

# Zelio Count Counters

Catalog

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- Selection guide** .....page 2
- **Presentation** ..... page 4
  - Introduction..... page 4
  - Totalising counters ..... page 4
  - Preselection counters ..... page 4
  - Hour counters ..... page 5
  - Tachometers ..... page 5
  - Batch counters ..... page 5
- **Reference** ..... page 6
  - Electromechanical and electronic totalising counters ..... page 6
  - Electromechanical preset counters ..... page 6
  - Electromechanical and electronic totalising timers ..... page 7
  - Electronic preselection and multifunction counters ..... page 7
  - Totalising counters ..... page 7

|  |                            |  |  |                                 |  |
|--|----------------------------|--|--|---------------------------------|--|
| <b>Function</b>                            | <b>Totalising counters</b> |  |  |                                 |  |
| <b>Display type</b>                        | Mechanical                 |  |  | LCD                             |  |
| <b>Font panel dimensions (h x w) in mm</b> | 20 x 30                    | 31 x 41.5  | 50 x 60  | 24 x 48                         |  |
| <b>Number of display digits</b>            | 6 digits                   | 5 or 6 digits (depending on model)               | 6 or 6 digits (depending on model)                 | 8 digits                        |  |
| <b>Maximum counting frequency</b>          | 25 Hz                      | 10 or 20 Hz (depending on model)                 | 10 or 25 Hz (depending on model)                   | 30 Hz or 7.5 kHz                | 40 Hz or 7.5 kHz                               |
| <b>Input type</b>                          | Contact                    |  |  | Volt-free contact or transistor | Volt-free contact, transistor or voltage level |
| <b>Output type</b>                         | -                          |  |  |                                 |  |
| <b>Reset type</b>                          | Without                    | Manual or without (depending on model)           | Manual or without                                  | Manual or transistor            | Manual, volt-free contact or transistor        |
| <b>Supply voltage</b>                      | ~ 24 V                     | ~ 24 V, ~ 48 V, ~ 115 V                          | ~ 24 V, ~ 115 V                                    | Lithium battery                 |  |
| <b>Display capacity</b>                    | 0...999 999                | 0...99 999 or 0...9 999 999 (depending on model) | 0...999 999 or 0...99 999 999 (depending on model) | 0...99 999 999                  |  |
| <b>Time ranges</b>                         | -                          |  |  |                                 |  |
| <b>Number of presets or partial count</b>  | -                          |  |  |                                 |  |
| <b>References</b>                          | XBK T60000U00M             | XBK T50000U●●M<br>XBK T70000U00M                 | XBK T60000U1●M<br>XBK T80000U00M                   | XBKT81030U33E                   | RC87610340                                     |
| <b>Pages</b>                               | 6                          |  |  |                                 | 7  |



|                              |                      |  |  |
|------------------------------|----------------------|--|--|
| <b>Preselection counters</b> | <b>Hour counters</b> | <b>Multifunction:</b><br>- preselection,<br>- tachometer,<br>- chronometer,<br>- totalising counter,<br>- batch counter. |  |
|------------------------------|----------------------|--|--|



|                                     |                                |   |  |
|-------------------------------------|--------------------------------|---|--|
| Mechanical                          |                                | LCD   | LCD or LED   |
| 75 x 60                             | 48 x 48                        | 24 x 48   | 48 x 48  |
| 5 digits                            | 7 digits                       | 8 digits  | 6 digits   |
| 25 Hz                               | –                              |   | 5 kHz or 2.5 kHz if counting on 2 inputs                                     |
| Contact<br>(20 VA / 220 V / 1A max) | Contact                        | Volt-free contact or transistor                               | Transistor or voltage  |
| Contact<br>(volt free)              | –                              |   | 1 or 2 transistors<br>and 1 or 2 changeover relays                           |
| Manual or<br>Manual and electrical  | Without                        | Transistor or manual with electrical<br>interlocking facility | Manual, electrical or automatic  |
| ~ 24 V                              | ~ 24 V,<br>~ 115 V,<br>~ 230 V | Lithium battery   | ~ 24 V,<br>~ 115 V,<br>~ 230 V   |
| 0...99 999                          | –                              |   | - 99 999...999 999   |
| –                                   | 0...99 999.99 h                | 0...999 999.99 h  | 0...99 999.9 h<br>0...99 999.9 min<br>0...99 999.9 s<br>0...99 h 59 min 59 s |
| 1                                   | –                              |   | 1 or 2   |
| <b>XBKP50100●●0M</b>                | <b>XBKH7000000●M</b>           | <b>XBKH81000033E</b>  | <b>XBKP6●●30G3●E</b>   |

