



Zertifiziertes  
QM-System  
DIN EN ISO 9001  
Zertifikat-Nr. 01017

## Electro-Mechanical Counters



measuring  
•  
monitoring  
•  
analysing



- Input: pulse counter
- Display: 5, 6, 7 and 8 digits
- Housing: plastic
- Panel mounted
- Power supply:  
4.5 V<sub>DC</sub>; 12 V<sub>DC</sub>; 24 V<sub>DC</sub>;  
115 V<sub>AC</sub>; 230 V<sub>AC</sub>



KOBOLD offices exist in the following countries:

ARGENTINA, AUSTRIA, BELGIUM, BRAZIL, CANADA, CHINA,  
FRANCE, GERMANY, GREAT BRITAIN, ITALY, MEXICO,  
NETHERLANDS, PERU, POLAND, SWITZERLAND, USA, VENEZUELA

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**Model:**  
ZMZ-1  
ZMZ-2  
ZMZ-5  
ZMZ-9



**Description**

The KOBOLD 7-digit micro count totalizer consists of an electromagnetic drive and a mechanical digit roller system. The electrical pulses applied cause the digit rollers to increment. This counter features compact construction, high impact resistance and very low power consumption.

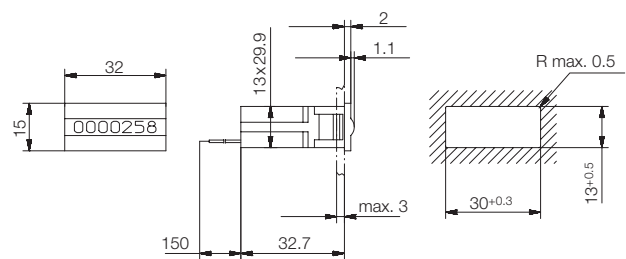
**Typical applications**

- General totalizing
- Calorimeters
- Water meters
- Current meters
- Vending machines and games
- Copiers
- Coin-operated machines
- Washing systems
- Alarm systems
- Medical systems

**Technical details**

- Max. counting frequency: 10 s<sup>-1</sup> except 25 s<sup>-1</sup> (24 V<sub>DC</sub> version)
- Min. pulse duration: 50 ms except 20 ms (24 V<sub>DC</sub> version)
- Min. pulse interval: 50 ms except 20 ms (24 V<sub>DC</sub> version)
- ON period: 100 %
- Maximum display: 9 999 999
- Count method: Totalizing
- Digits: White on black background
- Digit size: 1.2 x 4 mm optical
- Reset: None
- Ambient temperature: -10 to +60 °C
- Mounting position: Any
- Service life: > 50 x 10<sup>6</sup> pulses
- Housing: 32 x 15 mm, polycarbonate
- Panel cut-out: 30 x 13 mm
- Electrical connection: 150 mm stranded wire
- Power supply: 4.5 / 12 V<sub>DC</sub> -10% +20%  
24 V<sub>DC</sub>; 115 / 230 V<sub>AC</sub> ±10 %
- Max. power consumption: Approx. 50 mW at 4.5 / 12 V<sub>DC</sub>  
Approx. 250 mW at 24 V<sub>DC</sub>  
Approx. 0.8 VA for AC versions
- Weight: Approx. 18 g
- Protection type: IP 65 at front

**Dimensions**



**Ordering details** (example: ZMZ-1S70 0)

Model	Description	Power supply
ZMZ-1S70	Micro count totalizer Housing 32 x 15 mm Panel mounted 7-digit display Without manual reset	<b>0</b> = 230 V <sub>AC</sub> <b>3</b> = 24 V <sub>DC</sub> <b>4</b> = 115 V <sub>AC</sub> <b>5</b> = 12 V <sub>DC</sub> <b>9</b> = 4.5 V <sub>DC</sub>



**Description**

The KOBOLD 5-digit mini pulse counter consists of an electromagnetic drive and a mechanical digit roller system. The electrical pulses applied cause the digit rollers to increment.

