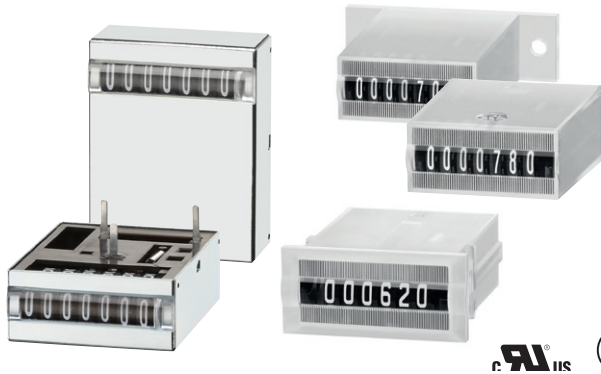


# Pulse counters, electromechanical

| Micro counters | High shock resistance (AC+DC) | K04 ... K07 / AK07 |
|----------------|-------------------------------|--------------------|
|----------------|-------------------------------|--------------------|



The micro adding counter families K04 to K07 and AK07 are available in a very wide variety of models and can be used in both DC as well as in AC applications.

As panel mount, base mount and PCB mount counters with a very high level of shock resistance they can be used for numerous diverse application areas.

## Characteristics

- Low power consumption; suitable for battery operation.
- Very compact size, large optical figures.
- Different viewing possibilities.
- Panel mount counter with moulded spring clips, base mount counter with screw fixing or PCB mount versions.
- Version with additional magnetic shielding thanks to sheet-steel enclosure (K0X.40 and K0X.50).

## Benefits

- Machine solderable and washable.
- Stores values if power fails.
- High shock resistance, long service life, IP65 protection.

## Applications

General quantity counting, alarm systems, coin-operated machines, electricity meters, vending and slot machines, photocopiers, medical equipment, car washes.

## Type series

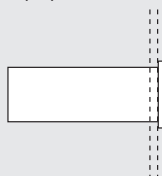
| Fig. | Mounting options       | Display    | Housing     | IP protection      | 4 digits      | 5 digits      | 6 digits      | 7 digits       |
|------|------------------------|------------|-------------|--------------------|---------------|---------------|---------------|----------------|
| 1)   | Panel mount with latch | front side | plastic     | front side         | <b>K04.20</b> | <b>K05.20</b> | <b>K06.20</b> | <b>K07.20</b>  |
| 2)   | PCB mount, lying       | on the top | sheet steel | —                  | <b>K04.40</b> | —             | —             | <b>K07.40</b>  |
| 3)   | PCB mount, hanging     | front side | sheet steel | —                  | —             | —             | —             | <b>K07.50</b>  |
| 4)   | PCB mount, upright     | front side | plastic     | front side         | —             | —             | <b>K06.80</b> | <b>K07.80</b>  |
| 5)   | PCB mount, lying       | on the top | plastic     | front side/on rear | —             | —             | —             | <b>K07.90</b>  |
| 6)   | Base mount, upright    | front side | plastic     | front side         | —             | —             | —             | <b>AK07.00</b> |

### Order information

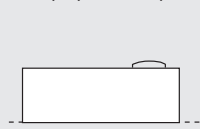
- Art. no.
- For options please give exact counter type, voltage and options e.g.:  
K06.20 – 9 V DC/0 – temperature range -20 °C ... +70 °C [-4 °F ... +158 °F]

## Mounting options and position of the display

1) Panel mount  
display front side



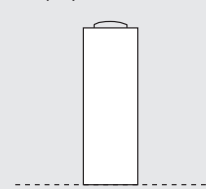
2) PCB mount, lying  
display on the top



3) PCB mount, hanging  
display front side



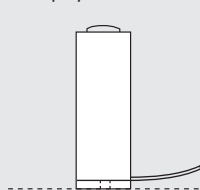
4) PCB mount, upright  
display front side



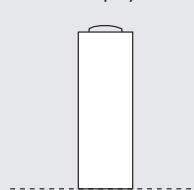
5) PCB mount, lying  
display on the top