|   |   |
|---|---|
| 6 | 7 |
|---|---|



More technical information on [www.schneider-electric.com](http://www.schneider-electric.com)

## Introduction

Counters, associated with detection products (photo-electric detectors, inductive sensors, limit switches, etc) or dialogue products (pushbuttons, selector switches, etc) can be used to provide an additional control system function: counting.

## Functions

Counters complement the range of display units and operator dialogue terminals by offering simple display and entry functions. They are fully compatible with detection and human-machine interface products.

## Technologies

The range is divided into two technologies:

- electromechanical, which is more suitable for slow counting applications of around 10 Hz,
- electronic (LCD or LED display) which is suitable for counting frequencies of around 1 kHz.

The Zelio count range covers all counting functions. There are various product families:

- **totalising counters,**
- **preselection counters,**
- **hour counters,**
- **tachometers,**
- **batch counters.**

## Totalising counters

Totalising counters are used for counting events from electrical pulses or contacts. The value is displayed and updated in increments at each new pulse or contact. They are unidirectional.

## Applications

### ■ In automatic mode

The totalising counter performs this function in conjunction with a photo-electric detector, inductive sensor or limit switch, which detects the passing of a part and translates this by adding one unit to the number of parts counted by the totalising counter.

### ■ In manual mode

The totalising counter performs this operation in conjunction with a pushbutton. Pressing the button adds one unit to the value displayed. This system can be used with a ticket dispenser or a manual assembly station.

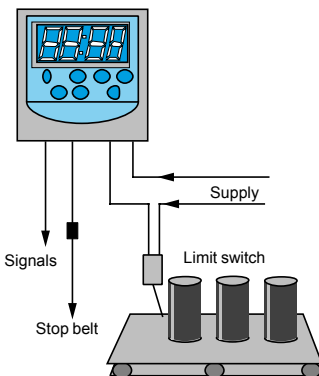
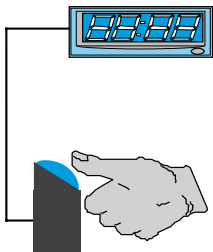
## Preselection counters

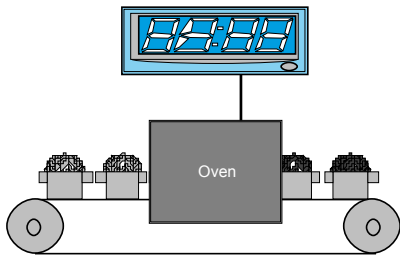
Preselection counters are used for counting events from electrical pulses or contacts. The value is displayed and updated by adding or subtracting at each new pulse. They allow manual entry of a preset value. When this preset value is reached, they send an electrical signal. They can be used for upcounting or downcounting.

## Applications

Upcounting or downcounting the number of parts.

The preselection counter counts the number of parts in the same way as a totalising counter. When the selected value is reached, the preselection counter, in conjunction with various sensors, sends a signal to trigger actions such as stopping a machine or conveyor belt.



