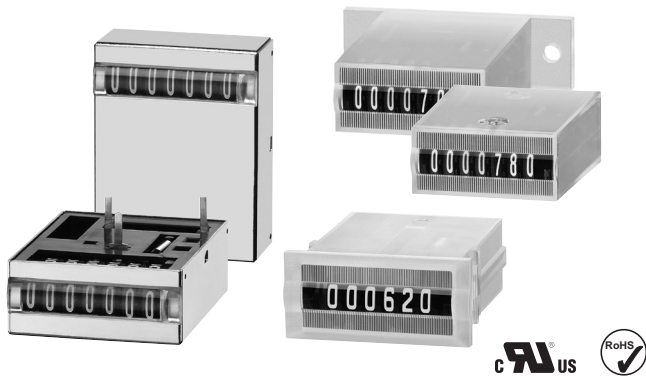


Pulse counters, electromechanical

Micro counters

High shock resistance (AC+DC)

K 04 ... K 07 / AK 07



The micro adding counter families K 04 to K 07 and AK 07 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 (K 0X.40 and K 0X.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.

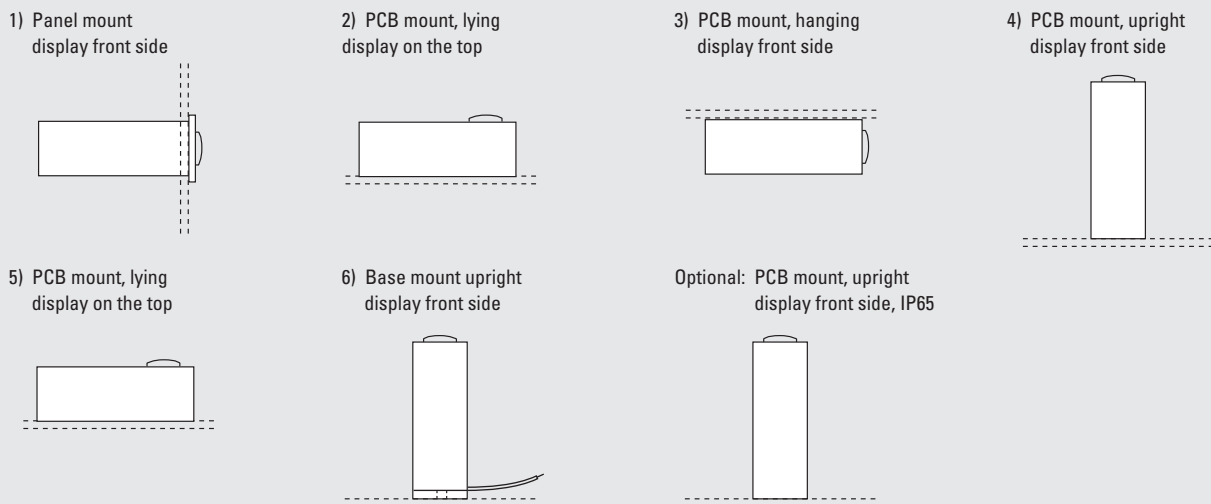
Type series

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	K 04.20	K 05.20	K 06.20	K 07.20
2)	PCB mount, lying	on the top	sheet steel	–	K 04.40	–	–	K 07.40
3)	PCB mount, hanging	front side	sheet steel	–	–	–	–	K 07.50
4)	PCB mount, upright	front side	plastic	front side	–	–	K 06.80	K 07.80
5)	PCB mount, lying	on the top	plastic	front side/on rear	–	–	–	K 07.90
6)	Base mount, upright	front side	plastic	front side	–	–	–	AK 07.00

Order information

- Art. no.
- For options please give exact counter type, voltage and options e.g.: K 06.20 – 9 V DC/0 – temperature range -20°C ... +70°C [-4°F ... +158°F]

Mounting options and position of the display



Pulse counters, electromechanical

Micro counters	High shock resistance (AC+DC)	K 04 ... K 07 / AK 07
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Accessories	Dimensions in mm [inch]	Order no.
Gasket 32 x 15 [1.26 x 0.59]	for cut-out 27 x 13 [1.06 x 0.51], suitable for K 06.20 and K 07.20	N511058

