

# PANEL DIGITAL READOUTS

## SERIES VD3 LQRQ

### Versions VD30 VD30TF VD31 VD31TF

Digital readouts series **VD3 LQRQ** can be coupled to linear or rotary potentiometer transducers with resistive value ranging between 1 and 100 Kohm.

The value of the measured magnitude can be adjusted from zero up to the instrument full range scale value.

The number of decimal digits can be selected by means of internal bridges. All instruments are provided with extractable terminal board.

#### Specifications:

<b>Power supply</b>	24 Vac or 115/230 Vac $\pm 10\%$ 50/60Hz
<b>Absorption</b>	3 VA
<b>Display</b>	7-segment LED display h. 12.7 mm
<b>Display range</b>	<b>VD30</b> -999 ÷ 999 <b>VD31</b> -1999 ÷ 1999
<b>Decimal digits</b>	0, 1, 2, 3
<b>Polarity</b>	automatic with $\pm$ sign indication
<b>Resolution</b>	<b>VD30</b> 0.1% FSR value <b>VD31</b> 0.05% FSR value
<b>Accuracy</b>	$\pm 0.05\%$ of the calibration value
<b>Operating temperature</b>	0 ÷ 45° C
<b>Voltage provided by the instrument for the transducer supply</b>	2.5 Vdc steady
<b>Panel cut off dimensions</b>	92 x 45 mm
<b>Front case dimension</b>	48 x 96 mm

#### Installation and maintenance

Connect the instrument as described in the enclosed diagram C2421; check that the power supply corresponds to the label indication.

In order to change the position of the decimal point extract the circuit from the rear case after removing the restrained frame; then select the jumper as required.

#### Configuration

In order to configurate the instrument it is necessary to plug it off, take out the extractable terminal board, remove the frame placed back of the instrument (levering on the proper housings) and remove the circuit completely from its holder.

By positioning the jumpers as described in the connection diagram tables it is possible to adjust the decimal point position, the input gain value, and the full range scale excursion.

After positioning the jumpings it is highly recommended to close the instrument before energising it.

#### Full range scale adjusting

The instrument is normally supplied with adjustment value = 20 digits.

Use the adjusting trimmers P1 and P2 to set the display values as needed. In case you cannot achieve the needed values, it is necessary to set the FRS at the next superior value.



**Gain**

The instrument is normally supplied with gain value x1; setting gain x2 or x4 allows to reach the FRS with half or one fourth of the max potentiometer excursion.

**Connecting the transducer with one end to zero**

With this configuration the instrument displays zero when the cursor is next to one of the transducer ends. The ends are linked to terminals 4 and 7 while the cursor is connected to terminal 8.

**Connecting the transducer with mid-stroke zero**

With this configuration the instrument displays zero when the cursor is at the transducer mid-stroke. The transducer ends are linked to terminals 4 and 6 while the cursor is connected to terminal 8.

**Calibration**

We advise to adjust the readout in the following way:

- Set the machine axis to zero and adjust the display indication to zero by means of the trimmer P1 placed on the front case
- Set the machine axis to its maximum excursion and adjust the display at the requested value by means of the display range trimmer P2 placed on the rear case.

Repeat the operation to achieve the best measuring accuracy.

The display value increasing direction can be inverted by inverting the transducer ends.

**REMARK:**

The readout type **TF** has both trimmers placed on the front case, which must be removed to calibrate the instrument. To remove the front case slightly lever between the front case and the frame with a small flat screw-driver.

**MAINTENANCE**

Check the terminals clamping regularly.