6) Base mount upright  
display front side



Optional: PCB mount, upright  
display front side, IP65



# Pulse counters, electromechanical

| Micro counters | High shock resistance (AC+DC) | K04 ... K07 / AK07 |
|----------------|-------------------------------|--------------------|
|----------------|-------------------------------|--------------------|

| Accessories    |  |                                           |                                                           |  |                |
|----------------|--|-------------------------------------------|-----------------------------------------------------------|--|----------------|
|                |  | Type / size                               | Description                                               |  | Order no.      |
| Gasket counter |  | <b>32 x 15 mm</b><br><b>[1.26 x 0.59]</b> | for cut-out 27 x 13 mm,<br>suitable for K06.20 and K07.20 |  | <b>N511058</b> |

| Technical data                                                 |                                                                                                                    |  |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--|
| <b>Electrical connection</b>                                   |                                                                                                                    |  |
| panel mount, base mount                                        | flying leads, AWG 22<br>approx. 150 mm [5.91"],<br>6 mm [0.24"] stripped wire ends, tinned                         |  |
| PCB mount                                                      | solder pins ø 0.4 x 1.2 mm [0.016 x 0.047"]                                                                        |  |
| <b>Power consumption</b> (at 20 °C [68 °F] and normal voltage) |                                                                                                                    |  |
| at 10 Hz (type 0)                                              | approx. 50 mW                                                                                                      |  |
| at 25 Hz (type 1)                                              | approx. 250 mW                                                                                                     |  |
| at 10 Hz (type a0)                                             | approx. 800 mW                                                                                                     |  |
| <b>Rated voltage</b>                                           |                                                                                                                    |  |
| type 0                                                         | 1.5/3/4.5/5/6/12/24 V DC, -10 %, +20 %                                                                             |  |
| type 1                                                         | 3/4.5/5/6/12/24 V DC, ±10 %                                                                                        |  |
| type a0                                                        | 12/24/115/230 V AC, ±10 %                                                                                          |  |
| <b>Counting frequency</b>                                      |                                                                                                                    |  |
|                                                                | max. 10 and 25 Hz                                                                                                  |  |
| <b>Pulse duration</b>                                          |                                                                                                                    |  |
| at 10 Hz (type 0 and a0)                                       | min. 50 ms                                                                                                         |  |
| at 25 Hz (type 1)                                              | min. 20 ms                                                                                                         |  |
| <b>Pulse interval</b>                                          |                                                                                                                    |  |
| at 10 Hz (type 0 a0)                                           | min. 50 ms                                                                                                         |  |
| at 25 Hz (type 1)                                              | min. 20 ms                                                                                                         |  |
| <b>Cycle duration factor</b>                                   |                                                                                                                    |  |
|                                                                | 100 %                                                                                                              |  |
| <b>Number of digits</b>                                        |                                                                                                                    |  |
|                                                                | 4, 5, 6 and 7                                                                                                      |  |
| <b>Counting system</b>                                         |                                                                                                                    |  |
|                                                                | adding                                                                                                             |  |
| <b>Height of figures</b>                                       |                                                                                                                    |  |
| K04, K06, AK06                                                 | 4 x 1.7 mm [0.16 x 0.067"] optical                                                                                 |  |
| K05, K07, AK07                                                 | 4 x 1.2 mm [0.16 x 0.047"] optical                                                                                 |  |
| <b>Color of figures</b>                                        |                                                                                                                    |  |
|                                                                | white on black                                                                                                     |  |
| <b>Reset</b>                                                   |                                                                                                                    |  |
|                                                                | no reset                                                                                                           |  |
| <b>Operating temperature</b>                                   |                                                                                                                    |  |
|                                                                | -10 °C ... +60 °C [+14 °F ... +140 °F]<br>(non-condensing)                                                         |  |
| <b>Relative humidity</b><br>at +30 °C [+86 °F]                 |                                                                                                                    |  |
|                                                                | ≤ 80 % (non-condensing)                                                                                            |  |
| <b>Altitude</b>                                                |                                                                                                                    |  |
|                                                                | up to 2000 m [6562']                                                                                               |  |
| <b>Mounting position</b>                                       |                                                                                                                    |  |
|                                                                | horizontal, other on request                                                                                       |  |
| <b>Soldering temperature</b>                                   |                                                                                                                    |  |
|                                                                | 265 °C [+509 °F], 3 s                                                                                              |  |
| <b>Operating life</b>                                          |                                                                                                                    |  |
|                                                                | > 50 x 10 <sup>6</sup> pulses                                                                                      |  |
| <b>Solderable and wash proof types</b>                         |                                                                                                                    |  |
|                                                                | K0X.92, K06.90, K07.90                                                                                             |  |
| <b>Protection</b>                                              |                                                                                                                    |  |
| K0X.92, K0X.90                                                 | IP65                                                                                                               |  |
| AK0X.00, K0X.80, K0X.20                                        | IP65 (only front side)                                                                                             |  |
| other types                                                    | depending on kind of mounting                                                                                      |  |
| <b>Housing</b>                                                 |                                                                                                                    |  |
|                                                                | PC (Polycarbonate), transparent<br>or sheet steel types (see table) with<br>IP65 protection, fully sealed (potted) |  |
| <b>Weight</b>                                                  |                                                                                                                    |  |
|                                                                | 15 ... 18 g [0.53 ... 0.63 oz]                                                                                     |  |
| <b>Device safety</b>                                           |                                                                                                                    |  |
| designed to                                                    | EN 61010 part 1                                                                                                    |  |
| protection class                                               | 2                                                                                                                  |  |
| application area                                               | pollution level 2                                                                                                  |  |