Technical data							
Electrical connection	<table border="0"> <tr> <td>panel mount, base mount</td> <td>flying leads, AWG 22 approx. 150 mm [5.91"], 6 mm [0.24"] stripped wire ends, tinned solder pins \varnothing 0.4 x 1.2 mm [0.016 x 0.047"]</td> </tr> <tr> <td>PCB mount</td> <td></td> </tr> </table>	panel mount, base mount	flying leads, AWG 22 approx. 150 mm [5.91"], 6 mm [0.24"] stripped wire ends, tinned solder pins \varnothing 0.4 x 1.2 mm [0.016 x 0.047"]	PCB mount			
panel mount, base mount	flying leads, AWG 22 approx. 150 mm [5.91"], 6 mm [0.24"] stripped wire ends, tinned solder pins \varnothing 0.4 x 1.2 mm [0.016 x 0.047"]						
PCB mount							
Power consumption (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 mVA						
Rated voltage	<table border="0"> <tr> <td>type 0</td> <td>1.5/3/4.5/5/6/12/24 V DC, -10 %, +20 %</td> </tr> <tr> <td>type 1</td> <td>3/4.5/5/6/12/24 V DC, \pm10 %</td> </tr> <tr> <td>type a0</td> <td>12/24/115/230 V AC, \pm10 %</td> </tr> </table>	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, \pm 10 %	type a0	12/24/115/230 V AC, \pm 10 %
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, \pm 10 %						
type a0	12/24/115/230 V AC, \pm 10 %						
Counting frequency	max. 10 and 25 Hz						
Pulse duration	<table border="0"> <tr> <td>at 10 Hz (type 0 and a0)</td> <td>min. 50 ms</td> </tr> <tr> <td>at 25 Hz (type 1)</td> <td>min. 20 ms</td> </tr> </table>	at 10 Hz (type 0 and a0)	min. 50 ms	at 25 Hz (type 1)	min. 20 ms		
at 10 Hz (type 0 and a0)	min. 50 ms						
at 25 Hz (type 1)	min. 20 ms						
Pulse interval	<table border="0"> <tr> <td>at 10 Hz (type 0 a0)</td> <td>min. 50 ms</td> </tr> <tr> <td>at 25 Hz (type 1)</td> <td>min. 20 ms</td> </tr> </table>	at 10 Hz (type 0 a0)	min. 50 ms	at 25 Hz (type 1)	min. 20 ms		
at 10 Hz (type 0 a0)	min. 50 ms						
at 25 Hz (type 1)	min. 20 ms						
Cycle duration factor	100 %						
Number of digits	4, 5, 6 and 7						
Counting system	adding						
Height of figures	<table border="0"> <tr> <td>K 04, K 06, AK 06</td> <td>4 x 1.7 mm [0.16 x 0.067"] optical</td> </tr> <tr> <td>K 05, K 07, AK 07</td> <td>4 x 1.2 mm [0.16 x 0.047"] optical</td> </tr> </table>	K 04, K 06, AK 06	4 x 1.7 mm [0.16 x 0.067"] optical	K 05, K 07, AK 07	4 x 1.2 mm [0.16 x 0.047"] optical		
K 04, K 06, AK 06	4 x 1.7 mm [0.16 x 0.067"] optical						
K 05, K 07, AK 07	4 x 1.2 mm [0.16 x 0.047"] optical						
Color of figures	white on black						
Reset	no reset						
Operating temperature	-10°C ... +60°C [+14°F ... +140°F] (non-condensing)						
Mounting position	horizontal, other on request						

