

# Totalizer - Ratemeter

## Totalizer and Ratemeter - LCD, 36 x 72

3233 / 3253  
3293

- Display : LCD 10 mm
- Input : contact, voltage or solid-state (PNP/NPN)
- Front panel or electrical reset to zero
- Lithium battery - 8 years life
- Scale factor : 0.001 to 9999 (3253 and 3293)
- Decimal point selectable (3253 and 3293)
- Rate (3253 and 3293)



| Types                   | 3233 | 3253 | 3293 |
|-------------------------|------|------|------|
| Totalizer               | ●    | —    | —    |
| Ratemeter               | —    | ●    | —    |
| Totalizer and Ratemeter | —    | —    | ●    |

| Part numbers | 87 614 040 | 87 614 340 | 87 614 440 |
|--------------|------------|------------|------------|
|--------------|------------|------------|------------|

| Characteristics |                 | 87 614 040                | 87 614 340                | 87 614 440                |
|-----------------|-----------------|---------------------------|---------------------------|---------------------------|
| Display         | Totalizer mode  | 8 digit LCD, height 10 mm | —                         | 8 digit LCD, height 10 mm |
|                 | Tachometer mode | —                         | 6 digit LCD, height 10 mm | 6 digit LCD, height 10 mm |

| Inputs   |                          | 87 614 040                        | 87 614 340                        | 87 614 440                        |
|--|--------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 1 slow counting input for contact closure or NPN open-collector transistor input |                          | terminals 1 and 2                 | terminals 1 and 2                 | terminals 1 and 2                 |
|  | Max. frequency           | 40 Hz                             | 20 Hz                             | 20 Hz                             |
|  | Min. contact-closed time | 12 ms                             | 10 ms                             | 10 ms                             |
| 1 input for high-speed counting signal from voltage level                        | Min. contact-open time   | 12 ms                             | 20 ms                             | 20 ms                             |
|  |                          | terminals 1 and 3                 | terminals 1 and 3                 | terminals 1 and 3                 |
|  | Max. frequency           | 5 kHz                             | 5 kHz (5/coef. if coef>1)         | 5 kHz (5/coef. if coef>1)         |
|  | High level               | 3 • 30 V $\overline{\text{---}}$  | 3 • 30 V $\overline{\text{---}}$  | 3 • 30 V $\overline{\text{---}}$  |
|  | Low level                | 0 • 0.7 V $\overline{\text{---}}$ | 0 • 0.7 V $\overline{\text{---}}$ | 0 • 0.7 V $\overline{\text{---}}$ |
|  | Minimum pulse time       | 70 $\mu$ s                        | —                                 | —                                 |

| Reset                        |                               | 87 614 040   | 87 614 340   | 87 614 440   |
|------------------------------|-------------------------------|--|--|--|
| External : terminals 1 and 4 | Volt-free contact             | ●  | —  | ●  |
|                              | NPN open-collector transistor | ●  | —  | (Only for totalizer mode)  |
|                              | Minimum pulse time            | 300 ms   | —  | 300 ms   |
| Front panel                  |                               | by push-button if terminals 1 and 5 connected together                                   | —  | if enabled at time of programming  |
| Input impedance              |                               | 50 k $\Omega$ /+3 V $\overline{\text{---}}$  | 50 k $\Omega$ /+3 V $\overline{\text{---}}$  | 50 k $\Omega$ /+3 V $\overline{\text{---}}$  |
|                              |                               | (High-speed counting)<br>100 k $\Omega$ /+3 V $\overline{\text{---}}$<br>(Slow counting) | (High-speed counting)<br>100 k $\Omega$ /+3 V $\overline{\text{---}}$<br>(Slow counting) | (High-speed counting)<br>100 k $\Omega$ /+3 V $\overline{\text{---}}$<br>(Slow counting) |
| Tachometer mode              | Type                          | —  | Reciprocal 1/Tau   | Reciprocal 1/Tau   |
|                              | Accuracy                      | —  | $\pm$ 0.2 %  | $\pm$ 0.2 %  |
|                              | Sampling time                 | —  | 0.7 s  | 0.7 s  |
| Scale factor                 | Time limit for measuring      | —  | 10 s   | 10 s   |
|                              | Tachometer mode               | —  | 0.001 • 9999 (0 not permitted)   | 0.001 • 9999 (0 not permitted)   |
| Decimal point                | Totalizer mode                | —  | —  | 0.0001 • 99.9999   |
|                              | Tachometer mode               | —  | 4 programmable positions   | 4 programmable positions   |
| Rate                         | Totalizer mode                | —  | —  | 5 programmable positions   |
|                              |                               | —  | x1 or x10 programmable   | x1 or x10 only for ratemeter   |
| Time base                    |                               | —  | Crystal controlled   | Crystal controlled   |
| Lithium battery              |                               | 3 V $\overline{\text{---}}$  | 3 V $\overline{\text{---}}$  | 3 V $\overline{\text{---}}$  |
| Life                         |                               | 8 Years  | 8 Years  | 8 Years  |