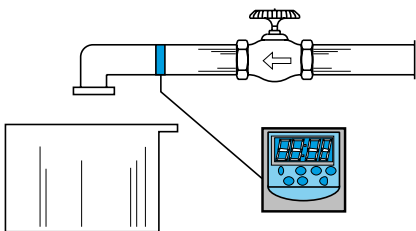


## Hour counters

Hour counters (also called timers or chronometers) are used to count and display times in different formats and with different modes depending on the type of counter used.

### Applications

- Duration of an oven heating time,
- Use of a machine, n time and in hours, in order to perform maintenance.



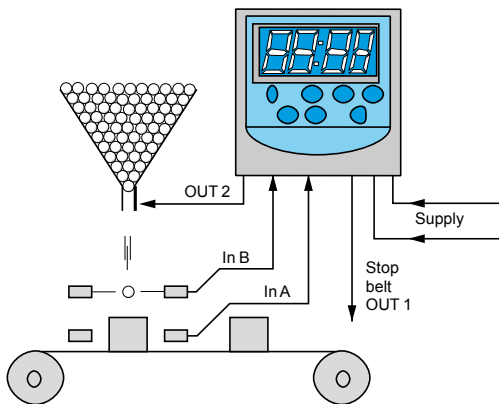
## Tachometers

Tachometers are used for measuring speed (linear or rotary), rates (in minutes or hours) or flow (volumetric).

The tachometer receives pulses at a frequency to be measured. A scale factor allows the required values to be displayed (speeds, rates, flows, etc.)

### Applications

- Automatic control of conveyor belt speed,
- Flow measurement,



Example: packing 50 capsules per container and grouping 10 containers in cartons.

## Batch counters

Batch counters are used for counting a number of parts per batch and counting a total number of batches; they send a signal each time the preset value is reached.

### Example

On a packing line, 50 capsules are to be counted into containers and 10 containers placed into a carton.

- P1 : number of batches (10)
- P2 : number of capsules (50).



XBKT50000U●●M



XBKT60000U00M



XBKT60000U1●M



XBKT70000U00M



XBKT80000U00M



XBKT81030U33E



XBKP50100D●0M



XBKP50100U●0M

### Electromechanical and electronic totalising counters

| Supply voltage                          | Number of display digits | Maximum counting frequency | Reset type | Reference     | Weight |
|---|--------------------------|----------------------------|------------|---------------|--------|
| V                                       |                          | Hz                         |            |               | kg     |
| <b>Counters with mechanical display</b> |                          |                            |            |               |        |
| ~ 24                                    | 5                        | 20                         | Manual     | XBKT50000U10M | 0.100  |
|   | 6                        | 25                         | Without    | XBKT60000U00M | 0.030  |
|   |                          | 25                         | Manual     | XBKT60000U10M | 0.150  |
|   | 7                        | 20                         | Without    | XBKT70000U00M | 0.100  |
|   | 8                        | 25                         | Without    | XBKT80000U00M | 0.150  |
| ~ 48                                    | 5                        | 20                         | Without    | XBKT50000U08M | 0.100  |
| ~ 115                                   | 5                        | 10                         | Manual     | XBKT50000U11M | 0.100  |
|   | 6                        | 10                         | Manual     | XBKT60000U11M | 0.030  |

### Counters with LCD display

|                 |   |            |                      |               |       |
|-----------------|---|------------|----------------------|---------------|-------|
| Lithium battery | 8 | 30 or 7500 | Manual or transistor | XBKT81030U33E | 0.050 |
|-----------------|---|------------|----------------------|---------------|-------|

### Electromechanical preset counters, 5 digits

| Supply voltage   | Number of display digits | Counting frequency | Number of presets | Reset type | Reference     | Weight |
|--|--------------------------|--------------------|-------------------|------------|---------------|--------|
| V  |                          | Hz                 |                   |            |               | kg     |
| <b>Subtracting preset counters with mechanical display</b> |                          |                    |                   |            |               |        |
| ~ 24   | 5                        | 25                 | 1                 | Manual     | XBKP50100D10M | 0.200  |