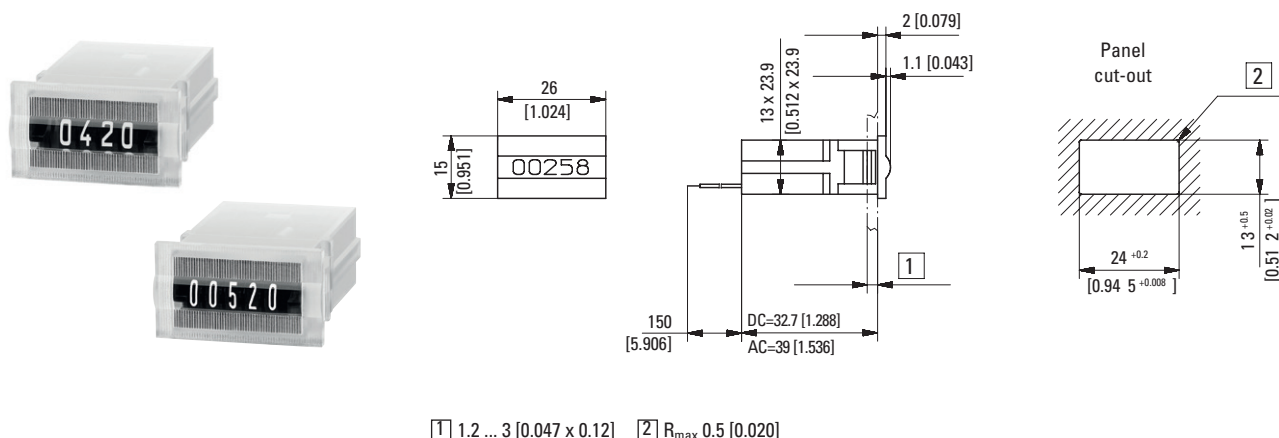
| Options       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>K0x.20</b> | flat pin 0.5 x 2.8 mm [0.020 x 0.11"] Art. no.: 1.1X7.XX0.XXX<br>flat pin 0.4 x 1.2 mm [0.016 x 0.047"] Art. no.: 1.1X9.XX0.XXX<br><ul style="list-style-type: none"> <li>• different voltages</li> <li>• version not potted</li> <li>• different figure colors</li> <li>• different lengths of flying leads</li> <li>• different connections</li> <li>• different temperature range, depends on version<br/>-30 °C ... +85 °C [-22 °F ... +185 °F] or<br/>-20 °C ... +70 °C [-4 °F ... +158 °F]</li> </ul> |

| Approvals                              |                       |                  |
|----------------------------------------|-----------------------|------------------|
| <b>UL compliant</b> in accordance with |                       | File no. E128604 |
| <b>CE compliant</b> in accordance with |                       |                  |
|                                        | EMC Directive         | 2014/30/EU       |
|                                        | RoHS Directive        | 2011/65/EU       |
|                                        | Low Voltage Directive | 2014/35/EU       |