This counter features low power consumption and a long service life and is thus well suited for use in battery-powered devices and electronic circuits.

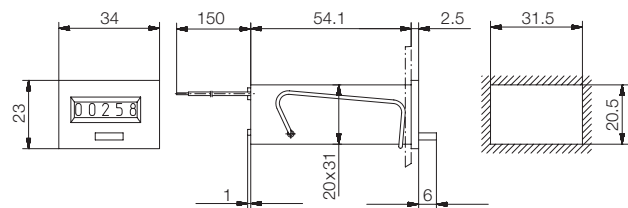
**Typical applications**

- Battery driven devices
- Vending machines
- Fee/toll collection
- General totalizing

**Technical details**

Max. counting frequency:	10 s <sup>-1</sup>
Min. pulse duration:	50 ms
Min. pulse interval:	50 ms
ON period:	100%
Maximum display:	99 999
Count method:	Totalizing
Digits:	White on black background
Digit size:	1.7 x 4 mm
Reset:	Manual reset
Ambient temperature:	-10 to +50 °C
Mounting position:	Any
Counting mechanism:	Non-rusting
Service life:	> 50 x 10 <sup>6</sup> Impulse
Housing:	34 x 23 mm Black plastic
Panel cut-out:	31.5 x 20.5 mm
Electrical connection:	150 mm stranded wire
Power supply:	12/24 V <sub>DC</sub> ; 115/230 V <sub>AC</sub> ± 10%
Max. power consumption:	Approx. 0.5 W for DC versions Approx. 0.75 VA at 115 V <sub>AC</sub> Approx. 1.5 VA at 230 V <sub>AC</sub>
Weight:	Approximately 48 g
Protection type:	IP 65 at front

**Dimensions**



**Ordering details** (example: ZMZ-2S51 0)

Model	Description	Power supply
ZMZ-2S51	Mini Pulse Counter Housing 34 x 23 mm Panel mounted 5-digit display With manual reset	0 = 230 V <sub>AC</sub> 3 = 24 V <sub>DC</sub> 4 = 115 V <sub>AC</sub> 5 = 12 V <sub>DC</sub>



**Description**

The robust KOBOLD panel-mounted counter with tension-bracket mounting system is comprised of an electromagnetic drive and a mechanical digit roller system. The electrical pulses applied cause the digit rollers to increment.

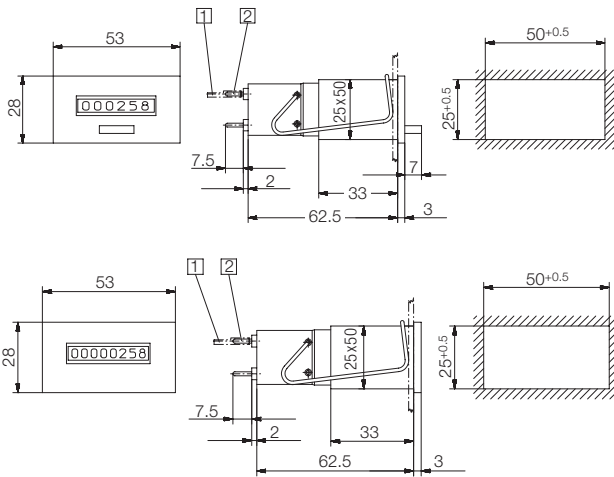
This counter is available in two model series:

- 6-digit count totalizer with manual reset
- 8-digit count totalizer without manual reset

