

### 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  |   |
| <ul style="list-style-type: none"> <li>at the 1st interface</li> </ul>   | 100 Mbit/s  |
| interfaces   |   |
| number of interfaces / according to Industrial Ethernet  | 1   |
| number of electrical connections   |   |
| <ul style="list-style-type: none"> <li>at the 1st interface / according to Industrial Ethernet</li> </ul>  | 2   |
| type of electrical connection  |   |
| <ul style="list-style-type: none"> <li>at the 1st interface / according to Industrial Ethernet</li> </ul>  | 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   |   |
| <ul style="list-style-type: none"> <li>at 15 V</li> </ul>  | 3 %   |
| consumed current   |   |
| <ul style="list-style-type: none"> <li>from backplane bus / at DC / at 15 V / typical</li> </ul>   | 0.22 A  |
| power loss [W]   | 3.3 W   |
| ambient conditions   |   |
| ambient temperature  |   |
| <ul style="list-style-type: none"> <li>for vertical installation / during operation</li> <li>for horizontally arranged busbars / during operation</li> <li>during storage</li> <li>during transport</li> <li>note</li> </ul> | -30 ... +40 °C<br>-30 ... +60 °C<br>-40 ... +70 °C<br>-40 ... +70 °C<br>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  |   |
| <ul style="list-style-type: none"> <li>at 25 °C / without condensation / during operation / maximum</li> </ul>   | 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   |   |
| <ul style="list-style-type: none"> <li>S7-1500 rail mounting</li> </ul>  | Yes   |

| product features, product functions, product components / general   |  |
|---|--|
| number of units   | 8  |
| <ul style="list-style-type: none"> <li>per CPU / maximum</li> <li>note</li> </ul>   | depending on CPU type  |
| performance data / open communication   |  |
| number of possible connections / for open communication   | 64; depending on the system upper limit                                |
| <ul style="list-style-type: none"> <li>by means of T blocks / maximum</li> </ul>  |  |
| data volume   | 65536 byte   |
| <ul style="list-style-type: none"> <li>as user data per ISO on TCP connection / for open communication / by means of T blocks / maximum</li> </ul>  |  |
| number of Multicast stations  | 6  |
| performance data / S7 communication   |  |
| number of possible connections / for S7 communication   | 64; depending on the system upper limit                                |
| <ul style="list-style-type: none"> <li>maximum</li> </ul>   |  |
| performance data / multi-protocol mode  |  |
| number of active connections / with multi-protocol mode   | 64   |
| 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   |  |
| <ul style="list-style-type: none"> <li>as user data for input variables / as PROFINET IO controller / maximum</li> <li>as user data for output variables / as PROFINET IO controller / maximum</li> <li>as user data for input variables per PN IO device / as PROFINET IO controller / maximum</li> <li>as user data for output variables per PN IO device / as PROFINET IO controller / maximum</li> <li>as user data for input variables per PN IO device / for each sub-module as PROFINET IO controller / maximum</li> <li>as user data for output variables per PN IO device / for each sub-module as PROFINET IO controller / maximum</li> </ul> | 8 Kibyte<br>8 Kibyte<br>1433 byte<br>1433 byte<br>256 byte<br>256 byte |
| performance data / PROFINET communication / as PN IO device   |  |
| product function / PROFINET IO device   | Yes  |
| data volume   |  |
| <ul style="list-style-type: none"> <li>as user data for input variables / as PROFINET IO device / maximum</li> <li>as user data for output variables / as PROFINET IO device / maximum</li> <li>as user data for input variables / for each sub-module as PROFINET IO device</li> <li>as user data for output variables / for each sub-module as PROFINET IO device</li> <li>as user data for the consistency area for each sub-module</li> </ul>   | 8192 byte<br>8192 byte<br>256 byte<br>256 byte<br>256 byte             |
| number of submodules / per PROFINET IO-Device   | 32   |
| performance data / telecontrol  |  |
| protocol / is supported   | Yes  |
| <ul style="list-style-type: none"> <li>TCP/IP</li> </ul>  |  |
| product functions / management, configuration, engineering  |  |
| product function / MIB support  | Yes  |
| protocol / is supported   |  |
| <ul style="list-style-type: none"> <li>SNMP v1</li> <li>DCP</li> <li>LLDP</li> </ul>  | Yes<br>Yes<br>Yes  |
| configuration software  | STEP 7 Professional V18 (TIA Portal) or higher                         |
| <ul style="list-style-type: none"> <li>required</li> </ul>  |  |
| identification & maintenance function   |  |
| <ul style="list-style-type: none"> <li>I&amp;M0 - device-specific information</li> <li>I&amp;M1 - higher level designation/location designation</li> </ul>  | Yes<br>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   |
| <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   |
| <b>further information / internet links</b>                                     |   |
| 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>   |

**security information**

security information

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**Approvals / Certificates**

General Product Approval

For use in hazardous locations

Environment



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**Industrial Communication**

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