

## Micro Timers – HK 07



- 7-digit micro hour meter
- **High shock resistance**
- Low power consumption ideal for battery operation
- Small size
- Magnified figures
- Panel-mount counter with integral latching springs
- PCB mount counter
- Solderable and wash proof version
- Protection IP 65

- Wide voltage range 4.5 ... 35 V DC
- Data retention if power is lost
- Long service life

### Applications:

general counting, service interval for measurement systems (respiratory ventilators, oxygen machines, dialysis machines), small appliances, UV lamps, display panels in cars.

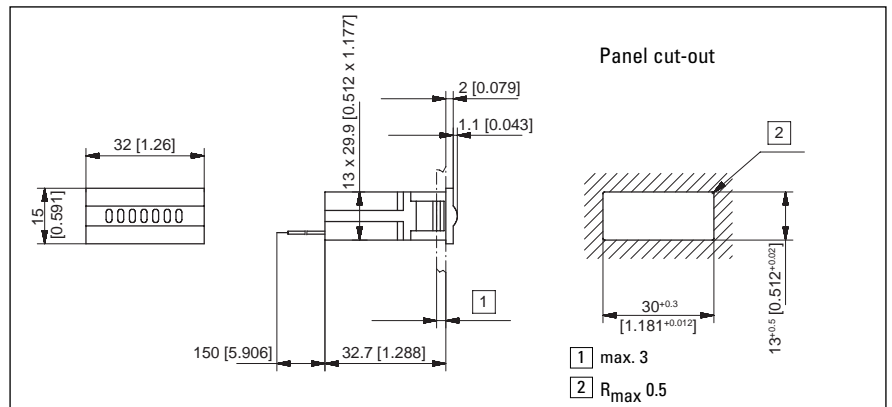
### Technical data:

Electrical connection:	base mount models: Flying leads approx. 150 mm [5.906"] (red +, black -) PCB mount models: tin plated solder pins 0.4 x 1.2 mm [0.016 x 0.047"]	Height of figures:	1.2 x 4 mm [0.047 x 0.16"]
Typ. power consumption:	at $U_B = 5\text{ V DC}$ approx. 82 mW at $U_B = 12\text{ V DC}$ approx. 135 mW at $U_B = 24\text{ V DC}$ approx. 135 mW max. 170 mW (every 36 s with a pulse length of 32 ms)	Colour of figures:	white and red on black
Rated voltages:	4.5 ... 35 V DC	Reset:	no
Residual ripple:	< 1 %	Ambient temperature:	-10 ... +60 °C [14 ... 140 °F] non condensing
Current consumption:	< 1.5 mA (average)	Soldering temperature:	max. 265 °C, max. 3 sec.
On time:	100 %	Mounting position:	number of wheel view horizontal (other on request)
Display:	7 figures (99999.99 h)	Solderable and wash proof versions:	HK 07.90, HK 07.91, HK 07.92
Accuracy:	22.5 ppm at 25 °C [68 °F]	Soldering temperature:	max. 265 °C, max. 3 sec.
Count mode:	adding	Protection:	up to IP 65 depending on kind of type
		EMC:	Immunity to interference: EN55011 class B Emitted interference EN61000-6-2
		Housing:	Plastic
		Weight:	12 ... 14 g [0.423 ... 0.494 oz]
		Options:	HK 07.20 Flat pins 0.8 mm x 2.8 mm [0.03 x 0.11"]

### Available types:

Type	Housing	Height of figures	display	Termination	Description	Protection
HK 07.20	Plastic	4 mm [0.158"]	On narrow side	Flying leads	Flush mount with latching springs	IP 65
HK 07.40	Steel sheet	4 mm [0.158"]	On broad side	Solder pins	PCB-mount	IP 40
HK 07.50	Steel sheet	4 mm [0.158"]	On narrow side	Solder pins	PCB-mount	IP 40
HK 07.80	Plastic	4 mm [0.158"]	On narrow side	Solder pins	PCB-mount	IP 50
HK 07.90	Plastic	4 mm [0.158"]	On broad side	Solder pins	PCB-mount wash proof	IP 65
HK 07.91	Plastic	2,8 mm [0.11"]	On narrow side	Solder pins	PCB-mount wash proof	IP 65
HK 07.92	Plastic	4 mm [0.158"]	On narrow side	Solder pins	PCB-mount wash proof	IP 65
AHK 07.00	Plastic	4 mm [0.158"]	On narrow side	Flying leads	Base mount	IP 50

