



Read this document carefully before using this device. The guarantee will be expired by damaging of the device if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

ENDA ETS1410 PULSE INPUT TACHOMETER

Thank you for choosing ENDA ETS1410 Tachometer devices.

- ▶ 35x77 Sized.
- ▶ Easy to use.
- ▶ Decimal place can be set.
- ▶ Divider value assignment between 1 and 999.
- ▶ Automatic sampling time according to input frequency.
- ▶ (Sampling time will be performed between 1 to 16 automatically).
- ▶ CE Marked according to European Norms.



RoHS
Compliant



Order Code : ETS1410 - 

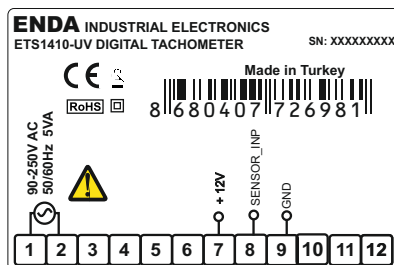
1 - Supply Voltage
UV.....90-250V AC

LV.....10-30V DC /
8-24V AC

CONNECTION DIAGRAM

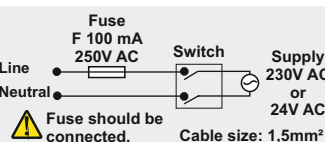


ENDA ETS1410 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The electrical connections must be carried out by a qualified staff and must be according to the relevant locally applicable regulations. During an installation, all of the cables that are connected to the device must be free of electrical power. The device must be protected against inadmissible humidity, vibrations, severe soiling and make sure that the operation temperature is not exceeded. The cables should not be close to the power cables or components.



NOTE : SUPPLY :

184-253V AC
50/60Hz 5VA



 Equipment is protected throughout
by DOUBLE INSULATION.

 Holding screw 0.4-0.5Nm

⚠ Note :

- 1) Mains supply cords shall meet the requirements of IEC 60227 or IEC 60245.
- 2) In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument and it should be easily accessible by the operator.

Up to date: 07.06.2023 modification reserved and can be change any time previous notice !

TECHNICAL SPECIFICATIONS

ENVIRONMENTAL CONDITIONS

Ambient / Storage Temperature	0 ... +50°C/-25 ... +70°C (with no icing)
Relative Humidity	80% Relative humidity for temperatures up to 31°C, decreasing linearly to 50% at 40°C.
Protection Class	According to EN 60529 ; Front Panel : IP65, Rear Panel : IP20
Height	Max.2000m

⚠ KEEP AWAY device from exposed to corrosive, volatile and flammable gases or liquids and DO NOT USE the device in similar hazardous locations.

ELECTRICAL CHARACTERISTICS

Supply	90-250V AC 50/60Hz; 10-30VDC / 8-24VAC SMPS
Power Consumption	Max. 5VA
Wiring	2.5mm² screw-terminal connections
Scale	4 Digits, 12.5 mm, 7 Segment Red Display LED.
Accuracy	%0,01
EMC	EN 61326-1: 2013 (Performance criteria B has been satisfied for EN 61000-4-3 standard).

Safety Requirements

⚠ ETS1410 should not be used when measurement categories II, III or IV are required.

INPUTS

Sensor Input	5 to 30V pulses
Measurement Frequency	Measures frequencies between 0.07Hz and 10000Hz.
Sampling Time	Automatically adjusted according to input frequency. Minimum: 1s, Maximum: 16s

OUTPUT

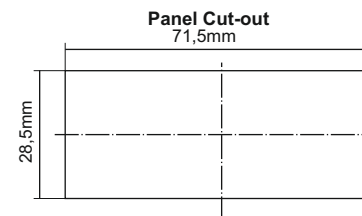
Sensor Supply Output	12V DC, Max. 30mA (unregulated)
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HOUSING

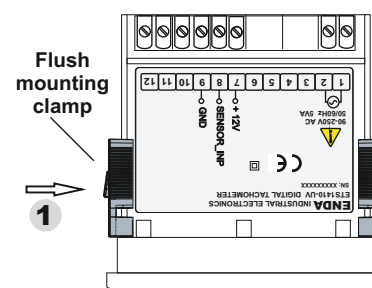
Housing Type	Suitable for flush-panel mounting.
Dimensions	W77xH35xD61mm
Weight	Approx. 190g (after packing the device)
Enclosure Material	Self extinguishing plastics

