

# M1

## Monodirectional 2 / 4 digit counter - DIN 48x48



REEL TORINO data sheet

DL3UK0005A0

### SPECIFICATIONS

- ✓ **Input counter frequency limit 2 KHz**
- ✓ **Input signals: NAMUR, NPN, PNP, mechanical potential free**
- ✓ **Fix counter rate 1 to 1**
- ✓ **Manual / auto cycle**
- ✓ **Low-cost**
- ✓ **Easy to use**

### VERSIONS

- The following versions are available:
- 4 digit totalizator: M1E\_P
  - 2 digit totalizator with preselections: M1C\_P
  - 4 digit totalizator with preselections: M1G\_P

### APPLICATION & PERFORMANCE

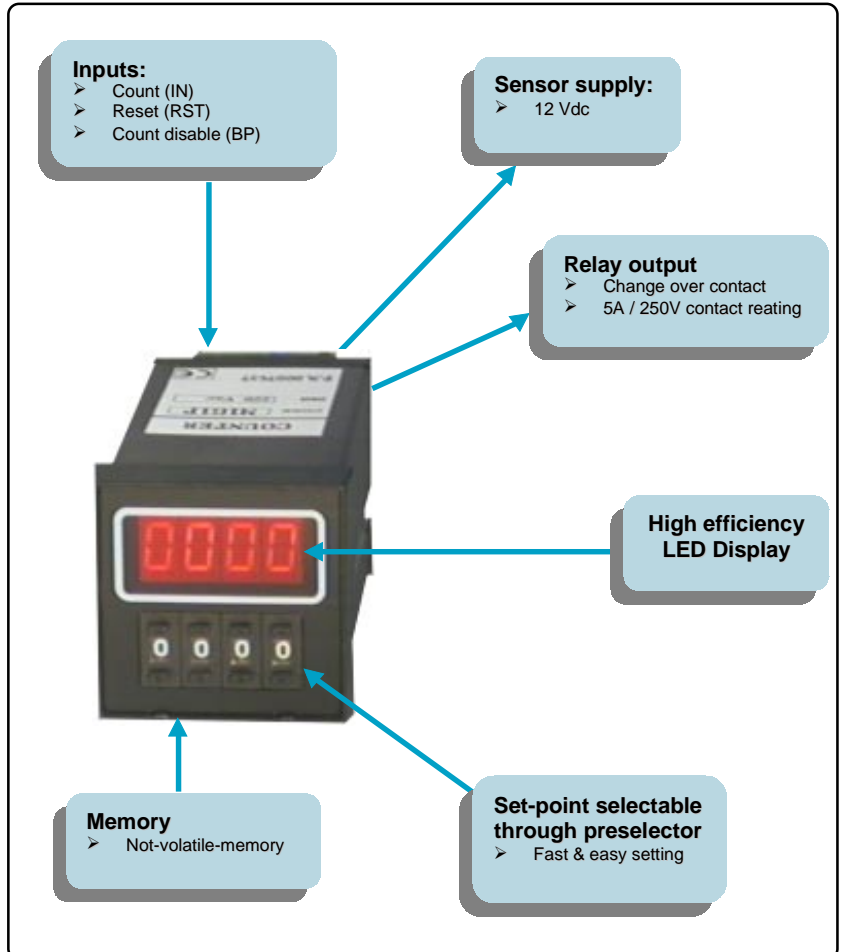
The M1 impulse counters have a wide field of application for totalizations, dosages, and predeterminations. They can be used in the fields of water distributions; paper-mills; book-industries; mechanical, food, chemical, pharmaceutical industries.

They allow the acquisition, totalization and predetermination of signals coming from industrial sensors like: photocells, proximity switches, incremental encoders, mechanical limit switches, and contacts.

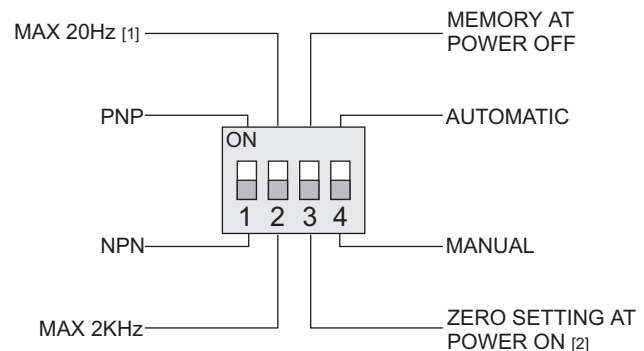
The totalised value will increase of one unit at each impulse at the counter input (unit value of the impulse is unitary).

The totalised count is memorized in case of power failure through a Ni/CD battery that recharges itself automatically with power. The autonomy, without power, is of > 2000 hours; the endurance without maintenance is of > 5 years.

The use of the instrument is simple and mnemonic thanks to the preselector that constantly displays the set preselection value.



