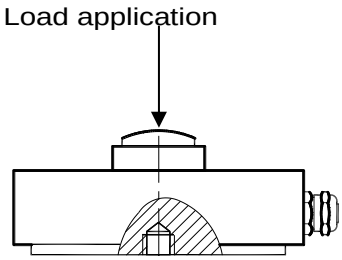
TENSOTECHNIQUE

CT5 Force Transducer

The digital compressive force transducers of the CT5 series can be used in different fields of the engineering and industry. The CT5 force transducers have both the digital interface (RS232, RS485, USB 2.0) and the analogue interface (± 5 V, ± 10 V, 4 … 20 mA). The force transducers can be connected to a PC, microcontroller or computer network directly. The appropriate software is in the scope of supply and can support up to eight transducers simultaneously.

Special Features:

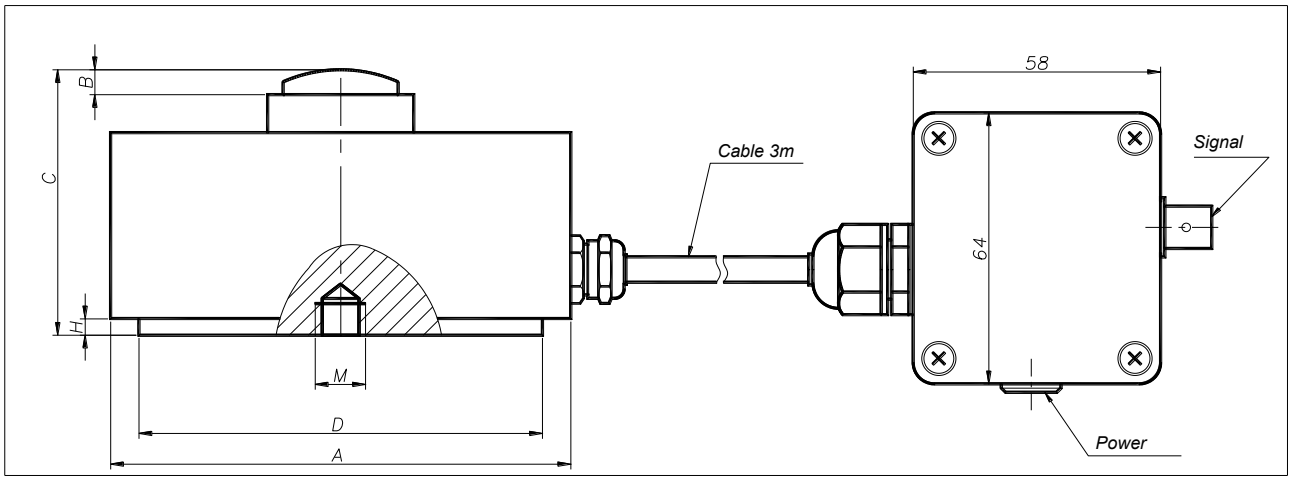
- Nominal load – 10…60 kN
- Accuracy class – 0.2
- Built-in ADC
- Digital and analogue output
- Protection class – IP65
- Optionally: 10…60 t



Type Survey

Type	P nom., kN
CT5-10	10
CT5-25	25
CT5-40	40
CT5-60	60

Dimensions, mm



Type	A	B	C	D	H	M
CT5-10 … CT5-25	73	7.75	82.5	58.0	2.6	M12x1.75
CT5-40 … CT5-60	105	9.40	127.0	82.5	4.0	M20x2.5

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Technical Data

Nominal load	kN	100 250 400 600
	t	10 25 40 60
Characteristic tolerance including hysteresis and non-linearity	%	± 0.2
Ambient temperature effect on zero balance	%/10 °C	± 0.1
Accuracy class		0.2
Supply voltage DC	V	12 … 30
Power consumption	W	≤ 5
Frequency output (T23 decoder)		
Frequency output signal with positive nominal torque	kHz	15 (90)
Frequency output signal with negative nominal torque	kHz	5 (30)
Frequency output signal at torque = zero	kHz	10 (60)
Load resistance	kΩ	≥ 2
Output voltage	V	5 ± 1(symmetrical meander)
Input-output galvanic isolation		+
Analogue output (T24 decoder)		
Nominal output signal with positive (right-hand) nominal torque	V	+ 5 (+ 10)
Nominal output signal with negative (left-hand) nominal torque	V	- 5 (- 10)
Output signal at torque = zero	V	0
Load resistance	kΩ	≥ 10
Analogue output (T24/4 … 20 mA decoder)		
Output current	mA	4 … 20
Output current at loading = zero	mA	12
Output current at nominal positive loading	mA	20
Output current at nominal negative loading	mA	4
Load resistance	kΩ	≥ 100
Digital output (T45 decoder)		
Interface		USB 2.0
Data transfer rate (Full-Speed)	Mbit/sec	12
Sample rate	kSample	5.0
Input-output galvanic isolation		+
Digital output (T37 decoder)		
Interface		Ethernet
Data transfer rate	Mbit/sec	10; 100
Sample rate	kSample	5.0
Input-output galvanic isolation		+
Digital output (T46 decoder)		
Interface		RS485
Protocol		MODBUS RTU
Data transfer rate	baud	2 400 - 115 200
Parity check		+
Sample rate	kSample	5.0
Input-output galvanic isolation		+
Digital output (T42 decoder)		
Interface		RS232
Data transfer rate	baud	2 400 - 115 200
Parity check		+
Sample rate	kSample	5.0
Input-output galvanic isolation		+