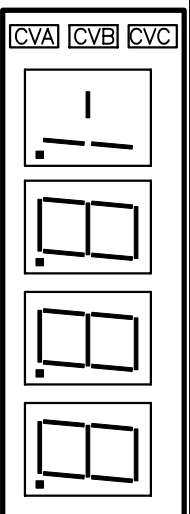
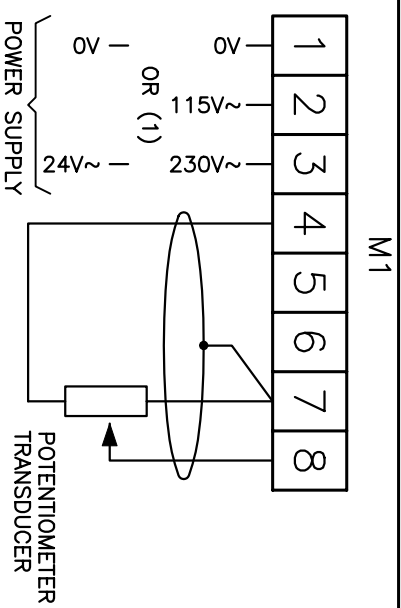
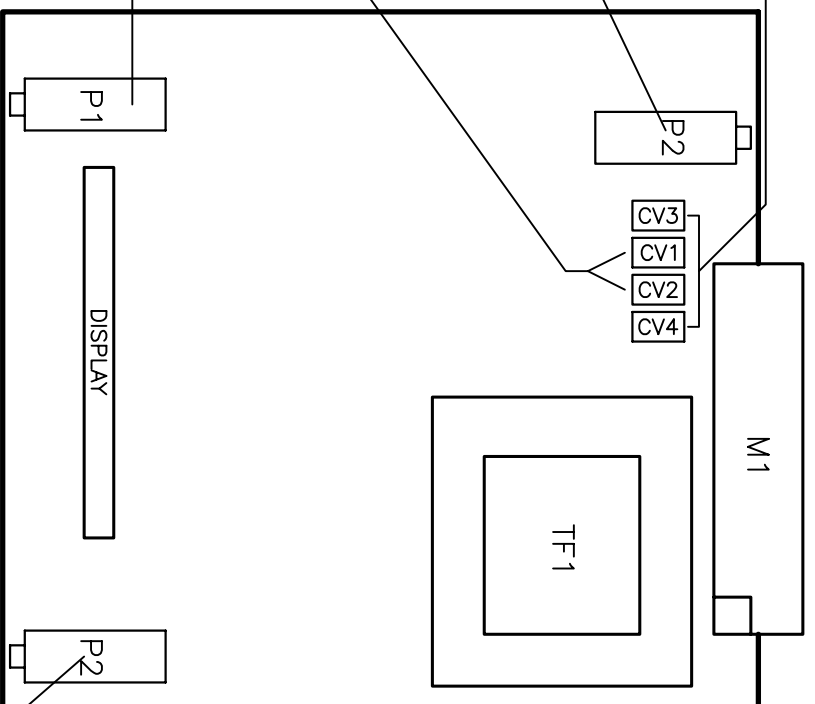
INPUT SIGNAL AMPLIFICATION		
CV3	CV4	AMPLIFICATION
YES	NO	NORMAL UNIT GAIN
NO	YES	GAIN X2
NO	NO	GAIN X4

ZERO ADJUST TRIMMER EXCURSION		
CV1	CV2	EXCURSION
NO	NO	20 DIGIT
YES	NO	230 DIGIT
NO	YES	1800 DIGIT

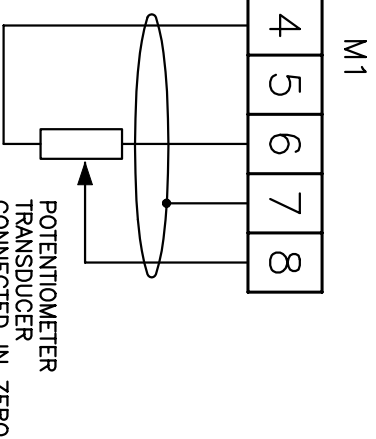
DECIMAL POINT POSITION, VD31 VERSION			
CVA	CVB	CVC	DP. POSITION
YES	NO	NO	X.XXX
NO	YES	NO	XX.XX
NO	NO	YES	XXX.X
NO	NO	NO	XXXX

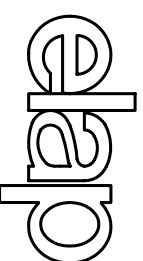
DECIMAL POINT POSITION, VD30 VERSION			
CVA	CVB	CVC	DP. POSITION
NO	YES	NO	X.XX
NO	NO	YES	XX.X
YES	NO	NO	.XXX
NO	NO	NO	XXX



FULL SCALE ADJUST  
(TF Version only)



DISIGNO N.	CODICE	SCALA	FOGLIO	SOSTITUITO DA	DATA	FIRMA	DISIGNATO	DATA	SOFTWARE
C2421		1 di 1	1 di 1				T.R.	7.2.00	
DENOMINAZIONE	TOLL.	MATER.	SOSTITUISCE	DATA	FIRMA	VISTO	FILE		
Connection diagram VD30-31 LQRQ VD30-31 TF LQRQ			C16571	7.2.00	GR				
NOTE	DESCRIZIONE		DATA	FIRMA					
	Power supply		13.7.05	GR					
CLIENTE	MODIFICHE								



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