

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)



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                                                                                           |                             |
| <ul style="list-style-type: none"> <li>from backplane bus / at DC / at 24 V / maximum</li> </ul>           | 0.2 A                       |
| <ul style="list-style-type: none"> <li>from external supply voltage / at DC / at 24 V / maximum</li> </ul> | 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                                                                                             |                             |
| <ul style="list-style-type: none"> <li>typical</li> </ul>                                                  | 100 µA                      |
| <ul style="list-style-type: none"> <li>maximum</li> </ul>                                                  | 160 µA                      |

## Permitted ambient conditions

|                                                                                  |                |
|----------------------------------------------------------------------------------|----------------|
| Ambient temperature                                                              |                |
| <ul style="list-style-type: none"> <li>during operation</li> </ul>               | 0 ... 60 °C    |
| <ul style="list-style-type: none"> <li>during storage</li> </ul>                 | -40 ... +70 °C |
| <ul style="list-style-type: none"> <li>during transport</li> </ul>               | -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                                                                   |                                                                                                        |
| <ul style="list-style-type: none"> <li>Note</li> </ul>                            | Number of TIM 4R-IE per S7-300/S7-400: multiple, number depends on the connection resources of the CPU |
| Wire length                                                                       |                                                                                                        |
| <ul style="list-style-type: none"> <li>with RS 232 interface / maximum</li> </ul> | 6 m                                                                                                    |
| <ul style="list-style-type: none"> <li>with RS 485 interface / maximum</li> </ul> | 30 m                                                                                                   |

## Performance data / S7 communication

|                                                           |    |
|-----------------------------------------------------------|----|
| Number of possible connections / for S7 communication     |    |
| <ul style="list-style-type: none"> <li>maximum</li> </ul> | 64 |

|                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• with PG connections / maximum</li> <li>• with OP connections / maximum</li> </ul>                                                                                                                                                                                                       | 2<br>62                                                                                                                                                                  |
| Service                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>• SINAUT ST7 via S7 communication</li> <li>• PG/OP communication</li> </ul>                                                                                                                                                                                                               | Yes<br>Yes                                                                                                                                                               |
| Performance data / multi-protocol mode                                                                                                                                                                                                                                                                                           |                                                                                                                                                                          |
| Number of active connections / with multi-protocol mode                                                                                                                                                                                                                                                                          | 128                                                                                                                                                                      |
| Performance data / telecontrol                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                          |
| Suitability for use                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>• Node station</li> <li>• substation</li> <li>• TIM control center</li> </ul>                                                                                                                                                                                                             | Yes<br>Yes<br>Yes                                                                                                                                                        |
| Protocol / is supported                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>• TCP/IP</li> <li>• DNP3</li> <li>• SINAUT ST1 protocol</li> <li>• SINAUT ST7 protocol</li> </ul>                                                                                                                                                                                         | Yes<br>No<br>Yes<br>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> <li>• of S7 CPU RAM / for TD7onTIM mode data blocks on TIM / required</li> <li>• Note</li> </ul>                                                                                                                   | 20 Kibyte<br><br>0 Kibyte<br><br>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> <li>• for SINAUT ST1 protocol with spontaneous / 10-bit or 11-bit</li> <li>• for SINAUT ST7 protocol with multi-master polling / 10-bit</li> <li>• for SINAUT ST7 protocol with polling or spontaneous / 10-bit or 11-bit</li> </ul> | Yes<br>Yes<br>Yes<br>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> <li>• with dedicated line/radio link / with SINAUT ST7 protocol</li> </ul>                                                                                                                                               | Polling, polling with time slot procedure<br><br>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                                                                                                                             |
| 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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