

### product type designation



### PLUS SINAUT ST7, TIM 4R-IE

SIPLUS NET TIM 4R-IE based on 6NH7800-4BA00 with conformal coating, -25...+70 °C, communications module for SIMATIC S7-300, S7-400, C7, PC with two RS-232/RS-485 interfaces for SINAUT Communications via classic WANs and two RJ45 interfaces for SINAUT communication via IP-based networks (WAN or LAN)

transfer rate	
transfer rate	
<ul style="list-style-type: none"> <li>for Industrial Ethernet</li> </ul>	10 ... 100 Mbit/s
<ul style="list-style-type: none"> <li>according to RS 232</li> </ul>	50 ... 38400 bit/s
interfaces	
number of interfaces / according to Industrial Ethernet	2
number of electrical connections	
<ul style="list-style-type: none"> <li>for external data transmission / according to RS 232</li> </ul>	2
<ul style="list-style-type: none"> <li>for power supply</li> </ul>	1
type of electrical connection	
<ul style="list-style-type: none"> <li>of Industrial Ethernet interface</li> </ul>	RJ45 port
type of electrical connection	
<ul style="list-style-type: none"> <li>at interface 1 / for external data transmission</li> </ul>	9 pin Sub-D-connector, RS232 switchable to RS485
<ul style="list-style-type: none"> <li>at interface 2 / for external data transmission</li> </ul>	9-pole D-sub connector, RS232 can be switched to RS485
<ul style="list-style-type: none"> <li>for power supply</li> </ul>	2-pole plugable terminal block
design of the removable storage	
<ul style="list-style-type: none"> <li>C-PLUG</li> </ul>	Yes
supply voltage, current consumption, power loss	
type of voltage / of the supply voltage	DC
supply voltage	24 V
supply voltage	20.4 ... 28.8 V
supply voltage / external / at DC / rated value	24 V
supply voltage / external / at DC / rated value	20.4 ... 28.8 V
consumed current	
<ul style="list-style-type: none"> <li>from backplane bus / at DC / at 24 V / maximum</li> </ul>	0.2 A
<ul style="list-style-type: none"> <li>from external supply voltage / at DC / at 24 V / maximum</li> </ul>	0.17 A
power loss [W]	4.6 W
product extension / optional / backup battery	Yes
type of battery	Lithium AA / 3.6 V / 2.3 Ah
backup current	
<ul style="list-style-type: none"> <li>typical</li> </ul>	100 µA
<ul style="list-style-type: none"> <li>maximum</li> </ul>	160 µA
ambient conditions	
ambient temperature	
<ul style="list-style-type: none"> <li>during operation</li> </ul>	-25 ... +70 °C
<ul style="list-style-type: none"> <li>during storage</li> </ul>	-40 ... +70 °C
<ul style="list-style-type: none"> <li>during transport</li> </ul>	-40 ... +70 °C
installation altitude / at height above sea level / maximum	5000 m
ambient condition / relating to ambient temperature - air	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin

pressure - installation altitude	... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax - 20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
relative humidity <ul style="list-style-type: none"> <li>with condensation / according to IEC 60068-2-38 / maximum</li> </ul>	100 %; RH including condensation/frost (no commissioning when condensation is present), horizontal installation Yes; incl. airborne diesel and oil droplets
chemical resistance / to commercially available cooling lubricants	
resistance to biologically active substances <ul style="list-style-type: none"> <li>conformity according to EN 60721-3-3</li> <li>conformity according to EN 60721-3-6</li> </ul>	Yes; Class 3B2 mold and fungal spores (excluding fauna), Class 3B3 on request Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
resistance to chemically active substances <ul style="list-style-type: none"> <li>conformity according to EN 60721-3-3</li> <li>conformity according to EN 60721-3-6</li> </ul>	Yes; Class 3C4 (RH < 75 %) incl. salt spray in accordance with EN 60068-2-52 (Severity 3). The supplied plug covers must remain in place on the unused interfaces during operation. Yes
resistance to mechanically active substances <ul style="list-style-type: none"> <li>conformity according to EN 60721-3-3</li> <li>conformity according to EN 60721-3-6</li> </ul>	Yes; Class 3S4 incl. sand, dust. The supplied plug covers must remain in place over the unused interfaces during operation. Yes; Class 6S3 incl. sand, dust. The supplied plug covers must remain in place over the unused interfaces during operation. Yes; Class 2 for high availability
coating / for equipped printed circuit board / according to EN 61086	
type of coating / protection against pollution according to EN 60664-3	Yes; Protection of the type 1
type of test / of the coating / according to MIL-I-46058C	Yes; Coating discoloration during service life possible
product conformity / of the coating / Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, class A
protection class IP	IP20
<b>design, dimensions and weights</b>	
module format	Compact module S7-300 double width
width	80 mm
height	125 mm
depth	120 mm
net weight	0.4 kg
<b>product features, product functions, product components / general</b>	
wire length <ul style="list-style-type: none"> <li>with RS 232 interface / maximum</li> <li>with RS 485 interface / maximum</li> </ul>	6 m 30 m
<b>performance data / S7 communication</b>	
number of possible connections / for S7 communication <ul style="list-style-type: none"> <li>maximum</li> <li>with PG connections / maximum</li> <li>with OP connections / maximum</li> </ul>	64 2 62
service <ul style="list-style-type: none"> <li>SINAUT ST7 via S7 communication</li> <li>PG/OP communication</li> </ul>	Yes Yes
<b>performance data / multi-protocol mode</b>	
number of active connections / with multi-protocol mode	128
<b>performance data / telecontrol</b>	
suitability for use <ul style="list-style-type: none"> <li>node station</li> <li>substation</li> <li>TIM control center</li> </ul>	Yes Yes Yes
protocol / is supported <ul style="list-style-type: none"> <li>SINAUT ST1 protocol</li> <li>SINAUT ST7 protocol</li> </ul>	Yes Yes
storage capacity <ul style="list-style-type: none"> <li>note</li> </ul>	TD7onCPU: at least 20 KB, actual requirement determined by data volume and functional scope TD7onTIM: 0 bytes in most favorable case
product feature / buffered message frame memory	Yes
transmission format <ul style="list-style-type: none"> <li>for SINAUT ST1 protocol with polling / 11 bit</li> <li>for SINAUT ST1 protocol with spontaneous / 10-bit</li> </ul>	Yes Yes