### Type HK 07.20



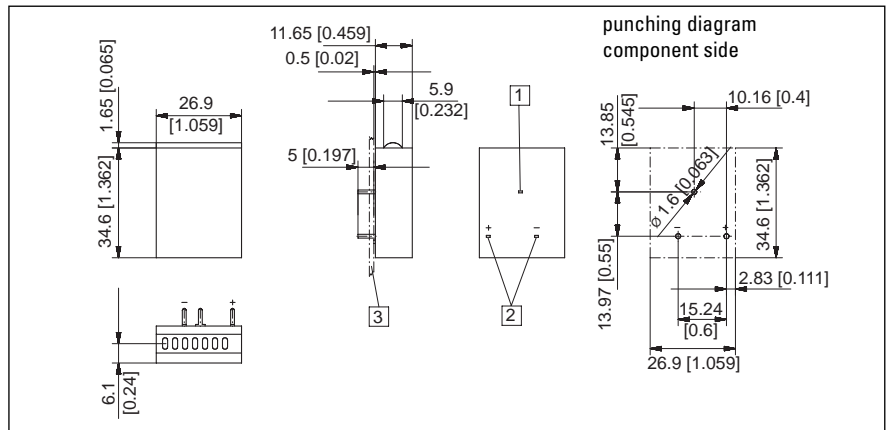
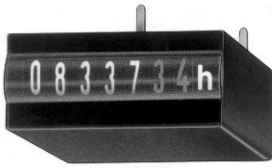
### Order code:

Art-No.	4.5 ... 35 V 3.100.200.383*
---------	--------------------------------

\*standard stock model  
Further standard stock models:  
3.107.200.383 HK 07.20.35 4.5 ... 35 V DC with flat pin

\*standard stock model

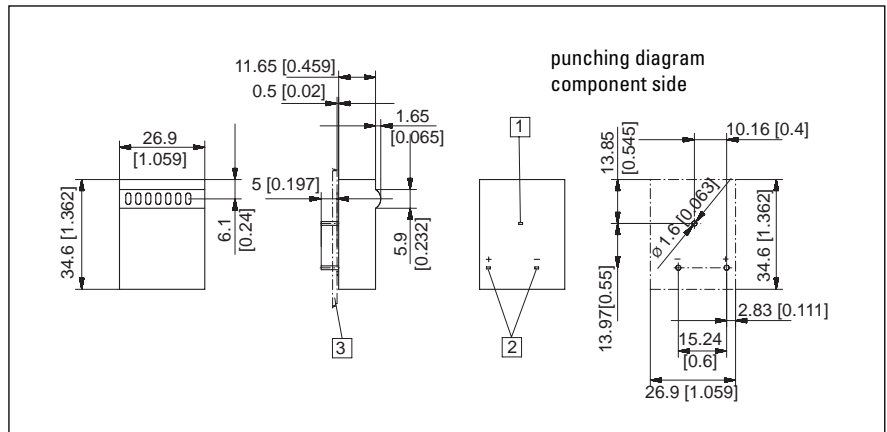
## Type HK 07.50



<b>HK 07.50</b>	4.5 ... 35 V DC	
Art-No.	3.100.501.383	

- 1 Potential free mounting pin 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

