

# Hour meters / timers, electromechanical

<b>Micro timers</b>	<b>High shock resistance (DC)</b>	<b>HK47</b>
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The micro timers HK47 have a very high shock resistance.

Available as panel 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.



## Characteristics

- 7-digit micro hour meter.
- Low cost.
- High shock resistance.
- Small dimensions.
- Magnified large figures.
- Different reading possibilities.
- Panel-mount counter with integrated spring clip (HK47.20).
- PCB mount counter (HK47.80).

## Benefits

- Low power consumption; suitable for battery operation.
- Solderable and wash-proof (HK47.80).
- Data retention in case of power failure.
- Long service life.

## Applications

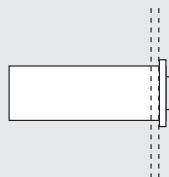
Time registration, maintenance intervals for measuring instruments (respiration units, oxygen, dialysis), small appliances, UV lamps, display panels.

## Type series

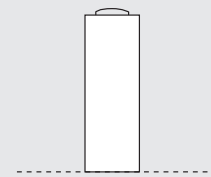
Fig.	Mounting options	Display	Protection	El. connection	Type
1)	Panel mount with latch	front side	IP65, front side	flying leads	<b>HK47.20</b>
2)	PCB mount, upright	front side	IP65, front side/on rear	solder pins	<b>HK47.80</b>

## Mounting options and position of the display

1) Panel mount  
display front side



2) PCB mount, upright  
display front side



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Technical data					
<b>Drive</b>	pulse-driven, precision crystal controller via electronic divider circuit				
<b>Pulse duration</b>	32 ms; every 36 s = 0.01 h power on times < 36 s are not counted				
<b>Electrical connection</b>	<table style="width: 100%; border: none;"> <tr> <td style="width: 150px; border: none;">HK47.20</td> <td style="border: none;">flying leads AWG 22, approx. 150 mm [5.91"] long (red +, black -)</td> </tr> <tr> <td style="border: none;">HK47.80</td> <td style="border: none;">solder pins <math>\varnothing</math> 0.64 mm [0.025"]</td> </tr> </table>	HK47.20	flying leads AWG 22, approx. 150 mm [5.91"] long (red +, black -)	HK47.80	solder pins $\varnothing$ 0.64 mm [0.025"]
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HK47.80	solder pins $\varnothing$ 0.64 mm [0.025"]				
<b>Display</b>	99999.99 h				
<b>Counting drum</b>	figures white on black, decimal place red on black				
<b>Rated Voltage</b>	4.5 ... 35 V DC				
<b>Residual ripple</b>	< 1 %				
<b>Current consumption</b>	< 1.5 mA (average)				
<b>Power consumption</b>	(count pulses every 36 s with a pulse duration of 32 ms) at $U_B = 5$ V DC    typ. 82 mW at $U_B = 12$ V DC    typ. 135 mW at $U_B = 24$ V DC    typ. 135 mW max. 170 mW				
<b>Accuracy</b>	22.5 ppm at 25 °C [77 °F]				
<b>Height of figures</b>	4 x 1.25 mm [0.16 x 0.049"]				
<b>Reset</b>	no reset				
<b>Operating temperature</b>	-10 °C ... +60 °C [+14 °F ... +140 °F] (non-condensing)				
<b>Storage temperature</b>	-20 °C ... +70 °C [-4 °F ... +158 °F]				
<b>Mounting position</b>	horizontal (other on request)				
<b>Solderable and wash proof version</b>	HK47.80				
<b>Soldering temperature</b>	265 °C [+509 °F], 3 s				
<b>Protection</b>	<table style="width: 100%; border: none;"> <tr> <td style="width: 150px; border: none;">HK47.80</td> <td style="border: none;">IP65</td> </tr> <tr> <td style="border: none;">(acc. to EN 60529) HK47.20</td> <td style="border: none;">IP65 (front side)</td> </tr> </table>	HK47.80	IP65	(acc. to EN 60529) HK47.20	IP65 (front side)
HK47.80	IP65				
(acc. to EN 60529) HK47.20	IP65 (front side)				
<b>Housing</b>	PC transparent; HK47.80 fully sealed (potted)				
<b>Weight</b>	13 ... 15 g [0.46 ... 0.53 oz]				

