

# Data sheet

MFRk-E12, 230 V AC / 24 V AC/DC, 0,1 min-10 h

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P/N

110310412231

EAN 4250184121275

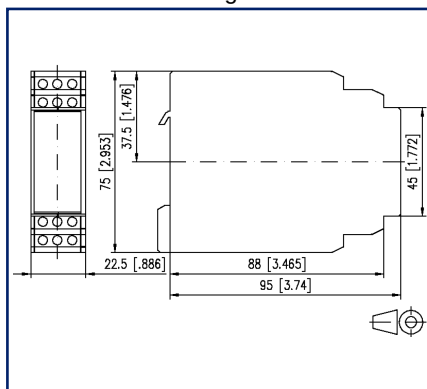
2026/09/23

Version: L

## Illustrations



Dimensional drawing



Wiring diagram

|                                                                                                                                                                                                                                                       |    |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| A1                                                                                                                                                                                                                                                    | 25 | 15 |
| A3                                                                                                                                                                                                                                                    | B1 |    |
| <b>A1 - A2</b><br>operating voltage<br>230 V AC<br><b>A3 - A2</b><br>operating voltage<br>24 V AC/DC<br><b>B1 - B2</b><br>potential free<br>control contact<br><b>15 - 16 - 18</b><br><b>25 - 26 - 28</b><br>output contacts<br>2 changeover contacts |    |    |
| 16                                                                                                                                                                                                                                                    | 18 | B2 |
| 26                                                                                                                                                                                                                                                    | 28 | A2 |
| <b>Caution!</b><br>Contacts B1 and B2<br>are not isolated.                                                                                                                                                                                            |    |    |

See enlarged drawings at the end of document

## Product specification

Multi-functional timer relay with incorporated coding switches to set functions. The time is set by means of a linear potentiometer on a relative scale.

- Four adjustable time ranges for each device
- 0.1 min to 10 h
- Six selectable functions
- 1. On-delayed
- 2. Making-pulse interval
- 3. Off-delay
- 4. Breaking-pulse interval
- 5. Flashing for pause start
- 6. Flashing for pulse start

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## Technical Data

### Supply

|                        |                                     |
|------------------------|-------------------------------------|
| Operating voltage      | 230 V AC / 24 V AC/DC -10% ... +10% |
| Frequency range        | 50 ... 60 Hz                        |
| Duty cycle relative    | 100 %                               |
| Response time typical  | 20 ms                               |
| Release time typical   | 20 ms                               |
| Fallback voltage range | $\geq 0.15$ UN                      |
| Recovery time          | $\geq 250$ ms                       |
| Time Ranges            |                                     |
| Time range adjustable  | 0.1 min - 10 h                      |
| Repeatability          | $\pm 0.01$ %                        |

### Inputs

|                                              |              |
|----------------------------------------------|--------------|
| Minimum switch-on duration                   |              |
| Minimum switch-on duration (control contact) | $\geq 0.2$ s |

### Outputs

|                          |                                  |
|--------------------------|----------------------------------|
| Contacts                 | 2 changeover contacts            |
| Contact material         | AgNi                             |
| Switching voltage (max.) | 250 V                            |
| Continuous Current       | 6 A                              |
| Switching frequency      | 1200 switching cycles/h          |
| Mechanical life          | $1 \times 10^7$ switching cycles |
| Electrical life          | $1 \times 10^5$ switching cycles |
| Indicator                | green and red LED                |

### Insulation coil - contact set

|                                            |                                          |
|--------------------------------------------|------------------------------------------|
| Nominal voltage of the power supply system | 230 / 400 V AC                           |
| Overvoltage category                       | III   II                                 |
| Degree of pollution                        | 2   2                                    |
| Rated test voltage                         | 4 kV   2.5 kV                            |
| Type of insulation                         | basic insulation   reinforced insulation |



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## Technical Data

### Housing

#### Dimensions

|                       |                                  |
|-----------------------|----------------------------------|
| Dimension (W x H x D) | 22.5 mm x 75 mm x 95 mm          |
| Dimension (W x H x D) | 0.886 in. x 2.953 in. x 3.74 in. |
| Weight                | 150 g                            |
| Mounting style        | Standard rail TH35               |
| Mounting position     | any                              |
| Apposition            | without distance                 |
| Connection type       | Screw type terminal blocks       |

