N.B.C.
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Celle di carico e strumentazione elettronica

Analog transmitter Ana126R v2

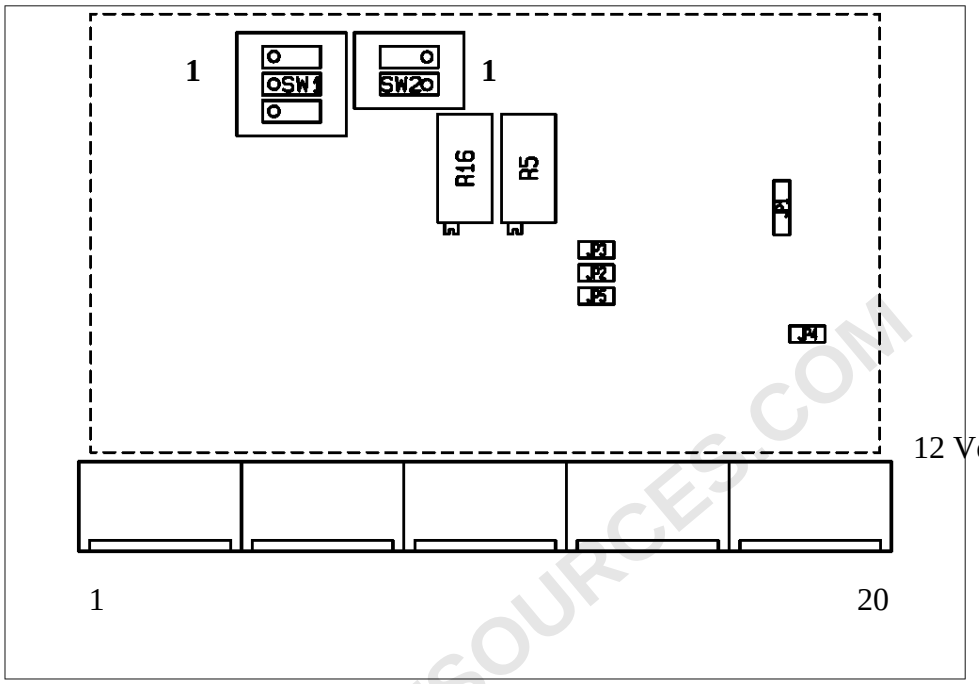
Manual number: Ana126Re1.doc

CONTENTS

1 TECHNICAL CHARACTERISTICS

Power supply	24 Vdc version 24 Vdc ± 15 % 12 Vdc version 12 Vdc +15% -10%
Power max	4W
Isolation	Class III
Functioning temperature	-10°C ÷ +50°C (max 85% humidity)
Storage temperature	-20°C ÷ +60°C
Dimension	75 mm x 90 mm x 25 mm (l x h x p)
IP degree	IP00
Connections	Screw terminal step 3.81 mm
Load cell supply	8 Vdc / 120 mA (max 4 cells of 350Ω) .
Linearity	0.05% f.s.
Derive	0.005 % f.s / °C
Measurement range	from ± 0.5 mV/V to ± 6 mV/V
Zero settino and full scale	Zero setting: 40 % Tare suppression Gain settings: From 0.5 mV/V out 25 mA To 3 mV/V out 12.5 mA
Analogic filter	20 Hz
Outputs	Tension: 0 ÷ 10 V / ± 10V Current: 0 ÷ 26 mA
Impedence	Tension:10KΩ minimum Current: 300Ω
Directives	EN61000-6-2, EN61000-6-3 for EMC

