

TA4/2

**ANALOG TRANSMITTER
OPERATING MANUAL**
MO.TA4.516.R4



**Analog
Output**

Load cells



2 mV/V



VETEK

Vetek AB Hantverkarsvägen 15, 76493 Vaddö - Sweden
Tel: +46176-208920, info@vetek.com, www.vetek.com

Dasa-Rägister
EN ISO 9001 (2000)
10-1100-01

DECLARATION OF CONFORMITY
According to the ISO/IEC guide and EN 45014

Manufacturer: **AEP transducers s.r.l.**
Address: **Via Bottego 33/A 41010 Cognento MODENA Italia**
DECLARES THAT THE FOLLOWING PRODUCT:
Device model: **TA4/2**
Device type: **ANALOG TRANSMITTER**
Year of manufacturing: **2004**
Options: this declaration covers all the options specified in the sales catalogue.
CONFORMS TO THE FOLLOWING NORMS: **EN 61010-1 EN 61326-1 EN 61326/A1**
The product has been tasted in the typical installation configuration, as described in the instruction manual.
TA4D/2 model: the immunity to the electromagnetic fields is 3V/m.
Above described product meets the requirements of mentioned Norms, basing on both test result and considerations listed in the technical file.
I declare that above defined product meets the requirements of the:
89/336/CEE - 92/31/CEE - 93/68/CEE - 73/23/CEE.
41010 Cognento MODENA 07/07/2004

Luigi Giovanni
Technical Manager

INTRODUCTION

TA4/2 transmitters make easy and cheap the remote transmission of strain gauge load cells analogue signals to PLC, PC, recorders, remote indicators etc... until to a distance of 40m.
The possibility of internally connecting the load cells in parallel (max.4 of 350Ω or 8 of 700Ω) makes system wiring easier by avoiding the use of junction boxes. It is ideal to be used in the most advanced industrial weighing systems, processes control, dosing (silos and hoppers) and automation thanks to the two versions of its case: hermetic case made of pressure die-cast aluminium (IP65 class) or plastic case for mounting on a DIN guide (suitable for applications inside control panels).
The transmitter feeds the load cells, amplifies and filters the returned signal with high-precision and long-term stability amplifiers; it is possible to internally perform all Zero and Full Scale calibrations through a dip switch for less accurate regulations and through a trimmer for precise regulations.
In order to soften vibrations or mechanical unsteadiness present in the plant, transmitter has an analog filter which can be adjusted by the operator.
The TA4/2 transmitters offers two speed of response selectable by the user: the standard speed (2.5Hz 16.5Hz) is obtained with J4 closed and acting on the F trimmer, the Fast speed (1KHz) is obtained with J4 open.
The analog output: 0÷20mA, 4÷20mA, ±5V, ±10V shall be indicated when order is placed.
The immunity to the electromagnetic fields for the TAD/2 version is 3V/m.

On request, transmitter can be equipped with:
Input signal : 1mV/V, 3 mV/V.
Case for a 35mm DIN bar.

| | | | |
|----------------------------|--------------------|------------------------|---------------------|
| ACCURACY CLASS | ≤±0.02% | ZERO adjustment | ±70% |
| LINEARITY ERROR | ≤±0.02% | ZERO fine adjustment | ±10% |
| INPUT SIGNAL | 2mV/V | POWER SUPPLY | 16÷26Vdc |
| INPUT IMPEDANCE | 101 [±] Ω | MAX ABSORPTION | 200mA |
| CONNECTABLE LOAD CELLS | 4 da 350Ω | LOAD CELLS FEEDING | 10Vdc ±4% |
| ANALOG OUTPUT | | PROTECTION (EN60529) | IP65 |
| CURRENT loading resistor | max.470Ω | CASE | Alluminium |
| TENSION loading resistor | min.3KΩ | DIMENSIONS (HXLXP) | 80x125x58 |
| STD response speed | 2.5÷16.5Hz | WEIGHT | ~0.6kg |
| FAST response speed | 1KHz | EXTERNAL FUSE (F type) | 500mA 250V |
| MAX WORKING TEMP. | -10 ÷ +50°C | OPTIONS: | |
| STORAGE TEMP. | -20 ÷ +70°C | INPUT SIGNAL | 1mV, 3mV |
| 10°C TEMP. VARIATION: | | ANALOG OUTPUT | ±5V, ±10V 0÷20mA |
| - On Zero | ≤±0.01% | DIN bar case | DIN 35mm |
| - On Full Scale | ≤±0.01% | DIMENSIONS (HXLXP) | 82x144x42 |
| ZERO POTENTIOMETER | 10KΩ | WEIGHT | ~0.2kg |
| FULL SCALE adjustment | 5÷30mV | | |
| FULL SCALE fine adjustment | ±10% | | |

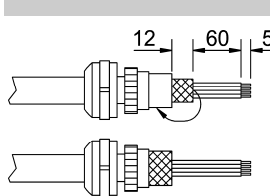
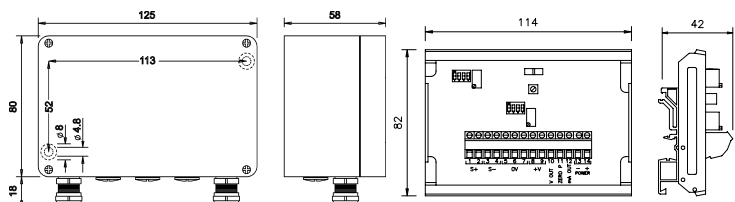
INSTALLATION

This indicator has been produced in conformity to the norms for the E.M.C. according to the Directive 89/336/CEE (and following changes). To respect them it is necessary to perform the electric connections according to what indicated in this manual.

