# **SIEMENS**

## **Data sheet**

## 6AG1803-4BA00-7AA0

### product type designation



Figure similar

### **SIPLUS NET TIM 4R-IE DNP3**

SIPLUS NET TIM 4R-IE DNP3 based on 6NH7803-4BA00-0AA0 with conformal coating, -25...+70 °C, TIM 4R-IE DNP3 communication module for SIMATIC S7-300, S7-400, PC; with two RS-232/RS-485 interfaces for DNP3 communication via classic WANs and two RJ45 interfaces for DNP3 communication via IP- based networks (WAN or LAN)

transfer rate	transfer rate	
• acc. to RS 232  Interfaces  number of interfaces / acc. to Industrial Ethernet 2 number of electrical connections • for external data transmission / acc. to RS 232 • for power supply 1 type of electrical connection • of industrial Ethernet interface type of electrical connection • at interface 1 / for external data transmission • at interface 2 / for external data transmission • for power supply design of the removable storage • C-PLUG  supply voltage / current consumption, power loss type of voltage / of the supply voltage supply voltage / external / at DC / rated value 24 V supply voltage / external / at DC / rated value 24 V supply voltage / external / at DC / rated value • from backplane bus / at DC / at 24 V / maximum power loss [V] product extension / optional / backup battery type of battery type of battery • typical • maximum ambient conditions ambient temperature • during operation  9 pin Sub-D-connector, RS232 switchable to RS485 9 pine D-sub connector, RS232 can be switched to RS485 9 pine Sup-D-connector, RS232 can be switched to RS485 9 pine Sub-D-connector, RS232 can be switched to RS485 9 pine Sub-D-connector, RS232 switchable to RS485 9 pine Sub-D-connector,	transfer rate	
Interfaces number of interfaces / acc. to Industrial Ethernet  number of electrical connections  • for external data transmission / acc. to RS 232  • for power supply  type of electrical connection  • of Industrial Ethernet interface  type of electrical connection  • at interface 1 / for external data transmission  • at interface 2 / for external data transmission  • at interface 2 / for external data transmission  • at interface 2 / for external data transmission  • for power supply  design of the removable storage  • C-PLUG  supply voltage, current consumption, power loss  type of voltage / of the supply voltage  supply voltage  supply voltage  24 V  supply voltage  supply voltage  20.4 28.8 V  supply voltage / external / at DC / rated value  consumed current  • from backplane bus / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V / maximum  power loss [W]  product extension / optional / backup battery  type of electrical connection  arbient conditions  ambient temperature  • during operation  2	<ul> <li>for Industrial Ethernet</li> </ul>	10 100 Mbit/s
number of interfaces / acc. to Industrial Ethernet number of electrical connections	• acc. to RS 232	9600 115200 bit/s
number of electrical connections	interfaces	
• for external data transmission / acc. to RS 232 • for power supply type of electrical connection • of Industrial Ethernet interface type of electrical connection • at interface 1 / for external data transmission • at interface 2 / for external data transmission • at interface 2 / for external data transmission • for power supply design of the removable storage • C-PLUG supply voltage, current consumption, power loss type of voltage / of the supply voltage supply voltage supply voltage supply voltage 24 V supply voltage / external / at DC / rated value consumed current • from backplane bus / at DC / at 24 V / maximum power loss [W] product extension / optional / backup battery type of battery backup current • fypical • maximum  • from backplane bus / at DC / at 24 V / maximum power loss [W] product extension / optional / backup battery type of battery backup current • fypical • maximum • from power loss [W] and the first power loss [W] backup current • fypical • maximum • from power loss [W] and the first power loss [W] backup current • fypical • maximum • from power loss [W] and the first power loss [W] backup current • fypical • maximum • from external supply voltage / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V / maximum  power loss [W]  product extension / optional / backup battery type of battery backup current • fypical • maximum • from power loss [W] and the first power loss [W] backup current • fypical • maximum • from power loss [W] and from power loss [W] backup current • fypical • maximum • from power loss [W] and from power loss [W] and from power loss [W] backup current • fypical	number of interfaces / acc. to Industrial Ethernet	2
• for power supply type of electrical connection • of Industrial Ethernet interface type of electrical connection • at interface 1 / for external data transmission • at interface 2 / for external data transmission • at interface 2 / for external data transmission • for power supply design of the removable storage • C-PLUG supply voltage, current consumption, power loss type of voltage / of the supply voltage supply voltage supply voltage supply voltage  ≥ 24 V supply voltage / external / at DC / rated value supply voltage / external / at DC / rated value • from backplane bus / at DC / at 24 V / maximum • from backplane bus / at DC / at 24 V / maximum power loss [W] product extension / optional / backup battery type of battery backup current • fypical • maximum  ambient conditions  ambient temperature • during operation  725 +70 °C	number of electrical connections	
