

product type designation



W788-2 M12 (USA)

IWLAN Access Point, SCALANCE W788-2 M12, 2 radios, 6 N-CON antenna port, iFeatures support via KEY-PLUG, IEEE 802.11a/b/g/h/n, 2.4/5 GHz, gross 450 Mbps per radio, 1x M12 max. 1 Gbps, PoE, redundant 24 V DC, M12 A-coded IP65, -20..+60 °C, plug slot, WPA2/802.11i/e, observe national approvals! CERT ID: RAPN-W2-M12-E3, includes: MPCIE-R1-ABGN-U3, FCC ID: LYHMPCIE1V1 scope of delivery: manuals on CD-ROM, German/English, M12 sealing caps, only for operation in the USA.

transfer rate

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

interfaces

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| number of electrical connections | |
| <ul style="list-style-type: none"> for network components or terminal equipment | 1 |
| <ul style="list-style-type: none"> for power supply | 1 |
| <ul style="list-style-type: none"> for redundant voltage supply | 1 |
| type of electrical connection | |
| <ul style="list-style-type: none"> for network components or terminal equipment | M12 interface (8-pole, X-coded), PoE |
| <ul style="list-style-type: none"> for power supply | M12 interface (4-pole, A-coded) |
| design of the removable storage | |
| <ul style="list-style-type: none"> C-PLUG | Yes |
| <ul style="list-style-type: none"> KEY-PLUG | Yes |

memory

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| design of the removable storage | |
| <ul style="list-style-type: none"> C-PLUG | Yes |
| <ul style="list-style-type: none"> KEY-PLUG | Yes |

interfaces / wireless

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|--|--------------------|
| number of radio cards / permanently installed | 2 |
| transmission mode / for multiple input multiple output (MIMO) | 3x3 |
| number of spatial streams | 3 |
| number of electrical connections / for external antenna(s) | 6 |
| 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

| | |
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| type of voltage / of the supply voltage | DC |
| supply voltage | |
| <ul style="list-style-type: none"> from Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af | 48 V |
| <ul style="list-style-type: none"> from Power-over-Ethernet according to IEEE802.3at for type 2 | 50 V |
| consumed current | |
| <ul style="list-style-type: none"> at DC / at 24 V / typical | 0.63 A |
| <ul style="list-style-type: none"> with Power-over-Ethernet according to IEEE802.3at for | 0.22 A |

| | |
|---|---|
| <ul style="list-style-type: none"> type 1 and IEEE802.3af / typical with Power-over-Ethernet according to IEEE802.3at for type 2 / typical | 0.3 A |
| <p>power loss [W]</p> <ul style="list-style-type: none"> at DC / at 24 V / typical with Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af / typical with Power-over-Ethernet according to IEEE802.3at for type 2 / typical | <p>15 W</p> <p>10.7 W</p> <p>15 W</p> |
| <p>supply voltage / 1</p> <ul style="list-style-type: none"> from M12 Power Connector (A-coded) for redundant power supply | 19.2 V |
| <p>supply voltage / 2</p> <ul style="list-style-type: none"> from M12 Power Connector (A-coded) for redundant power supply | 28.8 V |
| ambient conditions | |
| <p>ambient temperature</p> <ul style="list-style-type: none"> during operation during storage during transport | <p>-20 ... +60 °C</p> <p>-40 ... +85 °C</p> <p>-40 ... +85 °C</p> |
| 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 weights | |
| 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 |
| <p>fastening method</p> <ul style="list-style-type: none"> S7-300 rail mounting S7-1500 rail mounting 35 mm top hat DIN rail mounting wall mounting | <p>For 35 mm DIN rail mounting an additional mounting adapter is required</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |
| radio frequencies | |
| <p>operating frequency</p> <ul style="list-style-type: none"> for WLAN in 2.4 GHz frequency band for WLAN in 5 GHz frequency band | <p>2.41 ... 2.48 GHz; depending on the country approvals</p> <p>4.9 ... 5.8 GHz; depending on the country approvals</p> |
| product features, product functions, product components / general | |
| product function / Access Point Mode | Yes |
| product function / client Mode | Yes |
| number of SSIDs | 16 |
| <p>product function</p> <ul style="list-style-type: none"> iPCF Access Point iPCF client iPCF-MC Access Point iPCF-MC client | <p>Yes; Only in combination with the 'KEY-PLUG W780 iFeatures'</p> <p>Yes; Only in combination with the 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'</p> <p>Yes; Only in combination with the 'KEY-PLUG W780 iFeatures'</p> <p>Yes; Only in combination with 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'</p> |
| number of iPCF-capable radio modules | 2 |
| product function / iREF | No; In combination only with 'KEY-PLUG W780 iFeatures' |
| number of iREF-capable radio modules | 2 |
| product function / iPRP | Yes; In combination with the 'KEY-PLUG W780 iFeatures' only |
| product functions / management, configuration, engineering | |
| number of manageable IP addresses / in client | 8 |
| <p>product function</p> <ul style="list-style-type: none"> CLI web-based management MIB support TRAPs via email configuration with STEP 7 | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |

