Data Sheet: TA2USB.530.R1

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TA2USB

Digital transmitter

*The transmitter **TA2USB** makes simple and economical the transmission of data coming from up to 2 load cells, transducers or potentiometers to a PC.*
***TA2USB** has a maximum resolution of +/-50.000 divisions and transmits the data directly on-line USB 2.0.*

It is a very simple but complete instrument as it is self powered directly from the USB line and is ideal as acquisition system connected to a PC.
The transmitter is controlled by a microcontroller that processes the data sampled by two 24bit ADC converters (one for each channels) at a frequency from 5 to 4800Hz.
The instrument continuously transmits the value in divisions according to a protocol highly optimized and easy to implement and allows to get in real-time all the internal acquisition data.

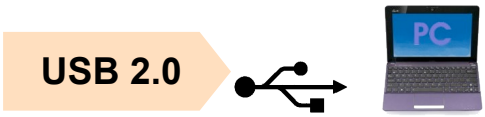
Through the USB line is possible to make the configuration of the transmitter parameters including:

- *The Digital Filter*
- *Conversion Speed*
- *Operating mode: Standard / Peak.*
- *Zero.*

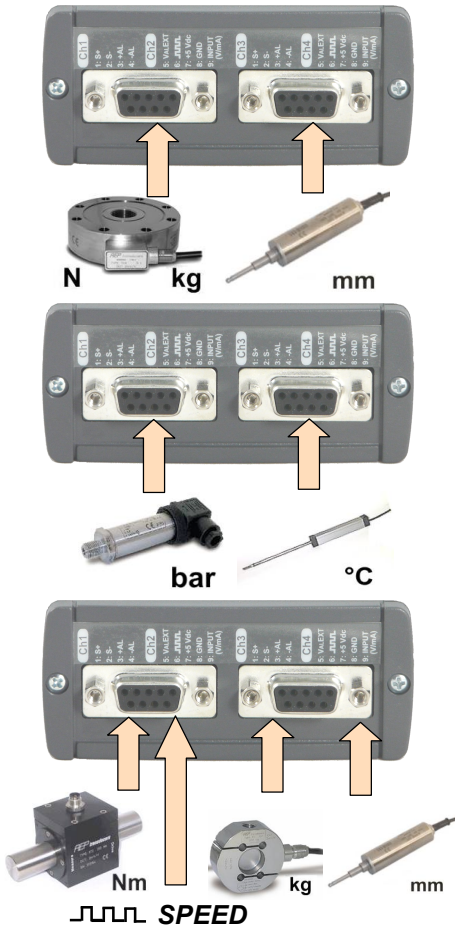
Available versions are:

Input for load cells and dynamometers (standard)
Input for transducers with voltage output (+/-10V). (option)
Input for transducers with current output (4-20mA) (option)
Input for PT100 for temperature measuring
Frequency input for the measure of rotational speed

It is possible to have the instrument in a 4 channel version (option). In this case 2 channel are of strain gauge type while the other two can be selected as voltage, temperature or current input. In this version the acquisition time is reduced but the accuracy is the same.
The connection to transducers is achieved through a standard SUB-D 9-pin female connector.



Applications



CE RoHS

ACCURATEZZA
≤±0.01%
ACCURACY

Risoluzione STANDARD
±50.000 div
STANDARD Resolution

easy APPLICATIONS

Technical Data

POWER SUPPLY	*Self Powered from USB*
ACCURACY *LINEARITY ERROR*	≤ ± 0.01 % ≤ ± 0.01 %
INPUT (Strain gauge full bridge) *STANDARD INPUT SIGNAL* *STANDARD RESOLUTION (2mV/V)* *READING PER SEC.* *CONNECTABLE LOAD CELLS* *BRIDGE EXCITATION VOLTAGE* *CONNECTION SYSTEM*	**Ch1** and **Ch3** 2 mV/V ± 50.000 div. Max **4800** (~0.2ms) 4 (350Ω) or 8 (700Ω) $5V_{DC}$ ±4% 4 wires
OUTPUT *TRANSMISSION SPEED* *INTERNAL RESOLUTION* *MAX. DISTANCE (TA-USB and PC)*	USB 2.0 Max 4800 valori / sec 24bit 3m
NOMINAL WORKING TEMPERATURE *MAX WORKING TEMPERATURE* *STORAGE TEMPERATURE* *TEMPERATURE EFFECT (10°C):* *a) on zero* *b) on full scale*	0.. +50°C 0.. +70°C -20.. +85°C ≤ ± 0.01% ≤ ± 0.01%
ZERO FUNCTION *DIGITAL FILTER (programmable)* *PEAK FUNCTION*	100% *moving average* *Positive and Negative*
PROTECTION CLASS (EN 60529) *CASE* *DIMENSIONS (HxLxW)* *WEIGHT*	IP20 ABS 36x86x100 mm ~ 0.1kg

