

### Product type designation

### SCALANCE W788-1 RJ45

IWLAN Access Point, SCALANCE W788-1 RJ45, 1 radio, 3 R-SMA antenna port, iFeatures support via key plug, IEEE 802.11a/b/g/h/n, 2.4/5GHz, gross 450 Mbit/s per radio, 1x RJ45 max. 1 Gbit/s, PoE, redundant 24 V DC, terminal block, IP30, -20..+60 °C, plug slot, WPA2/802.11i/e, Signaling contact observe national approvals! CERT ID: RAPN-W1-RJ-E3, includes: MPCIE-R1-ABGN-U3, scope of delivery: Manuals on CD-ROM, German/English, 2x terminal blocks; for operation outside of USA/Israel



### Transmission rate

|   |                      |
|---|----------------------|
| Transfer rate   |                      |
| <ul style="list-style-type: none"> <li>with WLAN / maximum</li> </ul>     | 450 Mbit/s           |
| <ul style="list-style-type: none"> <li>for Industrial Ethernet</li> </ul> | 10, 100, 1000 Mbit/s |
| Transfer rate / for Industrial Ethernet                                   |                      |
| <ul style="list-style-type: none"> <li>minimum</li> </ul>                 | 10 Mbit/s            |
| <ul style="list-style-type: none"> <li>maximum</li> </ul>                 | 1000 Mbit/s          |

### Interfaces

|  |                            |
|--|----------------------------|
| Number of electrical connections   |                            |
| <ul style="list-style-type: none"> <li>for network components or terminal equipment</li> </ul> | 1                          |
| <ul style="list-style-type: none"> <li>for power supply</li> </ul>                             | 1                          |
| <ul style="list-style-type: none"> <li>for redundant voltage supply</li> </ul>                 | 1                          |
| Type of electrical connection  |                            |
| <ul style="list-style-type: none"> <li>for network components or terminal equipment</li> </ul> | RJ45 socket                |
| <ul style="list-style-type: none"> <li>for power supply</li> </ul>                             | 4-pole screw terminal, PoE |
| design of the removable storage  |                            |
| <ul style="list-style-type: none"> <li>C-PLUG</li> </ul>                                       | 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)              | R-SMA (socket) |
| Product feature / external antenna can be mounted directly on device | Yes            |

#### Signal-Inputs/outputs

|   |                                   |
|---|-----------------------------------|
| Number of digital inputs                                      | 1                                 |
| Number of digital outputs                                     | 1                                 |
| Type of electrical connection / at the digital inputs/outputs | 4-pole screw terminal             |
| Signal range / at digital input                               | 24 V DC, safety extra-low voltage |
| Signal range / at digital output                              | 24 V DC / 1 A                     |

#### 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 terminal block</li> </ul>  | 19.2 V           |
| Supply voltage / 2 <ul style="list-style-type: none"> <li>• from terminal block</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<br>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<br>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<br>-40 ... +85 °C<br>-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               | IP30  |

### Design, dimensions and weight

|   |  |
|---|--|
| Width / of the enclosure / without antenna  | 200 mm   |
| Height / of the enclosure / without antenna   | 158 mm   |
| Depth / of the enclosure / without antenna  | 79 mm  |
| Net weight  | 1.7 kg   |
| Mounting type   | For 35 mm DIN rail mounting an additional mounting adapter is required |
| <ul style="list-style-type: none"> <li>• S7-300 rail mounting</li> <li>• S7-1500 rail mounting</li> <li>• 35 mm DIN rail mounting</li> <li>• wall mounting</li> </ul> | Yes<br>Yes<br>Yes<br>Yes   |

### Wireless frequencies

|  |                                      |
|--|--------------------------------------|
| Operating frequency  |                                      |
| <ul style="list-style-type: none"> <li>• for WLAN in 2.4 GHz frequency band</li> <li>• for WLAN in 5 GHz frequency band</li> </ul> | 2.41 ... 2.48 GHz<br>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>• iPCF Access Point</li> <li>• iPCF client</li> <li>• iPCF-MC Access Point</li> <li>• iPCF-MC client</li> </ul> | Yes; Only in combination with the 'KEY-PLUG W780 iFeatures'<br>Yes; Only in combination with the 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'<br>No<br>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 function / iPRP  | Yes; In combination with the 'KEY-PLUG W780 iFeatures' only   |

