VD4 LQ2R

**PANEL DIGITAL READOUT
ABSOLUTE/RELATIVE DISPLAY
INPUT BY POTENTIOMETER
2 RELAY OUTPUTS**

Digital readouts series **VD4 LQ** can be coupled to linear and rotary potentiometers with resistive value ranging between 1 and 20 Kohm. The value of the displayed magnitude can be adjusted between –9999 and 9999.
In case of values beneath –999 the minus sign is indicated by a dot placed on the right side of the less significative digit.
The default display mode is **absolute**. The **absolute/relative** display mode can be enabled by the menu SETUP (selecting mode: REL).

OPERATING DESCRIPTION

At power on the instrument displays the software version identification for one second: **P-XX**-, where XX is the number of the loaded software; afterwards the displays switches to the *main display page*.

VALUES PRESELECTION

Press the key **DOWN ARROW** to switch from the main display page to *preset 1 entering;* the display will show **OUT1**: use the **ARROW KEYS** to enter the value and press the key **F** to confirm. Press the key **UP ARROW** to enter *preset 2;* the display will show **OUT2**: use the **ARROW KEYS** to enter the value and press the key **F** to confirm.
The outputs operating mode depends on the settings entered in the SETUP phase.
The comparing value for the thresholds enabling is the value displayed in the main page.

SET VALUE LOADING (for mode selection: REL)

Press the key **F** for one second to switch from the main display page to the *set value loading;* the display will show the flashing message **LOAD**. Press the **DOWN**

ARROW key to load the set value; any other key cancels the operation.
This operation sets the display value at the LOAD value entered in the SETUP menu, thus switching to the **relative** display mode. The relative mode is kept even in case of instrument switching off.

SWITCHING BACK TO THE ABSOLUTE DISPLAY MODE (For selection mode: REL only)

From the main display page, press the key **F** for three seconds: the display will show: **SET.**
Switching back to the main display resets the display ranges set in the starting adjusting, thus the obtained reading is *absolute.* The operation cannot be cancelled.
Press the key **F** five-folds to switch back to the main display page.

KEYS FUNCTION

DOWN ARROW   decreases the value
UP ARROW   increases the value
F   stores the value and quits the setting

TECHNICAL SPECIFICATIONS:

Supply	24 Vac or 115/230 Vac ±10% 50/60 Hz 12/24Vdc ±10%* (see the supply label)
Power consumption	4 VA max (version 24/115/230 Vac) 2.5 Watt (version 12Vdc) 5 Watt (version 24Vdc)
Display type	4-digit 7-segment LED display 12.7 mm high
Data and preset storing	on FLASH memory
Display range	-9999 / 9999
Decimal digits	settable: 0, 1 ,2 or 3
Operating temperature	0 ÷ 45 °C
Panel cut off	91 x 44 mm
Transducer supply voltage provided by the instrument	5Vdc 5mA max
Input specifications	resolution 4000 steps, accuracy 0.2% full scale range
Relay contact type	NA, 3A, 250 Vac
A/D conversion	140 per sec.
Relay lag time	35 mS
Front case protection degree	IP54

*Remark: In case of direct current supply the negative pole of the supply voltage (terminal 1) is connected to O Vdc of the input circuit (terminal 7).

SETUP PHASE

The *SETUP phase is* accessed by the following *key sequence*: press the key **F** for 3 seconds and, when the display shows: **SET**, enter the following *access key*: **UP ARROW, F, UP ARROW, UP ARROW, F**.

If the access key is not entered within 10 seconds the instrument switches back to the main display page.

The SETUP menu includes the following items, which can be scrolled down by the key **F:**

tAr	(Adjusting)	Default: 0 / 4000
n.dEC	(Decimal digits)	Default: 0
AbS/rEL	(Absolute/relative display mode)	Default: AbS
LOAD	(LOAD value**)	Default: 0
C=XX	(Outputs operating mode)	Default: 00
iSt.	(Hysteresis)	Default: 5
t. 1	(Output time 1*)	Default: 0.5 S
t. 2	(Output time 2*)	Default: 0.5 S
L.inF.	(Min. settable value)	Default: min. adjusting
L.SuP.	(Max. settable value)	Default: max. adjusting
	*For pulse outputs only	
	**In case of relative display mode only	

ADJUSTING PHASE

The adjusting phase allows to set the min. and max. values that must be displayed according to the respective positions of the input potentiometer.

Press one of the ***ARROW KEYS*** when the display shows **TAR;** the message **LO** (zero adjusting) will be shown. Now it is necessary to **position the potentiometer at the stroke starting point** and set the wished value by means of the ***ARROW KEYS***, then confirm the setting by the key **F**.

Following the display will show **Hi** (max value adjusting): **place the potentiometer at the stroke ending** and set the wished value by means of the ***ARROW KEYS***, then confirm the value by the key **F** and switch to the next setting.

In case the adjusting operation fails, the display will show **Er.tA** (adjusting error). In this case it is advisable to check that the value set as max. is greater than the min.setting, and that connections are correct.

In case the values previously entered as preselections exceed the adjusting limit values, the preselection value is replaced with the min.adusting value.

DECIMAL DIGITS SETTING

When the display shows **n.dEC** (number of decimal digits) press the ***DOWN ARROW*** key sequentially to scroll 0, 1, 2, 3 decimal digit. Press the key **F** to store the choice.

