

# Digital Counters

## 48 x 48 Multifunction Counter

### Types DMF6



DMF6

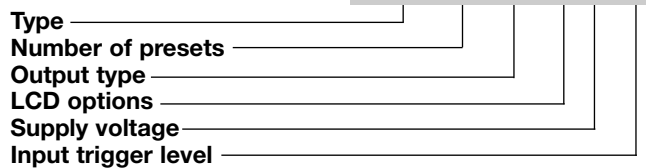
- Programmable as counter, tachometer or timer
- Relay or optocoupler output
- Scalable display
- Plug-in screw terminal block
- Wide operating temperature range: -20...+65°C/-4...149°F
- DIN 48x48
- IP65

### Product Description

This multifunction counter has a fast counting input and can be used for a wide range of applications: batch counting with subtraction of faulty pieces, cut to length, speed regulation, ratio measuring, run time.

### Ordering Key

**DMF6 1 A10 0 3 00**



|              |              |              |
|--------------|--------------|--------------|
| Stock items: | 1 Preset     | 2 Presets    |
|              | DMF61A100300 | DMF62A100300 |
|              | DMF61A100000 | DMF62A100000 |
|              | DMF61A102300 | DMF62A102300 |
|              | DMF61A102000 | DMF62A102000 |

### Approvals



### Number of Presets

|   |           |
|---|-----------|
| 1 | 1 preset  |
| 2 | 2 presets |

### Output Type

|                  |             |
|------------------|-------------|
| A10              | Relays      |
| A11 (only DMF62) | Optocoupler |

### LCD Options

|   |                                      |
|---|--------------------------------------|
| 0 | No backlighting                      |
| 1 | Green backlighting                   |
| 2 | LED look, negative, red backlighting |
| 3 | Multicolour backlighting             |

### Supply Voltage

|   |   |
|---|---|
| 0 | 90...260VAC                                   |
| 3 | 10...30VDC (with reverse polarity protection) |

### Input Trigger Type

|    |  |
|----|--|
| 00 | Standard (also fixed voltage input available upon request) |
|----|--|

### Input Specifications

|   |  |
|---|--|
| Polarity                                  | Programmable for all inputs in common PNP or NPN                 |
| Resistance                                | ~ 5kΩ  |
| Count frequency                           | max. 55kHz   |
| Monitoring/reset input                    | MPI, lock, gate, reset   |
| Min pulse duration of the inputs          | 10ms/1ms   |
| Switching levels with AC-supply HTL-level | Low: 0...4VDC<br>High: 12...30VDC                                |
| Switching levels with DC-supply HTL-level | Low: 0...0.2xU <sub>B</sub><br>High: 0.6xU <sub>B</sub> ...30VDC |
| Pulse shape                               | Variable, Schmitt-Trigger characteristics                        |

### Package Content

|   |                               |
|---|-------------------------------|
| 1 | Instrument DMF6               |
| 1 | Mounting clip                 |
| 1 | Screw terminal block 8 pins   |
| 1 | Screw terminal block 7 pins   |
| 1 | Multilingual operating manual |

