

### product type designation



### W788-2 M12

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, 2.4/5GHz, gross 450 Mbit/s per radio, 1x M12 max. 1 Gbit/s, 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, scope of delivery: Manuals on CD-ROM, German/English, M12 sealing caps, for operation outside of USA/Israel .

### transfer rate

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

### interfaces

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

### memory

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

### interfaces / wireless

|  |                    |
|--|--------------------|
| 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

|  |              |
|--|--------------|
| type of voltage / of the supply voltage  | DC           |
| supply voltage   |              |
| <ul style="list-style-type: none"> <li>from Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af</li> <li>from Power-over-Ethernet according 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> </ul>  | 0.63 A  |
| <ul style="list-style-type: none"> <li>• with Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af / typical</li> </ul> | 0.22 A  |
| <ul style="list-style-type: none"> <li>• with Power-over-Ethernet according to IEEE802.3at for type 2 / typical</li> </ul>                 | 0.3 A   |
| power loss [W]   |   |
| <ul style="list-style-type: none"> <li>• at DC / at 24 V / typical</li> </ul>  | 15 W  |
| <ul style="list-style-type: none"> <li>• with Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af / typical</li> </ul> | 10.7 W  |
| <ul style="list-style-type: none"> <li>• with Power-over-Ethernet according to IEEE802.3at for type 2 / typical</li> </ul>                 | 15 W  |
| <b>supply voltage / 1</b>  |   |
| <ul style="list-style-type: none"> <li>• from M12 Power Connector (A-coded) for redundant power supply</li> </ul>                          | 19.2 V  |
| <b>supply voltage / 2</b>  |   |
| <ul style="list-style-type: none"> <li>• from M12 Power Connector (A-coded) for redundant power supply</li> </ul>                          | 28.8 V  |
| <b>ambient conditions</b>  |   |
| ambient temperature  |   |
| <ul style="list-style-type: none"> <li>• during operation</li> </ul>   | -20 ... +60 °C  |
| <ul style="list-style-type: none"> <li>• during storage</li> </ul>   | -40 ... +85 °C  |
| <ul style="list-style-type: none"> <li>• during transport</li> </ul>   | -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  |
| <b>design, dimensions and weights</b>  |   |
| 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  |
| fastening method   | For 35 mm DIN rail mounting 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>• 35 mm top hat DIN rail mounting</li> </ul>  | Yes   |
| <ul style="list-style-type: none"> <li>• wall mounting</li> </ul>  | Yes   |
| <b>radio frequencies</b>   |   |
| operating frequency  |   |
| <ul style="list-style-type: none"> <li>• for WLAN in 2.4 GHz frequency band</li> </ul>   | 2.41 ... 2.48 GHz; depending on the country approvals   |
| <ul style="list-style-type: none"> <li>• for WLAN in 5 GHz frequency band</li> </ul>   | 4.9 ... 5.8 GHz; depending on the country approvals   |
| <b>product features, product functions, product components / general</b>   |   |
| product function / Access Point Mode   | Yes   |
| product function / client Mode   | Yes   |
| number of SSIDs  | 16  |
| product function   |   |
| <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>   | Yes; Only in combination with the 'KEY-PLUG W780 iFeatures'   |
| <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   | 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   |
| <b>product functions / management, configuration, engineering</b>  |   |
| 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 on IP down with IWLAN</li> </ul>                     | Yes |
| <ul style="list-style-type: none"> <li>• forced roaming on link down 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 |
| <ul style="list-style-type: none"> <li>• Telnet</li> </ul>   | Yes |
| <ul style="list-style-type: none"> <li>• HTTP</li> </ul>   | Yes |
| <ul style="list-style-type: none"> <li>• HTTPS</li> </ul>  | Yes |
| <ul style="list-style-type: none"> <li>• TFTP</li> </ul>   | Yes |
| <ul style="list-style-type: none"> <li>• DCP</li> </ul>  | Yes |
| <ul style="list-style-type: none"> <li>• LLDP</li> </ul>   | Yes |
| identification & maintenance function  |     |
| <ul style="list-style-type: none"> <li>• I&amp;M0 - device-specific information</li> </ul>                   | Yes |
| <ul style="list-style-type: none"> <li>• I&amp;M1 – higher level designation/location designation</li> </ul> | Yes |
| <b>product functions / diagnostics</b>   |     |
| product function   |     |
| <ul style="list-style-type: none"> <li>• PROFINET IO diagnosis</li> </ul>                                    | Yes |
| <ul style="list-style-type: none"> <li>• link check</li> </ul>   | No  |
| <ul style="list-style-type: none"> <li>• connection monitoring IP-Alive</li> </ul>                           | No  |
| <ul style="list-style-type: none"> <li>• localization via Aeroscout</li> </ul>                               | Yes |
| <ul style="list-style-type: none"> <li>• SysLog</li> </ul>   | Yes |
| protocol / is supported  |     |
| <ul style="list-style-type: none"> <li>• SNMP v1</li> </ul>  | Yes |
| <ul style="list-style-type: none"> <li>• SNMP v2</li> </ul>  | Yes |
| <ul style="list-style-type: none"> <li>• SNMP v3</li> </ul>  | Yes |
| <b>product functions / VLAN</b>  |     |
| product function   |     |
| <ul style="list-style-type: none"> <li>• function VLAN with IWLAN</li> </ul>                                 | Yes |
| <b>product functions / DHCP</b>  |     |
| product function   |     |
| <ul style="list-style-type: none"> <li>• DHCP client</li> </ul>  | Yes |
| <ul style="list-style-type: none"> <li>• DHCP server</li> </ul>  | Yes |
| <ul style="list-style-type: none"> <li>• DHCP Option 82</li> </ul>   | Yes |
| <b>product functions / redundancy</b>  |     |
| protocol / is supported  |     |
| <ul style="list-style-type: none"> <li>• STP/RSTP</li> </ul>   | Yes |
| <ul style="list-style-type: none"> <li>• MSTP</li> </ul>   | Yes |
| <ul style="list-style-type: none"> <li>• RSTP</li> </ul>   | Yes |
| <b>product functions / security</b>  |     |
| product function   |     |
| <ul style="list-style-type: none"> <li>• ACL - MAC-based</li> </ul>  | Yes |
| <ul style="list-style-type: none"> <li>• management security, ACL-IP based</li> </ul>                        | Yes |
| <ul style="list-style-type: none"> <li>• IEEE 802.1x (radius)</li> </ul>                                     | Yes |
| <ul style="list-style-type: none"> <li>• NAT/NAPT</li> </ul>   | No  |
| <ul style="list-style-type: none"> <li>• access protection according to IEEE802.11i</li> </ul>               | Yes |
| <ul style="list-style-type: none"> <li>• WPA/WPA2</li> </ul>   | Yes |
| <ul style="list-style-type: none"> <li>• TKIP/AES</li> </ul>   | Yes |
| protocol / is supported  |     |
| <ul style="list-style-type: none"> <li>• SSH</li> </ul>  | Yes |
| <ul style="list-style-type: none"> <li>• RADIUS</li> </ul>   | Yes |
| <b>product functions / time</b>  |     |