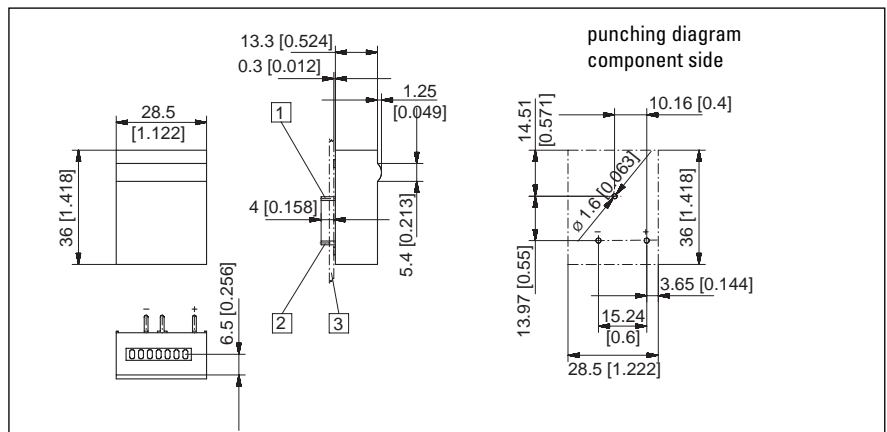
## Type HK 07.40



<b>HK 07.40</b>	4.5 ... 35 V DC	
Art-No.	3.100.401.383	

- 1 Pins without el. function 0.4 x 1.2 mm [0.016 x 0.047"]
- 2 Coil connections 0.4 x 1.2 mm [0.016 x 0.047"]
- 3 PCB

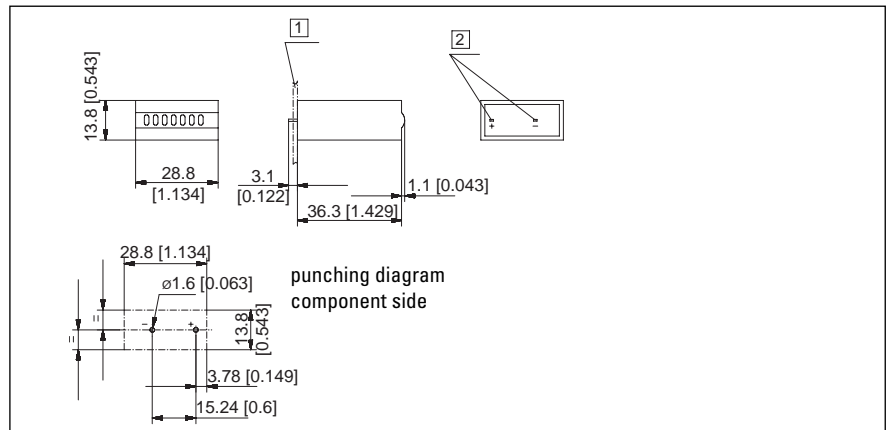
## Type HK 07.91



<b>HK 07.91</b>	4.5 ... 35 V	
Art-No.	3.100.910.383	

- 1 Potential free mounting pin 0.4 x 1.2 mm [0.016 x 0.047"]
- 2 Coil connections  $\varnothing$  0.64 0.4 x 1.2 mm [0.025 x 0.047"]
- 3 PCB

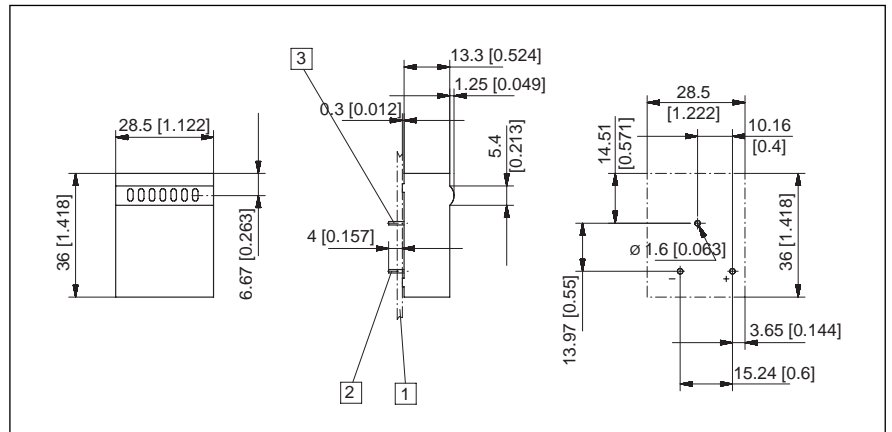
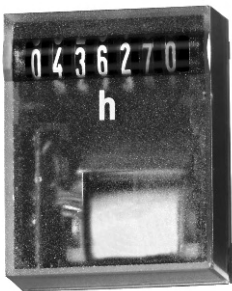
## Type HK 07.92



<b>HK 07.92</b>	4.5 ... 35 V	
Art-No.	3.100.920.383	

- 1 Mounting pin without el. function
- 2 Coil connections 0.4 x 1.2 mm [0.016 x 0.047"]

