

TX HMI/PLC Series

Plug-In Module

20 DI, 12 DO 0.5 A ,4 AI (U, I, RTD, TC), 4 AO (U, I)

TX-IO-XX03



- Plug-in expansion module for use with HMIs of the TX500 and TX700 product series
- I/O Modules
- 20 digital inputs, 24 VDC, PNP
- 12 digital outputs, 24 VDC, 0.5 A, PNP
- 4 analog inputs, U, I, RTD, TC
- 4 analog outputs, U, I

Type	TX-IO-XX03
ID	6828201

Supply	
Supply voltage	24 VDC
Admissible range	12...30 VDC
System power supply	From the HMI
Voltage supply connection	Pluggable strip with cage clamp terminals
Electrical isolation	optical, 1500 V _{rms}

Digital inputs	
Number of channels	20
Connectivity inputs	3 pluggable strips with spring-type terminals 10-pin, 3.5-mm pattern (Weidmueller — Omnimate BLZF 3.5/180F)
Input type	PNP
Low-level signal voltage	< 6 V
High level signal voltage	> 12 V
Low level signal current	< 1 mA
High level signal current	> 3 mA
Input delay	0.05 (on S inputs), 0.0002 (on E inputs) ms
Sensor supply	24 VDC
Electrical isolation	1500 V _{rms}

Analog inputs	
Number of channels	4
Operating modes	Current, voltage, resistance, thermocouple
Resolution	12 Bit
Basic fault limit at 25 °C	0.1 %

Operating mode voltage	
Max. input voltage	15 V
Input signal types	4 differential (alternatively 8 AI single-ended, only in voltage mode)
Measuring range	+/-100 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, 0 ... 1 V, 0 ... 10 V
Linearity	0.1 %
Basic error at 25 °C	0.1 %
Repeat accuracy	< 0.2 %

Operating mode current	
Max. Eingangsspannung	15 V
Max. input current	20 mA
Load resistance	200 Ω
Input signal types	4 differential inputs, externally powered
Measuring range	0...20 mA, 4...20 mA
Linearity	0.1 %
Basic error at 25 °C	0.1 %

Operating Mode RTD/Resistance	
Temperature unit	°Degree Celsius, °Fahrenheit
Measuring range	-100 ... 850 °C
Connection type	2-, 3-, 4-wire
measurement current	1.2 mA
Repeat accuracy	< 0.1 %

Operating Mode Thermocouple	
Temperature unit	µV
Measuring range	E (-270...1000 °C), J (-210...760 °C), K (-270...1370 °C), R (0...1768 °C), S (0...1768 °C), T (-270...400 °C)
Cold junction compensation	External via Pt100 comp. Input (CN4 Pin 1-5)
Basic error at 25 °C	0.1 %

Digital outputs	
Number of channels	12
Connectivity outputs	2 pluggable strips with spring-type terminals 10-pin, 3.5-mm pattern (Weidmueller — Omnimate BLZF 3.5/180F)
Output type	PNP
Output voltage	24 VDC
Output current per channel	0.5 A
Simultaneity factor	0.23
Output delay	0.15 ms
Short-circuit protection	yes
Actuator power supply	24 VDC externally fed
Electrical isolation	1500 V _{ms}

Analog outputs	
Number of channels	4
Operating modes	+/-100 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V, 0 ... 1 V, 0 ... 10 V +/-2 mA, +/-10 mA, +/-20 mA
Resolution	12 bit

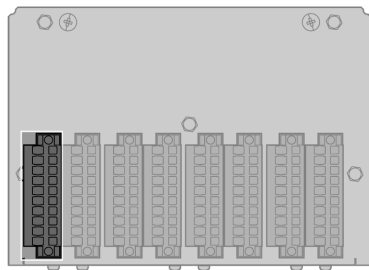
Operating mode voltage	
Load resistor	>1 k Ω
Output signal type	Single-ended
Output signal range	+/-10 V
Linearity	0.15 %

Operating mode current	
Load resistance	<470 Ω
Output signal type	Active
Output signal range	0...20 mA
Linearity	0.2 %

Standard/Directive conformity	
Approvals and certificates	CE, cULus, Class 1, Div. 2, DNV-GL

General Information	
Dimensions (W x L x H)	125.2 x 89.3 x 33.7 mm
Ambient temperature	0...+50 °C
Protection class	IP20
Housing material	Metal
Housing color	Silver
Mounting	On HMIs of the TX500 and TX700 series

