

### Product type designation

### CM 1542-1

Communication module CM 1542-1 for connection of S7-1500 to PROFINET as IO controller: TCP/IP, ISO-on-TCP, UDP, S7 communication, IP broadcast Multicast, SNMPV1, time-of-day synchronization via NTP, 2xRJ45 (10/100 Mbit)



### Transmission rate

#### Transfer rate

- at the 1st interface

10 ... 100 Mbit/s

### Interfaces

Number of interfaces / acc. to Industrial Ethernet

1

Number of electrical connections

- at the 1st interface / acc. to Industrial Ethernet

2

Type of electrical connection

- at the 1st interface / acc. to Industrial Ethernet

RJ45 port

### Supply voltage, current consumption, power loss

Type of voltage / of the supply voltage

DC

Supply voltage / 1 / from backplane bus

15 V

Relative symmetrical tolerance / at DC

- at 15 V

3 %

Consumed current

- from backplane bus / at DC / at 15 V / typical

0.22 A

Power loss [W]

3.3 W

## Ambient conditions

Ambient temperature	
• for vertical installation / during operation	0 ... 40 °C
• for horizontally arranged busbars / during operation	0 ... 60 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Relative humidity	
• at 25 °C / without condensation / during operation / maximum	95 %
Protection class IP	IP20

## Design, dimensions and weight

Module format	Compact module S7-1500 single width
Width	35 mm
Height	142 mm
Depth	129 mm
Net weight	0.4 kg
Mounting type	
• S7-1500 rail mounting	Yes

## Product properties, functions, components / general

Number of units	
• per CPU / maximum	8
• Note	depending on CPU type

## Performance data / open communication

Number of possible connections / for open communication	
• by means of T blocks / maximum	64; depending on the system upper limit
Amount of data	
• as user data per ISO on TCP connection / for open communication / by means of T blocks / maximum	65536 byte
Number of Multicast stations	6

## Performance data / S7 communication

Number of possible connections / for S7 communication	
• maximum	64
• Note	depending on the system upper limit

## Performance data / multi-protocol mode

Number of active connections / with multi-protocol mode	64
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## Performance data / PROFINET communication / as PN IO-Controller

Product function / PROFINET IO controller	Yes
Number of PN IO devices / on PROFINET IO controller / usable / total	128
Number of PN IO IRT devices / on PROFINET IO controller / usable	64
Number of external PN IO lines / with PROFINET / per rack	10
Amount of data	
<ul style="list-style-type: none"> <li>• as user data for input variables / as PROFINET IO controller / maximum</li> </ul>	8 Kibyte
<ul style="list-style-type: none"> <li>• as user data for input variables / as PROFINET IO controller / maximum</li> </ul>	8 Kibyte
<ul style="list-style-type: none"> <li>• as user data for input variables per PN IO device / as PROFINET IO controller / maximum</li> </ul>	1433 byte
<ul style="list-style-type: none"> <li>• as user data for output variables per PN IO device / as PROFINET IO controller / maximum</li> </ul>	1433 byte
<ul style="list-style-type: none"> <li>• as user data for input variables per PN IO device / for each sub-module as PROFINET IO controller / maximum</li> </ul>	256 byte
<ul style="list-style-type: none"> <li>• as user data for output variables per PN IO device / for each sub-module as PROFINET IO controller / maximum</li> </ul>	256 byte

#### Performance data / PROFINET communication / as PN IO-Device

Product function / PROFINET IO device	Yes
Amount of data	
<ul style="list-style-type: none"> <li>• as user data for input variables / as PROFINET IO device / maximum</li> </ul>	8192 byte
<ul style="list-style-type: none"> <li>• as user data for input variables / as PROFINET IO device / maximum</li> </ul>	8192 byte
<ul style="list-style-type: none"> <li>• as user data for input variables / for each sub-module as PROFINET IO device</li> </ul>	256 byte
<ul style="list-style-type: none"> <li>• as user data for input variables / for each sub-module as PROFINET IO device</li> </ul>	256 byte
<ul style="list-style-type: none"> <li>• as user data for the consistency area for each sub-module</li> </ul>	256 byte
Number of submodules / per PROFINET IO-Device	32

#### Performance data / telecontrol

Protocol / is supported	
<ul style="list-style-type: none"> <li>• TCP/IP</li> </ul>	Yes

#### Product functions / management, configuration

Product function / MIB support	Yes
Protocol / is supported	
<ul style="list-style-type: none"> <li>• SNMP v1</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• DCP</li> </ul>	Yes

<ul style="list-style-type: none"> <li>• LLDP</li> </ul>	Yes
Configuration software	
<ul style="list-style-type: none"> <li>• required</li> </ul>	STEP 7 Professional V14 (TIA Portal) or higher
Identification & maintenance function	
<ul style="list-style-type: none"> <li>• I&amp;M0 - device-specific information</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• I&amp;M1 – higher-level designation/location designation</li> </ul>	Yes

### Product functions / Diagnosis

Product function / Web-based diagnostics	Yes; yes, via S7-1500 CPU
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### Product functions / switch

Product feature / Switch	Yes
Product function	
<ul style="list-style-type: none"> <li>• switch-managed</li> </ul>	No
<ul style="list-style-type: none"> <li>• with IRT / PROFINET IO switch</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Configuration with STEP 7</li> </ul>	Yes

### Product functions / Routing

Service / Routing / Note	IP routing up to 1 Mbps
Product function	
<ul style="list-style-type: none"> <li>• Static IP routing</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Static IP routing IPv6</li> </ul>	No
<ul style="list-style-type: none"> <li>• dynamic IP routing</li> </ul>	No
<ul style="list-style-type: none"> <li>• dynamic IP routing IPv6</li> </ul>	No
Protocol / is supported	
<ul style="list-style-type: none"> <li>• RIP v1</li> </ul>	No
<ul style="list-style-type: none"> <li>• RIPv2</li> </ul>	No
<ul style="list-style-type: none"> <li>• RIPnG for IPv6</li> </ul>	No
<ul style="list-style-type: none"> <li>• OSPFv2</li> </ul>	No
<ul style="list-style-type: none"> <li>• OSPFv3 for IPv6</li> </ul>	No
<ul style="list-style-type: none"> <li>• VRRP</li> </ul>	No
<ul style="list-style-type: none"> <li>• VRRP for IPv6</li> </ul>	No
<ul style="list-style-type: none"> <li>• BGP</li> </ul>	No
<ul style="list-style-type: none"> <li>• PPP</li> </ul>	No
<ul style="list-style-type: none"> <li>• PPoE via DSL</li> </ul>	No

### Product functions / Redundancy

Product function	
<ul style="list-style-type: none"> <li>• Ring redundancy</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Redundancy manager</li> </ul>	Yes
Protocol / is supported / Media Redundancy Protocol (MRP)	Yes

### Product functions / Security

Product function	
<ul style="list-style-type: none"> <li>• switch-off of non-required services</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Blocking of communication via physical ports</li> </ul>	No
<ul style="list-style-type: none"> <li>• log file for unauthorized access</li> </ul>	No

### Product functions / Time

Product function / SICLOCK support	Yes
Product function / pass on time synchronization	Yes
Protocol / is supported	
<ul style="list-style-type: none"> <li>• NTP</li> </ul>	Yes

### Further Information / Internet Links

Internet-Link	
<ul style="list-style-type: none"> <li>• to website: Selector SIMATIC NET SELECTION TOOL</li> </ul>	<a href="http://www.siemens.com/snst">http://www.siemens.com/snst</a>
<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: 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>

### 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 <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)</p>
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