

# 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               | ●    |      |      |
| Ratometer               |      | ●    |      |
| Totalizer and Ratemeter |      |      | ●    |

### Part numbers

| 87 614 040 | 87 614 340 | 87 614 440 |
|------------|------------|------------|
|------------|------------|------------|

### Characteristics

| 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

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

### Reset

|                              |                               |                                                                                                             |                                                                                                             |                                                                                                             |
|------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 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 $\approx$<br>(High-speed counting)<br>100 k $\Omega$ /+3 V $\approx$<br>(Slow counting) | 50 k $\Omega$ /+3 V $\approx$<br>(High-speed counting)<br>100 k $\Omega$ /+3 V $\approx$<br>(Slow counting) | 50 k $\Omega$ /+3 V $\approx$<br>(High-speed counting)<br>100 k $\Omega$ /+3 V $\approx$<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                                                                                                       |
|                              | Time limit for measuring      | —                                                                                                           | 10 s                                                                                                        | 10 s                                                                                                        |
| Scale factor                 | Tachometer mode               | —                                                                                                           | 0.001 • 9999 (0 not permitted)                                                                              | 0.001 • 9999 (0 not permitted)                                                                              |
|                              | Totalizer mode                | —                                                                                                           | —                                                                                                           | 0.0001 • 99.9999                                                                                            |
| Decimal point                | Tachometer mode               | —                                                                                                           | 4 programmable positions                                                                                    | 4 programmable positions                                                                                    |
|                              | Totalizer mode                | —                                                                                                           | —                                                                                                           | 5 programmable positions                                                                                    |
| Rate                         |                               | —                                                                                                           | x1 or x10 programmable                                                                                      | x1 or x10 only for ratemeter                                                                                |
| Time base                    |                               | —                                                                                                           | Crystal controlled                                                                                          | Crystal controlled                                                                                          |
| Lithium battery              |                               | 3 V $\approx$                                                                                               | 3 V $\approx$                                                                                               | 3 V $\approx$                                                                                               |
| Life                         |                               | 8 Years                                                                                                     | 8 Years                                                                                                     | 8 Years                                                                                                     |

A power supply must be provided for a sensor (12 V  $\approx$ )

### Physical details and protection

|                                                |        |                 |                 |                 |
|------------------------------------------------|--------|-----------------|-----------------|-----------------|
| 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            |

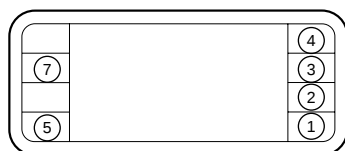
### To order, specify :

Standard products

1 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

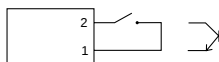
### Type 3293

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

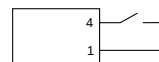
## Connections

### Totalizer 3233

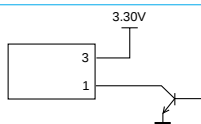
Slow counting.  
Volt-free contact or NPN transistor.



Remote reset.  
By contact.



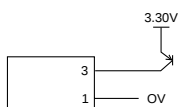
High-speed counting.  
NPN transistor.



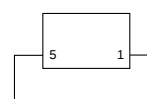
Remote reset.  
By NPN transistor.



High-speed counting.  
PNP transistor.

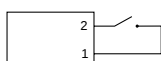


Front reset enable.

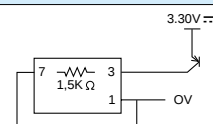


### Ratometer 3253

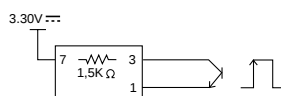
Slow counting.  
Volt-free contact.



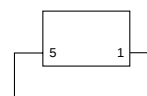
High speed counting.  
PNP transistor



High-speed counting.  
NPN transistor or voltage level.

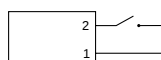


Programming enable.

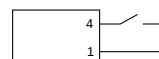


### Totalizer and Ratometer 3293

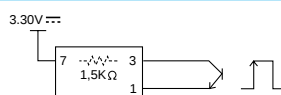
Slow counting.  
Volt-free contact.



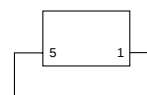
Remote reset.  
Volt-free contact.



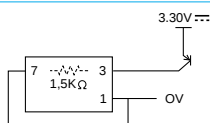
High-speed counting.  
NPN transistor or voltage level.



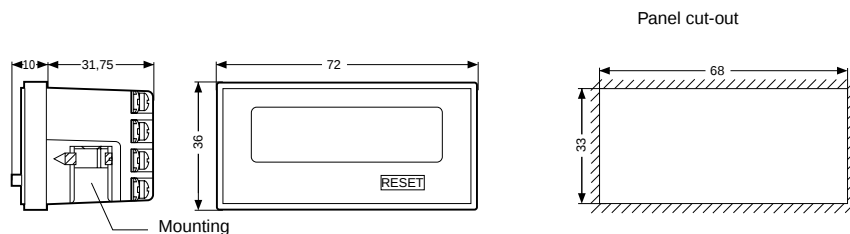
Programming enable.



High-speed counting.  
PNP transistor.



## Dimensions





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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