**Typical applications**

- Piece counting in production
- Event counting
- Timing
- General totalizing

**Dimensions**



**Technical details**

- Max. counting frequency: 25 s<sup>-1</sup> (DC version)  
18 s<sup>-1</sup> (AC version)
- Min. pulse duration: 24 ms (DC version)  
22.2 ms (AC version)
- Min. pulse interval: 16 ms (DC version)  
33.3 ms (AC version)
- Pulse ratio: 3 : 2 (DC version)  
2 : 3 (AC version)
- ON period: 100%
- Display: 6-digit with manual reset  
or  
8-digit without manual reset
- Count method: Totalizing
- Digits: White on black background
- Digit size: 2 x 4 mm (ZMZ-2R8)  
2 x 4.5 mm (ZMZ-2R6)
- Ambient temperature: -10 to +55 °C (AC version)  
-10 to +60 °C (DC version)
- Mounting position: Any
- Permissible acceleration: (universal mounting)  
3 g to 10 Hz  
6 g to 15 Hz  
10 g 20-300 Hz
- Counting mechanism: Non-rusting
- Service life: Approximately 200 x 10<sup>6</sup> pulses
- Housing: 53 x 28 mm, black plastic
- Panel cut-out: 50 x 25 mm
- Electrical connection: Silver-plated pin connectors  
Ø 1.5 mm  
with pin plug
- Power supply: 24 V<sub>DC</sub>; 230 V<sub>AC</sub> ± 10%
- Test voltage: 2000 V<sub>DC</sub> r.m.s.,  
as per VDE 0435
- Max. power consumption: Approx. 2 W (DC version)  
Approx. 2.9 VA (AC version)
- Weight: Approx. 81 g (ZMZ-2R80)  
Approx. 83 g (ZMZ-2R61)
- Protection type: IP 55 at front

**Ordering details** (example: ZMZ-2R61 0)

Model	Description	Power supply
ZMZ-2R61	Sturdy panel-mounted counter Housing 34 x 23 mm 6-digit display with manual reset	0 = 230 V <sub>AC</sub> 3 = 24 V <sub>DC</sub>
ZMZ-2R80	Sturdy panel-mounted counter Housing 34 x 23 mm 8-digit display without manual reset	



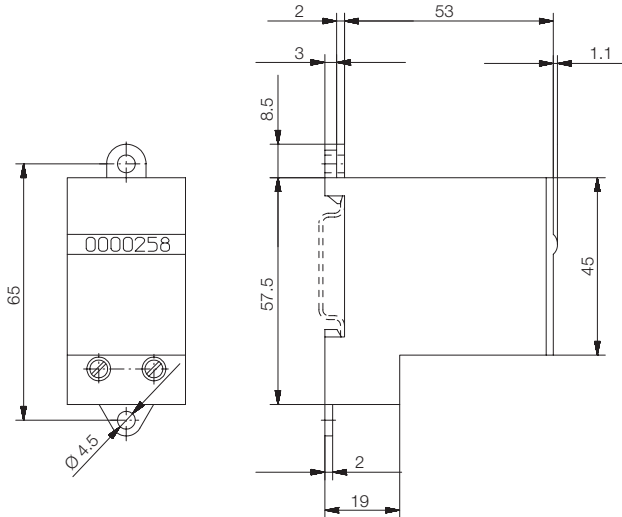
**Description**

The KOBOLD 7-digit micro count totalizer is comprised of an electromagnetic drive and a mechanical digit roller system. The electrical pulses applied cause the digit rollers to increment. This counter features high impact resistance and very low power consumption.

**Typical applications**

- General totalizing
- Integration in switching and distribution cabinets

**Dimensions**



**Technical details**

Max. counting frequency:	10 s <sup>-1</sup> except 25 s <sup>-1</sup> (24 V <sub>DC</sub> version)
Min. pulse duration:	50 ms except 20 ms (24 V <sub>DC</sub> version)
Min. pulse interval:	50 ms except 20 ms (24 V <sub>DC</sub> version)
ON period:	100 %
Maximum display:	9 999 999
Count method:	Totalizing
Digits:	White on black background
Digit size:	1.2 x 4 mm optical
Reset:	None
Ambient temperature:	-10 to +60 °C
Mounting position:	Any
Service life:	> 50 x 10 <sup>6</sup> pulses
Housing:	32 x 15 mm Black polycarbonate
Mounting:	Rail mount as per DIN 46 277 and surface-mounted
Electrical connection:	Terminals
Power supply:	12 V <sub>DC</sub> -10% +20% 24 V <sub>DC</sub> ; 115/230 V <sub>AC</sub> ±10%
Max. power consumption:	Approx. 50 mW at 12 V <sub>DC</sub> Approx. 250 mW at 24 V <sub>DC</sub> Approx. 0.8 VA for AC versions
Weight:	Approximately 55 g
Protection type:	IP 50 at front

