

product type designation



W778-1 M12 EEC

IWLAN access point, SCALANCE W778-1 M12 EEC, 1 radio, 2 N-CON antenna port, iFeatures support via KEY-PLUG, IEEE 802.11a/b/g/h/n, 2.4/5 GHz, gross data rate 300 Mbps, 2x M12 max. 100 Mbps, PoE integrated 2-port switch, redundant 24 V DC, M12 A-coded IP65, -30...+75 °C, plug slot WPA2/802.11i/e,conformal coating EN 50155, EN45545, observe national approvals! CERT ID: MSN65-W1-M12-E2 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"> with WLAN / maximum 	300 Mbit/s
<ul style="list-style-type: none"> for Industrial Ethernet 	10, 100 Mbit/s
interfaces	
number of electrical connections	
<ul style="list-style-type: none"> for network components or terminal equipment 	2
<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 (4-pole, D-coded), PoE
<ul style="list-style-type: none"> for power supply 	M12 interface (4-pole, A-coded)
memory	
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	
number of radio cards / permanently installed	1
transmission mode / for multiple input multiple output (MIMO)	2x2
number of spatial streams	2
number of electrical connections / for external antenna(s)	2
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"> from Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af 	48 V
consumed current	
<ul style="list-style-type: none"> at DC / at 24 V / typical 	0.25 A
<ul style="list-style-type: none"> with Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af / typical 	0.125 A
power loss [W]	
<ul style="list-style-type: none"> at DC / at 24 V / typical 	6 W
<ul style="list-style-type: none"> with Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af / typical 	6 W
supply voltage / 1	
<ul style="list-style-type: none"> from M12 Power Connector (A-coded) for redundant power supply 	16.8 V

supply voltage / 2	
<ul style="list-style-type: none"> from M12 Power Connector (A-coded) for redundant power supply 	31.2 V
ambient conditions	
ambient temperature	
<ul style="list-style-type: none"> during operation during storage during transport 	-40 ... +75 °C -40 ... +85 °C -40 ... +85 °C
relative humidity / at 25 °C / without condensation / during operation / maximum	95 %
ambient condition / for operation	When used under hazardous conditions (Zone 2), the SCALANCE W778-1 M12 or W738-1 M12 product must be installed in an housing with at least IP54 degree of protection according to EN 60529 within the scope of EN 50021.
protection class IP	IP65
design, dimensions and weights	
width	140 mm
height	160 mm
depth	45 mm
width / of the enclosure / without antenna	140 mm
height / of the enclosure / without antenna	149 mm
depth / of the enclosure / without antenna	45 mm
net weight	0.95 kg
product feature / conformal coating	Yes
fastening method	35 mm DIN rail mounting only per accessories
<ul style="list-style-type: none"> S7-300 rail mounting S7-1500 rail mounting 35 mm DIN-rail mounting wall mounting 	No No Yes Yes
radio frequencies	
operating frequency	
<ul style="list-style-type: none"> for WLAN in 2.4 GHz frequency band for WLAN in 5 GHz frequency band 	2.41 ... 2.48 GHz; depending on the country approvals 4.9 ... 5.8 GHz; depending on the country approvals
product features, product functions, product components / general	
product function / Access Point Mode	Yes
product function / client Mode	Yes
number of SSIDs	4
product function	
<ul style="list-style-type: none"> iPCF Access Point iPCF client 	Yes; Only in combination with the 'KEY-PLUG W780 iFeatures' Yes; Only in combination with the 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'
<ul style="list-style-type: none"> iPCF-MC Access Point iPCF-MC client 	No 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; Only in combination with the 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 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, engineering	
number of manageable IP addresses / in client	8
product function	
<ul style="list-style-type: none"> CLI web-based management MIB support TRAPs via email configuration with STEP 7 configuration with STEP 7 in the TIA Portal operation with IWLAN controller operation with Enterasys WLAN controller forced roaming on IP down with IWLAN forced roaming on link down with IWLAN WDS 	Yes Yes Yes Yes Yes Yes No No Yes Yes Yes

protocol / is supported	
<ul style="list-style-type: none"> • Address Resolution Protocol (ARP) • ICMP • Telnet • HTTP • HTTPS • TFTP • DCP • LLDP 	<ul style="list-style-type: none"> Yes Yes Yes Yes Yes Yes Yes Yes
identification & maintenance function	
<ul style="list-style-type: none"> • I&M0 - device-specific information • I&M1 - higher level designation/location designation 	<ul style="list-style-type: none"> Yes Yes
product function / is supported / identification link	Yes; acc. to IEC 61406-1:2022
product functions / diagnostics	
product function	
<ul style="list-style-type: none"> • PROFINET IO diagnosis • link check • connection monitoring IP-Alive • localization via Aeroscout • SysLog 	<ul style="list-style-type: none"> Yes No No Yes Yes
protocol / is supported	
<ul style="list-style-type: none"> • SNMP v1 • SNMP v2 • SNMP v3 	<ul style="list-style-type: none"> Yes Yes Yes
product functions / VLAN	
product function	
<ul style="list-style-type: none"> • function VLAN with IWLAN 	<ul style="list-style-type: none"> Yes
product functions / DHCP	
product function	
<ul style="list-style-type: none"> • DHCP client • DHCP server • DHCP Option 82 	<ul style="list-style-type: none"> Yes Yes Yes
product functions / redundancy	
protocol / is supported	
<ul style="list-style-type: none"> • STP/RSTP • MSTP • RSTP 	<ul style="list-style-type: none"> Yes Yes Yes
product functions / security	
product function	
<ul style="list-style-type: none"> • ACL - MAC-based • management security, ACL-IP based • IEEE 802.1x (radius) • NAT/NAPT • access protection according to IEEE802.11i • WPA/WPA2 • TKIP/AES 	<ul style="list-style-type: none"> Yes Yes Yes Yes Yes Yes Yes
protocol / is supported	
<ul style="list-style-type: none"> • SSH • RADIUS 	<ul style="list-style-type: none"> Yes Yes
product functions / time	
protocol / is supported	
<ul style="list-style-type: none"> • NTP • SNTP • SIMATIC time synchronization (SIMATIC Time) 	<ul style="list-style-type: none"> Yes Yes Yes
standards, specifications, approvals	
standard	
<ul style="list-style-type: none"> • for FM • for safety / from CSA and UL 	<ul style="list-style-type: none"> FM 3611: Class I, Division 2, Groups A,B,C,D, T4 / Class 1, Zone 2, Group IIC, T4, FM16US0205X UL 61010-2-201 E85972, CSA C22.2 no. 60950-1
certificate of suitability	
<ul style="list-style-type: none"> • EC Declaration of Conformity 	<ul style="list-style-type: none"> Yes