# Pulse counters, electromechanical

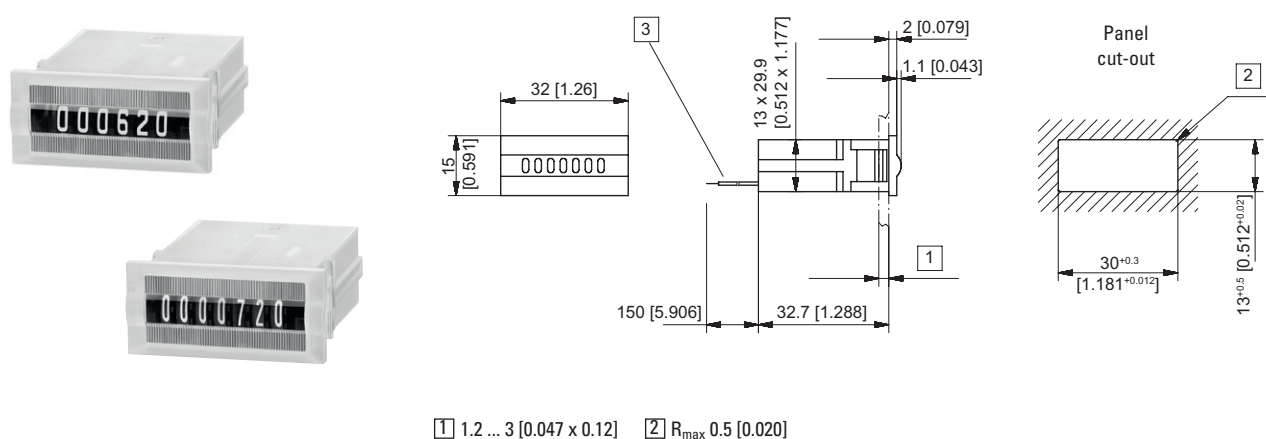
| Micro counters | High shock resistance (AC+DC) | K04 ... K07 / AK07 |
|----------------|-------------------------------|--------------------|
|----------------|-------------------------------|--------------------|

**Panel mount counter**  
**4- and 5-digit display front side**  
**Type K04.20 / K05.20**



| Type   | Voltage         | Display  | Art. no.<br>3 V | 4.5 V         | 12 V                        | 24 V                                            | 115 V         | 230 V         |
|--------|-----------------|----------|-----------------|---------------|-----------------------------|-------------------------------------------------|---------------|---------------|
| K04.20 | DC (10 Hz) / 0  | 4 digits | 1.100.200.006   | 1.100.200.008 | on request<br>1.100.200.032 | on request<br>1.100.200.033<br>1.100.200.051    | 1.100.200.054 | 1.100.200.056 |
|        | DC (25 Hz) / 1  |          |                 |               |                             |                                                 |               |               |
|        | AC (10 Hz) / a0 |          |                 |               |                             |                                                 |               |               |
| K05.20 | DC (10 Hz) / 0  | 5 digits | 1.110.200.006   | 1.110.200.008 | on request<br>1.110.200.032 | 1.110.200.013<br>1.110.200.033<br>1.110.200.051 | 1.110.200.054 | 1.110.200.056 |
|        | DC (25 Hz) / 1  |          |                 |               |                             |                                                 |               |               |
|        | AC (10 Hz) / a0 |          |                 |               |                             |                                                 |               |               |

