

### 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
• 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
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

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

### Performance data / multi-protocol mode

Number of active connections / with multi-protocol mode	128
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### Performance data / PROFINET CBA

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

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

### Further information / Internet-Links

Internet-Link	
<ul style="list-style-type: none"> <li>to website: Selector SIMATIC NET SELECTION TOOL</li> </ul>	<a href="http://www.siemens.com/snst">http://www.siemens.com/snst</a>
<ul style="list-style-type: none"> <li>to website: Industrial communication</li> </ul>	<a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a>

- to website: Industry Mall
- to website: Information and Download Center
- to website: Image database
- to website: CAx Download Manager
- to website: Industry Online Support

<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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