SIEMENS

Product-type designation	TIM 4R-IE
	SINAUT ST7, TIM 4R-IE COMMUNICATIONS MODULE FOR SIMATIC S7-300, S7-400, C7, PC; WITH TWO RS232/RS485 INTERFACES FOR SINAUT COMMUNICATION VIA CLASSIC WAN NETWORKS AND TWO RJ45-INTERFACES FOR SINAUT COMMUNICATION VIA IP-BASED NETWORKS (WAN OR LAN)

Transmission rate

Transmission rate	
• with Industrial Ethernet	10 … 100 Mbit/s
• in accordance with RS 232	50 … 38400 bit/s

Interfaces

Number of interfaces / according to Industrial Ethernet	2
Number of electrical connections	
• for external data transmission / in accordance with RS 232	2
• for power supply	1
design of the removable storage / C-PLUG	Yes

Supply voltage, current consumption, power loss

Type of voltage / of supply voltage	DC
Supply voltage	24 V
Supply voltage	20.4 … 28.8 V
Consumed current	
• from backplane bus / at 24 V / for DC / maximum	0.2 A
• from external supply voltage / at 24 V / with DC / maximum	0.17 A
Resistive loss	4.6 W
Product expansion / 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 operating	0 … 60 °C
• during storage	-40 … +70 °C
• during transport	-40 … +70 °C
Relative humidity / at 25 °C / without condensation / during operating / 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 modules / note	Number of TIM 4R-IE per S7-300/S7-400: multiple, number depends on the connection resources of the CPU
Cable 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 through S7 communication	Yes
• PG-/OP-communication	Yes
Performance data / multi-protocol mode	
Number of active connections / with multiprotocol mode	128
Performance data / telecontrol	
Suitability for use	
• node station	Yes
• substation	Yes
• control center	Yes
Protocol / is supported	
• TCP/IP	Yes

• DNP3	No
• SINAUT ST1 protocol	Yes
• SINAUT ST7 protocol	Yes
Product function / data buffering if connection is aborted	Yes
• note	56,000 data messages
Storage capacity	
• of user memory of S7 CPU	
• for TD7onCPU mode data blocks on CPU / required	20 Kibyte
• 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 property / retentive 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 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 SINAUT ST7 protocol	spontaneous
Hamming distance	
• for SINAUT ST1 protocol	4
• for SINAUT ST7 protocol	4

Product functions / management, configuration

Configuration software	
• 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 / Virtual Private Network

Suitability for installation / Virtual Private Network	Yes
Product function	
• password protection for VPN	Yes

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• MSC client via GPRS modem with MSC capability	Yes
Protocol / is supported / MSC protocol	Yes
Number of possible connections	
• as MSC client / with VPN connection	1
• as MSC server / with VPN connection	128
Protocol / with Virtual Private Network MSC / is supported	TCP/IP
Key length / for MSC / with Virtual Private Network	128 bit
Type of authentication / with Virtual Private Network / PSK	Yes
Product functions / Time	
Product component / Hardware real-time clock	Yes
Product property / battery-backed hardware real-time clock	Yes
Accuracy / of hardware real-time clock / per day / maximum	4 s

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