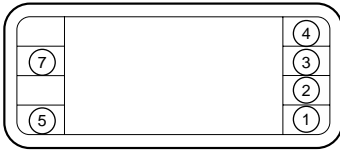
A power supply must be provided for a sensor (12 V  $\overline{\text{---}}$ )

| Physical details and protection                |        | 87 614 040      | 87 614 340      | 87 614 440      |
|--|--------|-----------------|-----------------|-----------------|
| Material : Self-extinguishing (UL94VO)         |        | ●               | ●               | ●               |
| Front panel protection                         |        | IP56            | IP56            | IP56            |
| Mounting (panel-mounting - slide-action clips) |        | ●               | ●               | ●               |
| Connections at rear of case                    |        | Screw terminals | Screw terminals | Screw terminals |
| Waterproof gasket for panel sealing            |        | ●               | ●               | ●               |
| Temperature limits                             | Use    | 0 °C + 55 °C    | 0 °C + 55 °C    | 0 °C + 55 °C    |
|  | Stored | 0 °C + 70 °C    | 0 °C + 70 °C    | 0 °C + 70 °C    |
| Weight   |        | 60 g            | 60 g            | 60 g            |

### To order, specify :

|  |                      |
|--|----------------------|
| Standard products                        | <b>1</b> Part number |
| Example : Totalizer/counter - 87 614 040 |                      |

## Terminal markings



### Type 3233

- 1 - Common 0 V
- 2 - Slow counting input
- 3 - High-speed counting input
- 4 - Remote reset
- 5 - Enable/disable front reset button

### Type 3253

- 1 - Common 0 V
- 2 - Slow counting input
- 3 - High-speed counting input
- 5 - Programming

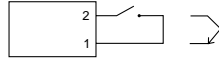
### Type 3293

- 1 - Common 0 V
- 2 - Slow counting input
- 3 - High-speed counting input
- 4 - Remote reset
- 5 - Programming

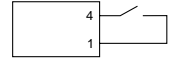
## Connections

### Totalizer 3233

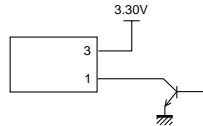
Slow counting.  
Volt-free contact or NPN transistor.



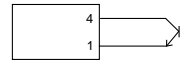
Remote reset.  
By contact.



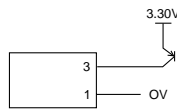
High-speed counting.  
NPN transistor.



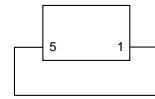
Remote reset.  
By NPN transistor.



High-speed counting.  
PNP transistor.

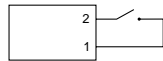


Front reset enable.

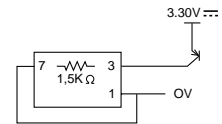


### Ratometer 3253

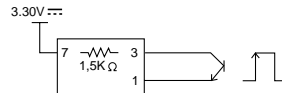
Slow counting.  
Volt-free contact.



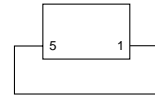
High speed counting.  
PNP transistor



High-speed counting.  
NPN transistor or voltage level.

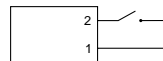


Programming enable.

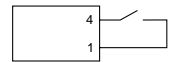


### Totalizer and Ratometer 3293

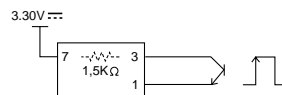
Slow counting.  
Volt-free contact.



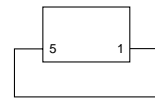
Remote reset.  
Volt-free contact.



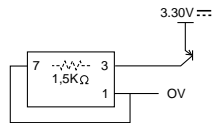
High-speed counting.  
NPN transistor or voltage level.



Programming enable.



High-speed counting.  
PNP transistor.



## Dimensions