type of electrical connection	<ul> <li>for external data transmission / acc. to RS 232</li> </ul>	2
of Industrial Ethernet interface type of electrical connection	for power supply	1
type of electrical connection  • at interface 1 / for external data transmission • at interface 2 / for external data transmission • at interface 2 / for external data transmission • for power supply  design of the removable storage • C-P-LUG  supply voltage, current consumption, power loss  type of voltage / of the supply voltage  supply voltage  supply voltage  supply voltage  supply voltage / external / at DC / rated value  consumed current • from backplane bus / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V / maximum  power loss [W]  product extension / optional / backup battery  type of battery  backup current • typical • maximum  ambient conditions  ambient temperature • during operation  9 pin Sub-D-connector, RS232 switchable to RS485  9-pole D-sub connector, RS232 can be switched to RS485  9-pole D-sub connector, RS232 can be switched to RS485  9-pole D-sub connector, RS232 can be switched to RS485  9-pole D-sub connector, RS232 can be switched to RS485  100	type of electrical connection	
<ul> <li>at interface 1 / for external data transmission</li> <li>at interface 2 / for external data transmission</li> <li>at interface 2 / for external data transmission</li> <li>for power supply</li> <li>design of the removable storage</li> <li>C-PLUG</li> <li>Yes</li> <li>supply voltage, current consumption, power loss</li> <li>type of voltage / of the supply voltage</li> <li>supply voltage</li> <li>supply voltage / external / at DC / rated value</li> <li>supply voltage / external / at DC / rated value</li> <li>consumed current</li> <li>from backplane bus / at DC / at 24 V / maximum</li> <li>from external supply voltage / at DC / at 24 V / maximum</li> <li>power loss [W]</li> <li>power loss [W]</li> <li>type of battery</li> <li>backup current</li> <li>typical</li> <li>maximum</li> <li>typical</li> <li>maximum</li> <li>top μA</li> <li>ambient conditions</li> <li>ambient temperature</li> <li>during operation</li> <li>gpin Sub-D-connector, RS232 switchable to RS485</li> <li>9-pole D-sub connector, RS232 can be switched to RS485</li> <li>9-pole D-sub connector, RS232 can be switched to RS485</li> <li>9-pole D-sub connector, RS232 can be switched to RS485</li> <li>9-pole D-sub connector, RS232 can be switched to RS485</li> <li>2-pole plugable terminal block</li> <li>DC</li> <li>supply voltage / external block</li> <li>24 V</li> <li>25 +70 °C</li> </ul>	<ul> <li>of Industrial Ethernet interface</li> </ul>	RJ45 port
<ul> <li>at interface 2 / for external data transmission</li> <li>for power supply</li> <li>design of the removable storage</li> <li>C-PLUG</li> <li>C-PLUG</li> <li>Supply voltage, current consumption, power loss</li> <li>type of voltage / of the supply voltage</li> <li>supply voltage</li> <li>power supply voltage</li> <li>supply voltage</li> <li>supply voltage</li> <li>supply voltage / external / at DC / rated value</li> <li>supply voltage / external / at DC / rated value</li> <li>supply voltage / external / at DC / rated value</li> <li>supply voltage / external / at DC / rated value</li> <li>consumed current</li> <li>from external supply voltage / at DC / at 24 V / maximum</li> <li>from external supply voltage / at DC / at 24 V / maximum</li> <li>power loss [W]</li> <li>product extension / optional / backup battery</li> <li>type of battery</li> <li>backup current</li> <li>typical</li> <li>maximum</li> <li>too μA</li> <li>maximum</li> <li>maximum</li> <li>too μA</li> <li>ambient conditions</li> <li>ambient temperature</li> <li>during operation</li> <li>-25 +70 °C</li> </ul>	type of electrical connection	
• for power supply  design of the removable storage • C-PLUG  Supply voltage, current consumption, power loss  type of voltage / of the supply voltage  supply voltage  Supply voltage  Supply voltage  Supply voltage  Supply voltage / external / at DC / rated value  Supply voltage / external / at DC / rated value  Supply voltage / external / at DC / rated value  Consumed current  • from backplane bus / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V /  maximum  power loss [W]  product extension / optional / backup battery  type of battery  backup current  • typical  • maximum  • maximum  100 μA  maximum  100 μA  maximum  160 μA  ambient conditions  ambient temperature  • during operation  -25 +70 °C	<ul> <li>at interface 1 / for external data transmission</li> </ul>	9 pin Sub-D-connector, RS232 switchable to RS485
design of the removable storage	<ul> <li>at interface 2 / for external data transmission</li> </ul>	9-pole D-sub connector, RS232 can be switched to RS485
• C-PLUG  supply voltage, current consumption, power loss  type of voltage / of the supply voltage  supply voltage  supply voltage  supply voltage  supply voltage  supply voltage / external / at DC / rated value  supply voltage / external / at DC / rated value  supply voltage / external / at DC / rated value  consumed current  • from backplane bus / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V / maximum  power loss [W]  product extension / optional / backup battery  type of battery  backup current  • typical  • maximum  ambient conditions  ambient temperature  • during operation  PC  24 V  20.4 28.8 V  20.4 .	<ul><li>for power supply</li></ul>	2-pole plugable terminal block