### Terminal blocks

|                                      |                                                        |
|--------------------------------------|--------------------------------------------------------|
| Wire cross section solid             | 0.2 mm <sup>2</sup> - 2.5 mm <sup>2</sup> / AWG 22-12  |
| Wire cross section multi             | 0.25 mm <sup>2</sup> - 2.5 mm <sup>2</sup> / AWG 22-12 |
| Wire cross section with wire ferrule | 0.25 mm <sup>2</sup> - 2.5 mm <sup>2</sup> / AWG 22-12 |
| Screw torque (max.)                  | 0.5 Nm                                                 |
| Stripping length (min.)              | 8 mm                                                   |

### Material

|                           |                 |
|---------------------------|-----------------|
| Material - Housing        | Polyamid 6.6 V0 |
| Color                     | gray            |
| Material - Terminal block | Polyamid 6.6 V0 |
| Material - Covers         | Polyamid 6.6 V0 |

### Protection category according to IEC 60529

|                                                           |      |
|-----------------------------------------------------------|------|
| Protection category - housing (acc. to IEC 60529)         | IP40 |
| Protection category - terminal blocks (acc. to IEC 60529) | IP20 |

### Climatic Data

#### Operating

|                            |                          |
|----------------------------|--------------------------|
| Temperature - Operating °C | -10 °C - 55 °C           |
| Temperature - Operating °F | 14 °F - 131 °F           |
| Relative humidity          | max. 85 % non-condensing |

#### Storage

|                          |                 |
|--------------------------|-----------------|
| Temperature - Storage °C | -25 °C - 70 °C  |
| Temperature - Storage °F | -13 °F - 158 °F |



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## Technical Data

### Classifications

|           |          |
|-----------|----------|
| ETIM 7.0  | EC001439 |
| ETIM 8.0  | EC001439 |
| ETIM 9.0  | EC001439 |
| ETIM 10.0 | EC001439 |

### Application note

This product is a standard product of METZ CONNECT. METZ CONNECT is not aware of the specific intended use of the goods by the Customer or any customers of the Customer. The Customer guarantees that it has fully and sufficiently tested the use of the goods and any product modifications, product changes or product enhancements with regard to the specific intended use in accordance with the state of the art or in any other way.



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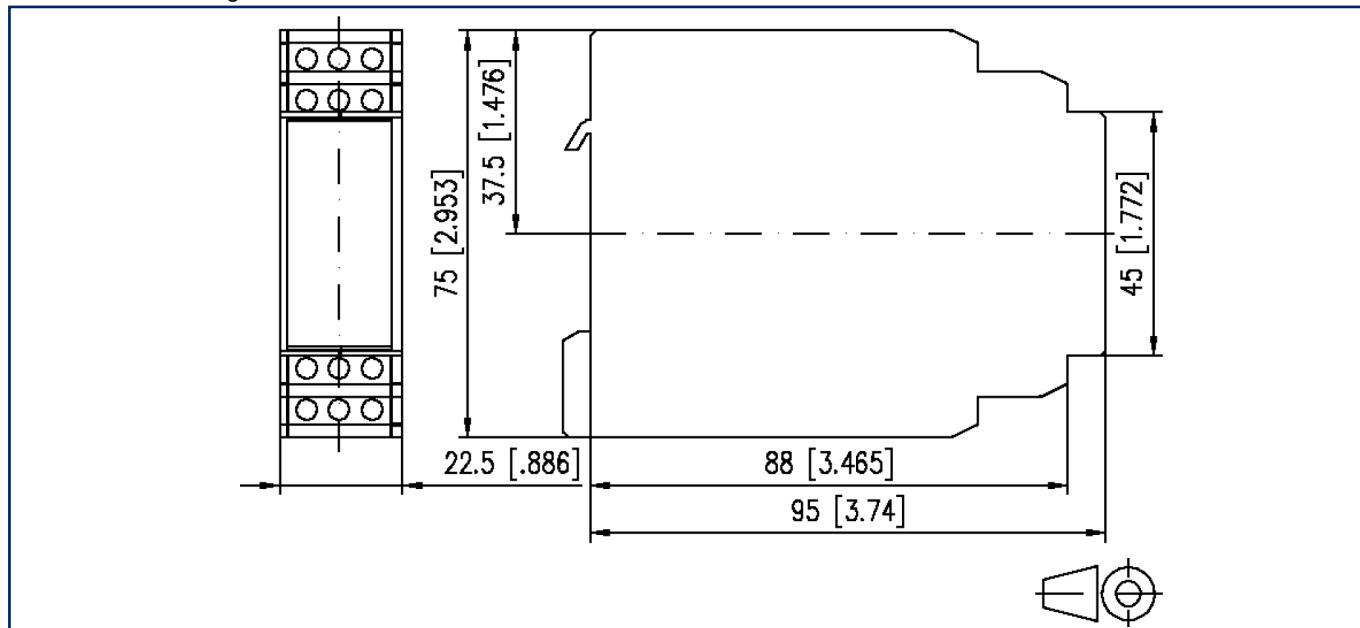
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## Illustrations