**⚠ Avoid any liquid contact when the device is switched on.
DO NOT clean the device with solvent (thinner, gasoline, acid etc.) and / or abrasive cleaning agents.**

DIMENSIONS

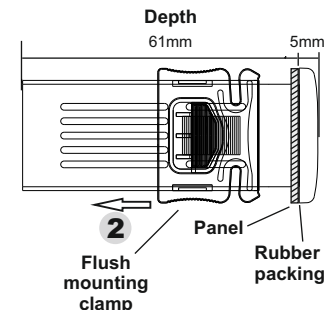


Note :
1) While panel mounting, additional distance required for connection cables should be considered.
2) Panel thickness should be 7mm maximum.
3) If there is no free space at back side of the device, it would be difficult to remove it from the panel. 60mm clearance should be left behind the device.

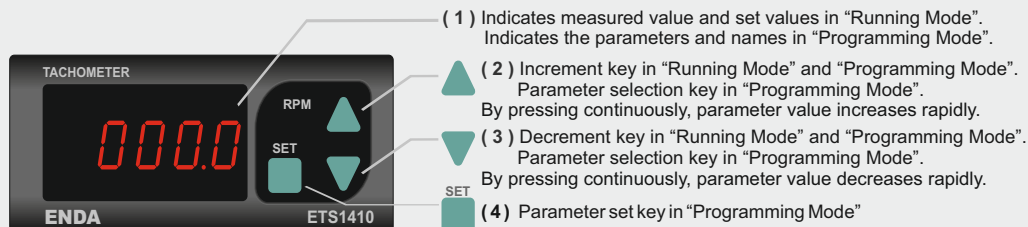


To removing mounting clamps :
- Push the flush-mounting clamps in direction **1** as shown in the figure.
- And, pull out the clamp in direction **2**

Flush mounting clamp



TERMS



(1) PV Göstergesi	7 Segment, 4 Digits Red LED display
Character Heights	12,5 mm
(2),(3),(4) Keypad	Micro switch

SETTING UP THE PARAMETERS

By pressing keys together for 2 seconds, "Programming Mode" is entered.

During a selected parameter, by pressing key, parameter value can be displayed. Parameter value can be changed with keys. If no operation performed for 3 seconds or during this time, if key is pressed while the parameter value displayed, parameter name will be displayed again. While parameter name displayed, if by pressing together keys, "Running Mode" is entered.

Provides to access to the next parameter in "Programming Mode". Increases the selected parameter value. By pressing continuously, parameter value increases rapidly.

Provides to access to the previous parameter in "Programming Mode". Decreases the selected parameter value. By pressing continuously, parameter value decreases rapidly.

VIEWING THE REVISION DATE

If keys are pressed together, the revision date is displayed consecutively in days, months and years. If any of the pressed buttons are released while the revision date is displayed, the measurement value is displayed again.

DEVICE PARAMETERS

Parameter Name	Description	Min.	Max.	Unit	Default Value
c	Dividing parameter value	1	999		1
dp	Decimal place parameter	0	3		0

EXAMPLES FOR USING DIVISOR PARAMETER

ENDAETS1410 Pulse Input Tachometer divides the pulses from the input to the display by dividing it with the calibration value. The divisor value can be selected between 1 and 999. This feature allows the device to be used in precise speed measurements, instantaneous flow measurements and speed measurement applications. According to this, 1 as the divisor value must be entered for the one-to-one flow rate measurement. Calculation of dividing information can be formulated as follows :

$$\text{CAL(divider value)} = \frac{\text{Number of pulses per minute}}{\text{Desired value on the display}}$$

DIVISOR VALUE FOR LINE SPEED MEASUREMENT

25cm circumference of cylinder has 3 rpm turn. Speed of the belt passing over this cylinder will be measured in meter/min. To measure the rotation of the cylinder, 50 pulse/cycle encoder will be used.

The dividing value is calculated as follows ;

Display value : 3cycles/min X 25cm/rpm = 75cm/min

Number of pulses per minute : 3cycles/minute X 50pulses/rpm = 150 pulses/minute

Then ;

$$\text{CAL(divider value)} = \frac{150 \text{ pulse/minute}}{75 \text{ cm/minute}} = 2$$

ERROR MESSAGES

Input frequency too low or no signal

Measured value is higher than 9999

High input frequency