

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

Transfer 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 |
|------------------------------------|-----------|

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
• 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	
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<ul style="list-style-type: none"> • maximum 	64
<ul style="list-style-type: none"> • with PG connections / maximum 	2
<ul style="list-style-type: none"> • with OP connections / maximum 	62
Service	
<ul style="list-style-type: none"> • SINAUT ST7 via S7 communication 	Yes
<ul style="list-style-type: none"> • PG/OP communication 	Yes

Performance data / multi-protocol mode

Number of active connections / with multi-protocol mode	128
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Performance data / telecontrol

Suitability for use	
<ul style="list-style-type: none"> • Node station 	Yes
<ul style="list-style-type: none"> • substation 	Yes
<ul style="list-style-type: none"> • TIM control center 	Yes
Protocol / is supported	
<ul style="list-style-type: none"> • DNP3 	No
<ul style="list-style-type: none"> • SINAUT ST1 protocol 	Yes
<ul style="list-style-type: none"> • SINAUT ST7 protocol 	Yes
Product function / data buffering if connection is aborted	Yes; 56,000 data messages
Storage capacity	
<ul style="list-style-type: none"> • of S7 CPU RAM / for TD7onCPU mode data blocks on CPU / required 	20 Kibyte
<ul style="list-style-type: none"> • of S7 CPU RAM / for TD7onTIM mode data blocks on TIM / required 	0 Kibyte
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • for SINAUT ST1 protocol with polling / 11 bit 	Yes
<ul style="list-style-type: none"> • for SINAUT ST1 protocol with spontaneous / 10-bit or 11-bit 	Yes
<ul style="list-style-type: none"> • for SINAUT ST7 protocol with multi-master polling / 10-bit 	Yes
<ul style="list-style-type: none"> • for SINAUT ST7 protocol with polling or spontaneous / 10-bit or 11-bit 	Yes
Operating mode for scanning of data transmission	
<ul style="list-style-type: none"> • with dedicated line/radio link / with SINAUT ST1 protocol 	Polling, polling with time slot procedure
<ul style="list-style-type: none"> • with dedicated line/radio link / with SINAUT ST7 protocol 	Polling, polling with time slot procedure, multi-master polling with time slot procedure

<ul style="list-style-type: none"> • with dial-up network / with SINAUT ST1 protocol 	spontaneous
<ul style="list-style-type: none"> • with dial-up network / with SINAUT ST7 protocol 	spontaneous
Hamming distance	
<ul style="list-style-type: none"> • for SINAUT ST1 protocol 	4
<ul style="list-style-type: none"> • for SINAUT ST7 protocol 	4

Product functions / management, configuration, engineering

Configuration software	
<ul style="list-style-type: none"> • required 	SINAUT ST7 ES
<ul style="list-style-type: none"> • for CPU configuring / required / SINAUT TD7 block library for CPU 	Yes
<ul style="list-style-type: none"> • 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

Operating mode / Virtual Private Network (VPN)	Yes
Type of authentication / with Virtual Private Network / PSK	Yes
Product function	
<ul style="list-style-type: none"> • password protection for VPN 	Yes
<ul style="list-style-type: none"> • MSC client via GPRS modem with MSC capability 	Yes
Protocol	
<ul style="list-style-type: none"> • is supported / MSC protocol 	Yes
<ul style="list-style-type: none"> • with Virtual Private Network MSC / is supported 	TCP/IP
Key length / for MSC / with Virtual Private Network	128 bit
Number of possible connections	
<ul style="list-style-type: none"> • as MSC client / with VPN connection 	1
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • from NTP-server 	Yes

Further information / Internet-Links

Internet-Link	
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- to website: Selector SIMATIC NET SELECTION TOOL
- to website: Industrial communication
- to website: Industry Mall
- to website: Information and Download Center
- to website: Image database
- to website: CAx Download Manager
- to website: Industry Online Support

<http://www.siemens.com/snst>

<http://www.siemens.com/simatic-net>

<https://mall.industry.siemens.com>

<http://www.siemens.com/industry/infocenter>

<http://automation.siemens.com/bilddb>

<http://www.siemens.com/cax>

<https://support.industry.siemens.com>

Security information

Security information

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last modified:

05/12/2020