# Hour meters / timers, electromechanical



# **Micro timers**

### Many different installation options (DC)

RoHS

HK07 / AHK07



# **Characteristics**

- 7-digit micro hour meter.
- High shock and impact resistance.
- Low power consumption; suitable for battery operation.
- Small dimensions magnified large figures.
- Panel-mount counter with integrated spring clip.
- PCB-mount counter.
- · Machine-solderable and wash-proof.
- Protection IP65.

The micro timers of the HK07 and AHK07 families offer a particularly large number of variants and can be used in many different applications thanks to their wide voltage range from 4.5 to 35 V DC.

Available as panel, base and PCB mount versions, they can be used in many different fields of application. Thanks to their encapsulated housing, these non-resettable counters are extremely tamper-proof.

### **Benefits**

- Wide voltage range 4.5 ... 35 V DC.
- Count retention in case of power failure.
- Long service life.

### **Applications**

General time measurement, maintenance intervals for measuring instruments (respiration units, oxygen, dialysis), small appliances, UV lamps, display panels in vehicles.

Type series							
Fig.	Mounting options	Display	Protection	El. connection	Housing	Height of fig.	Туре
1)	Panel mount with latch	front side	IP65, front side	flying leads	plastic	4 mm [0.16"]	HK07.20
2)	PCB mount, lying	on the top	IP65, front side/on rear	solder pins	plastic	4 mm [0.16"]	HK07.90
4)	PCB mount, upright	front side	IP65, front side/on rear	solder pins	plastic	4 mm [0.16"]	HK07.92
5)	Base mount, upright	front side	IP40	flying leads	plastic	4 mm [0.16"]	AHK07.00
	nting options and position	n of the displa	ay				
	nel mount play front side		<ol><li>PCB mount, lying display on the top</li></ol>			3) PCB mount, upright display front side	
	se mount, upright play front side		Optional: PCB mount, ha display front s				
			)				

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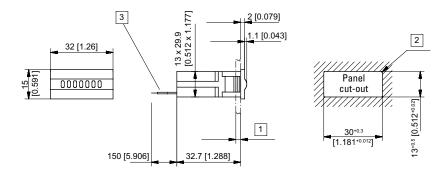