### DIP-SWITCHES PROGRAMMING



[1] compulsory for signals from electric potential free contact (reed, micro, relay, electromagnetic switch)

[2] for long break periods or stocking leave it in position OFF



Reliability

# M1

## Monodirectional 2 / 4 digit counter - DIN 48x48

### TECHNICAL DATA

#### PACKAGE

Case: panel mount 48x48 mm frontal IP40  
Cutout dimension: 45x45 mm; depth: 100 mm  
Case material: Noryl  
Preselector: 2 or 4 digit; h 15 mm; + and - push buttons  
Connections: by two extractable terminal block 6 pole

#### COUNT INPUT

Signal: NAMUR, NPN, PNP, mechanical potential free  
Frequency: static signals: maximum 2 KHz  
mechanicals signals: maximum 20 Hz  
Sensor supply: 12 Vdc – maximum 30 mA

#### DIGITAL INPUT

RST: reset  
BP: count disable

#### COUNTER AND DISPLAY

Display (red led): 2/4 digit, max displayed value 99/9999  
Character high: 9 mm  
Counter: BCD 2/4 digit (on the surpass of the max count capability it automatically reset to zero)

#### POWER SUPPLY

Power supply: 24, 115, 230Vac, 24Vdc  
Consumption: max 1,5 VA (1,5 W)  
Tolerance:  $\pm 10\%$ ; frequency (AC): 50/60 Hz  
Data storage memory: Ni/Cd battery incorporated

#### AMBIENTAL CONDITIONS

Operating temperature:  $-10 \div 50\text{ }^{\circ}\text{C}$   
Relative humidity: 0...95% not condensing  
Storage temperature:  $-25 \div 70\text{ }^{\circ}\text{C}$

#### PRESELECTION AND OUTPUTS

Preselections: 1 relay SPDT 5A / 250V  
Cycle: manual or automatic selectable  
Automatic cycle time: 0,2...3,0 sec. (default value: 0,25)  
Automatic reset time: <60  $\mu\text{s}$

#### CONFORMITY TO CEE GUIDELINES

Directive: CEE 93/68  
CEE 89/336 (EMC)  
CEE 73/23 (BT)

#### WORKING CYCLES

At the zero setting command the display will be zeroized and the output relay is de-energized; the totalised value will increase of one unit at each impulse at the counter input.

##### - Manual cycle

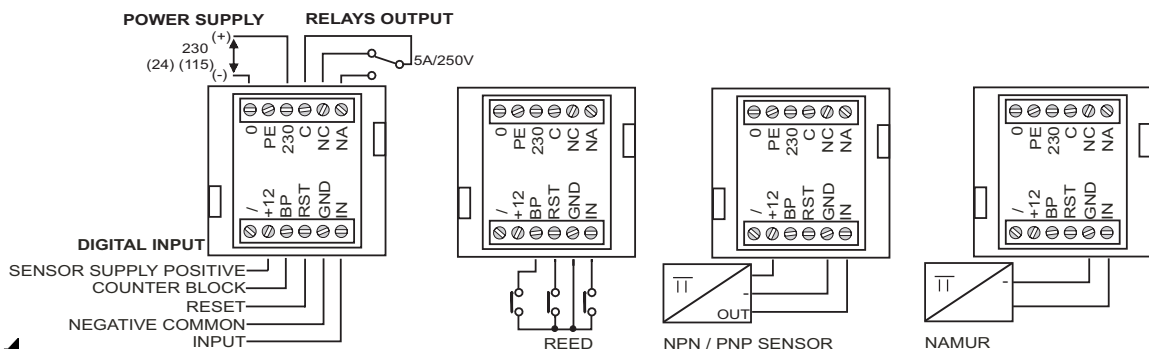
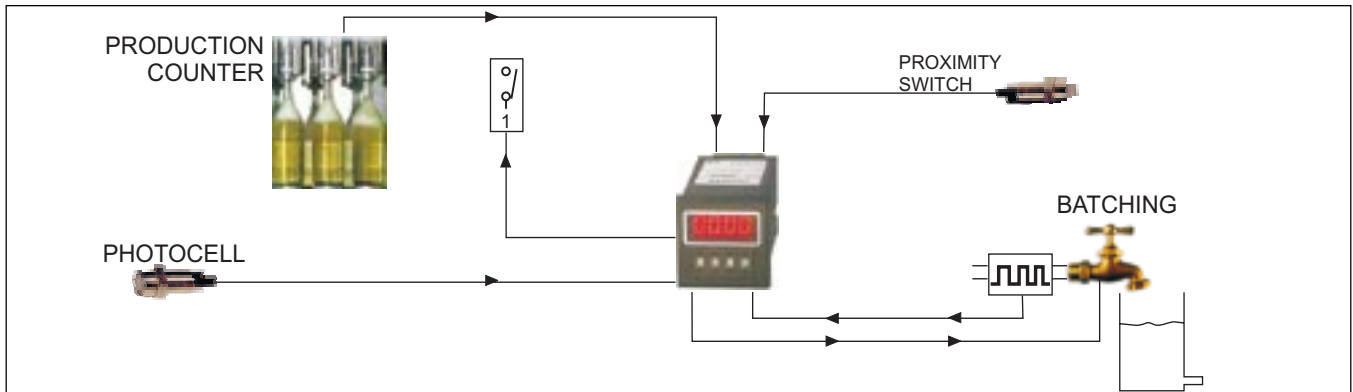
At the reaching of the set preselection value, the output relay is energized and it remains reenergized up to the next zero setting command.

The counter remains blocked at the preselection value.

##### - Automatic cycle

At the reaching of the set preselection value, the output relay is energized for a setting time from 0.2 to 3 seconds, through the side trimmer; the display is immediately zeroized and the impulse counter is already ready for the execution of a new cycle.

The possible impulses given during the relay energizing time are counted.



#### REEL Torino

via Aosta 5 - 10044 - Pianezza (TO)  
tel. +39-011 9661171 - telefax +39-011 9661271  
http: www.reeltorino.it  
e-mail: international@reeltorino.it