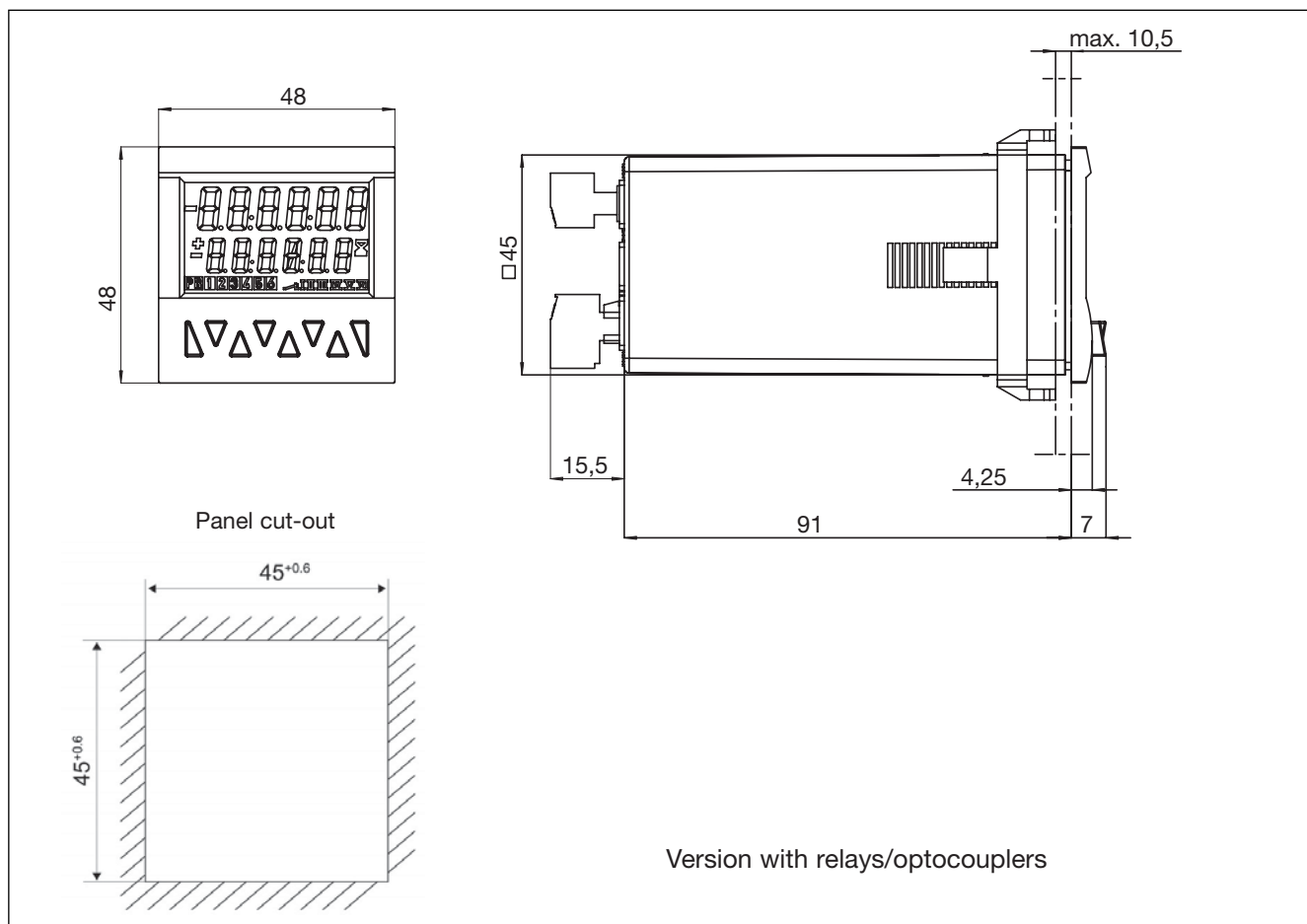
## Output Specifications

|   |  |
|---|--|
| <b>Max. Switching voltage</b>                     | 250VAC / 110VDC  |
| <b>Max. Switching current</b>                     | 3A AC / A DC   |
| <b>Min. Switching current</b>                     | 30mA DC  |
| <b>Max. Switching capacity</b>                    | 750VA / 90W  |
| <b>Output 1</b>                                   |  |
| Mech. service life                                | 2 x 10 <sup>7</sup> cycles                                 |
| N° of cycles @ 3A/250VAC                          | 1 x 10 <sup>5</sup>  |
| N° of cycles @ 3A/30VDC                           | 1 x 10 <sup>5</sup>  |
| Relays  | Programmable as normally open (NO) or normally closed (NC) |
| <b>Output 2</b>                                   |  |
| Mech. service life                                | 20 x 10 <sup>6</sup> cycles                                |
| N° of cycles @ 3A/250VAC                          | 5 x 10 <sup>4</sup>  |
| N° of cycles @ 3A/30VDC                           | 5 x 10 <sup>4</sup>  |
| Relays with changeover contact or NPN optocoupler |  |
| Switching power                                   | 30VDC/10mA   |
| U <sub>CESAT</sub> @ IC = 10mA                    | Max. 2.0V  |
| U <sub>CESAT</sub> @ IC = 5mA                     | Max. 0.4V  |
| <b>Reaction time</b>                              |  |
| Relay   | ~7ms   |
| Optocoupler                                       | ~1ms   |
| <b>Response time of the frequency counter</b>     | 100 / 600ms  |
| <b>Data retention</b>                             | min. 10years, E <sup>2</sup> PROM                          |

