TX700 HMI/PLC Series
21" Display - CODESYS V3 PLC with TARGET and WEB VISU
High-Quality Metal Housing and Glass Front with a Capacitive Touch
TX721-P3CV01



- **21" TFT wide screen color display**
- **LED backlight**
- **1920x1080 pixel resolution**
- **16 M colors**
- **Capacitive touchscreen with glass front**
- **1 RJ45 Ethernet port with 10/100/1000 Mbit**
- **2 RJ45 Ethernet ports with 10/100 Mbit**
- **1 serial interface (RS232, RS485, RS422)**
- **2 USB host ports**
- **1 SD card slot**

Type designation	TX721-P3CV01
Ident no.	100002033
Display / Touch	
Display	TFT colour
Touchscreen	Capacitive, Glass front
Active screen area	21.5″
Resolution (pixels)	1920 x 1080 Full HD
Format	16:9
Brightness	300 Cd/m² typ.
dimmable	yes,to 0 %
Controller	
Processor	ARM Cortex A9, Quad-core 800 MHz
Memory	8 GB Flash
RAM memory	2048 MB
Add-on memory	1x SD card slot, 2 USB host ports
Real time clock	Yes (battery-buffered)
PLC data	
Programming	CODESYS V3
Released for CODESYS version	V 3.5.12.10
Programming languages	IEC 61131-3 (IL, LD, FBD, SFC, ST)
Programming interface	Ethernet
Program memory	20000 kByte
Non-volatile memory	63 kByte
Interfaces	
Onboard	3 × RJ45 Ethernet, 1 × RS232/485/422, 2 × USB host, 1 × power supply, 2 × expansion slot
Onboard for selection	CANopen Master (via extension module)
Ethernet	ETH0 - 10/100/1000 Mbit ETH1 - 10/100 Mbit ETH2 - 10/100 Mbit
Protocols	PROFINET (Controller/Master) EtherNet/IP (Scanner/Master) Modbus TCP (Master/Slave)
Fieldbus	Modbus RTU (Master/Slave) CANopen (Master)
USB	2 × host ports
Serial	RS232 / RS485 / RS422
Expansion slot	Two slots for up to four plug-in modules
Power supply	
Rated value	24 VDC, max. 1.7 A
Admissible voltage range	10…32 VDC

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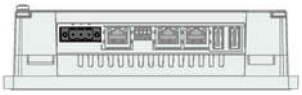
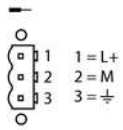
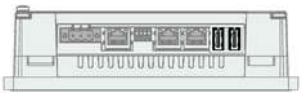
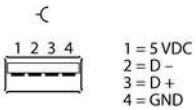
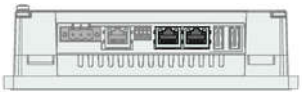
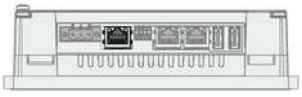
General data	
Operating ambient conditions	-20…60 °C, 5…85 % relative humidity, non-condensing
Storage ambient conditions	-20…70 °C, 5…85 % rel. humidity, non-condensing
Approvals	CE cULus LR DNV GL
Ex approval	ATEX IEC Ex Haz. Loc. Class I, Division 2, Groups A,B,C and D
Protection class	IP66 front, IP20 rear

Dimensions	
Front (W x H x D)	552 x 347 x 56 mm
Cut-out (W x H)	541 x 336 mm
Mounting depth	56+8.5 mm
Weight	approx. 6.1 kg

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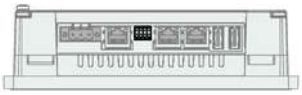
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Connection and pin assignment

	**Power Supply** The power supply connector is delivered with each device.	Pin Assignment 
	**USB Interface**	Pin Assignment 
	**Ethernet** Ethernet ports ETH1 and ETH2 (10/100 Mbit) The Ethernet ports are independent, but can be bridged with ETH0. Ethernet cables (examples): **RJ45 male connector – RJ45 male connector:** RJ45S-RJ45S-4414-2M (order number: 6441423) **RJ45 male connector – M12 male connector, 4-pin, D-coded:** RSSD-RJ45S-4414-2M (order number: 6441413) **RJ45 male connector – M8 male connector, 4-pin:** PSGS4M-RJ45S-4414-2M (order number: 6933005) **RJ45 male connector — M12 female receptacle, 4-pin, D-coded: R**J45-FKSDD-4414-2M (order number: 6935282)	Pin Assignment  1 = TX + 2 = TX – 3 = RX + 4 = n.c. 5 = n.c. 6 = RX – 7 = n.c. 8 = n.c.
	**Ethernet** Ethernet port ETH0 (10/100/1000 Mbit)	Pin Assignment  1 = TX + 2 = TX – 3 = RX + 4 = n.c. 5 = n.c. 6 = RX – 7 = n.c. 8 = n.c.

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Serial Interface
The serial interface can be operated either as RS232, RS485 or RS422. The adjacent wiring diagrams show the respective pin assignments.
PLEASE NOTE: In RS485 mode, pins 1 and 2 as well as 3 and 4 must be externally connected!

Pin Assignment in RS232 Operating Mode



1 = RX
2 = TX
3 = CTS
4 = RTS
5 = +5 VDC output
6 = GND
7 = n.c.
8 = shield

Pin Assignment in RS485 Operating Mode

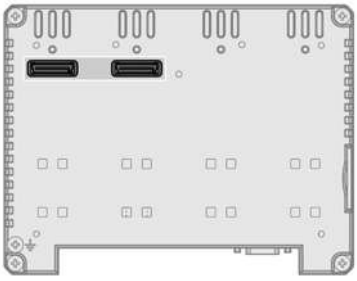


1 = B- (RX-)
2 = A- (TX-)
3 = B+ (RX+)
4 = A+ (TX+)
5 = +5 VDC output
6 = GND
7 = n.c.
8 = shield

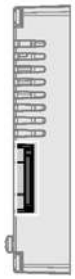
Pin Assignment in RS422 Operating Mode



1 = RX-
2 = TX-
3 = RX+
4 = TX+
5 = +5 VDC output
6 = GND
7 = n.c.
8 = shield



Ports for Plug-in Modules



SD Card Slot
SD card (example): SD CARD 2 GB (order number: 6828025)

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Accessories

Type code	Ident no.	Description	Dimension drawing
TX700-MOUNT-21	100003191	TX700 mounting bracket and power connectors for 21" devices	

Function accessories

Type code	Ident no.	Description	Dimension drawing
TX-IO-XX03	6828201	Plug-in I/O module — 20 DI, 12 DO, 4 AI (U/I/RTD/TC), 4 AO (U/I)	
TX-IO-DX06	6828203	Plug-in I/O module — 8 DI, 6 DO, 1 relay output (NO)	
TX-UMTS	100009535	Plug-in radio modem with 2G/3G support	
TX-DP-S	100010167	Plug-in PROFIBUS DP slave interface, 9-pin SUB-D female connector	

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Function accessories

Type code	Ident no.	Description	Dimension drawing
TX-CAN	6828210	Plug-in CANopen interface, 9-pin SUB-D male connector	
TX-RS485	100002598	Plug-in interface for RS485/RS422, 9-pin SUB-D female connector	
TX-RS232	100002599	Plug-in interface for RS232, 9-pin SUB-D female connector	
TX-PSC	100002938	Power Supply Male Connector for TX HMI Devices	

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