Resistance to environment and mechanical exposures

Nominal temperature range	°C	0 … + 60
Humidity	%	≤ 95 (+ 35 °C)
Atmospheric pressure	kPa	84 … 106.7 (630 … 800 mm Hg)
Storage temperature range	°C	- 30 …+ 80
Storage humidity	%	≤ 95 (+ 30 °C)
Vibration resistance: Frequency range Duration Acceleration	 Hz h m/s^2	 10 … 55 1 40
Impact resistance: Number of impacts Duration Acceleration	 n ms m/s^2	 1000 10 400
Protection class		IP65

Scope of supply

CT5 force transducer	1
Digital decoder T42 (BNC-connector, cable RS232, 0.6 m)	optionally
Analogue decoder T24 (BNC-connector)	optionally
Digital decoder T45 (BNC-connector, USB cable 2.0, 0.6 m)	1
Digital decoder T46 (BNC-connector, connector block)	optionally
Digital decoder T37 (BNC-connector, connector block)	optionally
Signal cable (two plugs), 5 m	1
Power connector (PC-4)	1
“Transducer” software for Windows® OS	1
Operating manual	1
“Transducer” user manual	1

Accessories (to be ordered separately)

The CT5 is supplied with the T45 (USB 2.0 interface) decoder, but you can choose any type of decoder to be included in the scope of supply:
T42 - COM-port PC connection, RS232 interface.
T24 – analogue signal (± 5 V, ± 10 V, 4 … 20 mA)
T46 – RS485 interface
T37 –Ethernet interface

To display the measured load you can use the **T40** display unit (metal housing), **T41** (plastic housing) or the **T50** display unit. All the devices are supplied with special functions such as measuring signal averaging (filtering), and zero adjustment.

The DC power supply (network adapter) 220 V/ 12 - 30 V can be used as a DC source

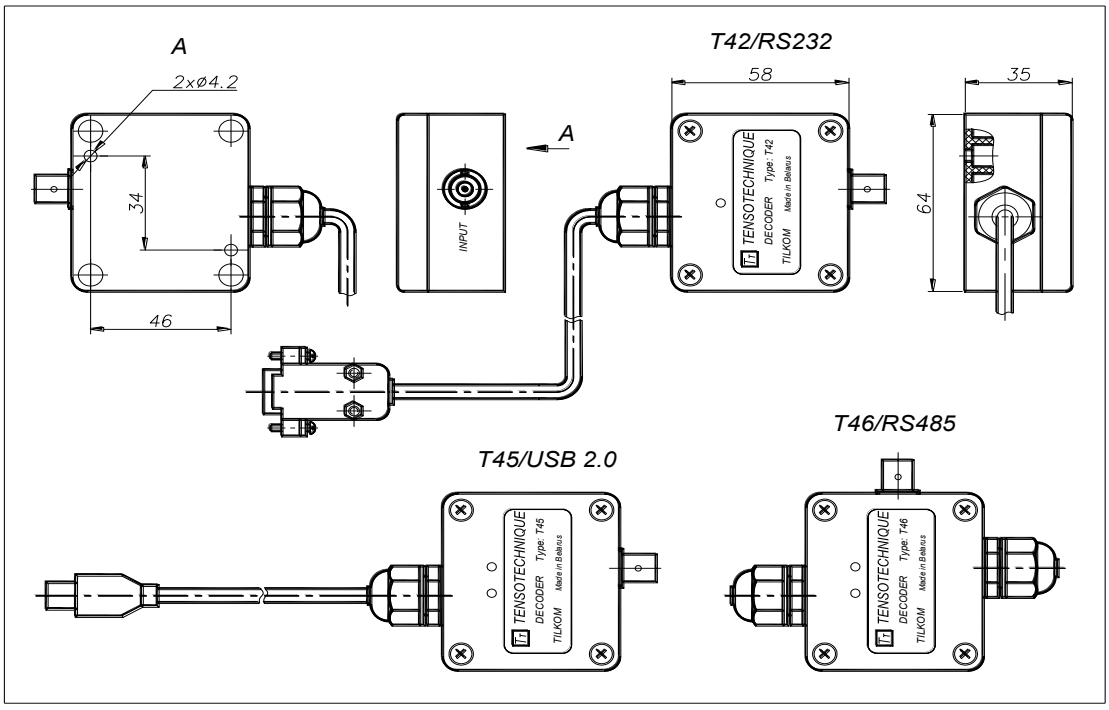
Software

The MS-Windows compatible software “**Transducer”** enables you the acquisition of measurement data and its storage in a file. The measurements can be visualized on-line with digital indicators and x/y displays. A text file is provided for storage so that the measurement data can be read and processed by other programs. The software provides the autoidentification of transducer type, serial number, measuring range.