Soldering temperature	265°C [+509°F], 3 s						
Operating life	> 50 x 10 ⁶ pulses						
Solderable and wash proof types	K 0X.92, K 06.90, K 07.90						
Protection	<table border="0"> <tr> <td>K 0X.92, K 0X.90</td> <td>IP65</td> </tr> <tr> <td>AK 0X.00, K 0X.80, K 0X.20</td> <td>IP65 (only front side)</td> </tr> <tr> <td>other types</td> <td>depending on kind of mounting</td> </tr> </table>	K 0X.92, K 0X.90	IP65	AK 0X.00, K 0X.80, K 0X.20	IP65 (only front side)	other types	depending on kind of mounting
K 0X.92, K 0X.90	IP65						
AK 0X.00, K 0X.80, K 0X.20	IP65 (only front side)						
other types	depending on kind of mounting						
UL approval	file E128604						
Housing	PC (Polycarbonate), transparent or sheet steel types (see table) with IP65 protection, fully sealed (potted)						
Weight	15 ... 18 g [0.53 ... 0.63 oz]						
EMC standards	EN 55011 class B EN 61000-6-2, EN 61000-6-3						
Device safety	<table border="0"> <tr> <td>designed to protection class</td> <td>EN 61010 part 1</td> </tr> <tr> <td>application area</td> <td>2 pollution level 2</td> </tr> </table>	designed to protection class	EN 61010 part 1	application area	2 pollution level 2		
designed to protection class	EN 61010 part 1						
application area	2 pollution level 2						
UL approval	file E128604						

Options	
K 0x.20	flat pin 0.5 x 2.8 mm [0.020 x 0.11"] Art. no.: 1.1X7.XX0.XXX flat pin 0.4 x 1.2 mm [0.016 x 0.047"] Art. no.: 1.1X9.XX0.XXX <ul style="list-style-type: none"> • different voltages • version not potted • different figure colors • different lengths of flying leads • different connections • different temperature range, depends on version -30°C ... +85°C [-22°F ... +185°F] or -20°C ... +70°C [-4°F ... +158°F]

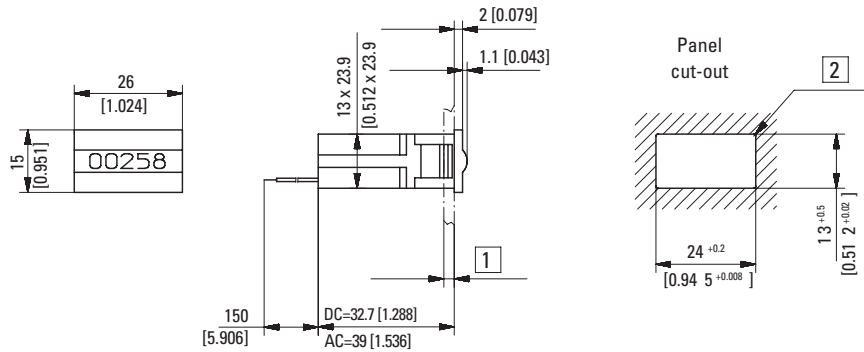
Pulse counters, electromechanical

Micro counters

High shock resistance (AC+DC)

K 04 ... K 07 / AK 07

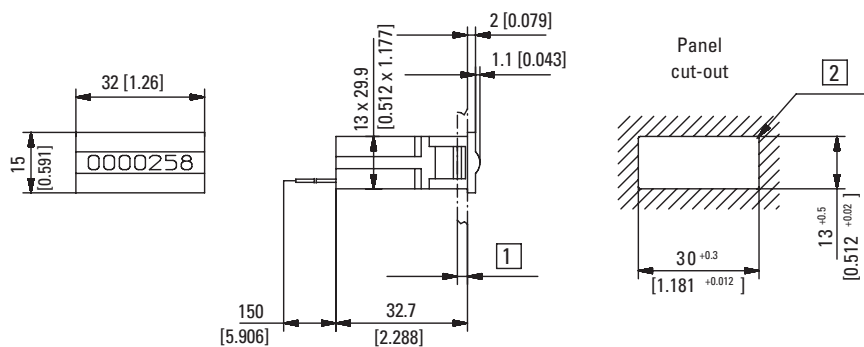
**Panel mount counter
4- and 5-digit display front side
Type K 04.20 / K 05.20**



1) 1.2 ... 3 [0.047 x 0.12] 2) R_{max} 0.5 [0.020]