or 11-bit	Yes
<ul style="list-style-type: none"> <li>• for SINAUT ST7 protocol with multi-master polling / 10-bit</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• for SINAUT ST7 protocol with polling or spontaneous / 10-bit or 11-bit</li> </ul>	
operating mode for scanning of data transmission	
<ul style="list-style-type: none"> <li>• with dedicated line/radio link / with SINAUT ST1 protocol</li> </ul>	Polling, polling with time slot procedure
<ul style="list-style-type: none"> <li>• with dedicated line/radio link / with SINAUT ST7 protocol</li> </ul>	Polling, polling with time slot procedure, multi-master polling with time slot procedure
<ul style="list-style-type: none"> <li>• with dial-up network / with SINAUT ST1 protocol</li> </ul>	spontaneous
<ul style="list-style-type: none"> <li>• with dial-up network / with SINAUT ST7 protocol</li> </ul>	spontaneous
hamming distance	
<ul style="list-style-type: none"> <li>• for SINAUT ST1 protocol</li> </ul>	4
<ul style="list-style-type: none"> <li>• for SINAUT ST7 protocol</li> </ul>	4

#### product functions / management, configuration, engineering

configuration software	SINAUT ST7 ES
<ul style="list-style-type: none"> <li>• required</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• for CPU configuring / required / SINAUT TD7 block library for CPU</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• for PG configuring / required / SINAUT ST7 configuration software for PG</li> </ul>	Yes
storage location / of TIM configuration data	on internal TIM flash memory, or on TIM in optional C-PLUG, or on MMC of the S7-300 CPU if TIM installed in S7-300 controller

#### product functions / security

operating mode / Virtual Private Network (VPN)	Yes
type of authentication / with Virtual Private Network / PSK protocol	Yes
<ul style="list-style-type: none"> <li>• with Virtual Private Network MSC / is supported</li> </ul>	TCP/IP

#### product functions / time

product component / hardware real time clock	Yes
product feature / hardware real time clock w. battery backup	Yes
accuracy / of the hardware real time clock / per day / maximum	4 s

#### further information / internet-Links

Internet-Link	
<ul style="list-style-type: none"> <li>• to web page: selection aid TIA Selection Tool</li> <li>• to website: Industrial communication</li> <li>• to website: Industry Mall</li> <li>• to website: Information and Download Center</li> <li>• to website: Image database</li> <li>• to website: CAx-Download-Manager</li> <li>• to website: Industry Online Support</li> </ul>	<a href="http://www.siemens.com/snst">http://www.siemens.com/snst</a> <a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a> <a href="http://www.siemens.com/industrial-controls/mall">http://www.siemens.com/industrial-controls/mall</a> <a href="http://www.siemens.com/automation/net/catalog">http://www.siemens.com/automation/net/catalog</a> <a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a> <a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a> <a href="http://support.automation.siemens.com">http://support.automation.siemens.com</a>

#### 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. Siemens products and solutions undergo continuous development with this factor in mind. 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 protective measures (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. You can find more information on Industrial Security at <a href="http://www.siemens.com/industrialsecurity">http://www.siemens.com/industrialsecurity</a> . In order to keep yourself informed about product updates, we recommend subscribing to our product-specific newsletter. You can find more information on this at <a href="http://support.automation.siemens.com">http://support.automation.siemens.com</a> . Version 3.4 ♦ 14.11.2013- Siemens AG, I IA L CG, Nuremberg
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