# Hour meters / timers, electromechanical

Image: Section     Operating on the adverse of the section	Micro timers		Ma	any differe	nt install	ation options (DC)		HK07 / A	HK07
Gasket counter   32 x 15 (1.26 x 0.59)   for cut-out 27 x 13 mm, suitable for HK07.20   N511058     Technical data     Electrical connection   panel mount processor (100 mm [5.91°), 6 mm [0.24°) astripped wire ends, tinned processor (100 k x 0.04°)?], tinned   Options     Power consumption (every 36 s with a pulse length of 32 ms) at Ug = 12 V DC typ. 135 mW at Ug = 24 V DC typ. 135 mW max. 170 mW   Approvals   CE compliant in accordance with EMC Directive 2014/30/EU RoHS Directive 2014/30/EU RoHS Directive 2014/30/EU RoHS Directive 2014/30/EU     Rated voltage     6.535 V DC     Rated voltage   4.535 V DC     Rated voltage   535 V DC     Rated voltage   2.535 V DC     Rate of figures   1.2 x 4.0 mm [0.477 x 0.16°]     Number of digits   7: 99999 99 h     Accuracy   2.2 s.ppm at 25 °C (77 °F]     Height of figures   no reset <th>Accessories</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Accessories								
It 26 x 0.59)   suitable for HK07.20     Technical data   Options     Electrical connection   panel mount   flying leads, AWG 22 (red +, black -) approx.150 mm [5.91°], 6 mm [0.247] stripped wire ands, tinned   Options     PCB mount   solder pins 0.4 x 1.2 mm [0.016 x 0.047°], tinned   Options     Power consumption   EMC 200 flat pin 0.8 x 2.8 mm [0.031 x 0.11°] (others on request)     every 36 s with a pulse length of 32 ms]   at Up = 12 V DC   typ. 82 mW max.170 mW     Rated voltage   4.5 35 V DC   RoHS Directive   2014/30/EU     Routing on time   100 %   PPulse duration   32 ms; every 36 s = 0.01 h On-times < 36 s will not be counted				Type / size	Description				Order no
Electrical connection   panel mount   flying leads, AWG 22 (red +, black -) approx. 150 mm [5.31"], 6 mm [0.24"] solder pins 0.4 x 1.2 mm [0.016 x 0.047"], tinned   HK07.20 flat pin 0.8 x 2.8 mm [0.031 x 0.11"] (others on request)     Power consumption [every 36 s with a pulse length of 32 ms] at Ug = 5 V DC typ. 135 mW max. 170 mW Rated voltage   A x 1.2 mm (0.016 x 0.047"], tinned   Approvals     Rated voltage   4.5 35 V DC   The Asymptotic typ. 135 mW max. 170 mW Rated voltage   Asymptotic typ. 135 mW max. 170 mW     Rated voltage   4.5 35 V DC     Residual ripple   1 %     Current consumption On time   100 %     Pulse duration   32 ms; every 36 s = 0.01 h On-times < 36 s will not be counted     Number of digits   7: 9999.99 h     Accuracy   22.5 ppm at 25 °C [77 °F]     Height of figures   1.2 x 4.0 mm [0.047 x 0.16"]     Color of figures   white and red on black     Reset   no reset     Operating temperature   1.0 °C, +60 °C [+14 °F +140 °F] (non-condensing)     Mountig position   horizontal, other on request     Soldering temperature   265 °C [1-509 °F], 3     Protection   up to IP65, depending on kind of type     Housing   plastic PC (Polycarbonate)	Gasket counter								N511058
approx. 150 mm [0.24"], 6 mm [0.24"] stripped wire ends, tinned [0.016 × 0.047"], tinnedPower consumption (every 36 s with a pulse length of 32 ms) at U <sub>B</sub> = 5 V DC typ. 32 mW at U <sub>B</sub> = 24 V DC typ. 135 mW max. 170 mWAccuracyRated voltage4.5 35 V DC max. 170 mWRated voltage4.5 35 V DC max. 170 mWRated voltage4.5 35 V DC max. 170 mWResidul ripple<1.5 mA (average) On timeOn time100 % Pulse duration On-times < 36 s will not be counted On-times < 36 s will not be counted On-times < 36 s will not be countedNumber of digits7. 99999.99 h AccuracyAccuracy22.5 ppm at 25 °C [77 °F] Height of figures (non-condensing)Besideno reset (non-condensing)Operating temperature Soldering temperature Soldering temperature265 °C [+509 °F], 3 s ProtectionProtection usingµt P185, depending on kind of type HousingHoisingµto 126, C(Polycarbonate)	Technical data					Options			
(every 36 s with a pulse length of 32 ms) at U <sub>B</sub> = 5 V DC at U <sub>B</sub> = 5 V DC typ. 135 mW max. 170 mW EMC Directive max. 170 mW   Rated voltage 4.5 35 V DC   Residual ripple <1 %	Electrical connection	·	approx. 15 stripped v solder pin	50 mm [5.91"], 6 wire ends, tinne is 0.4 x 1.2 mm	mm [0.24"]		D31 x 0.11"	] (others on req	uest)
Residual ripple<1 %Current consumption<1.5 mA (average)	<b>Power consumption</b> (every 36 s with a pulse	at $U_B = 5 V DC$ at $U_B = 12 V DC$	typ. 135 m typ. 135 m	iW iW		EMC D	irective		
Current consumption< 1.5 mA (average)On time100 %Pulse duration32 ms; every 36 s = 0.01 h On-times < 36 s will not be counted	Rated voltage		4.5 35 V	/ DC					
On time100 %Pulse duration32 ms; every 36 s = 0.01 h On-times < 36 s will not be counted	Residual ripple		< 1 %						
Pulse duration32 ms; every 36 s = 0.01 h On-times < 36 s will not be countedNumber of digits7: 99999.99 hAccuracy22.5 ppm at 25 °C [77 °F]Height of figures1.2 x 4.0 mm [0.047 x 0.16"]Color of figureswhite and red on blackResetno resetOperating temperature-10 °C +60 °C [+14 °F +140 °F] (non-condensing)Mounting positionhorizontal, other on requestSolderable and washproof versionsHK07.90, HK07.91, HK07.92Protectionup to IP65, depending on kind of typeHousingplastic PC (Polycarbonate)	Current consumption		< 1.5 mA (	(average)					
On-times < 36 s will not be countedNumber of digits7: 9999.99 hAccuracy22.5 ppm at 25 °C [77 °F]Height of figures1.2 x 4.0 mm [0.047 x 0.16"]Color of figureswhite and red on blackResetno resetOperating temperature-10 °C +60 °C [+14 °F +140 °F] (non-condensing)Mounting positionhorizontal, other on requestSolderable and washproof versionsHK07.90, HK07.91, HK07.92Soldering temperature265 °C [+509 °F], 3 sProtectionup to IP65, depending on kind of typeHousingplastic PC (Polycarbonate)	On time		100 %						
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Resetno resetOperating temperature-10 °C +60 °C [+14 °F +140 °F] (non-condensing)Mounting positionhorizontal, other on requestSolderable and washproof versionsHK07.90, HK07.91, HK07.92Soldering temperature265 °C [+509 °F], 3 sProtectionup to IP65, depending on kind of typeHousingplastic PC (Polycarbonate)	Height of figures		1.2 x 4.0 n	nm [0.047 x 0.16	"]				
Operating temperature-10 °C +60 °C [+14 °F +140 °F] (non-condensing)Mounting positionhorizontal, other on requestSolderable and washproof versionsHK07.90, HK07.91, HK07.92Soldering temperature265 °C [+509 °F], 3 sProtectionup to IP65, depending on kind of typeHousingplastic PC (Polycarbonate)	Color of figures		white and	l red on black					
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Solderable and washproof versionsHK07.90, HK07.91, HK07.92Soldering temperature265 °C [+509 °F], 3 sProtectionup to IP65, depending on kind of typeHousingplastic PC (Polycarbonate)	Operating temperature			-	+140 °F]				
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Protectionup to IP65, depending on kind of typeHousingplastic PC (Polycarbonate)	Solderable and washpr	oof versions	HK07.90, I	HK07.91, HK07.9	2				
Housing plastic PC (Polycarbonate)	Soldering temperature		265 °C [+5	509 °F], 3 s					
	Protection		up to IP65	5, depending on	kind of type				
Weight     15 18 g [0.53 0.63 oz]	Housing		plastic PC	C (Polycarbonat	e)				
	Weight		15 18 g	[0.53 0.63 oz]					