### Product functions / management, configuration

|   |                          |
|---|--------------------------|
| Number of manageable IP addresses / in client   | 8                        |
| Product function  |                          |
| <ul style="list-style-type: none"> <li>• CLI</li> <li>• web-based management</li> <li>• MIB support</li> <li>• TRAPs via email</li> </ul> | Yes<br>Yes<br>Yes<br>Yes |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Configuration with STEP 7</li> <li>• configuration with STEP 7 in the TIA Portal</li> <li>• operation with IWLAN controller</li> <li>• operation with Enterasys WLAN controller</li> <li>• forced roaming on IP down with IWLAN</li> <li>• forced roaming on link down with IWLAN</li> <li>• WDS</li> </ul> | <p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>              |
| <p>Protocol / is supported</p> <ul style="list-style-type: none"> <li>• Address Resolution Protocol (ARP)</li> <li>• ICMP</li> <li>• Telnet</li> <li>• HTTP</li> <li>• HTTPS</li> <li>• TFTP</li> <li>• DCP</li> <li>• LLDP</li> </ul>   | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |
| <p>Identification &amp; maintenance function</p> <ul style="list-style-type: none"> <li>• I&amp;M0 - device-specific information</li> <li>• I&amp;M1 – higher-level designation/location designation</li> </ul>  | <p>Yes</p> <p>Yes</p>   |

### Product functions / Diagnosis

|   |  |
|---|--|
| <p>Product function</p> <ul style="list-style-type: none"> <li>• PROFINET IO diagnosis</li> <li>• Link Check</li> <li>• connection monitoring IP-Alive</li> <li>• localization via Aeroscout</li> <li>• SysLog</li> </ul> | <p>Yes</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> |
| <p>Protocol / is supported</p> <ul style="list-style-type: none"> <li>• SNMP v1</li> <li>• SNMP v2</li> <li>• SNMP v3</li> </ul>  | <p>Yes</p> <p>Yes</p> <p>Yes</p>                     |

### Product functions / VLAN

|  |            |
|--|------------|
| <p>Product function</p> <ul style="list-style-type: none"> <li>• function VLAN with IWLAN</li> </ul> | <p>Yes</p> |
|--|------------|

### Product functions / DHCP

|  |                                  |
|--|----------------------------------|
| <p>Product function</p> <ul style="list-style-type: none"> <li>• DHCP client</li> <li>• DHCP server</li> <li>• DHCP Option 82</li> </ul> | <p>Yes</p> <p>Yes</p> <p>Yes</p> |
|--|----------------------------------|

### Product functions / Redundancy

|                         |     |
|-------------------------|-----|
| Protocol / is supported |     |
| • STP/RSTP              | Yes |
| • MSTP                  | Yes |
| • RSTP                  | Yes |

### Product functions / Security

|  |     |
|--|-----|
| Product function                             |     |
| • ACL - MAC-based                            | Yes |
| • 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 |
| • RADIUS                | Yes |

### Product functions / Time

|   |     |
|---|-----|
| Protocol / is supported                       |     |
| • NTP   | Yes |
| • SNTP  | Yes |
| • SIMATIC time synchronization (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 |
| • E1 approval                                       | Yes |
| • Railway application in accordance with EN 50155   | No  |
| • Railway application in accordance with EN 50121-4 | No  |
| • NEMA TS2  | No  |
| • IEC 61375   | No  |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• IEC 61850-3</li> <li>• NEMA4X</li> <li>• Power-over-Ethernet according IEEE802.3at for type 1 and IEEE802.3af</li> <li>• Power-over-Ethernet according to IEEE802.3at for type 2</li> </ul>   | <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p>   |
| <p>Standard for wireless communication</p> <ul style="list-style-type: none"> <li>• IEEE 802.11a</li> <li>• IEEE 802.11b</li> <li>• IEEE 802.11e</li> <li>• IEEE 802.11g</li> <li>• IEEE 802.11h</li> <li>• IEEE 802.11i</li> <li>• IEEE 802.11n</li> </ul>  | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>  |
| <p>Wireless approval</p>   | <p>You will find the current list of countries at:<br/><a href="http://www.siemens.de/funkzulassungen">www.siemens.de/funkzulassungen</a></p> |
| <p>Marine classification association</p> <ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> <li>• Bureau Veritas (BV)</li> <li>• DNV GL</li> <li>• Lloyds Register of Shipping (LRS)</li> <li>• Nippon Kaiji Kyokai (NK)</li> <li>• Polski Rejestr Statkow (PRS)</li> <li>• Royal Institution of Naval Architects (RINA)</li> </ul> | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>  |

## Accessories

|                    |   |
|--------------------|---|
| <p>accessories</p> | <p>24 V DC screw terminal and screw terminal for digital input and output included in the scope of delivery</p> |
|--------------------|---|

## Further Information / Internet Links

|   |  |
|---|--|
| <p>Internet-Link</p> <ul style="list-style-type: none"> <li>• to website: TIA Selection Tool</li> <li>• to the website: IWLAN</li> <li>• to website: Industry Mall</li> <li>• to website: Information and Download Center</li> <li>• to website: Image database</li> <li>• to website: CAx Download Manager</li> <li>• to website: Industry Online Support</li> </ul> | <p><a href="http://www.siemens.com/tia-selection-tool">http://www.siemens.com/tia-selection-tool</a></p> <p><a href="http://www.siemens.com/iwlan">http://www.siemens.com/iwlan</a></p> <p><a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a></p> <p><a href="http://www.siemens.com/industry/infocenter">http://www.siemens.com/industry/infocenter</a></p> <p><a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a></p> <p><a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a></p> <p><a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a></p> |
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## 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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