2 CONNECTIONS

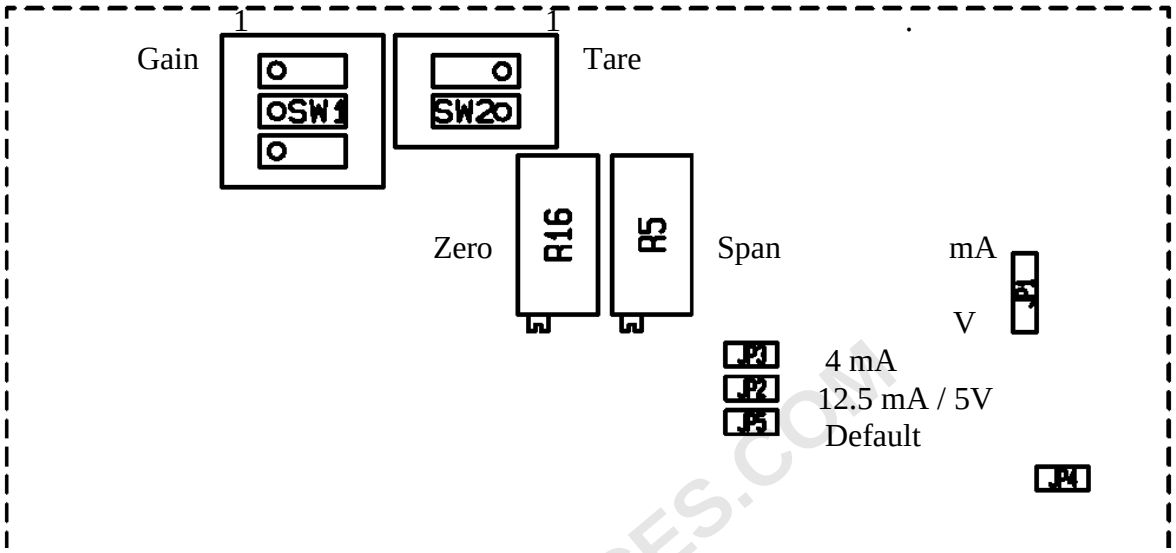


NUM.				Connector MT5 – MT1 20p step 3.81mm
1	5	9	13	+ Load cell excitation
2	6	10	14	+ Load cell signal
3	7	11	15	- Load cell signal
4	8	12	16	- Load cell excitation
17				Negative Output Tension / Current
18				+ Out (tension or current output)
19				GND (Power supply ana126R)
20				+12Vdc / +24 Vdc (Power supply ana126R)

In case of 12VDC power the switching part is not present and it's present the jumper JP4.
In case of 24Vdc power must not be present the jumper JP4.

The analog ouput and load cell cables must be shielded .
Cable shields must be connected to the ground.

3 REGULATIONS



3.1 Volt / mA FUNCTIONING

The selection between V and mA is made via solder jumper on two pins of JP1: °

- **mA** the two pins above
- **V** two pins bottom

For 0-10V, 0-26 mA outputs, jumper JP5 must be present (default).
Were provided an offset for the 4 mA (JP3) and one for 12.5 mA (JP2).
These offsets allow a zero and full scale independent. These three jumpers must be active one at a time.
Note: the central zero to 12.5 mA is possible also with the default jumper and moving tare and zero trimmer

3.2 LOAD CELL SENSITIVITY

The selection of the load cell sensitivity is carried out using the dip-switch SW1.
With the DIP switches to OFF has the minimum gain (from 3 mV / V output 12.5 mA), with all switches to ON, the maximum gain. The table below shows the sensitivity of the load cell.

Dip SW1 1 2 3	Sensitivity Max mV/V	Sensitivity Min mV/V
off off off	6	3.5
ON off off	3.5	2.1
off ON off	2.2	1.4
ON ON off	1.8	1.1
off off ON	1.4	0.8
ON off ON	1.2	0.7
off ON ON	1.0	0.6
ON ON ON	0.9	0.55

Note: when using jumper JP3 (4mA), increase cell sensitivity of 20% on table

For cells of 2 mV / V you will normally select "Off ON Off".

If you have a cell of 2 mV / V, but you want to get the signal 10V or 26 mA using only part of the load cell signal, we calculate the sensitivity and set the relative position of SW1:
sensitivity = load cell sensitivity / percentage
Ex: Using 50% of load cell for 50% 2 mV / V x 50/100 = 1 mV / V.

3.3 TARE SUBTRACTION AND ZERO CENTRAL FUNCTIONING

The selection is carried out using the dip switch SW2.
With the various positions of the dip switch SW2 we can subtracting the tare of about 40% to the sum of approximately 70%.

Dip SW2 1 2	Min	Max
ON off	-40%	-10%
ON ON	-15%	20%
off off	12%	40%
off ON	35%	70%

For systems with low tare weight you will normally select "ON ON".

3.4 ZERO AND FULL SCALE SETTINGS

The adjustment is made by The trimmer shown in the following table.

