SIEMENS

Product type designation	**TIM 4R-IE**
	SINAUT ST7, TIM 4R-IE communication module for SIMATIC S7-300, S7-400, PC; with two RS232/RS485 interfaces for SINAUT Communication via standard WAN and two RJ45 interfaces for SINAUT communication via IP-based networks (WAN or LAN)

Figure similar

Transmission rate

Transfer rate	
• for Industrial Ethernet	10 ... 100 Mbit/s
• acc. to RS 232	50 ... 38400 bit/s

Interfaces

Number of interfaces / acc. to Industrial Ethernet	2
Number of electrical connections	
• for external data transmission / acc. to RS 232	2
• for power supply	1
Type of electrical connection	
• of Industrial Ethernet interface	RJ45 port
• 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

Permitted ambient conditions

Ambient temperature	
• 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 S7-300 double width
Width	80 mm
Height	125 mm
Depth	120 mm
Net weight	0.4 kg

Product properties, functions, 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 RAM / for TD7onCPU mode data blocks on CPU / required	20 Kibyte
● of S7 CPU RAM / 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	
● for SINAUT ST1 protocol	4
● for SINAUT ST7 protocol	4
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 functions / Security

Suitability for operation / Virtual Private Network	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

Further Information / Internet Links

Internet-Link	
● to website: Selector SIMATIC NET SELECTION TOOL	http://www.siemens.com/snst
● to website: Industrial communication	http://www.siemens.com/simatic-net
● to website: Industry Mall	https://mall.industry.siemens.com

• to website: Information and Download Center	http://www.siemens.com/industry/infocenter
• to website: Image database	http://automation.siemens.com/bilddb
• to website: CAx Download Manager	http://www.siemens.com/cax
• to website: Industry Online Support	https://support.industry.siemens.com

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. 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 http://www.siemens.com/industrialsecurity. To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit http://support.automation.siemens.com. (V3.4)

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