Type	Voltage	Display	Art. no.							
			3 V	4.5 V	12 V	24 V	115 V	230 V		
K 04.20	DC (10 Hz) / 0	4 digits	1.100.200.006	1.100.200.008	on request	on request	1.100.200.054	1.100.200.056		
	DC (25 Hz) / 1				1.100.200.032	1.100.200.033				
	AC (10 Hz) / a0				1.100.200.051					
K 05.20	DC (10 Hz) / 0	5 digits	1.110.200.006	1.110.200.008	on request	1.110.200.013 ¹⁾	1.110.200.054	1.110.200.056 ¹⁾		
	DC (25 Hz) / 1				1.110.200.032	1.110.200.033				
	AC (10 Hz) / a0				1.110.200.051					

**Panel mount counter
6- and 7-digit display front side
Type K 06.20 / K 07.20**



1) 1.2 ... 3 [0.047 x 0.12] 2) R_{max} 0.5 [0.020]

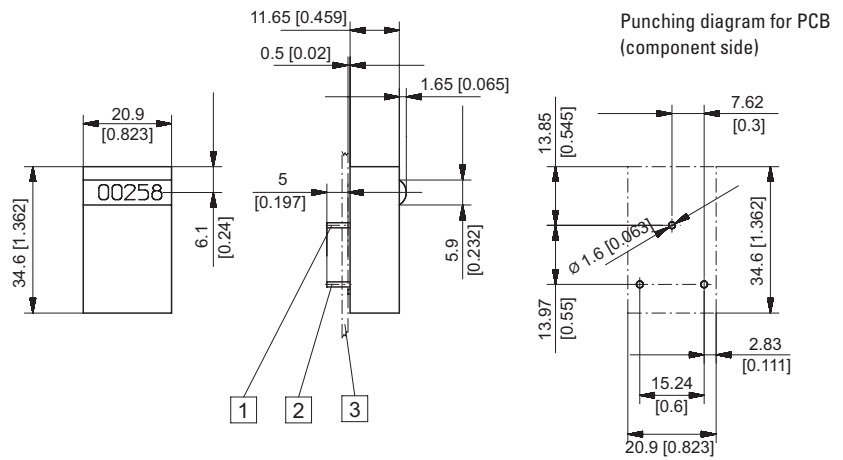
Type	Voltage	Display	Art. no.							
			3 V	4.5 V	12 V	24 V	115 V	230 V		
K 06.20	DC (10 Hz) / 0	6 digits	1.120.200.006	1.120.200.008	on request	1.120.200.013	1.120.200.054	1.120.200.056		
	DC (25 Hz) / 1				1.120.200.032	1.120.200.033				
	AC (10 Hz) / a0				1.120.200.051					
K 07.20	DC (10 Hz) / 0	7 digits	1.130.200.006	1.130.200.008	1.130.200.012 ¹⁾	1.130.200.013	1.130.200.054 ¹⁾	1.130.200.056		
	DC (25 Hz) / 1				1.130.200.032 ¹⁾	1.130.200.033 ¹⁾				
	AC (10 Hz) / a0				1.130.200.051					

Pulse counters, electromechanical

Micro counters **High shock resistance (AC+DC)** **K 04 ... K 07 / AK 07**

PCB mount, lying
4-digit display on the top
Type K 04.40

Color of housing blue (zinc-plated)

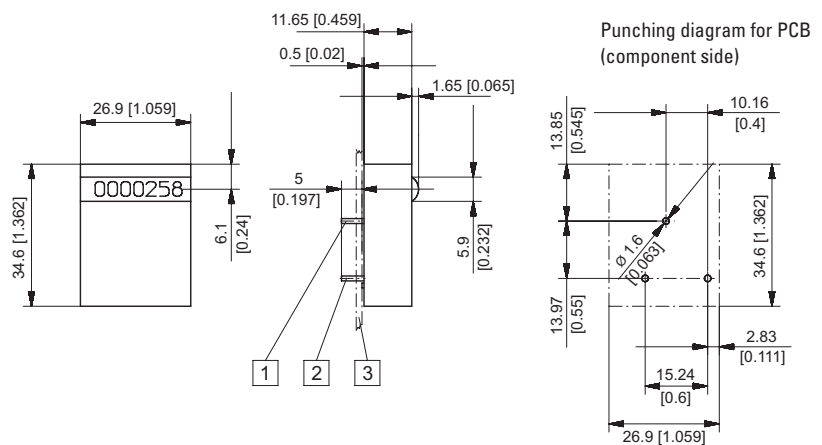
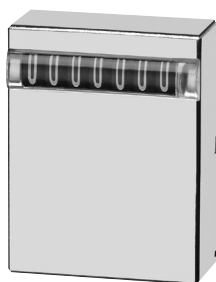


