

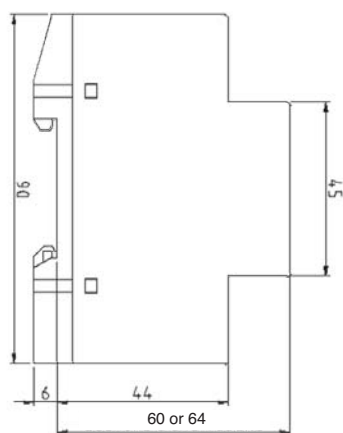
**Pulse counters for DIN rail mounting, for AC or DC, overall height 60 mm or 64 mm**

Electromechanical pulse counters register quantities and therefore document production results or operating cycles. These are units for DIN-rail mounting with overall height of 60 or 64 mm.



type 663.6, 663.7, 668.6, 668.7

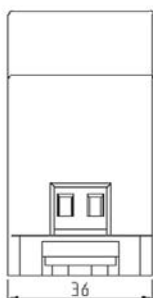
AC	DC	overall height in mm		»Lift«-terminal connection
		60	64	
663.6	668.6	■		■
663.7	668.7		■	■



drawing



type 663.6, 663.7, 668.6, 668.7



type 663.6, 663.7, 668.6, 668.7

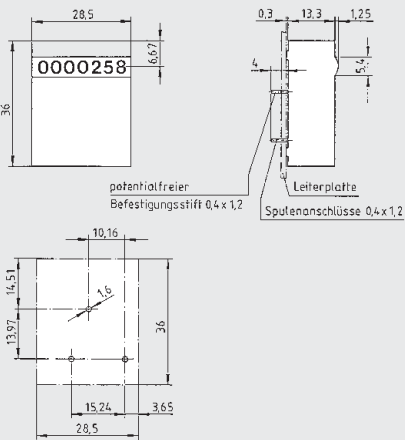
**Technical specifications:**

	AC	DC
<b>housing:</b>	plastic light grey RAL 7035	plastic light grey RAL 7035
<b>gearing:</b>	plastic	plastic
<b>counting range:</b>	9999999	9999999
<b>max. frequency:</b>	10 pulses/sec. max. duty cycle 100 %	10 pulses/sec. max. duty cycle 100 %
<b>digits:</b>	1,8 x 3,6 mm, white on black, decimals black on white	1,8 x 3,6 mm, white on black, decimals black on white
<b>voltages:</b>	115 or 230 V AC	12 - 24 V DC
<b>special voltages: (additional charge)</b>	24, 48, 400 V AC	on request
<b>voltage tolerance:</b>	±10 %	±10 %
<b>frequency:</b>	50 or 60 Hz (on request 20 to 100 Hz)	
<b>power consump.:</b>	< 2 VA	< 1 VA
<b>protection (front):</b>	IP 65, screws IP 20	IP 65, screws IP 20
<b>ambient temp.:</b>	- 10 ° C to + 70° C	- 10 ° C to + 70° C
<b>stocking temp.:</b>	- 40 ° C to + 80° C	- 40 ° C to + 80° C
<b>elec. connection:</b>	Terminal Blocks (lift principle) with Philips-Head-Screw (+/- screw) in combination with slotted screw with 3 mm screwdriver size, 0-2.5 mm <sup>2</sup> fine wire or 0-4 mm <sup>2</sup> single wire	Terminal Blocks (lift principle) with Philips-Head-Screw (+/- screw) in combination with slotted screw with 3 mm screwdriver size, 0-2.5 mm <sup>2</sup> fine wire or 0-4 mm <sup>2</sup> single wire
<b>max. torque:</b>	0,5 Nm	0,5 Nm
<b>vibration resist.:</b>	1 g (10...500 Hz) acc. to EN 60068-2-34	1 g (10...500 Hz) acc. to EN 60068-2-34
<b>shock resistance:</b>	30 g (18 ms) acc. to EN 60068-2-27 25 g (6 ms) acc. to EN 60068-2-29	30 g (18 ms) acc. to EN 60068-2-27 25 g (6 ms) acc. to EN 60068-2-29
<b>EMC:</b>	EN 55011, EN 61000-6-2	EN 55011, EN 61000-6-2
<b>industrial norm:</b>	EN 61010, protection class II	EN 61010, protection class II
<b>reset:</b>	without	without
<b>weight:</b>	approx. 75 g	approx. 75 g
<b>approval:</b>	CE, UL, cUL	CE, UL, cUL
<b>fixing:</b>	snap-on fixing for DIN-rail according to DIN EN 50022	snap-on fixing for DIN-rail according to DIN EN 50022

## Electromechanical pulse counters



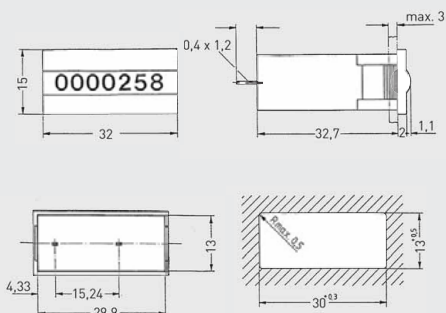
type 128



type 128



type 129



type 129

## Mini pulse counters for printed circuit or front panel mounting, 5 - 24 V DC, 36 x 28,5 mm, 32 x 15 mm

### Special features:

- mini pulse counter in solder and water-proof version
- highly shock and vibration resistant
- well suited for battery operation and electronic circuit
- low current consumption

type	printed circuit counter washable	front panel mounting (snap-in fixing max. 3 mm)
128	■	
129		■