POSITIONING

Instrument shall be positioned in the following way:
The TA4/2 model (IP65) must be fixed to a wall and not directly exposed to the atmospheric agents.
The TA4D/2 model must be fixed on a DIN guide inside a control panel that protects it from the atmospheric agents and screen it from the electromagnetic fields present in the industrial environment.

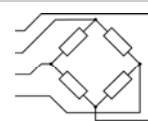
DIMENSIONS (mm)



SUGGESTION

For the full correspondence to the electromagnetic compatibility, turn the screen inside each fairlead in order to have it in contact with the case connected to the line Earth.

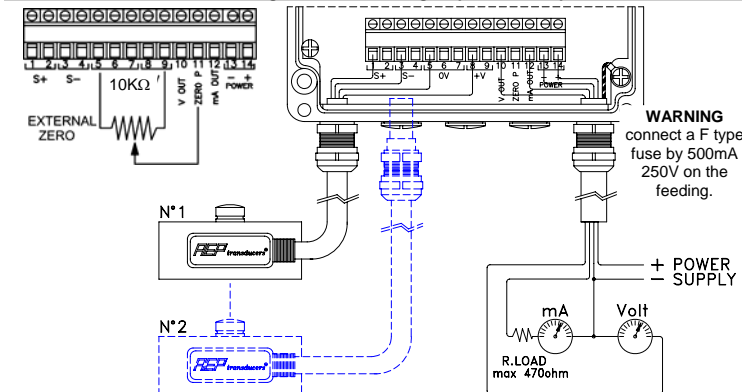
TERMINALS



- 1-2 = SIGNAL+ (S+)
- 3-4 = SIGNAL- (S-)
- 5-6-7 = EXCITATION- (0V)
- 8-9 = EXCITATION+ (+V)

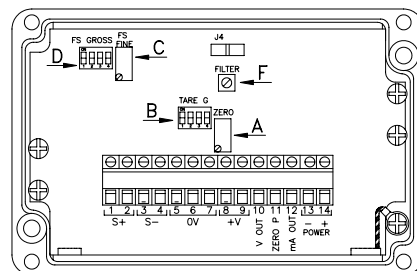
- 10 = OUTPUT Volt
- 11 = External ZERO potentiometer
- 12 = OUTPUT mA
- 13 = -POWER SUPPLY (0Vdc)
- 14 = +POWER SUPPLY (24 Vdc)

CONNECTIONS: Feeding, Load cells, Analog output and Zero potentiometer



WARNING
connect a F type fuse by 500mA 250V on the feeding.

SETTINGS



| TARE suppression (Switch B) | |
|-----------------------------|----------------|
| Switch 1 = 7% | Switch 3 = 28% |
| Switch 2 = 15% | Switch 4 = 28% |

| FULL SCALE regulation (Switch D) | | |
|----------------------------------|------------|---------------|
| Input mV | Output 10V | Output 4÷20mA |
| 30 | OFF | OFF |
| 20 | 1 | 1 |
| 15 | 2 | 2 |
| 10 | 1,3 | 1,3 |
| 5 | 1,4 | 1,4 |

Insert the switch combining them until you get wanted result.

- A = Fine Zero adjustment
- B = Switch for fixed Tare suppression
- C = Fine Full Scale adjustment
- D = Rough Full Scale adjustment
- F = Analogue Filter adjustment
- J4 = Close = STD version (f=2.5÷16.5Hz)
- J4 = Open = FAST version (f=1KHz)

CALIBRATION PROCEDURE

The transmitter is supplied already calibrated according to the specifications, but depending on the system which is being realized, it is necessary to perform **ZERO** and **FULL SCALE** regulations. **ZERO** regulations is necessary to deduct the system fixed tare and reset the amplified output signal to the initial values.

This regulation can be performed by acting on **B** dip switch and on **A** trimmer. **FULL SCALE** regulations is performed by loading a sample weight on the system and by correcting the amplified output, we recommend to perform this operation with a weight not lower than 50% of system full scale.

This regulation can be performed by acting on **D** Dip Switch and **C** trimmer. Analogue **FILTER** regulation is performed depending on possible amplified signal instabilities due to weighing system vibrations, for a further filtering, please rotate clockwise the **F** trimmer. When filter increases, the transmitter response decreases; in the Fast version (f=1KHz), the filter is disabled.

TRANSPORT

This is an instrument made of electric components, in case of transport pack it carefully, pay attention to both shocks and humidity.

DELIVERY

Instrument is tested in any of its parts then configured and calibrated.

POWER ON

Connect the cables at terminals, feed the instrument.

POWER OFF

Cut off the power.

MAINTENANCE

Instrument does not require any periodic maintenance; occasionally remove contingent leavings of dirt with a air jet.

DISPOSAL

Cut off the power. Disconnect cables. Wrap instrument up either in a plastic package or in cardboard box. Deliver the instrument to companies specialised in scrapping according to the laws in force.

TROUBLE SHOOTING

Instrument does not transmit the analogue signal, check power supply and internal fuse.

PURCHASE CODE

| ETA4 | Case | Input | Output | Power Supply |
|------|--------------|----------|--------------|--------------|
| | /=Alluminium | IX = 2mV | O4 = 4-20mA | D24 |
| | D = DIN | | O5 = ±5V | |
| | | | O11 = ±10V | |
| | | | O20 = 0-20mA | |

EPG7SET Pack with n° 3 metal fairleads.