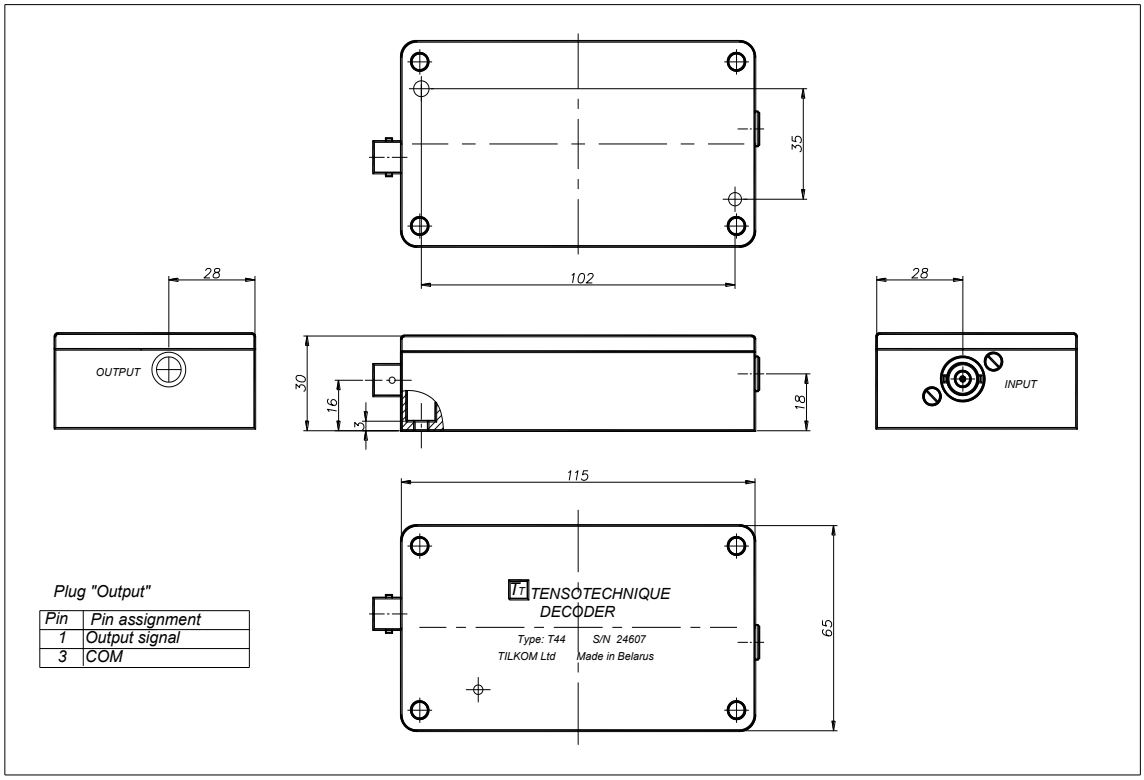
Features: recording without the data averaging with the max speed of incoming signals, allowing you to investigate the dynamic processes with a frequency of 2 500 Hz, mathematical computation of mechanical power, measurement signal filter, zero shift adjustment, fast records, slow records, scaling of x-axis and y-axis, digital indicator up to ± 50 000 digits.

The software is in the scope of supply and can support up to eight transducers simultaneously.

T42, T45, T46 digital decoders. Dimensions, mm.



