



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_{DC}, 12 V_{DC}, 24 V_{DC},
115 V_{AC}, 230 V_{AC}



KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, CANADA, CHILE, CHINA, COLOMBIA,
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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.

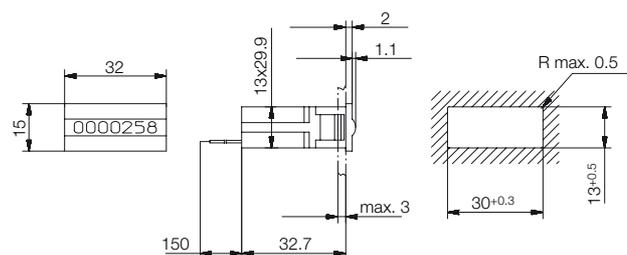
Typical applications

- 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:	25 s ⁻¹ (24 V _{DC} -Version) 10 s ⁻¹ (all others)
Min. pulse duration:	20 ms (24 V _{DC}) 50 ms (all others)
Min. pulse interval:	20 ms (24 V _{DC}) 50 ms (all others)
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 ⁶ 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 _{DC} -10% +20% 24 V _{DC} , 115 / 230 V _{AC} ±10 %
Max. power consumption:	approx. 50 mW at 4.5 / 12 V _{DC} approx. 250 mW at 24 V _{DC} approx. 0.8 VA for AC versions
Weight:	approx. 18 g
Protection:	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	0 = 230 V _{AC} 3 = 24 V _{DC} 4 = 115 V _{AC} 5 = 12 V _{DC} 9 = 4.5 V _{DC}



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.

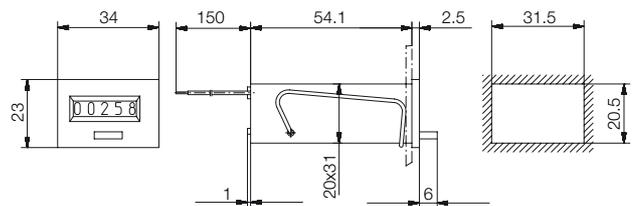
Typical applications

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

Technical Details

Max. counting frequency:	10 s ⁻¹
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 ⁶ pulses
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 _{DC} , 115 / 230 V _{AC} ± 10 %
Max. power consumption:	approx. 0.5 W for DC versions approx. 0.75 VA at 115 V _{AC} approx. 1.5 VA at 230 V _{AC}
Weight:	approximately 48 g
Protection:	IP 65 at front

Dimensions



Ordering Details (example: ZMZ-2S51 0)

Model	Description	Power supply
ZMZ-2S51	Mini pulse counter Housing 34x23 mm Panel mounted 5-digit display with manual reset	0 = 230 V _{AC} 3 = 24 V _{DC} 4 = 115 V _{AC} 5 = 12 V _{DC}



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.

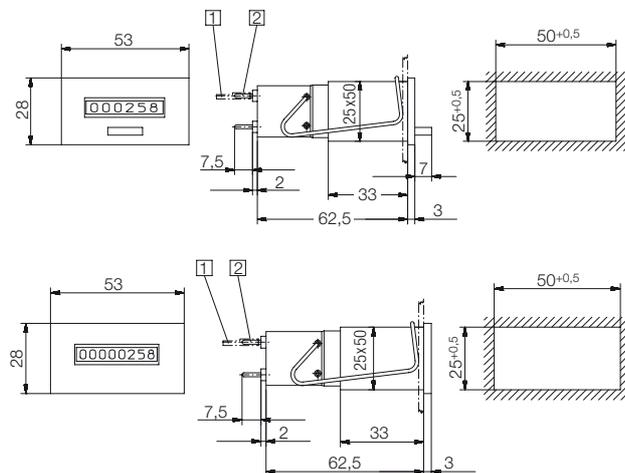
This counter is available in two model series:

- 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 ⁻¹ (DC version) 18 s ⁻¹ (AC version)
Min. pulse duration:	24 ms (DC version) 22.2 ms (AC version)
Min. pulse duration:	16 ms (DC version) 33.3 ms (AC version)
Min. pulse duration:	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:	maxis: non-rusting
Service life:	approx. 200 x 10 ⁶ 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 _{DC} , 230 V _{AC} ± 10%
Test voltage:	2000 V _{DC} eff., acc. to 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:	IP 55 at front

Ordering Details (example: ZMZ-2R61 0)

