ETPC

2-channel EtherCAT probe unit Rev. 1.0 and Rev. 2.0
Technical data

Electrical characteristics
- Power-supply voltage: +5 V ±5% 100 mA without probe unit
- MTBF: 70,000 h at 50 °C

Mechanical characteristics
- Dimensions: 62×108×56 mm
- Weight: 100 g

Ambient conditions
- Operating temperature: +10 °C **…** +50 °C
- Storage temperature: -10 °C **…** +50 °C
- Operating relative humidity: max. 95%, non-condensing
- Storage relative humidity: max. 95% non-condensing
- Height above sea level: -300 m **…** +3000 m
- Shock resistance: 15 g / 0.33 ms
- Vibration: 1 g / 5 **~** 2000 Hz

EMC
- EN 61000-4-2 (ESD)
- EN 61000-4-4 (burst)
- EN 61000-4-10 (voltage drop, breaking, changing)

Description

The ETPC is an EtherCAT unit capable of managing 2 probes at the same time.

The signal level of a probe could be 5 V or 24 V. The signal level of the probe can be adjusted using jumpers **JP7** (for the probe1) and **JP8** (for the probe 2) (5 V and 24 V respectively).

There are 3 inputs READY per channel on the card for both signals of 5 V and 24 V. (Signals for battery, for connected probe, for operational readiness and for other purposes.)

Pin assignment (TP1, TP2)

1.	RDY2(5V)	TTL ready signal 2	PLC flag:	TN.INPn2
2.	RDY1(5V)	TTL ready signal 1	PLC flag:	TN.INPn1
3.	RDY3(5V)	TTL ready signal 3	PLC flag:	TN.INPn3
4.	I24V	+24 V 24 VDC power supply for the probe		
5.	OUT2(24V)	24 V output signal 2	PLC flag:	TP.OUTn2
6.	+5V	+5 V 5 VDC power supply for the probe		
7.	I0V	0 V 24 VDC power supply for the probe		
8.	GND	GND 5 VDC power supply for the probe		
9.	RDY2(24V)	24 V ready signal 2	PLC flag:	TN.INPn2
10.	RDY1(24V)	24 V ready signal 1	PLC flag:	TN.INPn1
11.	RDY3(24V)	24 V ready signal 3	PLC flag:	TN.INPn3
12.	OUT1(24V)	24 V output signal 1	PLC flag:	TP.OUTn2
13.	TSIG(5V)	TTL-level probe signal input	PLC flag:	TN.TSn
14.	MARPOS_A00	Probe-specific input		
15.	TSIG(24V)	24 V probe signal input	PLC flag:	TN.TSn

$n = 1 \sim 8$, number of the ETPC.
In the case of the 24 V probe signal (TSIG(24V)) the pins 7 and 8 should be commoned (I0V and GND).
The input MARPOS_A00 is specifically used for probes made by Marposs.

Operational settings

The NCT201 control indicates the touching status on the **TN.TSn** PLC flag. In order to proper operation of the control, the jumpers should be set so as to **the value of the TN.TSn flag be 0 when touching**. The moment of touching corresponds to changing the TN.TSn flag from 1 to 0.

On the ETPC card, the polarity of the TN.TSn flag can be set using jumpers **JP4** (for the probe 1) and **JP6** (for the probe 2).

In the case of the Rev 1.0:
In order that the ETPC assigns the proper time stamp to the moment of touching, **the polarity of the jumper JP3 should be the same as jumper's JP4** (for the probe 1); and similarly, **the polarity of the jumper JP5 should be the same as jumper's JP6** (for the probe 2).

In the case of the Rev 2.0:
There are no jumpers **JP3** (for the probe1) and **JP5** (for the probe 2).
There is noting to be done.