

Product type designation

SCALANCE W738-1 M12

IWLAN client, SCALANCE W738-1 M12, 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 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, English/German; M12 sealing caps, for operation outside of USA/Israel



Transmission rate

Transfer rate

- with WLAN / maximum 300 Mbit/s
- for Industrial Ethernet 10, 100 Mbit/s

Transfer rate / for Industrial Ethernet

- minimum 10 Mbit/s
- maximum 100 Mbit/s

Interfaces

Number of electrical connections

- for network components or terminal equipment 2
- for power supply 1
- for redundant voltage supply 1

Type of electrical connection

- for network components or terminal equipment M12 interface (4-pole, D-coded), PoE
- for power supply M12 interface (4-pole, A-coded)

design of the removable storage

- C-PLUG Yes

- 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 / 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
Supply voltage <ul style="list-style-type: none"> • from Power-over-Ethernet acc. 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 for type 1 and IEEE802.3af / typical 	0.25 A 0.125 A
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

Permitted 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 weight

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
Mounting type	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 	<p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p>

Wireless frequencies

Operating frequency	
<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</p> <p>4.9 ... 5.8 GHz</p>

Product properties, functions, components / general

Product function / Access Point Mode	No
Product function / Client Mode	Yes
Product function	
<ul style="list-style-type: none"> • iPCF client • iPCF-MC client 	<p>Yes; Only in combination with the 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'</p> <p>Yes; Only in combination with 'KEY-PLUG W780 iFeatures' or 'KEY-PLUG W740 iFeatures'</p>
Number of iPCF-capable radio modules	1
Product function / iREF	No
Product function / iPRP	Yes; In combination with the 'KEY-PLUG W780 iFeatures' only

Product functions / management, configuration

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 • WDS 	<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>
Protocol / is supported	
<ul style="list-style-type: none"> • Address Resolution Protocol (ARP) 	Yes

• ICMP	Yes
• Telnet	Yes
• HTTP	Yes
• HTTPS	Yes
• TFTP	Yes
• DCP	Yes
• LLDP	No
Identification & maintenance function	
• I&M0 - device-specific information	Yes
• I&M1 – higher-level designation/location designation	Yes

Product functions / Diagnosis

Product function	
• PROFINET IO diagnosis	Yes
• Link Check	No
• connection monitoring IP-Alive	No
• SysLog	Yes
Protocol / is supported	
• SNMP v1	Yes
• SNMP v2	Yes
• SNMP v3	Yes

Product functions / VLAN

Product function	
• function VLAN with IWLAN	No

Product functions / DHCP

Product function	
• DHCP client	Yes
• in Client Mode / DHCP server via LAN	Yes
• DHCP Option 82	Yes

Product functions / Redundancy

Protocol / is supported	
• STP/RSTP	Yes
• MSTP	Yes
• RSTP	Yes

Product functions / Security

Product function	
• ACL - MAC-based	Yes
• Management security, ACL-IP based	Yes
• IEEE 802.1x (radius)	Yes
• 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 	Yes

Standards, specifications, approvals

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
<ul style="list-style-type: none"> • 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"> • for safety / from CSA and UL 	UL 60950-1 CSA C22.2 No. 60950-1
<ul style="list-style-type: none"> • for hazardous zone / 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
Certificate of suitability	
<ul style="list-style-type: none"> • EC declaration of conformity 	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 	No
<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 IEEE802.3at for type 1 and IEEE802.3af 	No
<ul style="list-style-type: none"> • Power-over-Ethernet according to IEEE802.3at for type 2 	No
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
Marine classification association	No
<ul style="list-style-type: none"> • American Bureau of Shipping Europe Ltd. (ABS) 	No
<ul style="list-style-type: none"> • Bureau Veritas (BV) 	Yes
<ul style="list-style-type: none"> • DNV GL 	No
<ul style="list-style-type: none"> • Lloyds Register of Shipping (LRS) 	No
<ul style="list-style-type: none"> • Nippon Kaiji Kyokai (NK) 	No
<ul style="list-style-type: none"> • Polski Rejestr Statkow (PRS) 	No
<ul style="list-style-type: none"> • Royal Institution of Naval Architects (RINA) 	No

Further Information / Internet Links

Internet-Link	
<ul style="list-style-type: none"> • to website: TIA Selection Tool 	http://www.siemens.com/tia-selection-tool
<ul style="list-style-type: none"> • to the website: IWLAN 	http://www.siemens.com/iwlan
<ul style="list-style-type: none"> • to website: Industry Mall 	https://mall.industry.siemens.com
<ul style="list-style-type: none"> • to website: Information and Download Center 	http://www.siemens.com/industry/infocenter
<ul style="list-style-type: none"> • to website: Image database 	http://automation.siemens.com/bilddb
<ul style="list-style-type: none"> • to website: CAx Download Manager 	http://www.siemens.com/cax
<ul style="list-style-type: none"> • to website: Industry Online Support 	https://support.industry.siemens.com

Security information

Security information	<p>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 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)</p>
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