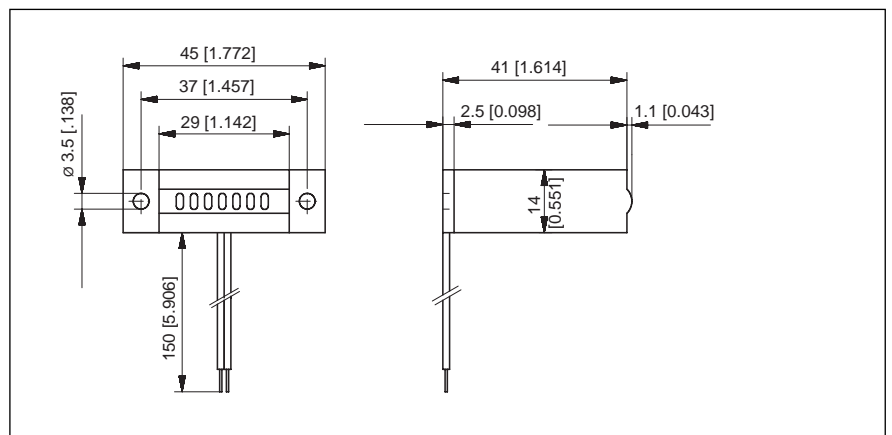
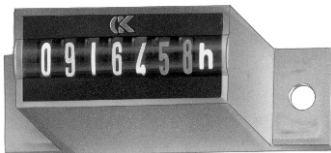
## Type HK 07.90



<b>HK 07.90</b>	4.5 ... 35 V	
Art-No.	3.100.900.383	

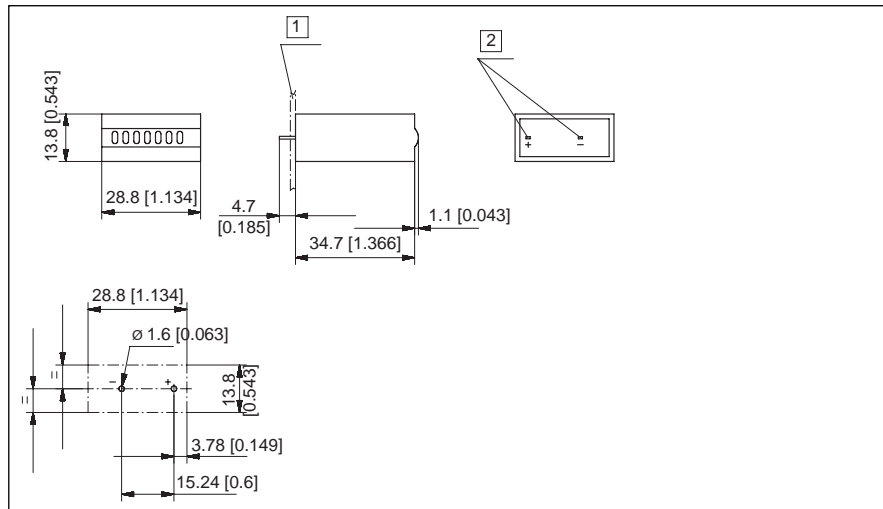
- 1 Mounting pin without el. function
- 2 Coil connections 0.4 x 1.2 mm [0.016 x 0.047"]
- 3 PCB

## Type AHK 07.00



<b>AHK 07.00</b>	4.5 ... 35 V	
Art-No.	3.100.000.383	

## Type HK 07.80



<b>HK 07.80</b>	4.5 ... 35 V	
Art-No.	3.100.800.383	

- 1 PCB
- 2 Coil connections 0.4 x 1.2 mm [0.016 x 0.047"]

## Micro Timers – HK 07, Disable-Input



- Disable-Input: also allows registration of short on-times (<36 s)
- 7 digits
- **High shock resistance**
- Low power consumption ideal for battery operation
- Magnified figures
- Built in counter
- PCB mount counter
- Solderable and wash proof version

### Applications:

general counting, service interval for measurement systems (respiratory ventilators, oxygen machines, dialysis machines), small appliances, UV lamps, display panels in cars.