- 1) Mounting pin without el. function 0.4 x 1.2 [0.016 x 0.047]
 2) Coil connections 0.4 x 1.2 [0.016 x 0.047] 3) PCB

Type	Voltage	Display	Art. no.			
			3 V	4.5 V	12 V	24 V
K 04.40	DC (10 Hz) / 0	4 digits	1.100.401.006	1.100.401.008	on request	on request
	DC (25 Hz) / 1				1.100.401.032	1.100.401.033

PCB mount, lying
7-digit display on the top
Type K 07.40

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.			
			3 V	4.5 V	12 V	24 V
K 07.40	DC (10 Hz) / 0	7 digits	1.130.401.006	1.130.401.008 ¹⁾	on request	on request
	DC (25 Hz) / 1				1.130.401.032	1.130.401.033

Pulse counters, electromechanical

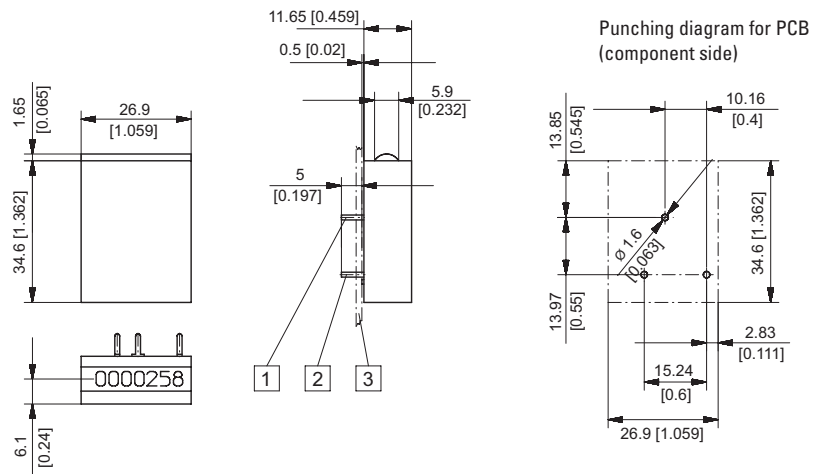
Micro counters

High shock resistance (AC+DC)

K 04 ... K 07 / AK 07

PCB mount, hanging
7-digit display front side
Type K 07.50

Color of housing blue (zinc-plated)

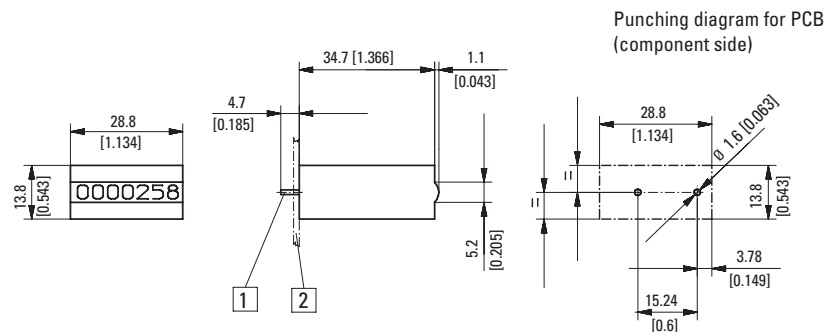


1) Mounting pin without el. function 0.4 x 1.2 [0.016 x 0.047]

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

Type	Voltage	Display	Art. no.			
			3 V	4.5 V	12 V	24 V
K 07.50	DC (10 Hz) / 0	7 digits	1.130.501.006	1.130.501.008	on request	on request
	DC (25 Hz) / 1				1.130.501.032	1.130.501.033