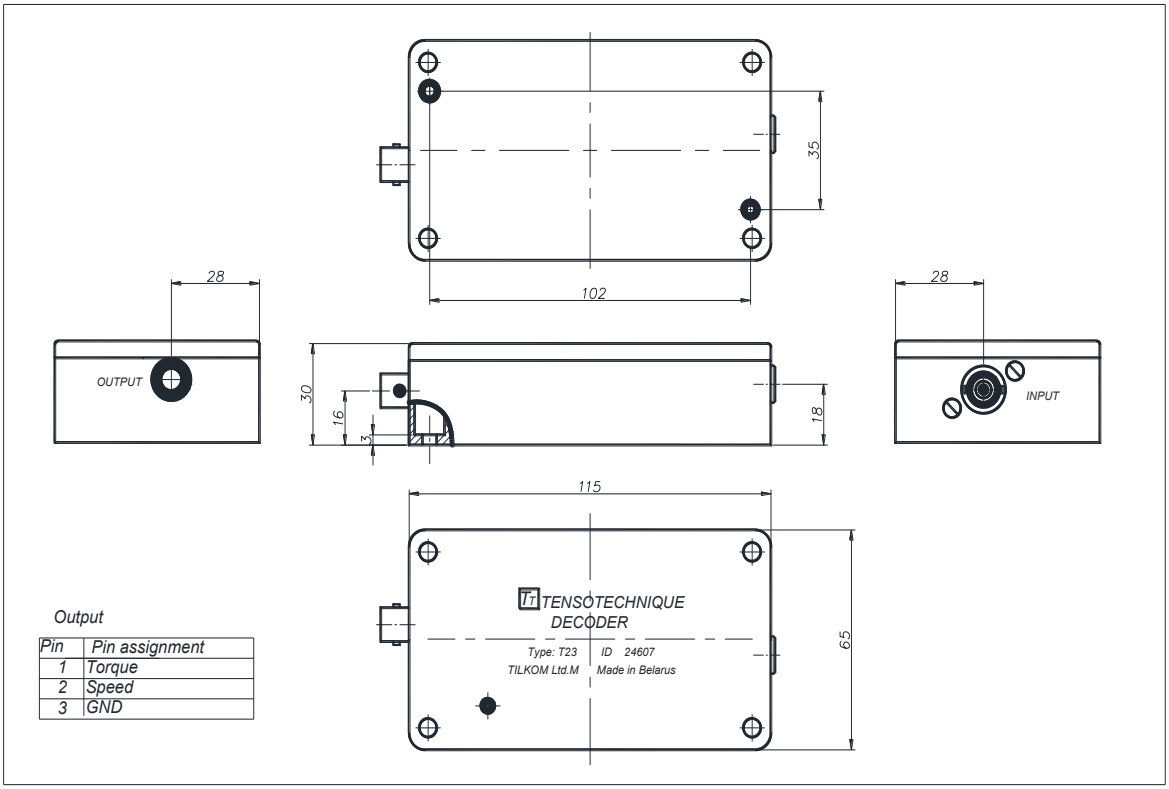
T24 analogue decoder. Dimensions, mm



Plug "Output"

Pin	Pin assignment
1	Output signal
3	COM

T23 frequency decoder. Dimensions in mm.