	Volt / mA
Zero setting	R16
Full scale setting	R5

4 mA OUTPUT CALIBRATION

4.1 0/4 mA CALIBRATION

0/4 mA CALIBRATION: To carry out a correct calibration it is indispensable to perform the zero calibration as the first operation.
To do this, insert the test probes of a tester into the connector pin 18 (+OUT) and pin 17(GND) .
With the cells loaded only by the TARE weight, on the tester there will be a positive value.
Use SW2 to approach the reading to zero and then set the exact zero by means of the Zero trimmer.

4.2 WEIGHT CALIBRATION

Load the cells with a known weight and the tester will show a clear positive value.
Use the following rule in order to calibrate correctly the signal:

[maximum weight] : 16 mA[net full scale] = [known weight] : X1

$$X1 = \frac{[\text{full scale}] \times [\text{known weight}]}{[\text{maximum weight}]}$$

where:
[maximum weight] = weight corresponding to the 20mA output
[net full scale] = maximum output current (20 mA)
[known weight] = known weight used for calibration
X1 = mA value to be set for a correct calibration

X= correct current mA value that correspond to weight loaded = **.x1 + 4mA**

Use SW1 dip switch and Span trimmer to obtain a mA signal displayed on the tester equal to the calculated value.

IF A WEIGHT EQUAL TO THE FULL RANGE HAS BEEN LOADED ON THE CELLS, THEN THE FULL SCALE mA SIGNAL MUST BE OBTAINED (20 mA).

5 VOLTAGE OUTPUT CALIBRATION

5.1 ZERO CALIBRATION

To carry out a correct calibration it is indispensable to perform the zero calibration as the first operation.
To do this, insert the test prods of a tester into the connector pin 18 (+OUT) and pin 17 (GND).
With the cells loaded only by the TARE weight, on the tester there will be a positive value.
Use SW to approach the reading to zero and then set the exact zero by means of the Zero trimmer.

5.2 WEIGHT CALIBRATION

Load the cells with a known weight and the tester will show a clear positive value.
Use the following rule in order to calibrate correctly the signal:

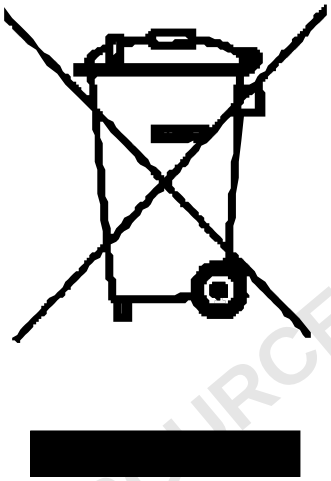
[maximum weight] : [full scale voltage] = [known weight] : X

$$X = \frac{[\text{full scale voltage}] \times [\text{known weight}]}{[\text{maximum weight}]}$$

where:
[maximum weight] = weight corresponding to the maximum output voltage (10 Volt)
[full scale voltage] = maximum output voltage (10 Volt)
[known weight] = known weight used for calibration
X = voltage value to be set for a correct calibration

Use SW1 dip switch and Span trimmer to obtain a voltage signal displayed on the tester equal to the calculated value.

IF A WEIGHT EQUAL TO THE FULL RANGE HAS BEEN LOADED ON THE CELLS, THEN THE FULL SCALE VOLTAGE SIGNAL MUST BE OBTAINED (10 V).



Ai sensi del Decreto Legislativo 14 marzo 2014 n. 49, “Attuazione della Direttiva 2012/19/UE sui rifiuti di apparecchiature elettriche ed elettroniche” in merito alla identificazione in modo inequivocabile del produttore delle AEE che ha immesso sul mercato apparecchiature dopo il 13 agosto 2005. Il simbolo del cassonetto barrato sopra riportato sull’apparecchiatura o sulla sua confezione o sul manuale istruzioni, indica che il prodotto alla fine della propria vita utile deve essere raccolto in modo differenziato e separatamente dagli altri rifiuti come sancito dal D. Lgs. 151/2005

Il presente apparecchio è conforme alla normativa RoHS

According to the senses of the Legislative Decree 14 March 2014 n. 49 “Accomplishment of the Directives 2012/19/UE”, on the identification in such a way unequivocally the producer of AEE placed on the market that has equipment after, August 13 2005. The symbol as shown on the above or their packaging or instruction manual, indicates that the product end of life, it must be separately collected and separately from other waste as stipulated by Legislative Decree 151/2005

RoHS compliant.