

TX800 HMI/PLC Product Series

21" Display — CODESYS V3 PLC with TARGET and WEB VI-SU

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

TX821-P3CV01

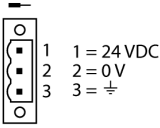
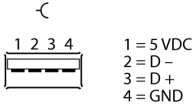
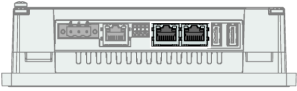
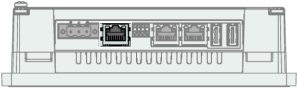
Type	TX821-P3CV01
ID	100046996
Display/touch	
Display	TFT colour
Touchscreen	Capacitive, Glass front
Active screen area	21.5"
Resolution (pixels)	1920 × 1080 pixels Full HD
Format	16:9
Brightness	300 cd/m² typ.
dimmmable	Yes, To 0 %
Controller	
Processor	64-bit RISC, Quad core 1.6 GHz
Memory	8 GB Flash
RAM memory	2048 MB
Add-on memory	1 x USB host port
Real time clock	Yes (battery-buffered)
PLC data	
Programming	CODESYS V3
Released for CODESYS version	V 3.5.18.30
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 Mbit ETH1 - 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	1 × host port
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
- 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

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 DNV
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 
	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-4422-2M (ID: 6635218) RJ45 male connector — M12 male connector, 4-pin, D-coded: RSSD-RJ45S-4422-2M (ID: 6635170) RJ45 male connector — M8 male connector, 4-pin: PSGS4M-RJ45S-4422-2M (ID: 6635247) 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 (10/100/1000 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-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	