SIEMENS

Data sheet 6NH7800-4BA00

product type designation	**TIM 4R-IE**



Figure similar

- - spare part - - SINAUT ST7, TIM 4R-IE communications module for SIMATIC S7-300, S7-400, PC; with two RS232/RS485 interfaces for SINAUT communication via standard WANs and two RJ45 interfaces for SINAUT communication via IP-based networks (WAN or LAN).

product brand name	SINAUT ST7
Technical Product Detail Page	https://i.siemens.com/1P6NH7800-4BA00
transfer rate	
transfer rate	
● for Industrial Ethernet	10 ... 100 Mbit/s
● according to RS 232	50 ... 38400 bit/s
interfaces	
number of interfaces / according to Industrial Ethernet	2
number of electrical connections	
● for external data transmission / according to RS 232	2
● for power supply	1
type of electrical connection	
● of Industrial Ethernet interface	RJ45 port
type of electrical connection	
● at interface 1 / for external data transmission	9 pin Sub-D-connector, RS232 switchable to RS485
● at interface 2 / for external data transmission	9-pole D-sub connector, RS232 can be switched to RS485
● for power supply	2-pole plugable terminal block
design of the removable storage	
● C-PLUG	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	
● from backplane bus / at DC / at 24 V / maximum	0.2 A
● from external supply voltage / at DC / at 24 V / maximum	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	
● typical	100 µA
● maximum	160 µA
ambient conditions	
ambient temperature	
● during operation	0 ... 60 °C

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● 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 weights	
module format	Compact module S7-300 double width
width	80 mm
height	125 mm
depth	120 mm
net weight	0.4 kg
product features, product functions, product components / general	
number of units	
● note	Number of TIM 4R-IE per S7-300/S7-400: multiple, number depends on the connection resources of the CPU
wire length	
● with RS 232 interface / maximum	6 m
● with RS 485 interface / maximum	30 m
performance data / S7 communication	
number of possible connections / for S7 communication	
● maximum	64
● with PG connections / maximum	2
● with OP connections / maximum	62
service	
● SINAUT ST7 via S7 communication	Yes
● PG/OP communication	Yes
performance data / multi-protocol mode	
number of active connections / with multi-protocol mode	128
performance data / telecontrol	
suitability for use	
● node station	Yes
● substation	Yes
● TIM control center	Yes
protocol / is supported	
● DNP3	No
● SINAUT ST1 protocol	Yes
● SINAUT ST7 protocol	Yes
product function / data buffering if connection is aborted	Yes; 56,000 data messages
storage capacity	
● of S7 CPU work memory / for TD7onCPU mode data blocks on CPU / required	20 Kibyte
● of S7 CPU work memory / for TD7onTIM mode data blocks on TIM / required	0 Kibyte
● note	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	
● for SINAUT ST1 protocol with polling / 11 bit	Yes
● for SINAUT ST1 protocol with spontaneous / 10-bit or 11-bit	Yes
● for SINAUT ST7 protocol with multi-master polling / 10-bit	Yes
● for SINAUT ST7 protocol with polling or spontaneous / 10-bit or 11-bit	Yes
operating mode for scanning of data transmission	
● with dedicated line/radio link / with SINAUT ST1 protocol	Polling, polling with time slot procedure
● with dedicated line/radio link / with SINAUT ST7 protocol	Polling, polling with time slot procedure, multi-master polling with time slot procedure
● with dial-up network / with SINAUT ST1 protocol	spontaneous
● with dial-up network / with SINAUT ST7 protocol	spontaneous
hamming distance	

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● for SINAUT ST1 protocol	4
● for SINAUT ST7 protocol	4
product functions / management, configuration, engineering	
configuration software	
● required	SINAUT ST7 ES
● for CPU configuring / required / SINAUT TD7 block library for CPU	Yes
● for PG configuring / required / SINAUT ST7 configuration software for PG	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 function / is supported / identification link	Yes; acc. to IEC 61406-1:2022
product functions / security	
operating mode / Virtual Private Network (VPN)	Yes
type of authentication / with Virtual Private Network / PSK	Yes
product function	
● password protection for VPN	Yes
● MSC client via GPRS modem with MSC capability	Yes
protocol	
● is supported / MSC protocol	Yes
● with Virtual Private Network MSC / is supported	TCP/IP
key length / for MSC / with Virtual Private Network	128 bit
number of possible connections	
● as MSC client / with VPN connection	1
● as MSC server / with VPN connection	128
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
time synchronization	
● from NTP-server	Yes
standards, specifications, approvals	
certificate of suitability / CE marking	Yes
certificate of suitability / UKCA marking	Yes
certificate of suitability / KC approval	Yes
certificate of suitability / Regulatory Compliance Mark (RCM)	Yes
certificate of suitability / RoHS conformity	Yes
standards, specifications, approvals / hazardous environments / header	
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
further information / internet links	
internet link	
● to website: Selection guide for cables and connectors	https://support.industry.siemens.com/cs/ww/en/view/109766358
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: Industrial communication	https://www.siemens.com/simatic-net
● to web page: SiePortal	https://sieportal.siemens.com/
● to website: Image database	https://www.automation.siemens.com/bilddb
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement - and continuously maintain - a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected

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Approvals / Certificates

General Product Approval

Declaration of Conformity | China RoHS | Manufacturer Declaration

General Product Approval

China RoHS

EMV

For use in hazardous locations

FM | CCC-Ex

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