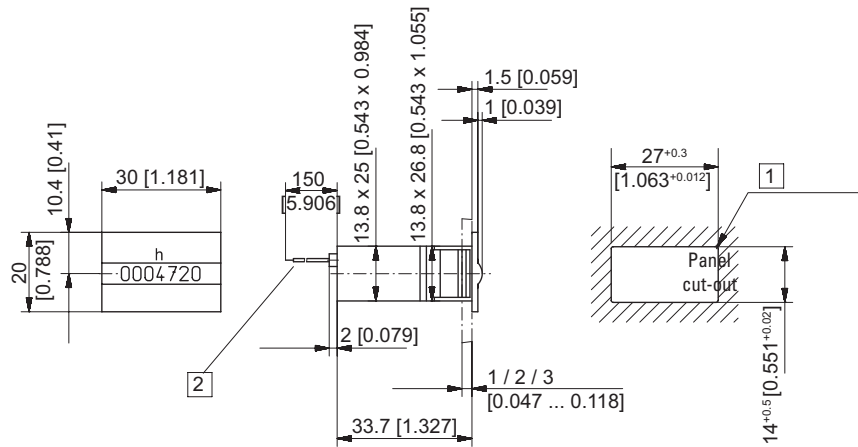
Options	
<b>HK47.20, HK47.80</b>	flat pin 0.8 x 2.8 mm [0.031 x 0.11"] and push-on connectors
<b>HK47.20</b>	solder pins $\varnothing$ 0.64 x 1.2 mm [0.025 x 0.047"]
<b>HK47.80</b>	flying leads AWG 22 approx. 150 mm [5.91"] long

Approvals	
<b>CE compliant</b> in accordance with	
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU

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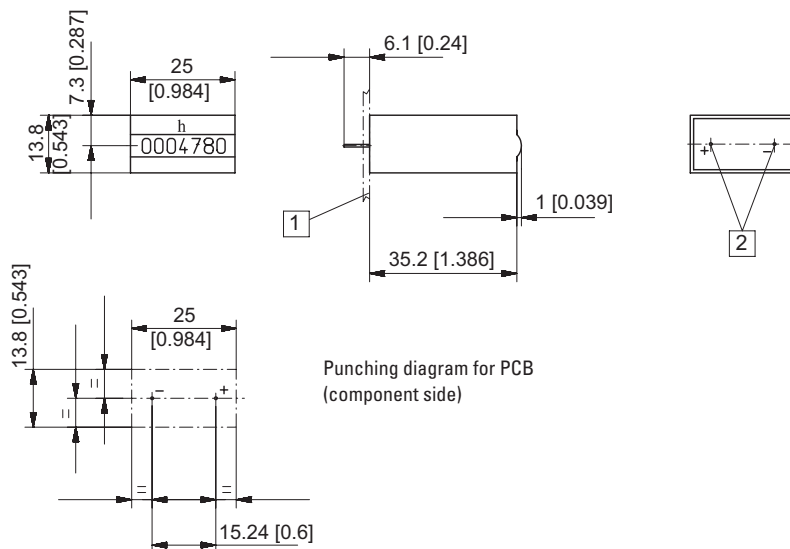
**Panel mount  
with injection-moulded spring-clips  
Type HK47.20**



[1] R<sub>max</sub> 0.5 [2] Flying leads AWG 22 (red+ / black-)

Type	Display	Art. no.
HK47.20	99999.99 h	4.5 ... 35 V DC 3.060.200.383

**PCB mount  
Type HK47.80**



Punching diagram for PCB  
(component side)

[1] PCB [2] Solder pins ø 0.64 [0.025]

Type	Display	Art. no.
HK47.80	99999.99 h	4.5 ... 35 V DC 3.060.800.383