

# TX700 HMI/PLC Series

## 7" Sunlight Readable Display — CODESYS V3 PLC with TARGET and WEB VISU

### High-Quality Metal Housing and Glass Front with a Capacitive Touch

#### TX707HB-P3CV01

Type	TX707HB-P3CV01
ID	100007473
<b>Display/touch</b>	
Display	TFT colour
Touchscreen	Capacitive, Glass front
Active screen area	7"
Resolution (pixels)	800 × 480 pixels WVGA
Format	16:9
Brightness	600 cd/m <sup>2</sup> typ.
dimmmable	Yes, To 0 %
<b>Controller</b>	
Processor	ARM Cortex A9, Dual core 800 MHz
Memory	4 GB Flash
RAM memory	1024 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/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
<b>Power supply</b>	
Rated value	24 VDC, max. 0.7 A
Admissible voltage range	10...32 VDC



- 7" TFT wide screen color display
- LED backlight
- 800 x 480 pixel resolution
- 16 M colors
- Capacitive touchscreen with glass front
- Higher level of brightness for improved readability in sunlight
- Greater screen quality thanks to liquid bonding (LOCA), which improves contrast and brightness by reducing reflection and refraction
- Extended temperature range
- Increased robustness against mechanical influences
- All-metal housing, coated to protect the PCB
- 3 RJ45 Ethernet ports with 10/100 Mbit
- 1 serial interface (RS232, RS485, RS422)
- 2 USB host ports
- 1 SD card slot

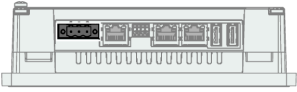
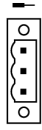
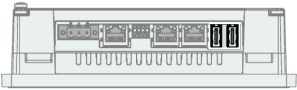

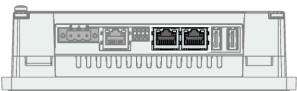

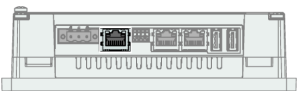

**General data**

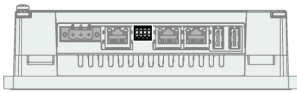
Operating ambient conditions	-20...60 °C, 5...85 % relative humidity, non-condensing
Storage ambient conditions	-30...70 °C, 5...85 % relative humidity, non-condensing
Approvals	CE cULus
Ex approval	Haz. Loc. Class I, Division 2, Groups A, B, C and D ATEX IEC Ex
Protection class	IP66 front, IP20 rear NEMA type: 12/4X

**Dimensions**

Front (W x H x D)	187 x 147 x 47 mm
Cut-out (W x H)	176 x 136 mm
Mounting depth	47+8 mm
Weight	approx. 1.5 kg

## Connection and pin assignment

	<p><b>Power Supply</b></p> <p>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 = 24 VDC 2 = 0V 3 = <math>\frac{1}{2}</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></p> <p>Ethernet ports ETH1 and ETH2 (10/100 Mbit)</p> <p>The Ethernet ports are independent, but can be bridged with ETH0.</p> <p>Ethernet cordsets (examples):</p> <p><b>RJ45-RJ45:</b> RJ45S RJ45S 441-2M Ident. no. U-06842</p> <p><b>RJ45-M12 D-code:</b> RSSD RJ45S 441-2M Ident. no. U3-00525</p> <p><b>RJ45-M8:</b> PSGS 4M RJ45S 4413-2M Ident. no. U2-24205</p> <p><b>RJ45-M12 D-code female receptacle:</b> RJ45S FKSDED 441-1M Ident. no. U-03569</p>	<p>Pin Assignment</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></p> <p>Ethernet port ETH0 (10/100 Mbit)</p>	<p>Pin Assignment</p>  <p>1 = TX + 2 = TX - 3 = RX + 4 = n.c. 5 = n.c. 6 = RX - 7 = n.c. 8 = n.c.</p>



### 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

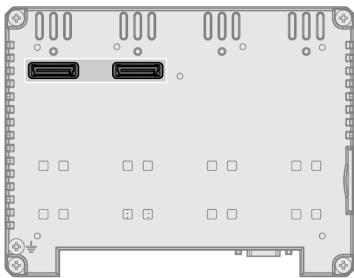


- 1 = B- (RX-)
- 2 = A- (TX-)
- 3 = B+ (RX+)
- 4 = A+ (TX+)
- 5 = +5 VDC output
- 6 = GND
- 7 = n.c.
- 8 = shield

#### 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

## Accessories

Type code	Ident-No.		Dimension drawing
TX700-MOUNT-07	100003188	TX700 mounting bracket and power connectors for 5–7" 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	