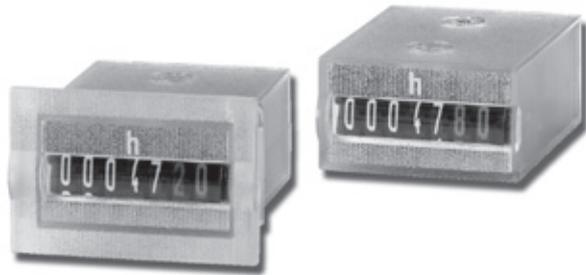# Hour meters / timers, electromechanical

Micro timers	High shock resistance (DC)	HK 47

The micro timers HK 47 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 (HK 47.20)
- PCB mount counter (HK 47.80)

Benefits

- Low power consumption; suitable for battery operation
- Solderable and wash-proof (HK 47.80)
- Data retention in case of power failure
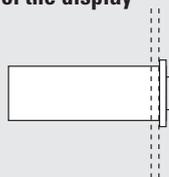- Long service life

Applications

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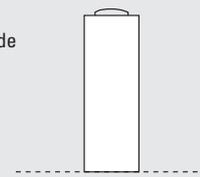
Type series

Fig.	Mounting options	Display	Protection	El. connection	Order-No.
1)	Panel mount with latch	front side	IP65, front side	flying leads	HK 47.20
2)	PCB mount, upright	front side	IP65, front side/on rear	solder pins	HK 47.80

Mounting options and position of the display

1) Panel mount / display front side

2) PCB mount, upright / display front side

Technical data

Drive		pulse-driven, precision crystal controller via electronic divider circuit
Pulse duration		32 ms; every 36 s = 0.01 h power on times < 36 s are not counted
Electrical connection	HK 47.20	flying leads AWG 22, approx. 150 mm long (red +, black -)
	HK 47.80	solder pins ø 0.64 mm
Display		99999.99 h
Counting drum		figures white on black, decimal place red on black
Rated Voltage		4.5 ... 35 V DC
Residual ripple		< 1 %
Current consumption		< 1.5 mA (average)

Power consumption
(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

Accuracy		22.5 ppm at 25°C
Height of figures		4 x 1.25 mm
Reset		no reset
Operating temperature		-10°C ... +60°C (non-condensing)
Storage temperature		-20°C ... +70°C
Mounting position		horizontal (other on request)
Solderable and wash proof version		HK 47.80
Soldering temperature		265°C, 3 s
Protection (acc. to EN 60529)	HK 47.80	IP66
	HK 47.20	IP66 (front side)
EMC	Emitted interference	EN 55011 class B
	Immunity to interference	EN 61000-6-2
Housing		PC transparent; HK 47.80 fully sealed (potted)
Weight		13 ... 15 g

Micro timers	High shock resistance (DC)	HK 47

Options	
HK 47.20, HK 47.80	flat pin 0.8 x 2.8 mm and push-on connectors
HK 47.20	solder pins ø 0.64 x 1.2 mm
HK 47.80	flying leads AWG 22 approx. 150 mm long

**Panel mount
with injection-moulded spring-clips
Type HK 47.20**

1 R_{max} 0.5   2 Flying leads AWG 22 (red+ / black–)

Type	Display	Art.-No. 4.5 ... 35 V DC
HK 47.20	99999.99 h	**3.060.200.383** [1)

**PCB mount
Type HK 47.80**

Punching diagram for PCB (component side)

1 PCB   2 Solder pins ø 0.64

Type	Display	Art.-No. 4.5 ... 35 V DC
HK 47.80	99999.99 h	**3.060.800.383**

Dimensions in mm [inch]

1) Stock types