<ul style="list-style-type: none"> • CE marking 	Yes
<ul style="list-style-type: none"> • C-Tick 	Yes
<ul style="list-style-type: none"> • E1 approval 	Yes
<ul style="list-style-type: none"> • railway application in accordance with EN 50155 	Yes
<ul style="list-style-type: none"> • railway application in accordance with EN 50121-4 	Yes
<ul style="list-style-type: none"> • fire protection in accordance with EN 45545-2 	Yes
<ul style="list-style-type: none"> • NEMA TS2 	No
<ul style="list-style-type: none"> • IEC 61375 	No
<ul style="list-style-type: none"> • IEC 61850-3 	No
<ul style="list-style-type: none"> • NEMA4X 	No
<ul style="list-style-type: none"> • Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af 	Yes
<ul style="list-style-type: none"> • Power-over-Ethernet according to IEEE802.3at for type 2 	Yes
standard for wireless communication	
<ul style="list-style-type: none"> • IEEE 802.11a 	Yes
<ul style="list-style-type: none"> • IEEE 802.11b 	Yes
<ul style="list-style-type: none"> • IEEE 802.11e 	Yes
<ul style="list-style-type: none"> • IEEE 802.11g 	Yes
<ul style="list-style-type: none"> • IEEE 802.11h 	Yes
<ul style="list-style-type: none"> • IEEE 802.11i 	Yes
<ul style="list-style-type: none"> • IEEE 802.11n 	Yes
wireless approval	You will find the current list of countries at: www.siemens.de/funkzulassungen
reference code	
<ul style="list-style-type: none"> • according to IEC 81346-2:2019 	KFE
standards, specifications, approvals / marine classification	
Marine classification association	
<ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) 	Yes
<ul style="list-style-type: none"> • French marine classification society (BV) 	Yes
<ul style="list-style-type: none"> • DNV GL 	Yes
<ul style="list-style-type: none"> • Korean Register of Shipping (KRS) 	Yes
<ul style="list-style-type: none"> • Lloyds Register of Shipping (LRS) 	Yes
<ul style="list-style-type: none"> • Nippon Kaiji Kyokai (NK) 	Yes
<ul style="list-style-type: none"> • Polski Rejestr Statkow (PRS) 	Yes
<ul style="list-style-type: none"> • Royal Institution of Naval Architects (RINA) 	Yes
standards, specifications, approvals / hazardous environments	
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; GB3836.1, GB3836.8
<ul style="list-style-type: none"> • as marking 	Ex nA IIC T4 Gc
standards, specifications, approvals / Environmental Product Declaration	
Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
<ul style="list-style-type: none"> • total 	199.95 kg
<ul style="list-style-type: none"> • during manufacturing 	33.7 kg
<ul style="list-style-type: none"> • during operation 	166.06 kg
<ul style="list-style-type: none"> • after end of life 	0.19 kg
further information / internet links	
internet link	
<ul style="list-style-type: none"> • to website: Selection guide for cables and connectors 	https://support.industry.siemens.com/cs/ww/en/view/109766358
<ul style="list-style-type: none"> • to web page: selection aid TIA Selection Tool 	https://www.siemens.com/tstcloud
<ul style="list-style-type: none"> • to web page: WLAN country approval 	https://www.siemens.com/wireless-approvals
<ul style="list-style-type: none"> • to the website: IWLAN 	https://www.siemens.com/iwlan
<ul style="list-style-type: none"> • to website: Industrial communication 	https://www.siemens.com/simatic-net
<ul style="list-style-type: none"> • to web page: SiePortal 	https://sieportal.siemens.com/
<ul style="list-style-type: none"> • to website: Image database 	https://www.automation.siemens.com/bilddb
<ul style="list-style-type: none"> • to website: CAx-Download-Manager 	https://www.siemens.com/cax
<ul style="list-style-type: none"> • to website: Industry Online Support 	https://support.industry.siemens.com
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions

that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under <https://www.siemens.com/cert>. (V4.7)

Approvals / Certificates

General Product Approval



[Declaration of Conformity](#)



[Manufacturer Declaration](#)



For use in hazardous locations



[CCC-Ex](#)

[Miscellaneous](#)

[KC](#)



Radio Equipment Type Approval Certificate

Maritime application

Maritime application

Railway



[NK / Nippon Kaiji Kyokai](#)



[Confirmation](#)

Environment



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