

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
Display/touch	
Display	TFT colour
Touchscreen	Capacitive, Glass front
Active screen area	7"
Resolution (pixels)	800 × 480 pixels WVGA
Format	16:9
Brightness	600 cd/m² typ.
Dimmable	Yes, To 0 %
Controller	
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)
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. 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

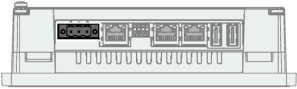
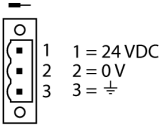
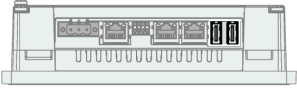
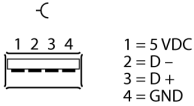
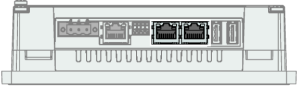
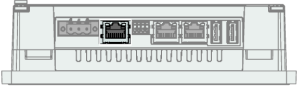
General data

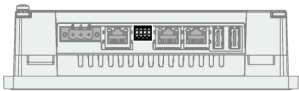
Operating ambient conditions	-20...60 °C, 5...85 % relative humidity, non-condensing
Storage ambient conditions	-30...70 °C, 5...85 % relative humidity, non-condensing
Approvals	CE cULus
Ex approval	Haz. Loc. Class I, Division 2, Groups A, B, C and D ATEX IEC Ex
Protection class	IP66 front, IP20 rear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

	Power Supply The power supply connector is supplied 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 (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  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  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

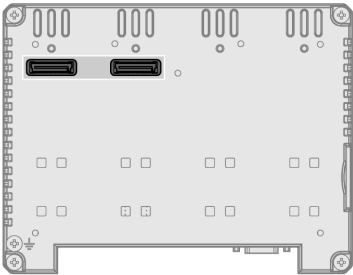
- 1 = RX
- 2 = TX
- 3 = CTS
- 4 = RTS
- 5 = +5 VDC output
- 6 = GND
- 7 = n.c.
- 8 = shield

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-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	