

### product type designation



### CM 1542-1

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

transfer rate	
transfer rate	
• at the 1st interface	100 Mbit/s
interfaces	
number of interfaces / according to Industrial Ethernet	1
number of electrical connections	
• at the 1st interface / according to Industrial Ethernet	2
type of electrical connection	
• at the 1st interface / according 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	-30 ... +40 °C
• for horizontally arranged busbars / during operation	-30 ... +60 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
• note	without condensation or icing
installation altitude / at height above sea level / maximum	5000 m
ambient condition / relating to ambient temperature - air pressure - installation altitude	restrictions for installation altitudes > 2 000 m, see manual
relative humidity	
• at 25 °C / without condensation / during operation / maximum	95 %
protection class IP	IP20
design, dimensions and weights	
module format	Compact module S7-1500 single width
width	35 mm
height	142 mm
depth	129 mm
net weight	0.4 kg
fastening method	
• S7-1500 rail mounting	Yes

**product features, product functions, product 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
data volume	
• 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; 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 / operable / total	128
number of PN IO IRT devices / on PROFINET IO controller / operable	64
number of external PN IO lines / with PROFINET / per rack	10
data volume	
• as user data for input variables / as PROFINET IO controller / maximum	8 Kibyte
• as user data for output variables / as PROFINET IO controller / maximum	8 Kibyte
• as user data for input variables per PN IO device / as PROFINET IO controller / maximum	1433 byte
• as user data for output variables per PN IO device / as PROFINET IO controller / maximum	1433 byte
• as user data for input variables per PN IO device / for each sub-module as PROFINET IO controller / maximum	256 byte
• as user data for output variables per PN IO device / for each sub-module as PROFINET IO controller / maximum	256 byte

**performance data / PROFINET communication / as PN IO device**

product function / PROFINET IO device	Yes
data volume	
• as user data for input variables / as PROFINET IO device / maximum	8192 byte
• as user data for output variables / as PROFINET IO device / maximum	8192 byte
• as user data for input variables / for each sub-module as PROFINET IO device	256 byte
• as user data for output variables / for each sub-module as PROFINET IO device	256 byte
• as user data for the consistency area for each sub-module	256 byte
number of submodules / per PROFINET IO-Device	32

**performance data / telecontrol**

protocol / is supported	
• TCP/IP	Yes

**product functions / management, configuration, engineering**

product function / MIB support	Yes
protocol / is supported	
• SNMP v1	Yes
• DCP	Yes
• LLDP	Yes
configuration software	
• required	STEP 7 Professional V18 (TIA Portal) or higher
identification & maintenance function	
• I&M0 - device-specific information	Yes
• I&M1 - higher level designation/location designation	Yes

product function / is supported / identification link	Yes; acc. to IEC 61406-1:2022
<b>product functions / diagnostics</b>	
product function / web-based diagnostics	Yes; via S7-1500 CPU
<b>product functions / switch</b>	
product feature / switch	Yes
product function	
• switch-managed	No
• with IRT / PROFINET IO switch	Yes
• configuration with STEP 7	Yes
<b>product functions / routing</b>	
service / routing / note	IP routing up to 1 Mbps
product function	
• static IP routing	Yes
• static IP routing IPv6	No
• dynamic IP routing	No
• dynamic IP routing IPv6	No
protocol / is supported	
• RIP v1	No
• RIPv2	No
• RIPnG for IPv6	No
• OSPFv2	No
• OSPFv3 for IPv6	No
• VRRP	No
• VRRP for IPv6	No
• BGP	No
• PPP	No
• PPoE via DSL	No
<b>product functions / redundancy</b>	
product function	
• ring redundancy	Yes
• redundancy manager	Yes
protocol / is supported / Media Redundancy Protocol (MRP)	Yes
<b>product functions / security</b>	
product function	
• switch-off of non-required services	Yes
• blocking of communication via physical ports	No
• log file for unauthorized access	No
<b>product functions / time</b>	
product function / SICLOCK support	Yes
product function / pass on time synchronization	Yes
protocol / is supported	
• NTP	Yes
<b>standards, specifications, approvals</b>	
reference code	
• according to IEC 81346-2:2019	KEC
certificate of suitability / CE marking	Yes
certificate of suitability / UKCA marking	Yes
certificate of suitability / cULus approval	Yes
certificate of suitability / KC approval	Yes
certificate of suitability / Regulatory Compliance Mark (RCM)	Yes
certificate of suitability / RoHS conformity	Yes
certificate of suitability / EAC approval	Yes
<b>standards, specifications, approvals / hazardous environments / header</b>	
certificate of suitability / ATEX	Yes
certificate of suitability / IECEx	Yes
certificate of suitability / ULhazloc approval	Yes
certificate of suitability / CCC / for hazardous zone according to GB standard	Yes
certificate of suitability / FM registration	Yes
<b>standards, specifications, approvals / Environmental Product Declaration</b>	

Environmental Product Declaration	Yes
global warming potential [CO2 eq]	
• total	124.91 kg
• during manufacturing	21.24 kg
• during operation	103.32 kg
• after end of life	0.35 kg

#### further information / internet links

internet link	
• to website: Selection guide for cables and connectors	<a href="https://support.industry.siemens.com/cs/ww/en/view/109766358">https://support.industry.siemens.com/cs/ww/en/view/109766358</a>
• to web page: selection aid TIA Selection Tool	<a href="https://www.siemens.com/tstcloud">https://www.siemens.com/tstcloud</a>
• to website: Industrial communication	<a href="https://www.siemens.com/simatic-net">https://www.siemens.com/simatic-net</a>
• to web page: SiePortal	<a href="https://sieportal.siemens.com/">https://sieportal.siemens.com/</a>
• to website: Image database	<a href="https://www.automation.siemens.com/bilddb">https://www.automation.siemens.com/bilddb</a>
• to website: CAX-Download-Manager	<a href="https://siemens.com/cax">https://siemens.com/cax</a>
• to website: Industry Online Support	<a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>

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#### Approvals / Certificates

General Product Approval	For use in hazardous locations	Environment
  	 	

#### Industrial Communication

[PROFINET](#)

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