**Panel mount counter**  
**6- and 7-digit display front side**  
**Type K06.20 / K07.20**



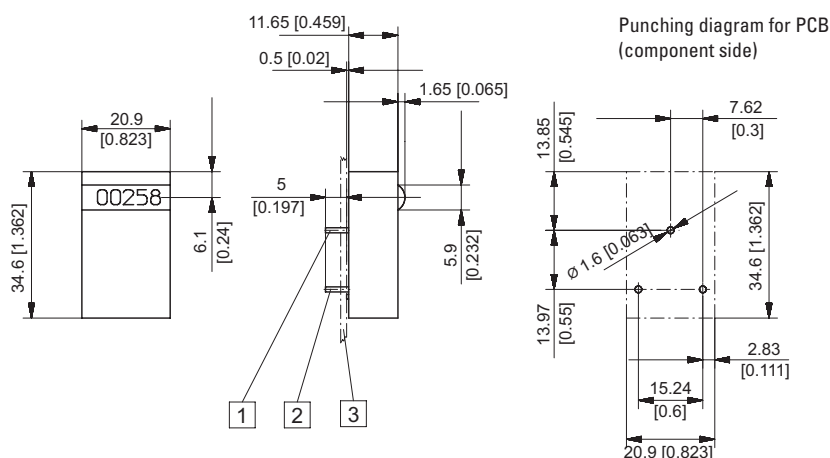
| Type   | Voltage         | Display  | Art. no.<br>3 V | 4.5 V         | 12 V                           | 24 V                                            | 115 V         | 230 V         |
|--------|-----------------|----------|-----------------|---------------|--------------------------------|-------------------------------------------------|---------------|---------------|
| K06.20 | DC (10 Hz) / 0  | 6 digits | 1.120.200.006   | 1.120.200.008 | on request<br>1.120.200.032    | 1.120.200.013<br>1.120.200.033<br>1.120.200.051 | 1.120.200.054 | 1.120.200.056 |
|        | DC (25 Hz) / 1  |          |                 |               |                                |                                                 |               |               |
|        | AC (10 Hz) / a0 |          |                 |               |                                |                                                 |               |               |
| K07.20 | DC (10 Hz) / 0  | 7 digits | 1.130.200.006   | 1.130.200.008 | 1.130.200.012<br>1.130.200.032 | 1.130.200.013<br>1.130.200.033<br>1.130.200.051 | 1.130.200.054 | 1.130.200.056 |
|        | DC (25 Hz) / 1  |          |                 |               |                                |                                                 |               |               |
|        | AC (10 Hz) / a0 |          |                 |               |                                |                                                 |               |               |

# Pulse counters, electromechanical

| Micro counters | High shock resistance (AC+DC) | K04 ... K07 / AK07 |
|----------------|-------------------------------|--------------------|
|----------------|-------------------------------|--------------------|

## PCB mount, lying 4-digit display on the top Type K04.40

Color of housing blue (zinc-plated)



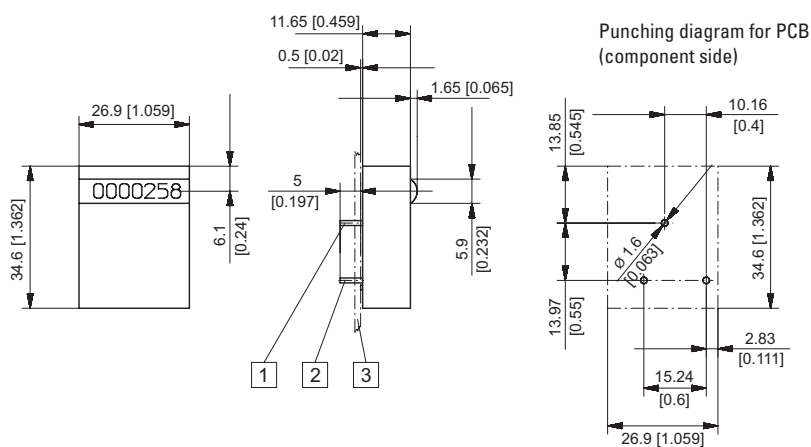
1 Mounting pin without el. function 0.4 x 1.2 [0.016 x 0.047]

2 Coil connections 0.4 x 1.2 [0.016 x 0.047] 3 PCB

| Type   | Voltage                          | Display  | Art. no.<br>3 V | 4.5 V         | 12 V                        | 24 V                        |
|--------|----------------------------------|----------|-----------------|---------------|-----------------------------|-----------------------------|
| K04.40 | DC (10 Hz) / 0<br>DC (25 Hz) / 1 | 4 digits | 1.100.401.006   | 1.100.401.008 | on request<br>1.100.401.032 | on request<br>1.100.401.033 |

## PCB mount, lying 7-digit display on the top Type K07.40

Color of housing blue (zinc-plated)



1 Mounting pin without el. function 0.4 x 1.2 [0.016 x 0.047]

2 Coil connections 0.4 x 1.2 [0.016 x 0.047] 3 PCB

| Type   | Voltage                          | Display  | Art. no.<br>3 V | 4.5 V         | 12 V                        | 24 V                        |
|--------|----------------------------------|----------|-----------------|---------------|-----------------------------|-----------------------------|
| K07.40 | DC (10 Hz) / 0<br>DC (25 Hz) / 1 | 7 digits | 1.130.401.006   | 1.130.401.008 | on request<br>1.130.401.032 | on request<br>1.130.401.033 |