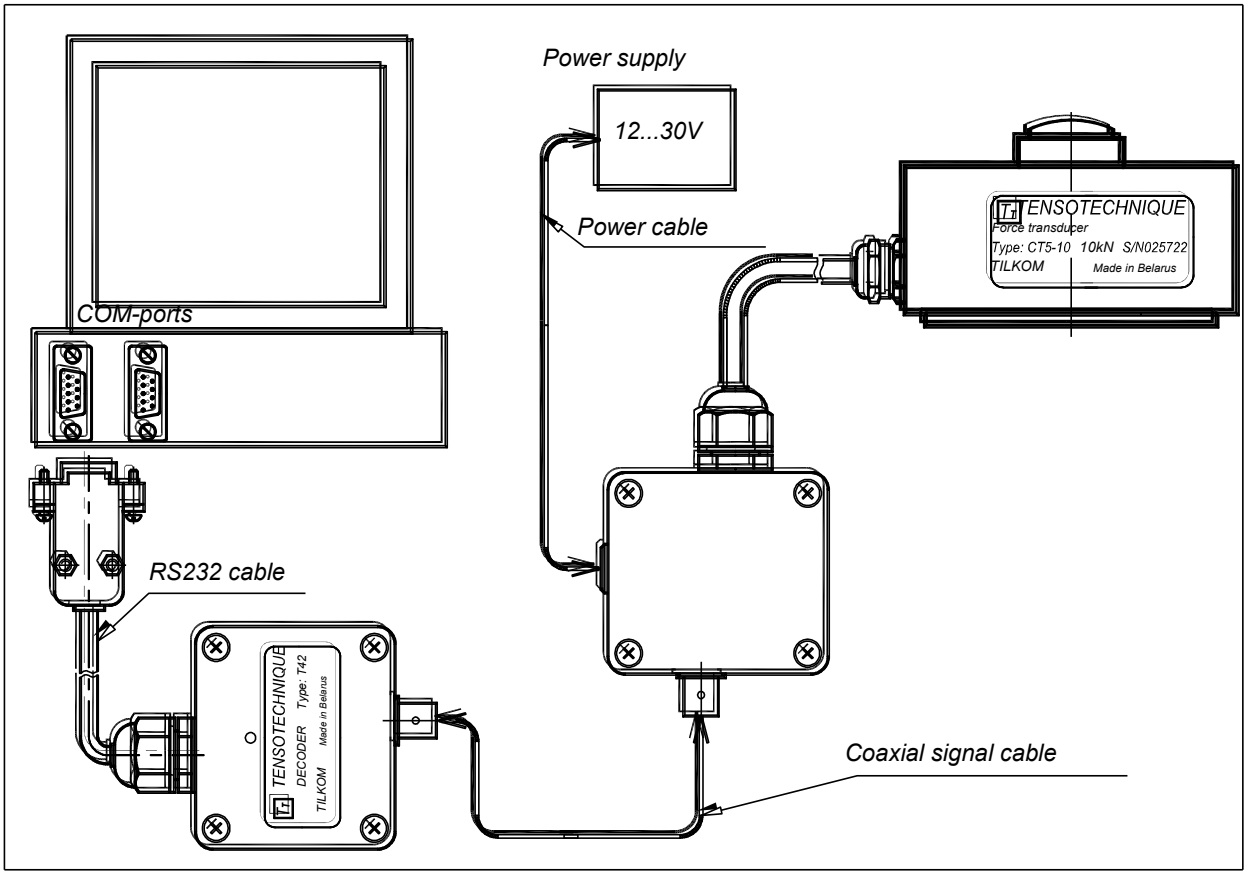


Output

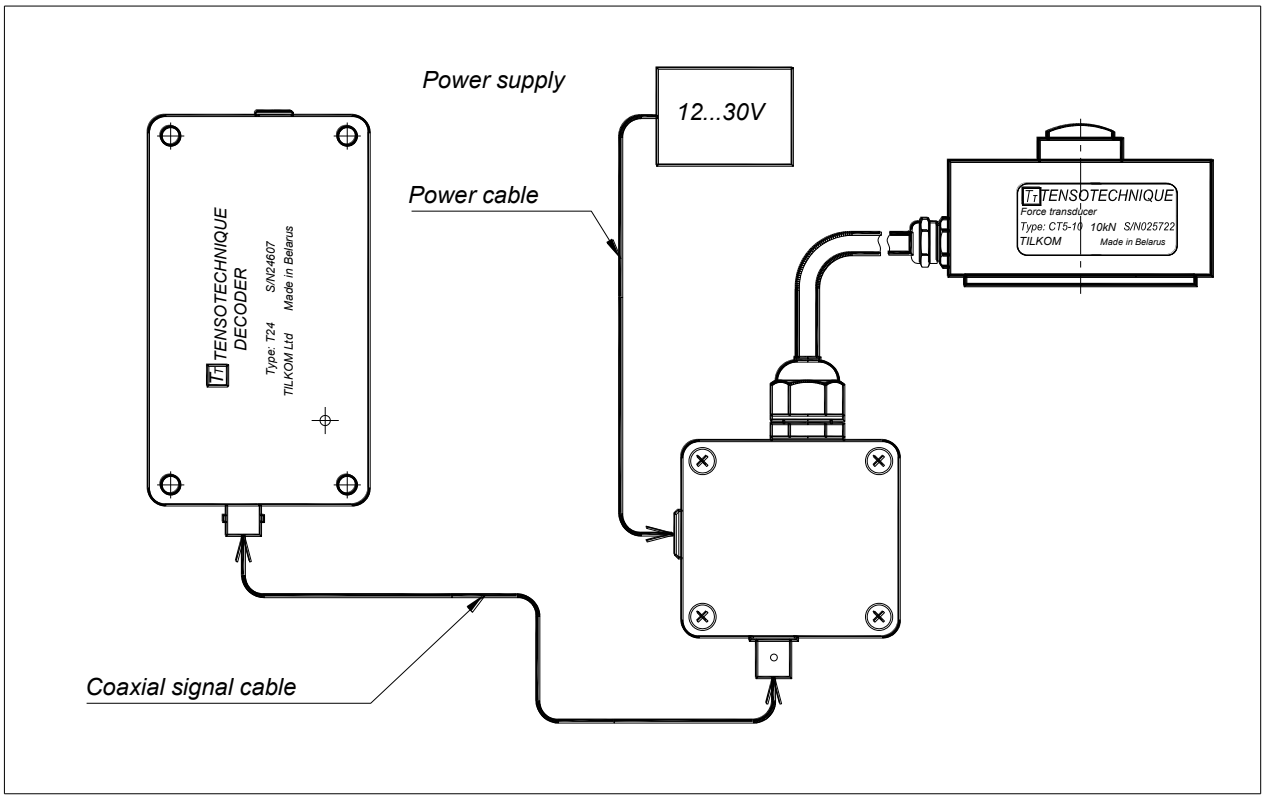
Pin	Pin assignment
1	Torque
2	Speed
3	GND

