website: Image database
- to website: CAx Download Manager
- to website: Industry Online Support

<http://www.siemens.com/tia-selection-tool>  
<http://www.siemens.com/iwlan>  
<https://mall.industry.siemens.com>  
<http://www.siemens.com/industry/infocenter>  
<http://automation.siemens.com/bilddb>  
<http://www.siemens.com/cax>  
<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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