

product type designation



W778-1 M12 EEC (USA)

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, -40...+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 in the USA

transfer rate

transfer rate	
<ul style="list-style-type: none"> with WLAN / maximum for Industrial Ethernet 	300 Mbit/s 10, 100 Mbit/s
transfer rate / for Industrial Ethernet	
<ul style="list-style-type: none"> minimum maximum 	10 Mbit/s 100 Mbit/s

interfaces

number of electrical connections	
<ul style="list-style-type: none"> for network components or terminal equipment for power supply for redundant voltage supply 	2 1 1
type of electrical connection	
<ul style="list-style-type: none"> for network components or terminal equipment for power supply 	M12 interface (4-pole, D-coded), PoE M12 interface (4-pole, A-coded)
design of the removable storage	
<ul style="list-style-type: none"> C-PLUG KEY-PLUG 	Yes Yes

memory

design of the removable storage	
<ul style="list-style-type: none"> C-PLUG KEY-PLUG 	Yes 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 with Power-over-Ethernet according to IEEE802.3at 	0.25 A 0.125 A

for type 1 and IEEE802.3af / typical	
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 	-30 ... +75 °C
<ul style="list-style-type: none"> during storage 	-40 ... +85 °C
<ul style="list-style-type: none"> during transport 	-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 	No
<ul style="list-style-type: none"> S7-1500 rail mounting 	No
<ul style="list-style-type: none"> 35 mm top hat DIN rail mounting 	Yes
<ul style="list-style-type: none"> wall mounting 	Yes
radio frequencies	
operating frequency	
<ul style="list-style-type: none"> for WLAN in 2.4 GHz frequency band 	2.41 ... 2.48 GHz; depending on the country approvals
<ul style="list-style-type: none"> for WLAN in 5 GHz frequency band 	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 	Yes; Only in combination with the 'KEY-PLUG W780 iFeatures'
<ul style="list-style-type: none"> iPCF client 	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 	No
<ul style="list-style-type: none"> iPCF-MC client 	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 	Yes
<ul style="list-style-type: none"> web-based management 	Yes

<ul style="list-style-type: none"> • 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 	<p>Yes</p> <p>Yes</p> <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"> • Address Resolution Protocol (ARP) • ICMP • Telnet • HTTP • HTTPS • TFTP • DCP • LLDP 	<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 & maintenance function</p> <ul style="list-style-type: none"> • I&M0 - device-specific information • I&M1 – higher level designation/location designation 	<p>Yes</p> <p>Yes</p>
product functions / diagnostics	
<p>product function</p> <ul style="list-style-type: none"> • PROFINET IO diagnosis • link check • connection monitoring IP-Alive • localization via Aeroscout • SysLog 	<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"> • SNMP v1 • SNMP v2 • SNMP v3 	<p>Yes</p> <p>Yes</p> <p>Yes</p>
product functions / VLAN	
<p>product function</p> <ul style="list-style-type: none"> • function VLAN with IWLAN 	<p>Yes</p>
product functions / DHCP	
<p>product function</p> <ul style="list-style-type: none"> • DHCP client • DHCP server • DHCP Option 82 	<p>Yes</p> <p>Yes</p> <p>Yes</p>
product functions / redundancy	
<p>protocol / is supported</p> <ul style="list-style-type: none"> • STP/RSTP • MSTP • RSTP 	<p>Yes</p> <p>Yes</p> <p>Yes</p>
product functions / security	
<p>product function</p> <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 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<p>protocol / is supported</p> <ul style="list-style-type: none"> • SSH • RADIUS 	<p>Yes</p> <p>Yes</p>
product functions / time	
<p>protocol / is supported</p>	

<ul style="list-style-type: none"> • NTP • SNTP • SIMATIC time synchronization (SIMATIC Time) 	<p>Yes</p> <p>Yes</p> <p>Yes</p>
standards, specifications, approvals	
<p>standard</p> <ul style="list-style-type: none"> • for FM • for safety / from CSA and UL 	<p>FM 3611: Class I, Division 2, Groups A,B,C,D, T4 / Class 1, Zone 2, Group IIC, T4</p> <p>UL 60950-1, CSA C22.2 No. 60950-1</p>
<p>certificate of suitability</p> <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 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>
<p>standard for wireless communication</p> <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>
<p>wireless approval</p>	<p>You will find the current list of countries at: www.siemens.de/funkzulassungen</p>
standards, specifications, approvals / marine classification	
<p>Marine classification association</p> <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	
<p>standard / for hazardous zone</p> <ul style="list-style-type: none"> • from CSA and UL 	<p>EN 60079-15:2005, EN 60079-0:2006, II 3 G Ex nA II T4 KEMA 07 ATEX 0145X</p> <p>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</p>
<p>certificate of suitability / CCC / for hazardous zone according to GB standard</p>	<p>Yes</p>
further information / internet-Links	
<p>Internet-Link</p> <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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