

### product type designation



### M816-1 ADSL2+ (Annex A)

SCALANCE M816-1 ADSL router; for wire-bound IP communication from Ethernet-based automation devices via Internet service provider; VPN, Firewall, NAT; 4-port switch; 1x digital input, 1x digital output; ADSL2+, Annex A .

transfer rate	
transfer rate	10 Mbit/s, 100 Mbit/s
transfer rate	
• for ADSL2+ transmission / with downlink / maximum	25 Mbit/s
• for ADSL2+ transmission / with uplink / maximum	1.4 Mbit/s
interfaces	
number of electrical connections	
• for internal network	4
• for external network	1
number of electrical connections	
• for power supply	2
type of electrical connection	
• for internal network	RJ45 port (10/100 Mbit/s, TP, autocrossover)
• for external network	RJ45 DSL Port
• for power supply	Terminal strip
WAN connection	
type of WAN connection / is supported	ADSL, ADSL2, ADSL2+
operating mode for ADSL2/ADSL2+ / is supported	Annex A
supply voltage, current consumption, power loss	
supply voltage / rated value	24 V
supply voltage / rated value	10.8 ... 28.8
type of voltage / of the supply voltage	DC
consumed current	
• at DC / at 24 V / typical	0.33 A
power loss [W]	
• maximum	8 W
ambient conditions	
ambient temperature	
• during operation	0 ... 60 °C
• during storage	-40 ... +70 °C
relative humidity / at 25 °C / during operation / maximum	95 %
protection class IP	IP20
design, dimensions and weights	
design	compact
depth	127 mm
height	147 mm
width	35 mm
net weight	400 g
fastening method	

<ul style="list-style-type: none"> <li>• 35 mm top hat DIN rail mounting</li> <li>• S7-300 rail mounting</li> <li>• S7-1500 rail mounting</li> <li>• wall mounting</li> </ul>	Yes Yes Yes Yes
<b>product features, product functions, product components / general</b>	
product function	
<ul style="list-style-type: none"> <li>• DynDNS client</li> <li>• no-ip.com client</li> </ul>	Yes Yes
<b>product functions / management, configuration, engineering</b>	
product function	
<ul style="list-style-type: none"> <li>• CLI</li> <li>• web-based management</li> <li>• MIB support</li> <li>• TRAPs via email</li> </ul>	Yes Yes Yes Yes
protocol / is supported	
<ul style="list-style-type: none"> <li>• Telnet</li> <li>• HTTP</li> <li>• HTTPS</li> </ul>	Yes Yes Yes
type of configuration	Web-based management
<b>product functions / diagnostics</b>	
protocol / is supported	
<ul style="list-style-type: none"> <li>• SNMP v1</li> <li>• SNMP v2</li> <li>• SNMP v2c</li> <li>• SNMP v3</li> </ul>	Yes Yes Yes Yes
product function	
<ul style="list-style-type: none"> <li>• statistics Packet Size</li> <li>• statistics packet type</li> <li>• error statistics</li> <li>• SysLog</li> <li>• packet filter log</li> </ul>	No No No Yes Yes
<b>product functions / DHCP</b>	
product function	
<ul style="list-style-type: none"> <li>• DHCP client</li> <li>• DHCP server - internal network</li> </ul>	Yes Yes
<b>product functions / routing</b>	
router function	
<ul style="list-style-type: none"> <li>• NAT (IP masquerading)</li> <li>• port forwarding</li> <li>• NAT traversal</li> <li>• 1:1 NAT</li> <li>• DNS cache</li> </ul>	Yes Yes Yes Yes Yes
<b>product functions / security</b>	
suitability for operation / Virtual Private Network	Yes
firewall version	Statefull Inspection
product function	
<ul style="list-style-type: none"> <li>• password protection</li> <li>• packet filter</li> <li>• broadcast/multicast/unicast limiter</li> </ul>	Yes Yes No
product function	
<ul style="list-style-type: none"> <li>• broadcast blocking</li> <li>• with VPN connection</li> </ul>	No IPsec, OpenVPN (as Client)
number of possible connections / with VPN connection	20
type of authentication / with Virtual Private Network / PSK	Yes
protocol / is supported	
<ul style="list-style-type: none"> <li>• IPsec tunnel and transport mode</li> </ul>	Yes
key length	
<ul style="list-style-type: none"> <li>• 1 / with IPsec AES / with Virtual Private Network</li> <li>• 2 / with IPsec AES / with Virtual Private Network</li> <li>• 3 / with IPsec AES / with Virtual Private Network</li> </ul>	128 bit 192 bit 256 bit

<ul style="list-style-type: none"> <li>• with IPsec 3DES / with Virtual Private Network</li> </ul>	168 bit
type of Internet key exchange / with Virtual Private Network	
<ul style="list-style-type: none"> <li>• main mode</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• quick mode</li> </ul>	Yes
type of packet authentication / with Virtual Private Network	MD5, SHA-1, SHA-256, SHA-384, SHA-512
IETF profile / with Virtual Private Network / X.509v3 certificate	Yes
<b>product functions / time</b>	
protocol / is supported	
<ul style="list-style-type: none"> <li>• NTP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SNTP</li> </ul>	Yes
<b>standards, specifications, approvals</b>	
standard	
<ul style="list-style-type: none"> <li>• for EMC</li> </ul>	EN 55022, EN 55024
<ul style="list-style-type: none"> <li>• for FM</li> </ul>	FM16US0205X, 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 hazardous zone</li> </ul>	EN 60079-15:2010, EN 60079-0:2009, II 3 G Ex nA IIC T4 Gc, KEMA 07ATEX0145 X
<ul style="list-style-type: none"> <li>• for hazardous zone / 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 E240480
<ul style="list-style-type: none"> <li>• for emitted interference</li> </ul>	EN 55022 Class A
<ul style="list-style-type: none"> <li>• for interference immunity</li> </ul>	EN 55024
certificate of suitability	
<ul style="list-style-type: none"> <li>• CE marking</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• CCC approval</li> </ul>	Yes; GB3836.1, GB3836.8, Ex nA IIC T4 Gc
<b>further information / internet links</b>	
internet link	
<ul style="list-style-type: none"> <li>• to website: Industrial communication</li> </ul>	<a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a>
<ul style="list-style-type: none"> <li>• to website: Industry Mall</li> </ul>	<a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a>
<ul style="list-style-type: none"> <li>• to website: Information and Download Center</li> </ul>	<a href="http://www.siemens.com/industry/infocenter">http://www.siemens.com/industry/infocenter</a>
<ul style="list-style-type: none"> <li>• to website: Selection guide for cables and connectors</li> </ul>	<a href="http://www.siemens.com/snst">http://www.siemens.com/snst</a>
<ul style="list-style-type: none"> <li>• to website: Image database</li> </ul>	<a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a>
<ul style="list-style-type: none"> <li>• to website: CAX-Download-Manager</li> </ul>	<a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a>
<ul style="list-style-type: none"> <li>• to website: Industry Online Support</li> </ul>	<a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>
<b>security information</b>	
security information	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 <a href="http://www.siemens.com/industrialsecurity">http://www.siemens.com/industrialsecurity</a> . To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit <a href="http://support.automation.siemens.com">http://support.automation.siemens.com</a> . (V3.4)

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