# Panel mount with latch / display front side Type HK07.20





# [] 1.2 ... 3 [0.047 x 0.12"] [2] R<sub>max</sub> 0.5 [3] Flying leads (red+ / black-)

			Art. no.
Туре		Display	4.5 35 V DC
HK07.20		7 digits	3.100.200.383 <sup>1)</sup>
HK07.20.35	with flat pins	7 digits	3.107.200.383 <sup>1)</sup>

Dimensions in mm [inch]



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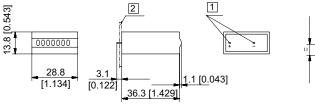
#### **Micro timers** Many different installation options (DC) HK07 / AHK07 PCB mount, lying / display on the top Punching diagram for PCB (component side) Туре НК07.90 13.3 [0.524] 1 1.25 [0.049] à,3 [0.01<u>2]</u> [1.222] 10.16 28.5 [1.122] 5.4 0.213] 14.51 [0.4] 222 0000000 [1.418] 36 [1.418] 6.67 [0.263] 4 [0.157] ø 1.6 [0.063 30 13.97 [0.55] <u>3</u>.65 [0.144] 15.24 [0.6] 2 3 1 Mounting pin without el. function 0.4 x 1.2 [0.016 x 0.047] 2 Electrical connection 0.4 x 1.2 [0.016 x 0.047] 3 PCB Art

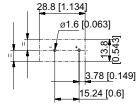
HK07.90	7 digits	3.100.900.383
Туре	Display	4.5 35 V DC
		Art. no.

# PCB mount, upright / display front side Type HK07.92

Punching diagram for PCB (component side)





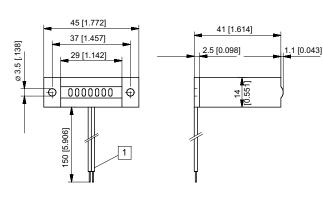


# 1 Electrical connection 0.4 x 1.2 [0.016 x 0.047] 2 PCB

		Art. no.
Туре	Display	4.5 35 V DC
HK07.92	7 digits	3.100.920.383

### Base mount, upright / display front side **Type AHK07.00**





1 Flying leads (red+ / black-)

Туре	Display	Art. no. 4.5 35 V DC
AHK07.00	7 digits	3.100.000.383

Dimensions in mm [inch]