PCB mount, upright
6- and 7-digit display front side
Type K 06.80 / K 07.80



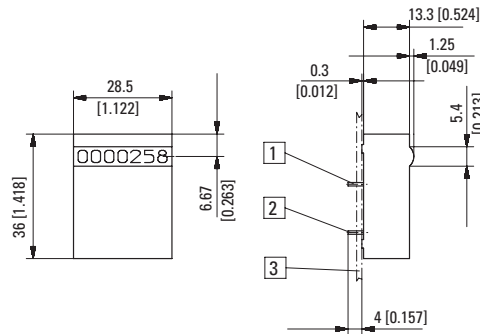
1) Coil connections 0.4 x 1.2 [0.016 x 0.047] 2) PCB

Type	Voltage	Display	Art. no.							
			3 V	4.5 V	12 V	24 V	115 V	230 V		
K 06.80	DC (10 Hz) / 0	6 digits	1.120.800.006	1.120.800.008	on request	on request				
	DC (25 Hz) / 1				1.120.800.032	1.120.800.033				
	AC (10 Hz) / a0					1.120.800.051	1.120.800.054	1.120.800.056		
K 07.80	DC (10 Hz) / 0	7 digits	1.130.800.006	1.130.800.008	on request	on request				
	DC (25 Hz) / 1				1.130.800.032 1)	1.130.800.033				
	AC (10 Hz) / a0					1.130.800.051	1.130.800.054	1.130.800.056		

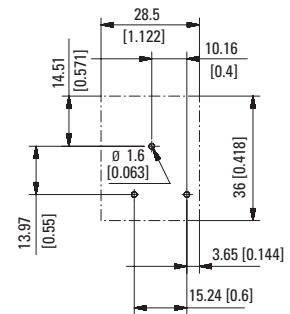
Pulse counters, electromechanical

Micro counters **High shock resistance (AC+DC)** **K 04 ... K 07 / AK 07**

PCB mount, lying
7-digit display on the top
Type K 07.90



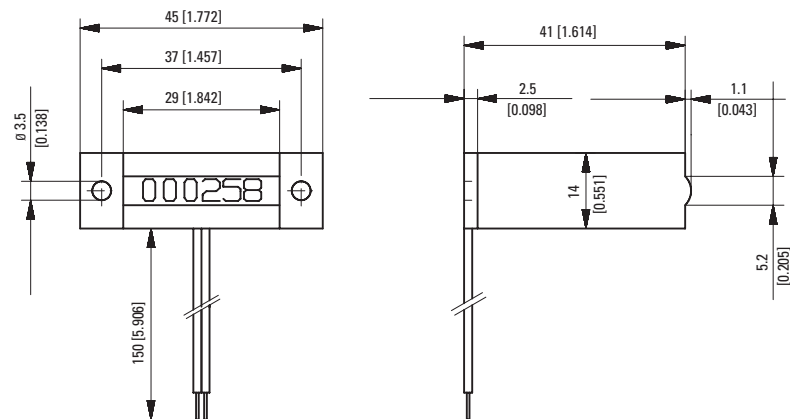
Punching diagram for PCB (component side)



- 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.					
			3 V	4.5 V	12 V	24 V	115 V	230 V
K 07.90	DC (10 Hz) / 0	7 digits	1.130.900.006	1.130.900.008	1.130.900.012 ¹⁾	on request	1.130.900.054	1.130.900.056
	DC (25 Hz) / 1					1.130.900.033		
	AC (10 Hz) / a0					1.130.900.051		

Base mount, upright
7-digit display front side
Type AK 07.00



Type	Voltage	Display	Art. no.					
			3 V	4.5 V	12 V	24 V	115 V	230 V
AK 07.00	DC (10 Hz) / 0	7 digits	1.130.000.006	1.130.000.008	1.130.000.012	1.130.000.013	1.130.000.054	1.130.000.056 ¹⁾
	DC (25 Hz) / 1					1.130.000.033		
	AC (10 Hz) / a0					1.130.000.051		