Connections

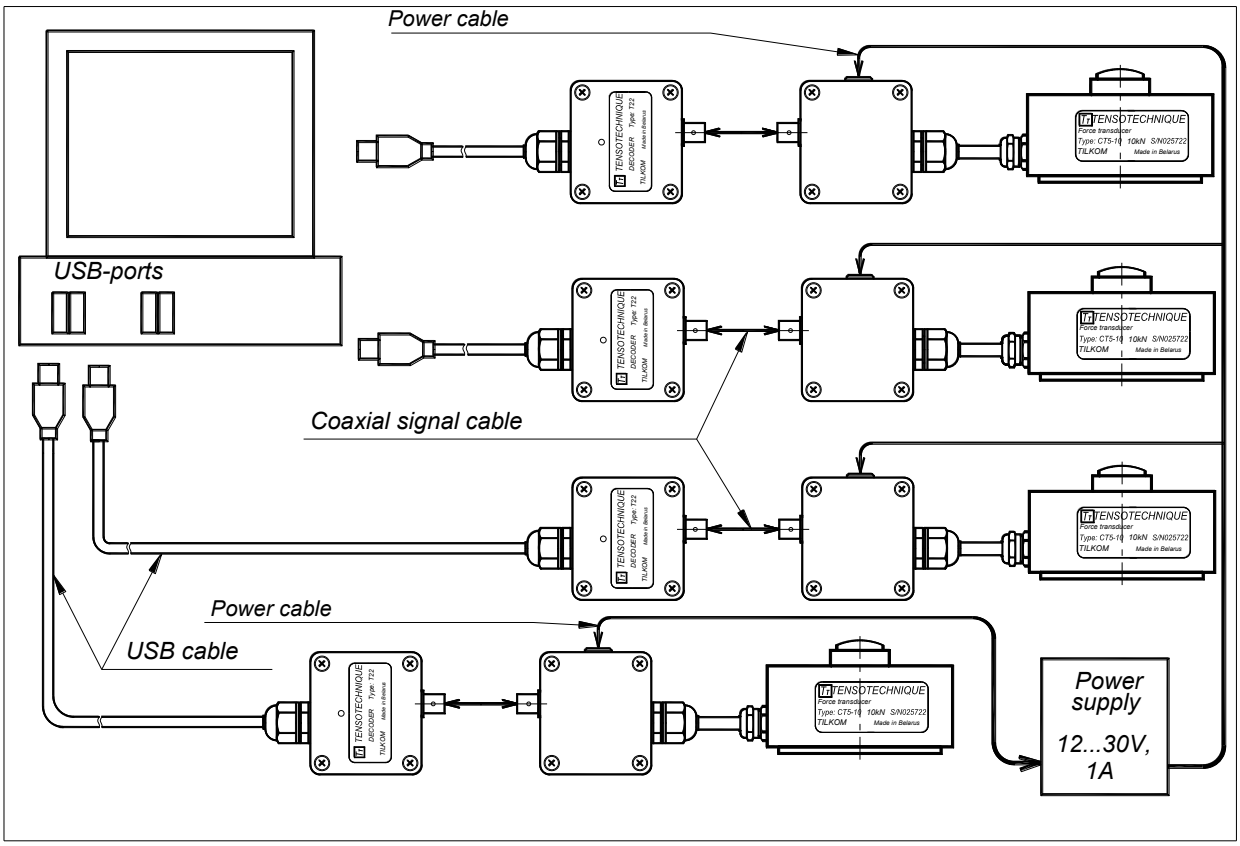
1. Connection to a COM-port of a PC (RS232).



