

product type designation



W778-1 M12

IWLAN access point, SCALANCE W778-1 M12, 1 radio, 2 N-CON antenna port, iFeatures support via KEY-PLUG, IEEE 802.11a/b/g/h/n, 2.4/5GHz, gross data rate 300 Mbit/s, 2x M12 max. 100 Mbit/s, PoE integrated 2-port switch, redundant 24 V DC, M12 A-coded IP65, -20... 60°C, plug slot WPA2/802.11i/e, 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 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 with Power-over-Ethernet according to IEEE802.3at for type 1 and IEEE802.3af / typical 	6 W 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 	-20 ... +60 °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
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 top hat 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 iPCF-MC Access Point iPCF-MC 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' 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 	Yes Yes Yes

<ul style="list-style-type: none"> • TRAPs via email 	Yes
<ul style="list-style-type: none"> • configuration with STEP 7 	Yes
<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 • SIMATIC time synchronization (SIMATIC Time) 	<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 • 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>No</p> <p>No</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	
<p>security information</p>	<p>Siemens provides products and solutions with industrial security</p>

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