Model	Description	Power supply
ZMZ-2R61	Robust panel-mounted counter Housing 53x28 mm 6-digit display with manual reset	0 = 230 V _{AC} 3 = 24 V _{DC}
ZMZ-2R80	Robust panel-mounted counter Housing 53x28 mm 8-digit display without manual reset	



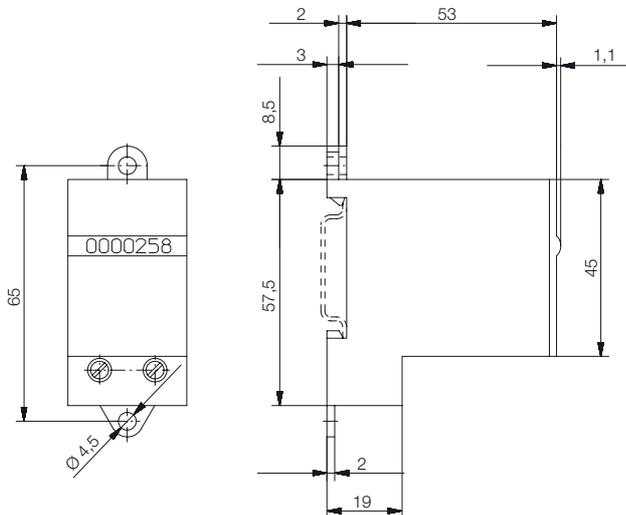
Description

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 ⁻¹ except 25 s ⁻¹ (24 V _{DC} version)
Min. pulse duration:	50 ms except 20 ms (24 V _{DC} version)
Min. pulse duration:	50 ms except 20 ms (24 V _{DC} version)
ON period:	100%
ON period:	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 ⁶ pulses
Housing:	45 (57.5) x 30 mm black polycarbonate
Mounting:	rail mount as per DIN 46 277 and surface-mounted
Electrical connection:	terminals
Power supply:	12 V _{DC} -10% +20% 24 V _{DC} , 115/230 V _{AC} ±10%
Max. power consumption:	approx. 50 mW at 12 V _{DC} approx. 250 mW at 24 V _{DC} approx. 0.8 VA for AC versions
Weight:	approx. 55 g
Protection:	IP 50 at front

Ordering Details (example: ZMZ-9S70 0)

Model	Description	Power supply
ZMZ-9S70	Micro count totalizer Surface mounted and rail mount 7-digit display without manual reset	0 =230 V _{AC} 3 =24 V _{DC} 4 =115 V _{AC} 5 =12 V _{DC}



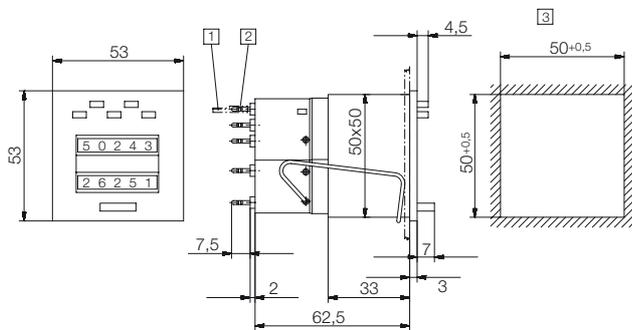
Description

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 ⁻¹ (AC versions) 25 s ⁻¹ (24 V _{DC} version)
Min. pulse duration:	27.7 ms (AC versions) 24 ms (24 V _{DC} version)
Min. pulse interval:	27.7 ms (AC versions) 16 ms (24 V _{DC} version)
Pulse ratio:	1 : 1 (AC versions) 3 : 2 (24 V _{DC} 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 _{AC} , 2 A 24 V _{DC} , 2 A 60 V _{DC} , 0.7 A 115 V _{DC} , 0.4 A 230 V _{DC} , 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 _{DC} , 115 / 230 V _{AC} ± 10 %
Test voltage:	2000 V _{AC} r.m.s., as per VDE 0435
Max. power consumption:	approx. 3 W at 24 V _{DC} approx. 3.0 VA for AC versions
Weight:	approx. 130 g

Ordering Details (example: ZMZ-5V51 0)

Model	Description	Power supply
ZMZ-5V51	Totalizing preset counter Housing 53x53 mm 5-digit display with manual reset	0 = 230 V _{AC} 3 = 24 V _{DC} 4 = 115 V _{AC}