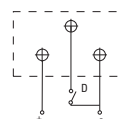
### Technical data:

Electrical connection:	base mount models:	flying leads approx. 150 mm [5.906"]
	PCB-mount:	tin plated solder pins size 0.4 x 1.2 mm [0.016 x 0.047"]
Typ. power consumption:	at $U_B = 5\text{ V DC}$	typ. 82 mW
	at $U_B = 12\text{ V DC}$	typ. 135 mW
	at $U_B = 24\text{ V DC}$	typ. 135 mW
		max. 170 mW
	(every 36 s with a pulse length of 32 ms)	
Residual ripple:	< 1 %	
Current consumption:	< 1.5 mA (average)	
Rated voltage:	4.5 ... 35 V DC	
On time:	100 %	
Display:	7 (99999.99 h)	
Accuracy:	22.5 ppm at 25 °C [77 °F]	
Count mode:	adding	

Height of figures:	1.2 x 4 mm [0.047 x 0.57"]
Colour of figures:	white and red on black
Reset:	no
Ambient temperature:	-10 ... +60 °C [14 ... 140 °F]
Soldering temperature:	max. 265 °C, max. 3 sec.
Mounting position:	horizontal, (other on request)
Solder- and wash proof versions:	HK 07.90D and HK 07.91D,
Conforms to CE:	EN 61000-6-2
Requirements acc. to:	EN 55011 class B
Protection:	up to IP 65 depends on version
Housing:	plastic, (polycarbonate)
Weight:	16 ... 19 g [0.564 ... 0.67 oz]
Options:	
HK 07.20	flat pin connectors 0.8 x 2.8 mm [0.032 x 0.11"]
Further Options:	Temperature range -20 ... +70 °C [-4 ... 158 °F]

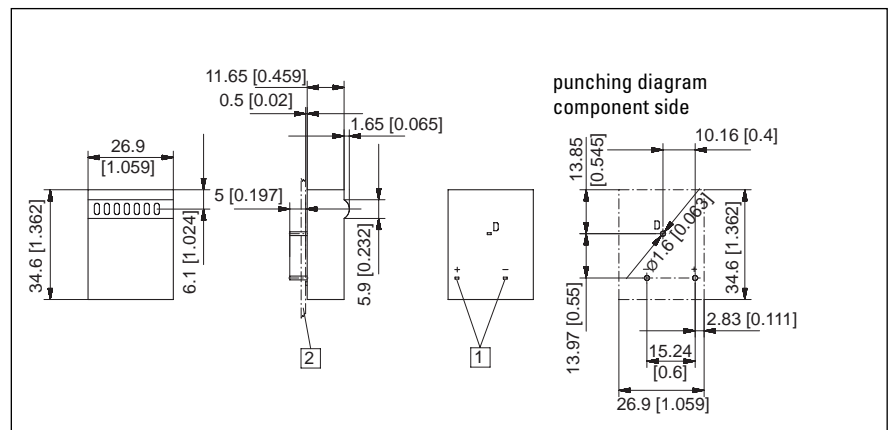
### Available types:

Type	Housing	Height of figures	Display	el. connection	Description
HK 07.40 D	Steel sheet	4 mm [0.158"]	On broad side	Solder pins	PCB-mount
HK 07.50 D	Steel sheet	4 mm [0.158"]	On narrow side	Solder pins	PCB-mount
HK 07.90 D	Plastic	4 mm [0.158"]	On broad side	Solder pins	PCB-mount wash proof
HK 07.91 D	Plastic	2.8 mm [0.11"]	On narrow side	Solder pins	PCB-mount wash proof



D	Function
open	counting
closed	interval

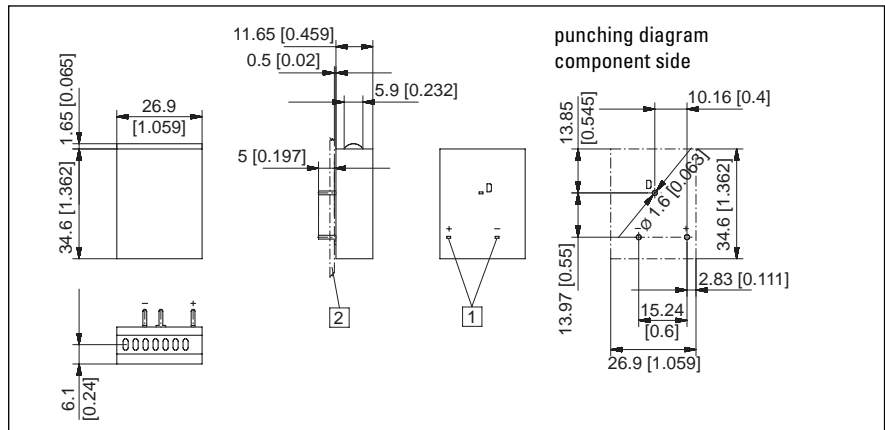
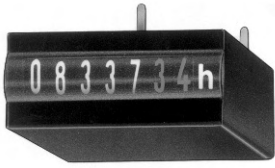
### Type HK 07.40 D



