

## 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

<b>Type designation</b>	TX721-P3CV01
Ident-No.	100002033
<b>Display / Touch</b>	
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/m <sup>2</sup> typ.
dimnable	yes, To 0 %
<b>Controller</b>	
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)
<b>PLC data</b>	
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
<b>Interfaces</b>	
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
<b>Power supply</b>	
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 NEMA type: 12/4X

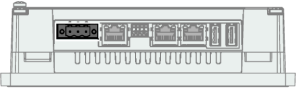
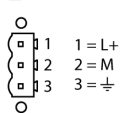
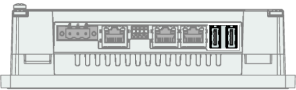
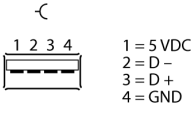
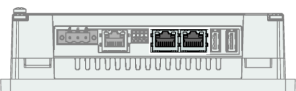

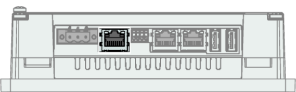

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**Dimensions**

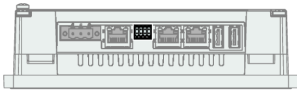
Front (W x H x D)	552 x 347 x 56 mm
Cut-out (W x H)	541 x 336 mm
Mounting depth	56+8.5 mm
Weight	approx. 6.1 kg

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**Connection and pin assignment**

	<p><b>Power Supply</b> The power supply connector is delivered with each device. 7/8" male receptacle for enclosure (example): RSF 40-1M W/LN Ident. no. U-36648</p>	<p>Pin Assignment</p>  <p>1 = L+ 2 = M 3 = <math>\perp</math></p>
	<p><b>USB Interface</b></p>	<p>Pin Assignment</p>  <p>1 = 5 VDC 2 = D - 3 = D + 4 = GND</p>
	<p><b>Ethernet</b> Ethernet ports ETH1 and ETH2 (10/100 Mbit) The Ethernet ports are independent, but can be bridged with ETH0. Ethernet cordsets (examples): <b>RJ45-RJ45:</b> RJ45S RJ45S 441-2M Ident. no. U-06842 <b>RJ45-M12 D-code:</b> RSSD RJ45S 441-2M Ident. no. U3-00525 <b>RJ45-M8:</b> PSGS 4M RJ45S 4413-2M Ident. no. U2-24205 <b>RJ45-M12 D-code female receptacle:</b> RJ45S FKSDDED 441-1M Ident. no. U-03569</p>	<p>Pin Assignment</p>  <p>12345678</p> <p>1 = TX + 2 = TX - 3 = RX + 4 = n.c. 5 = n.c. 6 = RX - 7 = n.c. 8 = n.c.</p>
	<p><b>Ethernet</b> Ethernet port ETH0 (10/100/1000 Mbit)</p>	<p>Pin Assignment</p>  <p>12345678</p> <p>1 = TX + 2 = TX - 3 = RX + 4 = n.c. 5 = n.c. 6 = RX - 7 = n.c. 8 = n.c.</p>

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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



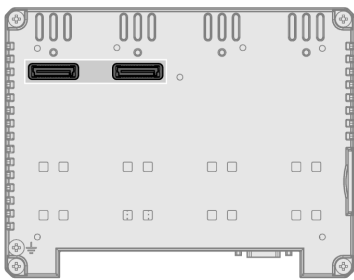
Pin assignment in RS485 operating mode

- 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

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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	
TX-LTE-WLAN	100025179	Plug-in LTE and Wi-Fi modem with LTE/UMTS/GSM, Wi-Fi and GNSS	

**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	

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**Function accessories**

Type code	Ident-No.	Description	Dimension drawing
TX-DP-S	100010167	Plug-in PROFIBUS DP slave interface, 9-pin SUB-D female connector	
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	