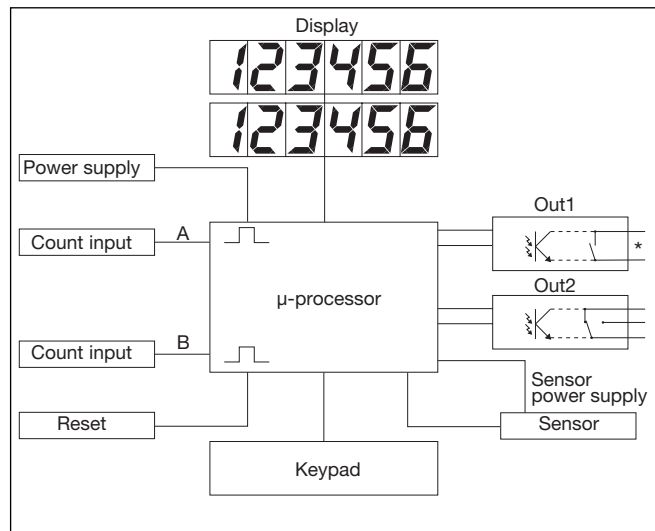
## General Data

|                                |                                 |
|--------------------------------|---------------------------------|
| <b>Display</b>                 | 2 x 6 digits LCD                |
| <b>Viewing angle</b>           | Frontal                         |
| <b>Colour of digit figures</b> | LCD or Negative LCD             |
| <b>Current consumption</b>     |                                 |
| AC                             | 8VA                             |
| DC                             | 1.5W                            |
| <b>Operating temperature</b>   | -20...+65°C/-4...149°F          |
| <b>Storage temperature</b>     | -25...+50°C/-13...167°F         |
| <b>Mounting position</b>       | Panel mounting                  |
| <b>Housing colour</b>          | Grey RAL 7021                   |
| <b>Dimensions</b>              | 48x48 acc. to DIN 43700 STD     |
| <b>Weight</b>                  | 125g/4.41oz                     |
| <b>Protection degree</b>       | IP65 (front)                    |
| <b>EMC</b>                     | acc. to directive 89/36/ENG     |
| emitted:                       | EN61000-6-4<br>EN550011 class B |
| immunity:                      | EN61000-6-2                     |

## Dimensions (mm/inches)

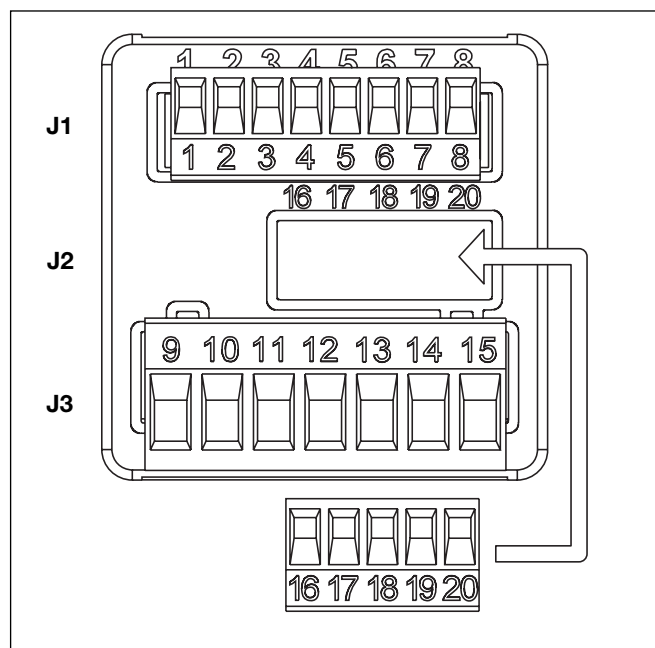


## Block Diagram



\* programmable as NO or NC (non latching relay, in case of power loss the relay becomes NO)

## Connections



### J1 Terminal block

- 1 Sensor voltage supply  
AC: 24VDC / 80mA  
DC: UB interconnected
- 2 GND (0VDC)
- 3 INP A (Signal input A)
- 4 INP B (Signal input B)
- 5 RESET (Reset input)
- 6 LOCK (Key locking input)
- 7 GATE (Gate input)
- 8 MPI (User input)

### J2 Optional Terminal block

16 ... 20: expandability with additional cards

### J3 Terminal block

- 9 Relay contact C./Collector
- 10 Relay contact N.O./Emitter
- 11 Relay contact C./Emitter
- 12 Relay contact N.O./not assigned
- 13 Relay contact N.C./ Collector
- 14 AC: 90..260VAC N~  
DC: 10..30VDC
- 15 AC: 90..260VAC L~  
DC: GND (0VDC)

## Optionals

Available expansion cards

- 4 inputs
- 4 additional optocoupler outputs
- 2 additional relays outputs
- RS 485/232 communication interface