## Pulse counters, electromechanical

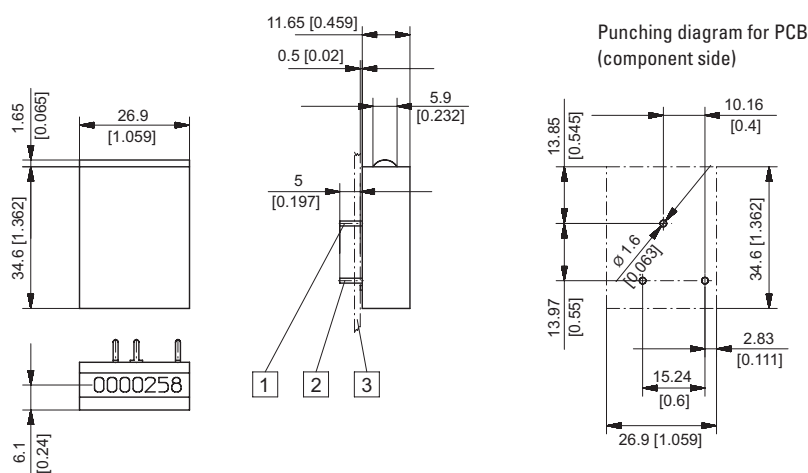
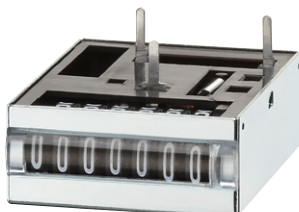
## Micro counters

### High shock resistance (AC+DC)

## K04 ... K07 / AK07

**PCB mount, hanging  
7-digit display front side  
Type K07.50**

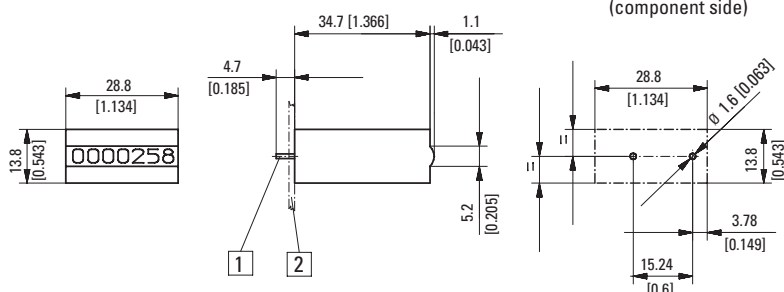
Color of housing blue (zinc-plated)



- [1] Mounting pin without el. function 0.4 x 1.2 [0.016 x 0.047]  
 [2] Coil connections 0.4 x 1.2 [0.016 x 0.047]    [3] PCB

| Type   | Voltage                          | Display  | Art. no.<br>3 V | 4.5 V         | 12 V                        | 24 V                        |  |
|--------|----------------------------------|----------|-----------------|---------------|-----------------------------|-----------------------------|--|
| K07.50 | DC (10 Hz) / 0<br>DC (25 Hz) / 1 | 7 digits | 1.130.501.006   | 1.130.501.008 | on request<br>1.130.501.032 | on request<br>1.130.501.033 |  |

**PCB mount, upright**  
**6- and 7-digit display front side**  
**Type K06.80 / K07.80**



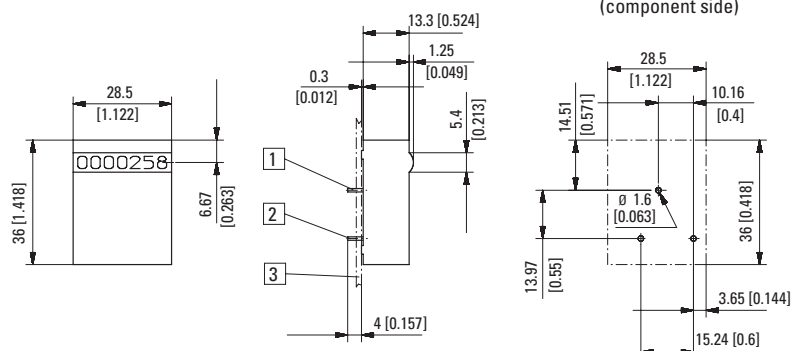
- ① Coil connections 0.4 x 1.2 [0.016 x 0.047]      ② PCB