ABSOLUTE/RELATIVE DISPLAY MODE

When the display shows **AbS** (absolute mode) press the ***DOWN ARROW*** key to switch to **rEL** (relative mode) and vice-versa. Press the key **F** to store the choice.
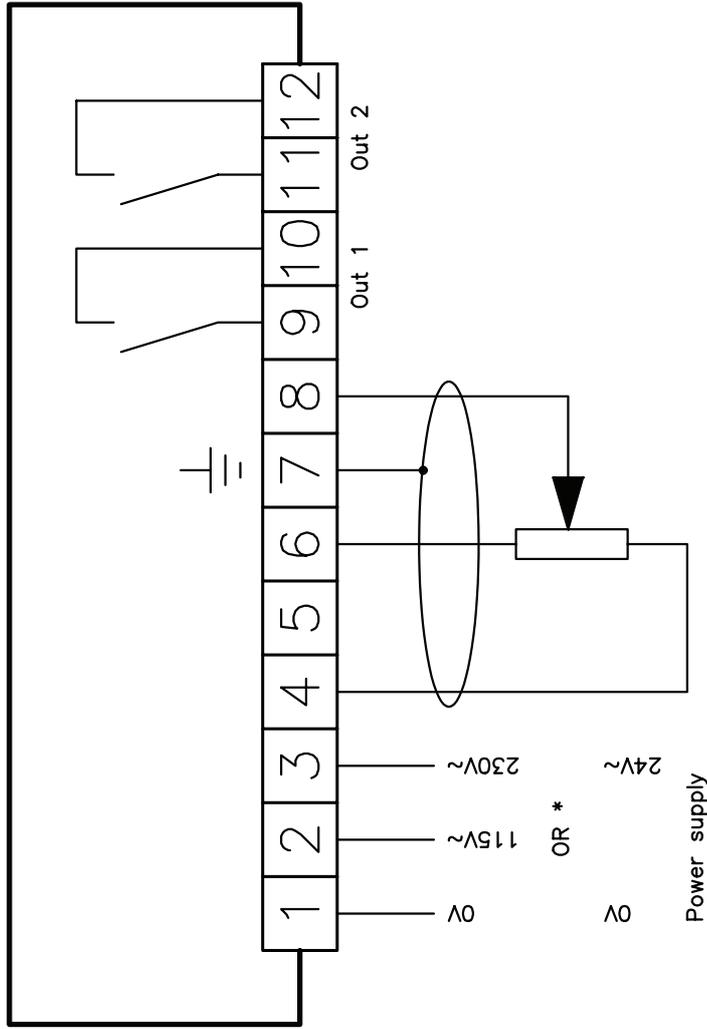
LOAD (for display mode rEL only)

It is the value at which the display value is set after the LOAD setting operation.

When the display shows **LOAD** press the ***ARROW KEYS*** to set the value and the key **F** to confirm it. Settable values: -9999 to 9999.
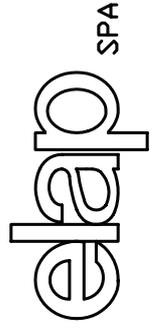
OUTPUTS MODE SETTING

In this phase it is determined the *operating way of the outputs relative to preselections OUT1 and OUT2.*
The display shows:

$$C=XX$$

```
          Mode OUT1
          Mode OUT2
```

Where X indicates the operating mode as follows:

X=0	Steady output for measure ≤ Preselection
X=1	Steady output for measure ≥ Preselection
X=2	Pulse output for measure ≤ Preselection
X=3	Pulse output for measure ≥ Preselection

The key *DOWN ARROW* modifies OUT 1 mode

The key *DOWN ARROW* modifies OUT 2 mode

The key *F* stores the set and switches to the hysteresis set phase.

HYSTERESIS SETTING

When the display shows **iSt**. press the *ARROW KEYS* to set the value and the key *F* to confirm it.
Settable values: 0 to 1000.
It is advisable to set the value in order to prevent possible waverings of the outputs when approaching the preselection values.

OUTPUTS TIME SETTING

In case of operation with pulse outputs, their excitation time is set as follows:
When the display shows **t.X,** where X is 1 or 2 according to the referred output, press the *ARROW KEYS* to set the value and the key *F* to confirm it.
Time is expressed in seconds, settable values are 0.1 to 25.0 seconds.

PRESELECTION MIN.LIMIT SETTING

This operation limits the min.value that can be entered as preselection.
When the display shows **L.InF.** press the *ARROW KEYS* to set the value and the key *F* to confirm it.
Settable values: -9999 a 9999.

PRESELECTION MAX.LIMIT SETTING

This operation limits the max.value that can be entered as preselection.
When the display shows **L.SuP**. press the *ARROW KEYS* to set the value and the key *F* to confirm it.
Settable values: -9999 a 9999.

Out 2

Out 1

12 11 10 9 8 7 6 5 4 3 2 1

24VDC   12VDC   0V

Power Supply *

* REMARK: Supply voltage 0V value
(terminal 1) is connected to
circuit 0V value (terminal 7)

DISEGNO N.	CODICE			SCALA	FOGLIO	SOSTITUITO DA	DATA		FIRMA	DISEGNATO	DATA	SOFTWARE
C2609					1 di 1	SOSTITUISCE	DATA		FIRMA	T.R.	15.7.04	
DENOMINAZIONE				TOLL.	MATER.		DATA		FIRMA	VISTO	FILE	C2609.DWG
VD4			DESCRIZIONE						𝒯ℛ		
External connections			Power supply			14.7.05				
				MODIFICHE						
NOTE Version LQ 2R A4									
CLIENTE									

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VIA VITTORIO VENETO, 4
20094 CORSICO (Milano)
TEL. 024519561 FAX. 0245103406

Out 2
Out 1

12 11 10 9 8 7 6 5 4 3 2 1

230V~   115V~   0V

24V~   0V

OR *

Power supply

* See the intrument supply label