### Dimensional drawing



### Wiring diagram

|    |    |    |
|----|----|----|
| A1 | 25 | 15 |
| A3 |    | B1 |
| 16 | 18 | B2 |
| 26 | 28 | A2 |

**A1 - A2**  
operating voltage  
230 V AC  
**A3 - A2**  
operating voltage  
24 V AC/DC  
**B1 - B2**  
potential free  
control contact  
**15 - 16 - 18**  
**25 - 26 - 28**  
output contacts  
2 changeover contacts

**Caution!**  
**Contacts B1 and B2**  
**are not isolated.**



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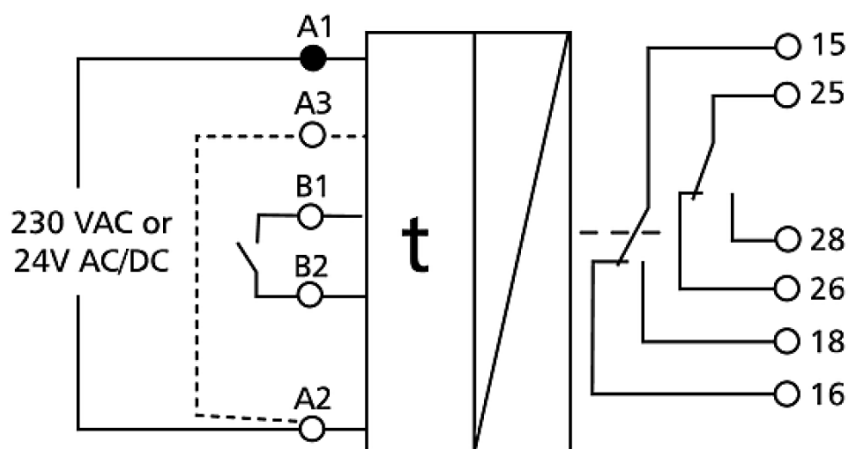
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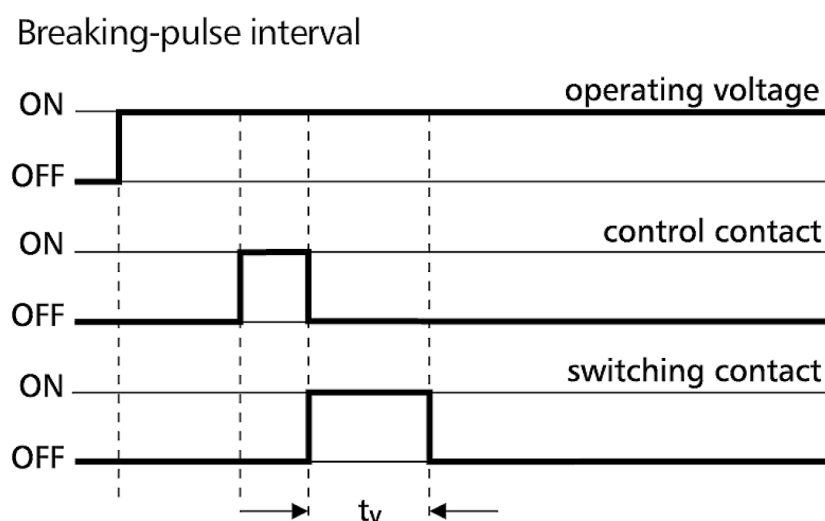
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**Illustrations**

