

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	
<ul style="list-style-type: none"> <li>• for ADSL2+ transmission / with downlink / maximum</li> </ul>	25 Mbit/s
<ul style="list-style-type: none"> <li>• for ADSL2+ transmission / with uplink / maximum</li> </ul>	1.4 Mbit/s
Interfaces	
Number of electrical connections	
<ul style="list-style-type: none"> <li>• for internal network</li> </ul>	4
<ul style="list-style-type: none"> <li>• for external network</li> </ul>	1
Number of electrical connections	
<ul style="list-style-type: none"> <li>• for power supply</li> </ul>	2
Type of electrical connection	
<ul style="list-style-type: none"> <li>• for internal network</li> </ul>	RJ45 port (10/100 Mbit/s, TP, autocrossover)
<ul style="list-style-type: none"> <li>• for external network</li> </ul>	RJ45 DSL Port
<ul style="list-style-type: none"> <li>• for power supply</li> </ul>	Terminal strip
Signal inputs/outputs	

Number of electrical connections	
<ul style="list-style-type: none"> <li>• for digital input signals</li> <li>• for digital output signals</li> </ul>	1 1
Type of electrical connection	
<ul style="list-style-type: none"> <li>• for digital input signals</li> <li>• for digital output signals</li> </ul>	Terminal block Terminal block

<b>WAN connection</b>	
Type of WAN connection / is supported	ADSL, ADSL2, ADSL2+
Operating mode for ADSL2/ADSL2+ / is supported	Annex A

<b>Supply voltage, current consumption, power loss</b>	
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 rated supply voltage / maximum	330 mA
Power loss [W]	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	8 W

<b>Ambient conditions</b>	
Ambient temperature	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul>	0 ... 60 °C -40 ... +70 °C
Relative humidity / at 25 °C / during operation / maximum	95 %
Protection class IP	IP20

<b>Design, dimensions and weights</b>	
Design	compact
Depth	127 mm
Height	147 mm
Width	35 mm
Net weight	400 g
Mounting type	
<ul style="list-style-type: none"> <li>• 35 mm 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

**Product functions / management, configuration, engineering**

Product function	
• CLI	Yes
• web-based management	Yes
• MIB support	Yes
• TRAPs via email	Yes
Protocol / is supported	
• Telnet	Yes
• HTTP	Yes
• HTTPS	Yes
Type of configuration	Web-based management

### Product functions / Diagnostics

Protocol / is supported	
• SNMP v1	Yes
• SNMP v2	Yes
• SNMP v2c	Yes
• SNMP v3	Yes
Product function	
• Statistics Packet Size	No
• Statistics packet type	No
• Error statistics	No
• SysLog	Yes
• Packet Filter Log	Yes

### Product functions / DHCP

Product function	
• DHCP client	Yes
• DHCP server - internal network	Yes

### Product functions / Routing

Router function	
• NAT (IP masquerading)	Yes
• Port forwarding	Yes
• NAT traversal	Yes
• 1:1 NAT	Yes
• DNS cache	Yes

### Product functions / Security

Suitability for operation / Virtual Private Network	Yes
Firewall version	Statefull Inspection
Product function	
• Password protection	Yes
• packet filter	Yes
• Broadcast/Multicast/Unicast Limiter	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> </ul>	128 bit
<ul style="list-style-type: none"> <li>• 2 / with IPsec AES / with Virtual Private Network</li> </ul>	192 bit
<ul style="list-style-type: none"> <li>• 3 / with IPsec AES / with Virtual Private Network</li> </ul>	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

#### Product functions / time

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

#### Standards, specifications, approvals

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>	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 safety / from CSA and UL</li> </ul>	UL E115352 Vol. X2
<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
<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

## Further information / Internet-Links

### Internet-Link

- to website: Selector for cables and connectors <http://www.siemens.com/snst>
- to website: Selector SIMATIC NET SELECTION TOOL <http://www.siemens.com/snst>
- to website: Industrial communication <http://www.siemens.com/simatic-net>
- to website: Industry Mall <https://mall.industry.siemens.com>
- to website: Information and Download Center <http://www.siemens.com/industry/infocenter>
- to website: Image database <http://automation.siemens.com/bilddb>
- to website: CAx Download Manager <http://www.siemens.com/cax>
- to website: Industry Online Support <https://support.industry.siemens.com>

## Security information

### 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 <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)

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