type of voltage, current consumption, power loss  type of voltage / of the supply voltage  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 power loss [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 -25 +70 °C	design of the removable storage	
type of voltage / of the supply voltage  supply voltage  supply voltage  supply voltage / external / at DC / rated value  supply voltage / external / at DC / rated value  supply voltage / external / at DC / rated value  consumed current  • from backplane bus / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V / maximum  power loss [W]  product extension / optional / backup battery  type of battery  backup current  • typical  • maximum  • maximum  100 µA  ambient conditions  ambient temperature  • during operation  -25 +70 °C	• C-PLUG	Yes
supply voltage supply voltage 24 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 • from external supply voltage / at DC / at 24 V / maximum  power loss [W] product extension / optional / backup battery type of battery  type of battery backup current • typical • maximum • maximum  100 μA  ambient conditions  ambient temperature • during operation  24 V 20.4 28.8 V 2	supply voltage, current consumption, power loss	
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  maximum  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 -25 +70 °C	type of voltage / of the supply voltage	DC
supply voltage / external / at DC / rated value  supply voltage / external / at DC / rated value  consumed current  • from backplane bus / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V / maximum  power loss [W]  product extension / optional / backup battery  type of battery  backup current  • typical  • maximum  100 µA  ambient conditions  ambient temperature  • during operation  24 V  20.4 28.8 V  20.4 28.8 V  0.17 A  0.17 A  10.17 A  10	supply voltage	24 V
supply voltage / external / at DC / rated value  consumed current  • from backplane bus / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V / maximum  power loss [W]  product extension / optional / backup battery  type of battery  type of battery  backup current  • typical  • maximum  100 µA  • maximum  160 µA  ambient conditions  ambient temperature  • during operation  20.4 28.8 V  20.4 28.8 V  20.4 28.8 V	supply voltage	20.4 28.8 V
consumed current  • from backplane bus / at DC / at 24 V / maximum  • from external supply voltage / at DC / at 24 V / maximum  power loss [W]  product extension / optional / backup battery  type of battery  type of battery  • typical  • maximum  100 µA  • maximum  160 µA   ambient conditions  ambient temperature  • during operation  -25 +70 °C	supply voltage / external / at DC / rated value	24 V
<ul> <li>from backplane bus / at DC / at 24 V / maximum</li> <li>from external supply voltage / at DC / at 24 V / maximum</li> <li>power loss [W]</li> <li>product extension / optional / backup battery</li> <li>type of battery</li> <li>backup current</li> <li>typical</li> <li>maximum</li> <li>maximum</li> <li>100 μA</li> <li>maximum</li> <li>ambient conditions</li> <li>ambient temperature</li> <li>during operation</li> <li>0.2 A</li> <li>0.17 A</li> <li>0.17 A</li> <li>4.6 W</li> <li>Yes</li> <li>Lithium AA / 3.6 V / 2.3 Ah</li> <li>100 μA</li> <li>ambient conditions</li> </ul>	supply voltage / external / at DC / rated value	20.4 28.8 V
<ul> <li>from external supply voltage / at DC / at 24 V / maximum</li> <li>power loss [W]</li> <li>product extension / optional / backup battery</li> <li>type of battery</li> <li>backup current</li> <li>typical</li> <li>maximum</li> <li>maximum</li> <li>100 μA</li> <li>ambient conditions</li> <li>ambient temperature</li> <li>during operation</li> <li>0.17 A</li> <li< td=""><td>consumed current</td><td></td></li<></ul>	consumed current	
maximum 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 -25 +70 °C	<ul> <li>from backplane bus / at DC / at 24 V / maximum</li> </ul>	0.2 A
product extension / optional / backup battery  type of battery  backup current  • typical  • maximum  160 μA  ambient conditions  ambient temperature  • during operation  Yes  Lithium AA / 3.6 V / 2.3 Ah  100 μA  100 μA  -25 +70 °C		0.17 A
type of battery  backup current  typical  maximum  100 μA  ambient conditions  ambient temperature  during operation  Lithium AA / 3.6 V / 2.3 Ah  100 μA  100 μA  25 +70 °C	power loss [W]	4.6 W
backup current  • typical  • maximum  160 μA  ambient conditions  ambient temperature  • during operation  -25 +70 °C	product extension / optional / backup battery	Yes
<ul> <li>typical 100 μA</li> <li>maximum 160 μA</li> <li>ambient conditions</li> <li>ambient temperature</li> <li>during operation -25 +70 °C</li> </ul>	type of battery	Lithium AA / 3.6 V / 2.3 Ah
<ul> <li>maximum</li> <li>ambient conditions</li> <li>ambient temperature</li> <li>during operation</li> <li>-25 +70 °C</li> </ul>	backup current	
ambient conditions  ambient temperature  ● during operation  -25 +70 °C	• typical	100 μΑ
ambient temperature  ● during operation  -25 +70 °C	• maximum	160 μΑ
• during operation -25 +70 °C	ambient conditions	
and a parameter of the second	ambient temperature	
● during storage -40 +70 °C	<ul> <li>during operation</li> </ul>	-25 +70 °C
	during storage	-40 +70 °C