### Options:

- type 128 – indication visible on face (on request)
- type 129 – for large quantities also available in 12, 24, 110 or 230VAC (on request)
- 6 digit variant with smaller housing dimensions (on request for large quantities)

### Technical specifications:

	DC
reset:	no
counting range:	7 digits
character height:	4 mm (with lens)
operating voltages:	5, 12, 24 V DC
voltage tolerance:	±10 %
duty cycle:	100 %
counting frequency:	10 pulses/s (25 I/s = 24 V DC)
mean power consumption:	70 mW at 5 - 12 V DC, 250 mW at 24 V DC
protection class (DIN 40050):	type 128: IP 65, type 129: IP 65 (front)
ambient temperature:	-10 °C to +60 °C (option: to +85 °C)
electr. connections:	soldered conn. 0,4 x 1,2 mm
maintenance-free operation:	> 50 x 10 <sup>6</sup> pulses
approval:	<b>CE</b>
weight:	15 - 18 g

## Electromechanical pulse counters



type 170



type 171

### Pulse counters, for AC or DC, with or without reset, 36 x 24 mm

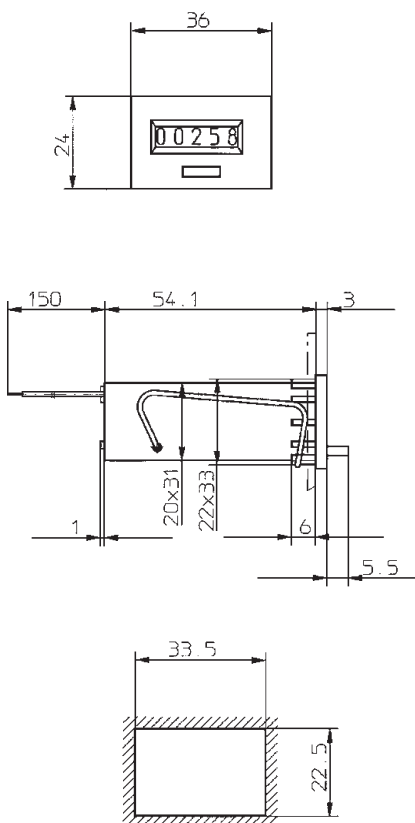
#### Description:

- adding counter, black plastic housing, fixing via a spring wire bracket

type	without reset	with reset	display
170	■		6 digit
171		■	5 digit

#### Technical specifications:

	AC	DC
voltages:	230 V AC	24 V DC
digits:	1,7 x 4 mm, white on black	1,7 x 4 mm, white on black
voltage tolerance:	±10 %	±10 %
frequency/ residual ripple:	50/60 Hz	≥ 48 %
testing speed:	10 pulses/sec.	10 pulses/sec.
pulse-/break duration:	50/50 msec.	50/50 msec.
power consumption:	1,5 VA	0,5 W
duration of operation at 25 °C:	100 %	100 %
ambient temperature:	-10 °C to +50 °C	-10 °C to +50 °C
maintenance-free oper.:	> 50 x 10 <sup>6</sup> pulses	> 50 x 10 <sup>6</sup> pulses
approval:	CE	CE
protection class :	type 170: IP 51 (front) type 171: IP 50 (front)	type 170: IP 51 (front) type 171: IP 50 (front)
electrical connection:	flex approx. 150 mm long	flex approx. 150 mm long
weight:	approx. 50 g	approx. 50 g



drawing type 170, 171

## Electromechanical pulse counters



type 180



type 181

### Pulse counters, for AC or DC, with or without reset, 53 x 28 mm

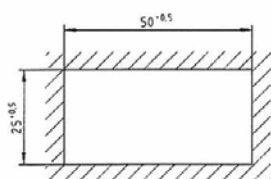
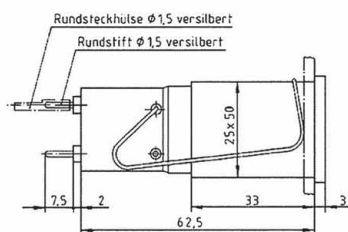
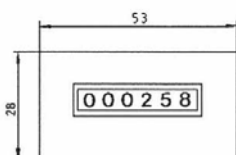
#### Description:

- adding counter, black plastic housing, fixing via a spring wire bracket

type	without reset	with reset	display
180	■		6 digit
181		■	6 digit

#### Technical specifications:

	AC	DC
<b>voltages:</b>	230 V AC	24 V DC
<b>digits:</b>	2 x 4,5 mm, white on black	2 x 4,5 mm, white on black
<b>voltage tolerance:</b>	±10 %	±10 %
<b>frequency/ residual ripple:</b>	50/60 Hz	≥ 48 %
<b>testing speed:</b>	18 pulses/sec.	25 pulses/sec.
<b>pulse-/break duration:</b>	2 : 3	3 : 2
<b>minim. pulse duration:</b>	22,2 ms	24 ms
<b>power consumption:</b>	2,9 VA	2 W
<b>duration of operation at 25 °C:</b>	100 %	100 %
<b>ambient temperature:</b>	-10 °C to +55 °C	-10 °C to +60 °C
<b>maintenance-free oper.:</b>	> 50 x 10 <sup>6</sup> pulses	> 50 x 10 <sup>6</sup> pulses
<b>approval:</b>	CE	CE
<b>protection class :</b>	type 180: IP 52 (front) type 181: IP 50 (front)	type 180: IP 52 (front) type 181: IP 50 (front)
<b>electrical connection:</b>	silver-bladed round pins ø 1,6 mm with plug bushes	silver-bladed round pins ø 1,6 mm with plug bushes
<b>weight:</b>	approx. 100 g	approx. 100 g



drawing type 180, 181