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| <ul style="list-style-type: none"> • configuration with STEP 7 in the TIA Portal | Yes |
| <ul style="list-style-type: none"> • operation with IWLAN controller | No |
| <ul style="list-style-type: none"> • operation with Enterasys WLAN controller | No |
| <ul style="list-style-type: none"> • forced roaming on IP down with IWLAN | Yes |
| <ul style="list-style-type: none"> • forced roaming on link down with IWLAN | Yes |
| <ul style="list-style-type: none"> • WDS | Yes |
| protocol / is supported | |
| <ul style="list-style-type: none"> • Address Resolution Protocol (ARP) | Yes |
| <ul style="list-style-type: none"> • ICMP | Yes |
| <ul style="list-style-type: none"> • Telnet | Yes |
| <ul style="list-style-type: none"> • HTTP | Yes |
| <ul style="list-style-type: none"> • HTTPS | Yes |
| <ul style="list-style-type: none"> • TFTP | Yes |
| <ul style="list-style-type: none"> • DCP | Yes |
| <ul style="list-style-type: none"> • LLDP | Yes |
| identification & maintenance function | |
| <ul style="list-style-type: none"> • I&M0 - device-specific information | Yes |
| <ul style="list-style-type: none"> • I&M1 - higher level designation/location designation | Yes |
| product functions / diagnostics | |
| product function | |
| <ul style="list-style-type: none"> • PROFINET IO diagnosis | Yes |
| <ul style="list-style-type: none"> • link check | No |
| <ul style="list-style-type: none"> • connection monitoring IP-Alive | No |
| <ul style="list-style-type: none"> • localization via Aeroscout | Yes |
| <ul style="list-style-type: none"> • SysLog | Yes |
| protocol / is supported | |
| <ul style="list-style-type: none"> • SNMP v1 | Yes |
| <ul style="list-style-type: none"> • SNMP v2 | Yes |
| <ul style="list-style-type: none"> • SNMP v3 | Yes |
| product functions / VLAN | |
| product function | |
| <ul style="list-style-type: none"> • function VLAN with IWLAN | Yes |
| product functions / DHCP | |
| product function | |
| <ul style="list-style-type: none"> • DHCP client | Yes |
| <ul style="list-style-type: none"> • DHCP server | Yes |
| <ul style="list-style-type: none"> • DHCP Option 82 | Yes |
| product functions / redundancy | |
| protocol / is supported | |
| <ul style="list-style-type: none"> • STP/RSTP | Yes |
| <ul style="list-style-type: none"> • MSTP | Yes |
| <ul style="list-style-type: none"> • RSTP | Yes |
| product functions / security | |
| product function | |
| <ul style="list-style-type: none"> • ACL - MAC-based | Yes |
| <ul style="list-style-type: none"> • management security, ACL-IP based | Yes |
| <ul style="list-style-type: none"> • IEEE 802.1x (radius) | Yes |
| <ul style="list-style-type: none"> • NAT/NAPT | Yes |
| <ul style="list-style-type: none"> • access protection according to IEEE802.11i | Yes |
| <ul style="list-style-type: none"> • WPA/WPA2 | Yes |
| <ul style="list-style-type: none"> • TKIP/AES | Yes |
| protocol / is supported | |
| <ul style="list-style-type: none"> • SSH | Yes |
| <ul style="list-style-type: none"> • RADIUS | Yes |
| product functions / time | |
| protocol / is supported | |
| <ul style="list-style-type: none"> • NTP | Yes |
| <ul style="list-style-type: none"> • SNTP | Yes |
| <ul style="list-style-type: none"> • SIMATIC time synchronization (SIMATIC Time) | Yes |
| standards, specifications, approvals | |

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| standard | |
| <ul style="list-style-type: none"> for FM | FM 3611: Class I, Division 2, Groups A,B,C,D, T4 / Class 1, Zone 2, Group IIC, T4, FM16US0205X |
| certificate of suitability | |
| <ul style="list-style-type: none"> EC Declaration of Conformity CE marking C-Tick E1 approval railway application in accordance with EN 50155 railway application in accordance with EN 50121-4 fire protection in accordance with EN 45545-2 NEMA TS2 IEC 61375 IEC 61850-3 NEMA4X Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af Power-over-Ethernet according to IEEE802.3at for type 2 | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> |
| standard for wireless communication | |
| <ul style="list-style-type: none"> IEEE 802.11a IEEE 802.11b IEEE 802.11e IEEE 802.11g IEEE 802.11h IEEE 802.11i IEEE 802.11n | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |
| wireless approval | For operation in the USA, you will find more information under: www.siemens.de/funkzulassungen |

standards, specifications, approvals / marine classification

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| Marine classification association | |
| <ul style="list-style-type: none"> American Bureau of Shipping Europe Ltd. (ABS) French marine classification society (BV) DNV GL Korean Register of Shipping (KRS) Lloyds Register of Shipping (LRS) Nippon Kaiji Kyokai (NK) Polski Rejestr Statkow (PRS) Royal Institution of Naval Architects (RINA) | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |

standards, specifications, approvals / hazardous environments

| | |
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| standard / for hazardous zone | EN 60079-15:2005, EN 60079-0:2006, II 3 G Ex nA II T4 KEMA 07 ATEX 0145X |
| <ul style="list-style-type: none"> 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 E240480 |
| certificate of suitability / CCC / for hazardous zone according to GB standard | Yes |
| <ul style="list-style-type: none"> as marking | Ex nA IIC T4 Gc |

further information / internet links

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|---|---|
| internet link | |
| <ul style="list-style-type: none"> to website: TIA Selection Tool to web page: selection aid 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 | <p>http://www.siemens.com/tia-selection-tool</p> <p>http://www.siemens.com/tia-selection-tool</p> <p>http://www.siemens.com/iwlan</p> <p>https://mall.industry.siemens.com</p> <p>http://www.siemens.com/industry/infocenter</p> <p>http://automation.siemens.com/bilddb</p> <p>http://www.siemens.com/cax</p> <p>https://support.industry.siemens.com</p> |

security information

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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 |
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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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