during transport	-40 +70 °C
installation altitude / at height above sea level / maximum	5000 m
ambient condition / relating to ambient temperature - air pressure - installation altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax - 20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)
relative humidity  • with condensation / acc. to IEC 60068-2-38 / maximum	100 %; RH including condensation/frost (no commissioning when condensation is present), horizontal installation
chemical resistance / to commercially available cooling lubricants	Yes; incl. airborne diesel and oil droplets
resistance to biologically active substances	
• conformity acc. to EN 60721-3-3	Yes; Class 3B2 mold and fungal spores (excluding fauna), Class 3B3 on request
• conformity acc. to EN 60721-3-6	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
resistance to chemically active substances  • conformity acc. to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray in accordance with EN 60068-2-52 (Severity 3). The supplied plug covers must remain in place on the unused interfaces during operation.
• conformity acc. to EN 60721-3-6	Yes
resistance to mechanically active substances	
• conformity acc. to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied plug covers must remain in place over the unused interfaces during operation.
• conformity acc. to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust. The supplied plug covers must remain in place over the unused interfaces during operation.
coating / for equipped printed circuit board / acc. to EN 61086	Yes; Class 2 for high availability
type of coating / protection against pollution according to EN 60664-3	Yes; Protection of the type 1
type of test / of the coating / acc. to MIL-I-46058C	Yes; Coating discoloration during service life possible
product conformity / of the coating / Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies acc. to IPC-CC-830A	Yes; Conformal coating, class A
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 TIMs per S7-300 / S7-400: 1
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	5: only via LAN
<ul> <li>maximum</li> <li>with PG connections / maximum</li> </ul>	5; only via LAN 2
with PG connections / maximum     with OP connections / maximum	1
service	
PG/OP communication	Yes
performance data / telecontrol	
suitability for use	
• node station	Yes
• substation	Yes
TIM control center  protocol / is supported.	Yes
protocol / is supported	Voc
DNP3     Modbus PTLI	Yes
Modbus RTU  Product function / data buffering if connection is charted.	Yes
product function / data buffering if connection is aborted	Yes; 200,000 data points with one master
number of DNP3 masters	

• for Ethernet / maximum	8	
with RS 232 interface / maximum	1	
number of Modbus RTU slaves / maximum	1	
product functions / management, configuration, engineering	•	
configuration software		
• required	SINAUT ST7 ES	
storage location / of TIM configuration data	on the CPU or TIM	
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> <li>from NTP-server</li> </ul>	Yes	
further information / internet-Links		
Internet-Link		
<ul> <li>to web page: selection aid TIA Selection Tool</li> </ul>	http://www.siemens.com/snst	
<ul><li>to website: Industrial communication</li></ul>	http://www.siemens.com/simatic-net	
<ul><li>to website: Industry Mall</li></ul>	https://mall.industry.siemens.com	
<ul> <li>to website: Information and Download Center</li> </ul>	http://www.siemens.com/industry/infocenter	
<ul><li>to website: Image database</li></ul>	http://automation.siemens.com/bilddb	
<ul> <li>to website: CAx-Download-Manager</li> </ul>	http://www.siemens.com/cax	
<ul> <li>to website: Industry Online Support</li> </ul>	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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