Options

Input: VOLTAGE AMPLIFIED TRANSDUCERS *INPUT SIGNAL* *RESOLUTION* *Potentiometer Input* • *RESISTANCE* • *POWER SUPPLY*	**Ch2** and **Ch4** ± 10V ± 10.000 div. Min. 1KΩ 5V
Input: CURRENT AMPLIFIED TRANSDUCERS *INPUT SIGNAL* *RESOLUTION*	**Ch2** and **Ch4** 4-20mA 20.000 div.
Input: TEMPERATURE *TYPE* *RANGE* *RESOLUTION*	**Ch2** and **Ch4** PT100 0..200°C 0.1 °C
Input: Rotational Speed *TYPE: TTL or Open Collector*	**Ch2 and Ch4** **0-5 V**

Purchase Codes

(Code)	*INPUT*
TA2USB-20	*2 strain gauge channels 2mVV (Ch1 – Ch3)*
TA2USB-2V	*2 voltage input +/-10V* channels (Ch2-Ch4)
TA2USB-2C	*2 current input 4-20mA channels (Ch2-Ch4)*
TA2USB-2T	*2 Temperature input (PT100) channels (Ch2-Ch4)*
TA2USB-4V	*4 input channels : 2 strain gauge channels 2mVV (Ch1 – Ch3)* *2 voltage input +/-10V channels (Ch2-Ch4)*
TA2USB-4C	*4 input channels : 2 strain gauge channels 2mVV (Ch1 – Ch3)* *2 current input 4-20mA channels (Ch2-Ch4)*
TA2USB-4T	*4 input channels : 2 strain gauge channels 2mVV (Ch1 – Ch3)* *2 temperature input PT100 (Ch2-Ch4)*
TA2USB-4S	*4 input channels : 2 strain gauge channels 2mVV (Ch1 – Ch3)* *2 rotational speed input (Ch2-Ch4)*

Code: **TCAVOUSB** *USB cable 3m*

Code: **TALDMM** *External power supply 24Vdc (necessary in case of amplified transducers)*

WinTA2USB *software for the connection of the instrument to a PC complete with* ***DATA LOGGER*** *, graphs and export of the measured values to an* ***EXCEL*** *file.*

A section of the program allows you to convert the measures acquired by TA2USB in engineering units simply by entering the data characteristic of the transducer connected

Instrument Full Scale
mV/V (in case of Strain Gauge Instrument)
Engineering unit of measure desired
Decimal Point Position

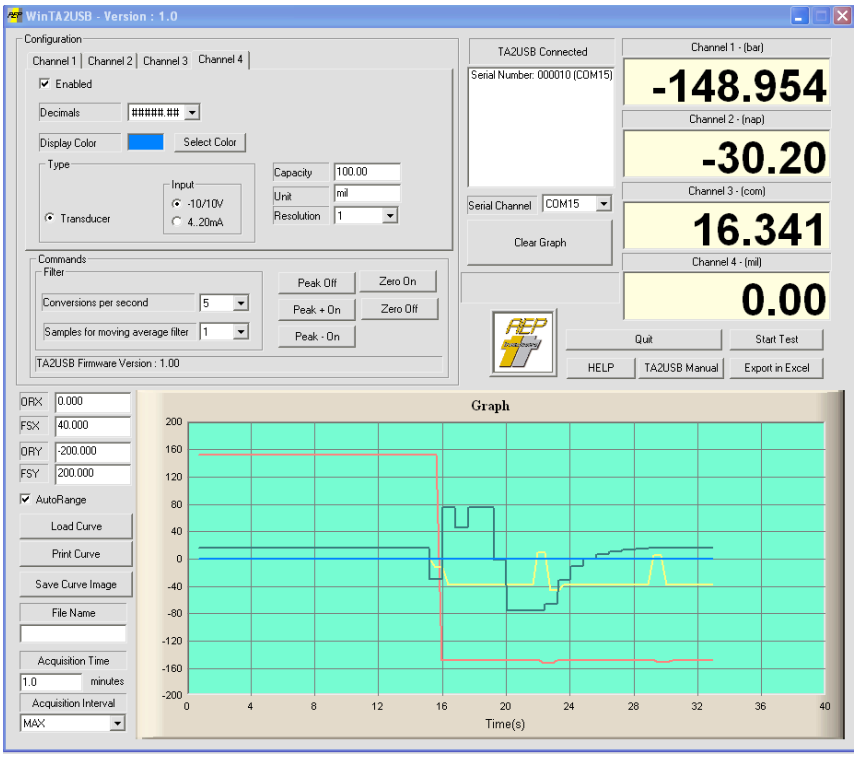
WinTA2USB allows storage to a file (in ASCII format or Microsoft Excel) for a test. Raw data is the pair measure / time allowing to reconstruct the curve after the test. To export in Microsoft Excel is required to have Excel installed on the PC

Some simple commands allow you to perform main functions on a transducer

Zero
Peak Mode (both positive and negative)
Filter
Conversion Speed

The maximum transmission speed for a complete data packet is 4800Hz

You can access to the communication protocol information by clicking on the Help Button.



In order to improve the technical performances of the product, the company reserves the right to make any change without notice.