Manual and electrical XBKP50100D20M 0.240

### Adding preset counters with mechanical display

|      |   |    |   |        |               |       |
|------|---|----|---|--------|---------------|-------|
| ~ 24 | 5 | 25 | 1 | Manual | XBKP50100U10M | 0.200 |
|------|---|----|---|--------|---------------|-------|

Manual and electrical XBKP50100U20M 0.240





XBKH7000000●M



XBKH81000033E



XBKP61●30G3●E



XBKP62●30G3●E

- 8 or 6 digits LCD display, digit height 7 mm
- Totalising counter:
  - 7 kHz and 40 Hz inputs
  - maximum counting capacity : 99 999 999 impulses
- Hour counter/chronometer:
  - start/stop inputs
  - 4 time ranges:
    - 99 999.9 hours - 99 999.9 min
    - 99 999.9 s - 99 h 59 min 59 s
- Powered by lithium battery:
  - vreset from front panel or remote reset



RC87610340

| Electromechanical and electronic totalising timers |                          |                        |            |               |        |
|--|--------------------------|------------------------|------------|---------------|--------|
| Supply voltage                                     | Number of display digits | Mains supply frequency | Reset type | Reference     | Weight |
| V  |                          | Hz                     |            |               | kg     |
| Timers with mechanical display                     |                          |                        |            |               |        |
| ~ 24   | 7                        | 50                     | Without    | XBKH70000004M | 0.060  |
| ~ 115  | 7                        | 50                     | Without    | XBKH70000001M | 0.060  |
| ~ 230  | 7                        | 50                     | Without    | XBKH70000002M | 0.060  |

| Supply voltage          | Number of display digits | Display mode     | Reset type           | Reference     | Weight |
|-------------------------|--------------------------|------------------|----------------------|---------------|--------|
| V                       |                          |                  |                      |               | kg     |
| Timers with LCD display |                          |                  |                      |               |        |
| Lithium battery         | 8                        | 1/100 of an hour | Manual or transistor | XBKH81000033E | 0.050  |

| Electronic preselection and multifunction counters, 48 x 48, 6 digits, LCD or LED |                          |                    |                   |               |        |
|---|--------------------------|--------------------|-------------------|---------------|--------|
| Supply voltage  | Number of display digits | Counting frequency | Number of presets | Reference     | Weight |
| V   |                          | kHz                |                   |               | kg     |
| Manual, electrical and automatic reset  |                          |                    |                   |               |        |
| Preselection counters with LCD display  |                          |                    |                   |               |        |
| ~ 24  | 6                        | 5                  | 1                 | XBKP61130G30E | 0.150  |
|   |                          |                    | 2                 | XBKP61230G30E | 0.150  |
| ~ 115   | 6                        | 5                  | 1                 | XBKP61130G31E | 0.250  |
|   |                          |                    | 2                 | XBKP61230G31E | 0.250  |
| ~ 230   | 6                        | 5                  | 1                 | XBKP61130G32E | 0.250  |
|   |                          |                    | 2                 | XBKP61230G32E | 0.250  |
| Preselection counters with LED display  |                          |                    |                   |               |        |
| ~ 24  | 6                        | 5                  | 1                 | XBKP62130G30E | 0.150  |
|   |                          |                    | 2                 | XBKP62230G30E | 0.150  |
| ~ 230   | 6                        | 5                  | 1                 | XBKP62130G32E | 0.250  |
|   |                          |                    | 2                 | XBKP62230G32E | 0.250  |

| Totalising counters, LCD 24 x 48 |            |        |
|----------------------------------|------------|--------|
| Description                      | Reference  | Weight |
| Impulse counter                  | RC87610340 | 0.060  |

**Schneider Electric Industries SAS**

Head Office  
35, rue Joseph Monier  
F-92500 Rueil-Malmaison  
France

[www.schneider-electric.com](http://www.schneider-electric.com)

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