| Type   | Voltage         | Display  | Art. no.<br>3 V | 4.5 V         | 12 V                        | 24 V          | 115 V         | 230 V         |
|--------|-----------------|----------|-----------------|---------------|-----------------------------|---------------|---------------|---------------|
| K06.80 | DC (10 Hz) / 0  | 6 digits | 1.120.800.006   | 1.120.800.008 | on request<br>1.120.800.032 | on request    | 1.120.800.054 | 1.120.800.056 |
|        | DC (25 Hz) / 1  |          |                 |               |                             | 1.120.800.033 |               |               |
|        | AC (10 Hz) / a0 |          |                 |               |                             | 1.120.800.051 |               |               |
| K07.80 | DC (10 Hz) / 0  | 7 digits | 1.130.800.006   | 1.130.800.008 | on request<br>1.130.800.032 | on request    | 1.130.800.054 | 1.130.800.056 |
|        | DC (25 Hz) / 1  |          |                 |               |                             | 1.130.800.033 |               |               |
|        | AC (10 Hz) / a0 |          |                 |               |                             | 1.130.800.051 |               |               |

# Pulse counters, electromechanical

| Micro counters | High shock resistance (AC+DC) | K04 ... K07 / AK07 |
|----------------|-------------------------------|--------------------|
|----------------|-------------------------------|--------------------|

PCB mount, lying  
7-digit display on the top  
Type K07.90

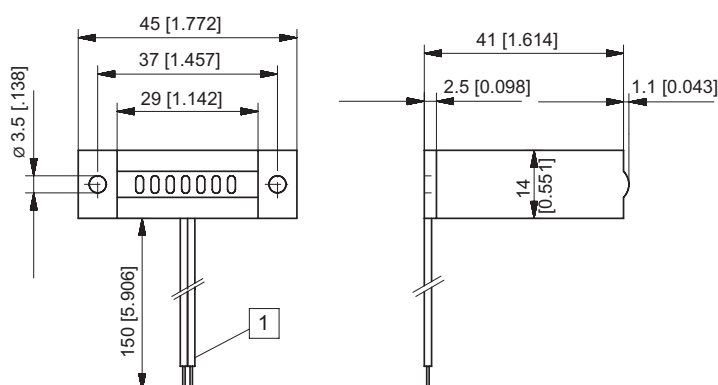


Punching diagram for PCB  
(component side)

- 1 Mounting pin without el. function 0.4 x 1.2 [0.016 x 0.047]  
2 Coil connections 0.4 x 1.2 [0.016 x 0.047] 3 PCB

| Type   | Voltage         | Display  | Art. no.<br>3 V | 4.5 V         | 12 V                           | 24 V                                         | 115 V         | 230 V         |
|--------|-----------------|----------|-----------------|---------------|--------------------------------|----------------------------------------------|---------------|---------------|
| K07.90 | DC (10 Hz) / 0  | 7 digits | 1.130.900.006   | 1.130.900.008 | 1.130.900.012<br>1.130.900.032 | on request<br>1.130.900.033<br>1.130.900.051 | 1.130.900.054 | 1.130.900.056 |
|        | DC (25 Hz) / 1  |          |                 |               |                                |                                              |               |               |
|        | AC (10 Hz) / a0 |          |                 |               |                                |                                              |               |               |

Base mount, upright  
7-digit display front side  
Type AK07.00



- 1 Flying leads (red+ / black-)

| Type    | Voltage         | Display  | Art. no.<br>3 V | 4.5 V         | 12 V                           | 24 V                                            | 115 V         | 230 V         |
|---------|-----------------|----------|-----------------|---------------|--------------------------------|-------------------------------------------------|---------------|---------------|
| AK07.00 | DC (10 Hz) / 0  | 7 digits | 1.130.000.006   | 1.130.000.008 | 1.130.000.012<br>1.130.000.032 | 1.130.000.013<br>1.130.000.033<br>1.130.000.051 | 1.130.000.054 | 1.130.000.056 |
|         | DC (25 Hz) / 1  |          |                 |               |                                |                                                 |               |               |
|         | AC (10 Hz) / a0 |          |                 |               |                                |                                                 |               |               |