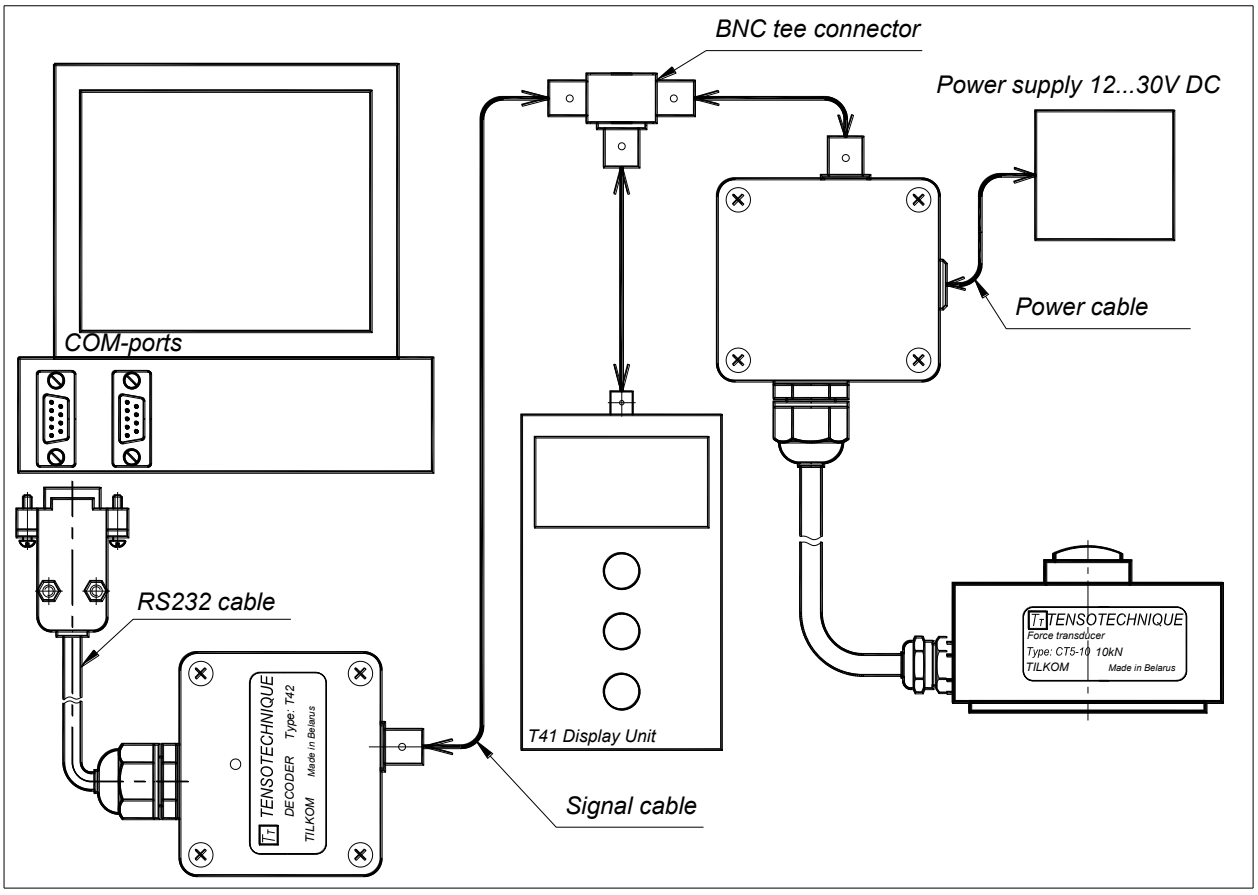
2. Connection to the T24 analogue decoder.



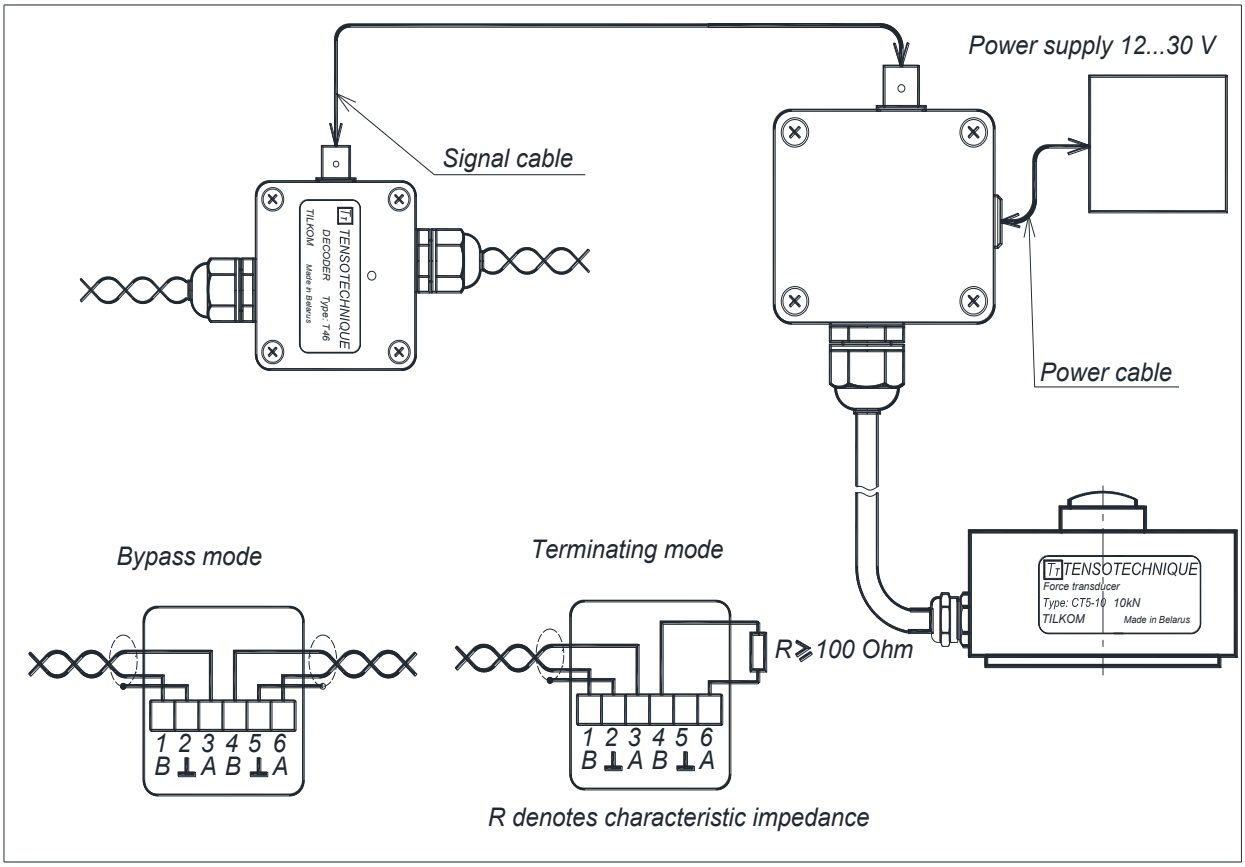
3. Connection to a PC via an USB port (T45 decoder).