|   |  |
|---|--|
| protocol / is supported   |  |
| <ul style="list-style-type: none"> <li>• NTP</li> <li>• SNTP</li> <li>• SIMATIC time synchronization (SIMATIC Time)</li> </ul>  | <p>Yes</p> <p>Yes</p> <p>Yes</p>   |
| <b>standards, specifications, approvals</b>   |  |
| standard  |  |
| <ul style="list-style-type: none"> <li>• for FM</li> </ul>  | FM 3611: Class I, Division 2, Groups A,B,C,D, T4 / Class 1, Zone 2, Group IIC, T4  |
| <ul style="list-style-type: none"> <li>• for safety / from CSA and UL</li> </ul>  | UL 60950-1, CSA C22.2 No. 60950-1  |
| certificate of suitability  |  |
| <ul style="list-style-type: none"> <li>• EC Declaration of Conformity</li> <li>• CE marking</li> <li>• C-Tick</li> <li>• E1 approval</li> <li>• railway application in accordance with EN 50155</li> <li>• railway application in accordance with EN 50121-4</li> <li>• fire protection in accordance with EN 45545-2</li> <li>• NEMA TS2</li> <li>• IEC 61375</li> <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>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"> <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>   |
| wireless approval   | You will find the current list of countries at:<br><a href="http://www.siemens.de/funkzulassungen">www.siemens.de/funkzulassungen</a>  |
| <b>standards, specifications, approvals / marine classification</b>   |  |
| Marine classification association   |  |
| <ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> <li>• French marine classification society (BV)</li> <li>• DNV GL</li> <li>• Korean Register of Shipping (KRS)</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> <p>Yes</p>  |
| <b>standards, specifications, approvals / hazardous environments</b>  |  |
| 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"> <li>• from CSA and UL</li> </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 / CCC / for hazardous zone according to GB standard  | Yes  |
| <b>further information / internet-Links</b>   |  |
| Internet-Link   |  |
| <ul style="list-style-type: none"> <li>• to website: TIA Selection Tool</li> <li>• to web page: selection aid 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> </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/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> |

security information

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