<b>HK 07.40 d</b>	4.5 ... 35 V
Art-No.	3.104.401.383

- 1 Potential free mounting pin 0.4 x 1.2 mm [0.016 x 0.047"]
- 2 Coil connections 0.4 x 1.2 mm [0.016 x 0.047"]

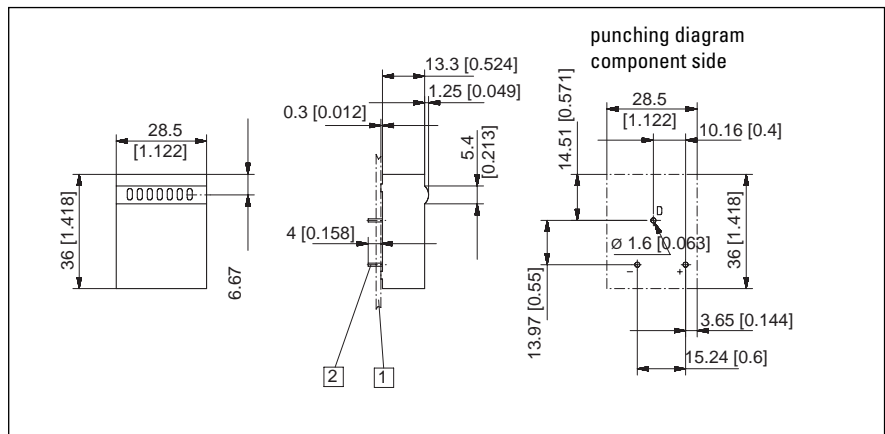
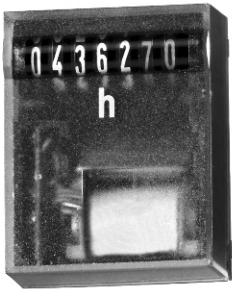
## Type HK 07.50 D



<b>HK 07.50 D</b>	4.5 ... 35 V	
Art-No.	3.104.500.383	

- 1 Coil connections
- 2 PCB

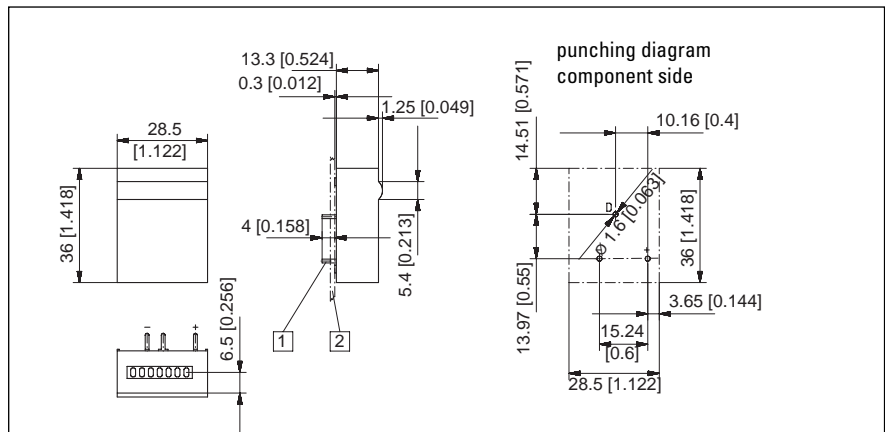
## Type HK 07.90 D



<b>HK 07.90 D</b>	4.5 ... 35 V	
Art-No.	3.104.900.383	

- 1 Coil connections
- 2 PCB

## Type HK 07.91 D



<b>HK 07.91 D</b>	4.5 ... 35 V	
Art-No.	3.104.910.383	

- 1 Coil connections
- 2 PCB