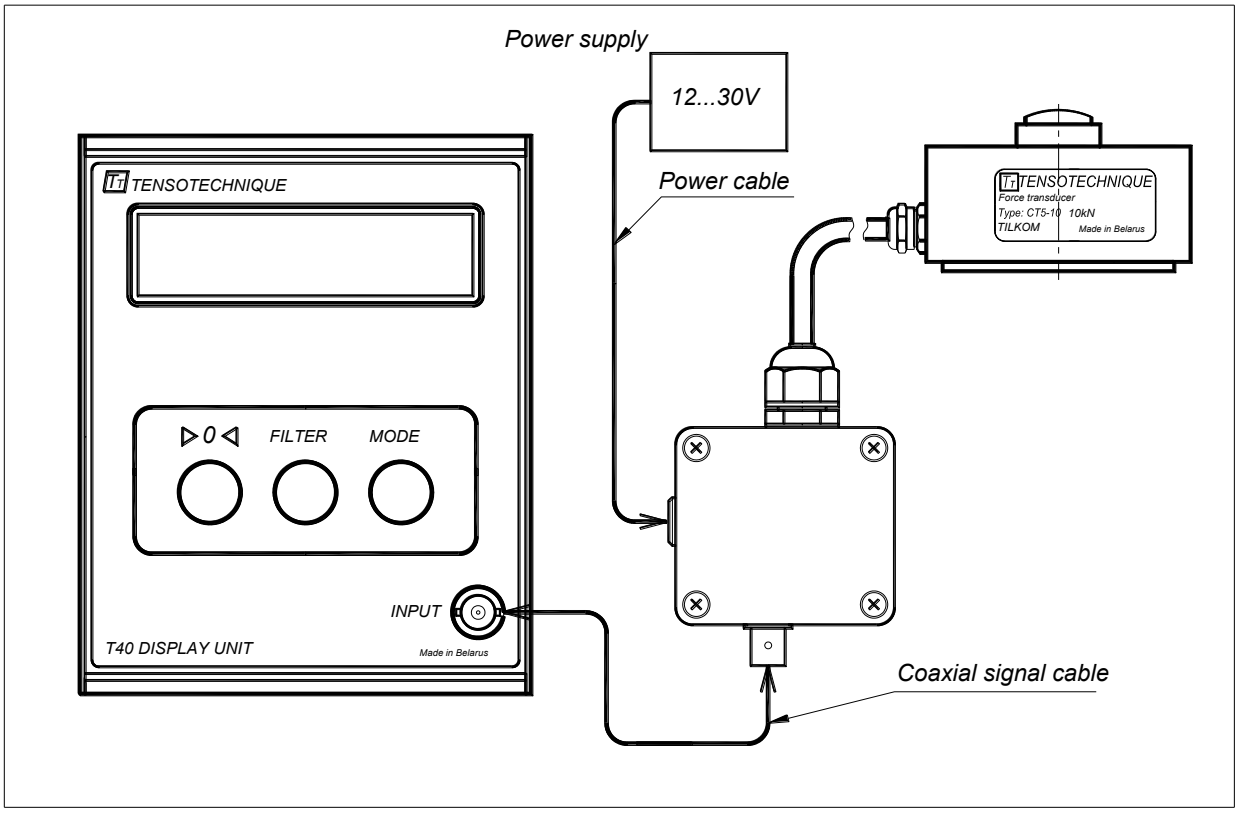
4. Use of a PC and the T40 (T41) display unit simultaneously



5. Connection to the T46 decoder (RS485)



6. Connection to the T40 (T41) display unit



Modifications reserved. All details describe the production in general form.
Customer's specifications and the original design with the required parameters are also available.

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