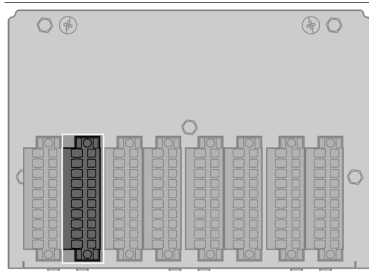
Connection and pin assignment



Analog Inputs

Pin Assignment CN1

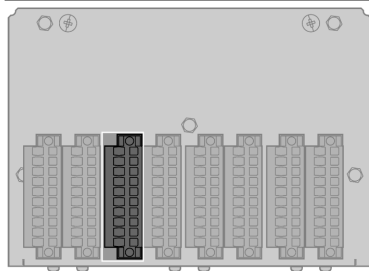
1	1 = Pt100_1 Vers.
2	2 = CH_1 + Input
3	3 = CH_1 - Input
4	4 = COM-AGND
5	5 = Shield (housing)
6	6 = Pt100_2 Vers.
7	7 = CH_2 + Input
8	8 = CH_2 - Input
9	9 = COM-AGND
10	10 = Shield (housing)



Analog Inputs

Pin Assignment CN2

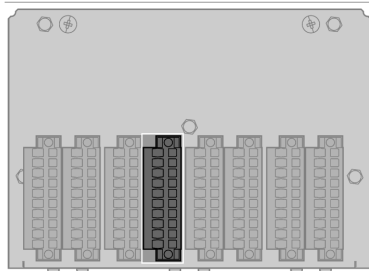
1	1 = Pt100_3 Vers.
2	2 = CH_3 + Input
3	3 = CH_3 - Input
4	4 = COM-AGND
5	5 = Shield (housing)
6	6 = Pt100_4 Vers.
7	7 = CH_4 + Input
8	8 = CH_4 - Input
9	9 = COM-AGND
10	10 = Shield (housing)



Analog Outputs

Pin Assignment CN3

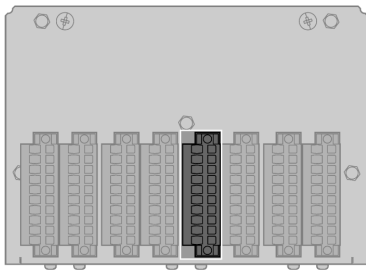
1	1 = CH1
2	2 = COM-AGND
3	3 = CH2
4	4 = COM-AGND
5	5 = Shield (housing)
6	6 = CH3
7	7 = COM-AGND
8	8 = CH4
9	9 = COM-AGND
10	10 = Shield (housing)



Cold Junction Compensation (Pt100) and Power Supply Digital I/O

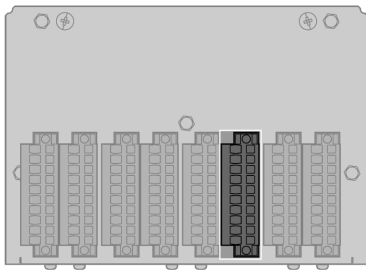
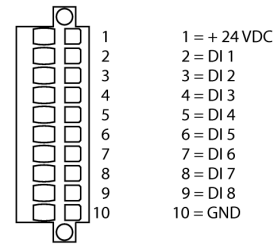
Pin Assignment CN4

1	1 = Pt100_5 Vers.
2	2 = CH_5 + Input
3	3 = CH_5 - Input
4	4 = COM-AGND
5	5 = Shield (housing)
6	6 = n.c.
7	7 = + 24 VDC in
8	8 = + 24 VDC in
9	9 = GND in
10	10 = GND in



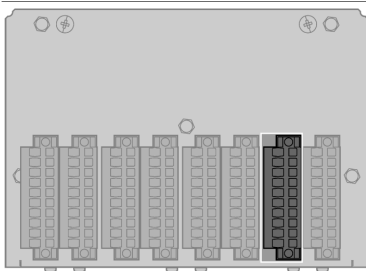
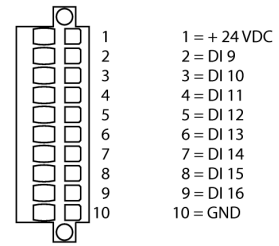
Digital Inputs

Pin Assignment CN5



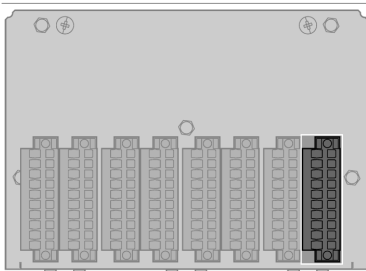
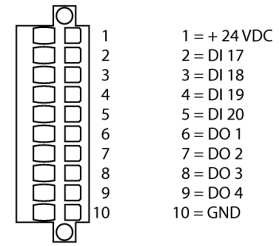
Digital Inputs

Pin Assignment CN6



Digital Inputs and Outputs

Pin Assignment CN7



Digital Outputs

Pin Assignment CN8

