SUMMING UNIT

SURFACE MOUNTING CARD

MOD. EL 574

Rev. 29/10/2001

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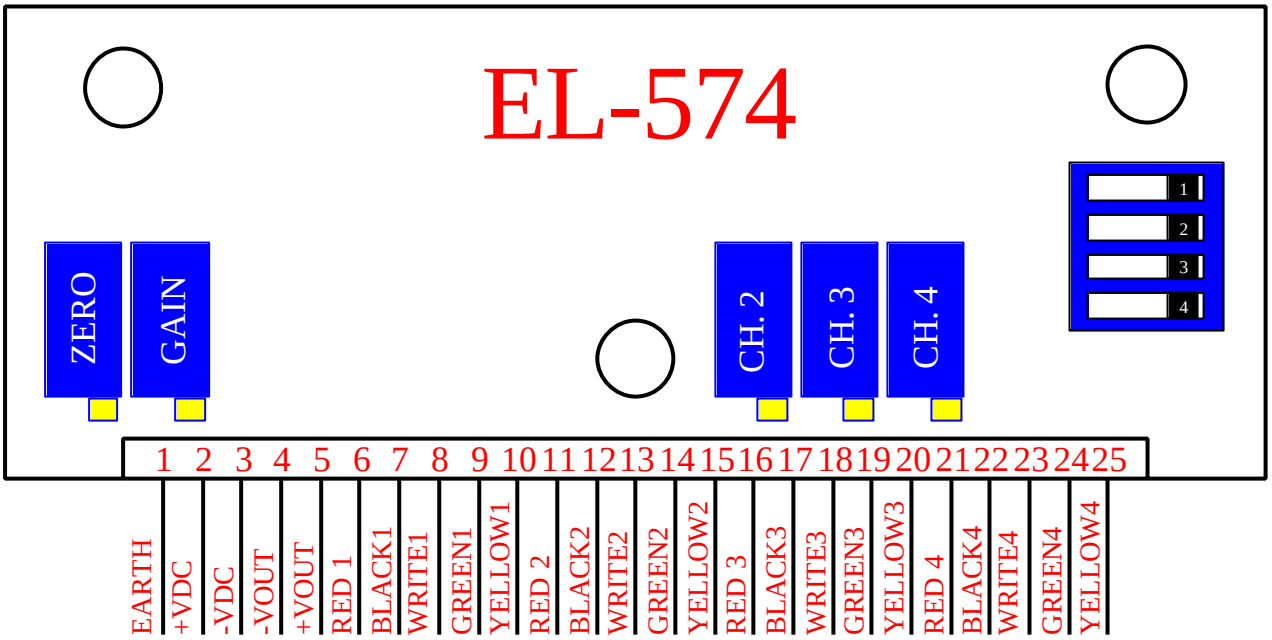
A) CONNECTIONS

Summing unit MOD. EL 574



PIN	DESCRIZIONE	PIN	DESCRIZIONE
1	EARTH	**14**	GREEN (Load Cell 2)
2	+VDC (Power Supply)	**15**	YELLOW (Load Cell 2)
3	-VDC (Power Supply)	**16**	RED (Load Cell 3)
4	-VOUT (Output)	**17**	BLACK (Load Cell 3)
5	+VOUT (Output)	**18**	WRITE (Load Cell 3)
6	RED (Load Cell 1)	**19**	GREEN (Load Cell 3)
7	BLACK (Load Cell 1)	**20**	YELLOW (Load Cell 3)
8	WRITE (Load Cell 1)	**21**	RED (Load Cell 4)
9	GREEN (Load Cell 1)	**22**	BLACK (Load Cell 4)
10	YELLOW (Load Cell 1)	**23**	WRITE (Load Cell 4)
11	RED (Load Cell 2)	**24**	GREEN (Load Cell 4)
12	BLACK (Load Cell 2)	**25**	YELLOW (Load Cell 4)
13	WRITE (Load Cell 2)		

B) TECHNICAL FEATURES

- **Load Cells to be connected:** 1 up to 4.

- **EL 574 Power Supply; Output; Load Cell Power Supply.**

EL 574 POWER SUPPLY	OUTPUT	POWER SUPPLY OF LOAD CELLS
12 Vdc	0÷±5,0 ÷±10 Vdc	10 Vdc
24 Vdc	0÷±5,0 ÷±10 Vdc	10 Vdc

- **Gain setting:** 1÷250 for every used channel.
  (100 when 4 channels are used).

- **Zero setting:** 0÷100 %

- **Working temperature:** 0÷ +70°C.

- **Power supply:** filtered and stabilized.

C) CONNECTIONS

- **It is advisable not to connect -Vdc with -Vout** in order to have an insulation up to 1000 Vdc between power supply and sensors. It is in any case possible to connect them together.

- **Connect load cells in a raising order of sensitivity** (with same power supply) starting from channel 1.
  Look for **sensitivity** values in the certificates (mV/V): these are the maximum signals of sensors at FS for every Volt of power supply.

D) CALIBRATION AND EQUALIZATION WITH BUILT-IN CALIBRATION CIRCUITRY

- **Built-in calibration circuitry:** It is very useful when it is not available a specimen or a press with another load cell as reference.
  All transducers made by DS Europe have a built-in calibration circuitry together with a calibration certificate that states what is the physical correspondence (Kg, tons) of the electrical signal obtained when using the calibration circuitry.

- **Calculate for each load cell connected:**

Cal. (Kg) = Equivalent load value as expressed in the certificate in Kg, tons.

Vout.attr.(V) = Maximum signal from each load cell at FS after equalization.

FS (Kg) = Full scale of load cells.

X (V) = Signal obtained from each load cell when using the built-in circuitry by means of switches 1, 2, 3 and 4 on pins 1 and 2.

Vout.(V) = Output (5 or 10 Vdc).

$$\frac{\text{Vout.(V)}}{\text{number of load cells}} = \text{Vout.attr. (V)}$$

$$\frac{\text{Vout.attr. (V)} \times \text{Cal. (Kg)}}{} = X \text{ (V)}$$

FS (Kg)

- **Connect all load cell** and set **zero trimmer P4** up to get an output of **0 volt** .

  Use calibration circuitry of load cell 1 by means of **switch 1.**
  Set (**gain trimmer P5**) up to obtain X (V), from load cell on channel 1.

- Switch of **Switch 1.**

- Do not modify any more setting of trimmers P4 and P5, switch on switch 2 (calibration equivalent circuitry of load cell 2) and set **trimmer P1** up to obtain **X(V)** from load cell on channel 2.

- Switch off **switch 2**

- Proceed as overmentioned for load cells on **channels 3 and 4.**

- **Verify calibration** by switching on at the same time all switches used before in order to obtain the **sum of all X (V).**

E) CALIBRATION WITH SPECIMEN

It is the same procedure like built-in calibration circuitry except for:

Cal. (Kg) = It is the specimen applied on every load cell, or force applied by using a press and a reference load cell.

Switch = Are no more used, only set trimmers after having applied the specimen on the corresponding load cell.