**Ordering details** (example: ZMZ-9S70 0)

Model	Description	Power supply
ZMZ-9S70	Micro count totalizer Surface-mounted and Rail-mounted 7-digit display without manual reset	<b>0</b> =230 V <sub>AC</sub> <b>3</b> =24 V <sub>DC</sub> <b>4</b> =115 V <sub>AC</sub> <b>8</b> =12 V <sub>DC</sub>



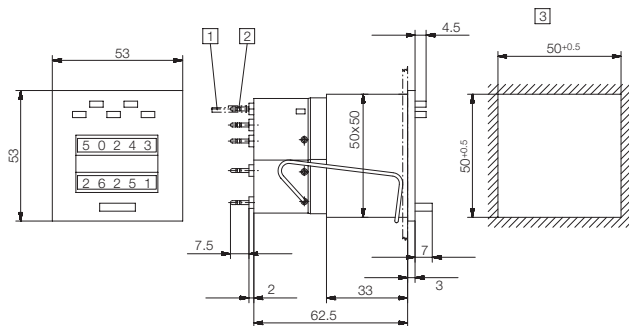
**Description**

The KOBOLD model ZMZ-5V is a 5-digit preset counter with stationary presets. The preset target counter reading is continuously visible and can be set during counting. A floating changeover contact switches when the target value is reached. It remains switched until a button is pushed to manually set it to "0".

**Typical applications**

- Production piece counting
- Automation

**Dimensions**



- 1 Pin sockets Ø 1.5 mm, silver-plated
- 2 Pin connector Ø 1.5 mm, silver-plated
- 3 Panel cut-out

**Technical details**

Max. counting frequency:	18 s <sup>-1</sup> (AC versions) 25 s <sup>-1</sup> (24 V <sub>DC</sub> version)
Min. pulse duration:	27.7 ms (AC versions) 24 ms (24 V <sub>DC</sub> version)
Min. pulse interval:	27.7 ms (AC versions) 16 ms (24 V <sub>DC</sub> version)
Pulse ratio:	1 : 1 (AC versions) 3 : 2 (24 V <sub>DC</sub> version)
ON period:	100%
Maximum display:	99 999
Display:	Totalizing
Digits:	White on black background (counter) Yellow on black background (preset value)
Digit size:	4.5 mm high (counter) 4 mm high (preset value)
Reset:	Manual reset to zero position
Ambient temperature:	-10 to +55 °C (AC versions) -10 to +60 °C (DC version)
Mounting position:	Any
Housing:	53 x 53 mm, black plastic
Mounting:	Panel mounting
Switching contact:	1 microswitch, changeover contact
Max. switching capacity:	250 V <sub>AC</sub> , 2 A 24 V <sub>DC</sub> , 2 A 60 V <sub>DC</sub> , 0.7 A 115 V <sub>DC</sub> , 0.4 A 230 V <sub>DC</sub> , 0.2 A (resistive load)
Electrical connection:	Silver-plated pins with pin sockets (counter) and silver-plated flat blade connectors 0.8 x 2.8 mm
Power supply:	24 V <sub>DC</sub> ; 115 / 230 V <sub>AC</sub> ±10%
Test voltage:	2000 V <sub>AC</sub> r.m.s., as per VDE 0435
Max. power consumption:	Approx. 3 W at 24 V <sub>DC</sub> Approx. 3.0 VA for AC versions
Weight:	Approximately 130 g

**Ordering details** (example: ZMZ-5V51 0)

Model	Description	Power supply
ZMZ-5V51	Totalizing preset counter Housing 53 x 53 mm 5-digit display with manual reset	0 = 230 V <sub>AC</sub> 3 = 24 V <sub>DC</sub> 4 = 115 V <sub>AC</sub>