Circuit diagram



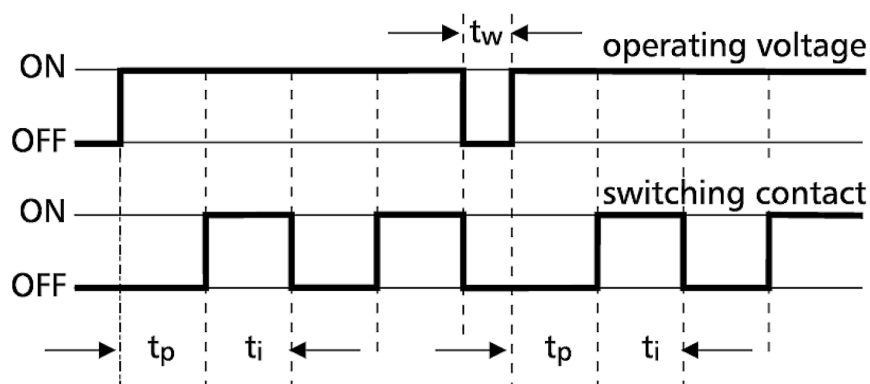
Function diagram



## Illustrations

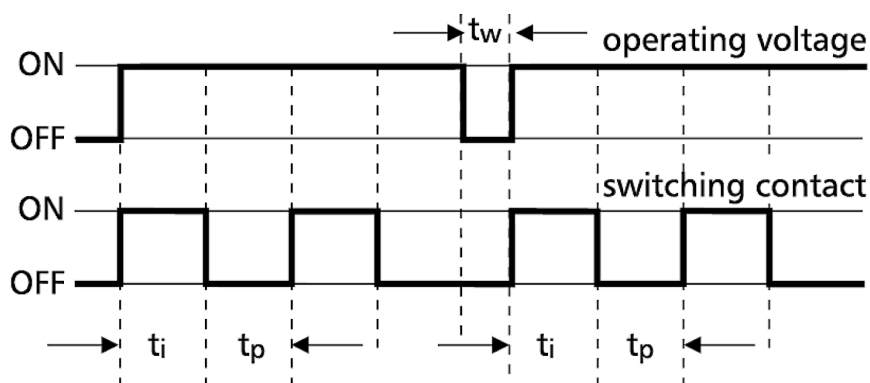
### Function diagram

#### Flashing for pause start



### Function diagram

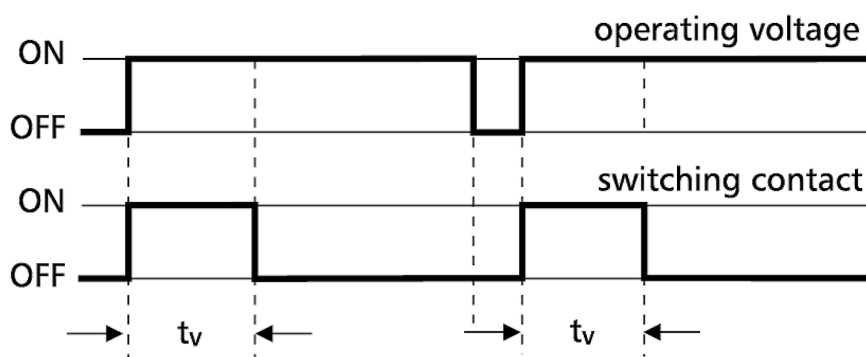
#### Flashing for pulse start



## Illustrations

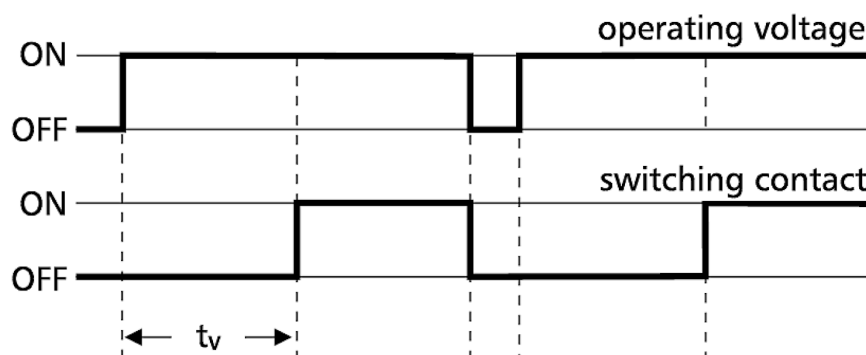
### Function diagram

#### Making-pulse interval



### Function diagram

#### On-delayed



## Illustrations

### Function diagram

