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Data sheet 6ES7556-1AA00-0AB0



SIMATIC S7-1500, TM NPU, technology module for applications with artificial intelligence, 1x Ethernet, 1x USB, 1x SD

General information	
Product type designation	TM NPU
HW functional status	04
Firmware version	V2.0
● FW update possible	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
● Artificial intelligence/processing of neural networks	Yes
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	STEP 7 V17 or higher with HSP
● STEP 7 configurable/integrated from version	- / -
● PROFIBUS from GSD version/GSD revision	- / -
● PROFINET from GSD version/GSD revision	GSDML V2.35
Installation type/mounting	
Mounting position	Horizontal, vertical
Rail mounting	Yes
Control cabinet installation	Yes
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Short-circuit protection	Yes
Mains buffering	
● Mains/voltage failure stored energy time	5 ms
Input current	
Current consumption (rated value)	0.35 A; 24 V input voltage, USB load of 800 mA, 25 °C ambient temperature
Current consumption, max.	0.6 A
Inrush current, max.	3 A
I^2t	0.17 $A^2 \cdot s$
Power	
Power consumption from the backplane bus	0.65 W
Power consumption from the backplane bus (balanced)	1.1 W
Power loss	
Power loss, typ.	4.6 W
Processor	
Processor type	Myriad X 2x LEON processor with 700 MHz
Address area	
Address space per module	
● Inputs	254 byte; +2 bytes QI and application-specific status bytes

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● Outputs	254 byte; +2 application-specific control bytes
Interfaces	
Number of Ethernet interfaces	1
Number of USB interfaces	1
SD card slot	Yes
1. Interface	
Interface type	Ethernet
Isolated	Yes; 1500 V AC (type test)
supported image format	YUYV422, UYVY422
supported image resolution	1 280 x 1 024, 1 280 x 720, 640 x 480
Interface types	
● RJ 45 (Ethernet)	Yes
● Number of ports	1
● integrated switch	No
2. Interface	
Interface type	USB
Isolated	Yes; 500 V DC (type test)
supported image format	YUYV422
supported image resolution	1 280 x 720
Interface types	
● USB	Yes; only for commissioning and test purposes
● Number of ports	1
● Output current of the interface, max.	900 mA
Interface types	
RJ 45 (Ethernet)	
● 1000 Mbps	Yes
USB port	
● USB specification	USB 3.1
● Design of the USB ports	USB type A socket
Protocols	
Protocols (Ethernet)	
● GigE Vision	Yes; V2.1
Web server	
● supported	Yes; only for Debug purposes. Should be disabled during normal operation.
Interrupts/diagnostics/status information	
Status indicator	Yes
Alarms	No
Diagnostics function	Yes
Diagnostics indication LED	
● RUN LED	Yes
● ERROR LED	Yes
● MAINT LED	Yes
● LINK LED	Yes
● Monitoring of the supply voltage (PWR-LED)	Yes
Isolation	
Isolation tested with	1 500 V AC between Ethernet and functional ground
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-25 °C
● horizontal installation, max.	60 °C
● vertical installation, min.	-25 °C
● vertical installation, max.	40 °C
Ambient temperature during storage/transportation	
● min.	-40 °C
● max.	70 °C
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	2 000 m
Decentralized operation	
to SIMATIC S7-300	Yes
to SIMATIC S7-400	Yes

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to SIMATIC S7-1200	Yes
to SIMATIC S7-1500	Yes
to standard PROFIBUS master	No
to standard PROFINET controller	No
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	400 g

Classifications

	Version	Classification
eClass	14	27-24-22-05
eClass	12	27-24-22-05
eClass	9.1	27-24-22-05
eClass	9	27-24-22-05
eClass	8	27-24-22-05
eClass	7.1	27-24-22-05
eClass	6	27-24-22-05
ETIM	10	EC001422
ETIM	9	EC001422
ETIM	8	EC001422
ETIM	7	EC001422
IDEA	4	3567
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval					EMV
CE EG-Konf.	UKCA	Miscellaneous	UL	RCM	KC

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