

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

Type	TX721-P3CV01
ID	100002033

Display/touch	
Display	TFT colour
Touchscreen	Capacitive, Glass front
Active screen area	21.5"
Resolution (pixels)	1920 × 1080 pixels Full HD
Format	16:9
Brightness	300 cd/m² typ.
dimmmable	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/Device) EtherNet/IP (Scanner/Adapter) Modbus TCP (Server/Client) EtherCAT (MainDevice)
Fieldbus	Modbus RTU (Server/Client) CANopen (Server)
USB	2 × host ports
Serial	RS232 / RS485 / RS422
Expansion slot	Two slots for up to four plug-in modules

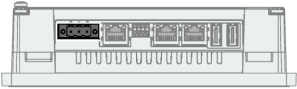
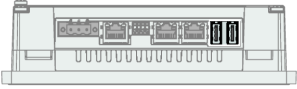
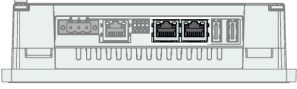
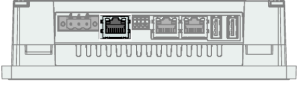
Power supply	
Rated value	24 VDC, max. 1.7 A
Admissible voltage range	10...32 VDC



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

General data	
Operating ambient conditions	-20...60 °C, 5...85 % relative humidity, non-condensing
Storage ambient conditions	-30...70 °C, 5...85 % relative 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
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

Connection and pin assignment

	Power Supply The power supply connector is supplied with each device.	Pin assignment  1 1 = 24 VDC 2 2 = 0 V 3 3 = $\frac{1}{2}$
	USB Interface	Pin assignment  1 2 3 4 1 = 5 VDC 2 = D - 3 = D + 4 = GND
	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 (ID: 6441423) RJ45 male connector — M12 male connector, 4-pin, D-coded: RSSD-RJ45S-4414-2M (ID: 6441413) RJ45 male connector — M8 male connector, 4-pin: PSGS4M-RJ45S-4414-2M (ID: 6933005) RJ45 male connector — M12 female receptacle, 4-pin, D-coded: RJ45-FKSDD-4414-2M (ID: 6935282)	Pin assignment  12345678 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 Mbit)	Pin assignment  12345678 1 = TX + 2 = TX - 3 = RX + 4 = n.c. 5 = n.c. 6 = RX - 7 = n.c. 8 = n.c.



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): 2-GB SD CARD (ID: 6828025)

Accessories

Type code	Ident no.		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.		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-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	