Timers with DIN dimensions | DIN counters for panel mount, 48 x 24 mm (AC+DC) | H 37

The hour meters H 37 feature a very high shock resistance.

These panel mount counters with standard DIN dimensions can be used in many different fields of application.
These non-resettable counters are extremely tamper-proof.

5 Jahre / years Gewährleistung / warranty
Made in Germany by Kübler

Characteristics

- 7- or 8-digit hour meter.
- Without reset, high shock resistance.
- Small dimensions, magnified large figures.
- Protection IP65 on the font side.
- Panel mount counter with integrated spring clip (H 37.4).
- UL-approved.

Benefits

- 5 years guarantee. [1)]
- High reliability: for a better sale of your final product.
- Data 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

Description	*Mounting*	*Panel cut-out*	*Type*
Standard DIN counter for panel mount	mounting clip, on rear	45 x 22 [1.77 x 0.91"]	**H 37**
Standard DIN counter for panel mount	2 mounting holes	50 x 25 [1.97 x 0.98"]	**H 37.1**
Standard DIN counter for panel mount	mounting clip, on rear	50 x 25 [1.97 x 0.98"]	**H 37.2**
Standard DIN counter for panel mount	mounting clip, on rear	45 x 22 [1.77 x 0.91"]	**H 37.5**

Dual function timer
48 x 48 mm [1.89 x 1.89"] on request

1) When used as specified in the technical data

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Timers with DIN dimensions | DIN counters for panel mount, 48 x 24 mm (AC+DC) | H 37

Accessories	Dimensions in mm [inch]		Order no.
Adapter front bezel, 72 x 36 [2.83 x 1.42]	for cut-out 68 x 33 [2.68 x 1.30] to cut-out 45 x 22.2 [1.77 x 0.87], for counters 48 x 24 [1.89 x 0.94], as set	black and silver anodised	**162704 Set**
Adapter front bezel, 48 x 48 [1.89 x 1.89]	for cut-out 45 x 45 [1.77 x 1.77] to cut-out 45 x 22.2 [1.77 x 0.87], with clip mounting for counters 48 x 24 [1.89 x 0.94]	black	**T008883**
Adapter front bezel, 60 x 50 [2.36 x 1.97]	for cut-out 54 x 29 [2.13 x 1.14] to cut-out 45 x 22.2 [1.77 x 0.87], with screw mounting and gasket for counters 48 x 24 [1.89 x 0.94]	black	**N003001**
Adapter front bezel, 56 x 40 [2.20 x 1.57]	for cut-out 50 x 25 [1.97 x 0.98] to cut-out 45 x 22.2 [1.77 x 0.87], with screw mounting for counters 48 x 24 [1.89 x 0.94]	black	**T008161**
Adapter front bezel, 53 x 28 [2.09 x 1.10]	for cut-out 54 x 29 [2.13 x 1.14] to cut-out 45 x 22.2 [1.77 x 0.87], with clip mounting for counters 48 x 24 [1.89 x 0.94]	grey black	**T008164** **T008165**
Transparent cover, lockable, IP65	for cut-out 54 x 29 [2.13 x 1.14], for screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 [1.97 x 0.98] or 45 x 22.2 [1.77 x 0.87]		**N003002**
Sealing cover type K1, IP65	suitable for front bezel 60 x 50 [2.36 x 1.97], for screw mounting of electromech. counters and via adapter front bezel N003001 for counters 48 x 24 [1.89 x 0.94]		**G008301**
Mounting frame with cut-out 50 x 25 [1.97 x 1.97] via separate adapter also for 45 x 22.2 [1.77 x 0.87]	for snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 53 x 28 [2.09 x 1.10] and via separate adapter (T008180) for counters 48 x 24 [1.89 x 0.94]	chromated	**G300004**
Gasket 53 x 28 [2.09 x 1.10]	for cut-out 50 x 25 [1.97 x 0.98], suitable for H 37.2 and H 37.4	black	**N511015**
Gasket 48 x 24 [1.89 x 0.94]	for cut-out 45 x 22.2 [1.77 x 0.87], suitable for H 37 and H 37.5	black	**N511029**
Terminal cover type KA 37	for H 37 counters (2 pcs. per counter required)	transparent	**T051687**

Suitable gaskets, other accessories and installation examples for optional accessories can be found in chapter accessories or in the accessories section under: www.kuebler.com/accessories.

Technical data

Electrical connection		screw terminals (tightening torque max. 0.8 Nm)
Power consumption	10 ... 30 V DC	approx. 500 mW
	36 ... 80 V DC	approx. 900 mW
	100 ... 130 V DC	approx. 750 mW
	20 ... 30 V AC, 50 Hz	approx. 0.3 VA
	42 ... 48 V AC , 50 Hz	approx. 0.25 VA
	100 ... 130 V AC, 50 Hz	approx. 0.6 VA
	187 ... 264 V AC, 50 Hz	approx. 1.2 VA
Rated voltages	AC (50 or 60 Hz)	20 ... 30 V, 42 ... 48 V, 100 ... 130 V, 187 ... 264 V
	DC	10 ... 30 V, 36 ... 80 V, 100 ... 130 V
On time		100 %
Number of digits	AC	7 – 99999.99 h
	DC	8 – 999999.99 h
Resolution		0.01 h equals 36 s
Height of figures		4 mm [0.16“]
Color of figures		white and red on black
Reset		no reset
Operating temperature		-15°C ... +50°C [+5°F ... +122°F] (non-condensing)
Storage temperature		-40°C ... +85°C [-40°F ... +185°F]
Relativ humidity		< 95 % (non-condensing)
Mounting position		any

Protection		IP65 (front side) built in with gasket, (order gasket separately)
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2
UL approval		file E128604
Housing		plastic PC (Polycarbonate) types with IP65 protection are sealed (potted)
Accuracy	AC	supply frequency + 30 ms
	DC	< 0.003 % (at 24 h)
Weight	H 37	approx. 50 g [1.76 oz]
	slip on bezel 37.1	6 g [0.21 oz]
	slip on bezel 37.2	2 g [0.07 oz]

Options

Color of housimg	grey	Art. no. 3.130.X50.XXX
Electrical connection		
	flat pin 0.8 x 6.3 mm [0.031 x 0.25“]	Art.-No.: 3.24X.20X.XXX.011
	screw terminal with terminal cover	Art.-No.: 3.24X.20X.XXX.456
	spring-type terminal	on request
360 - 440 V AC		on request

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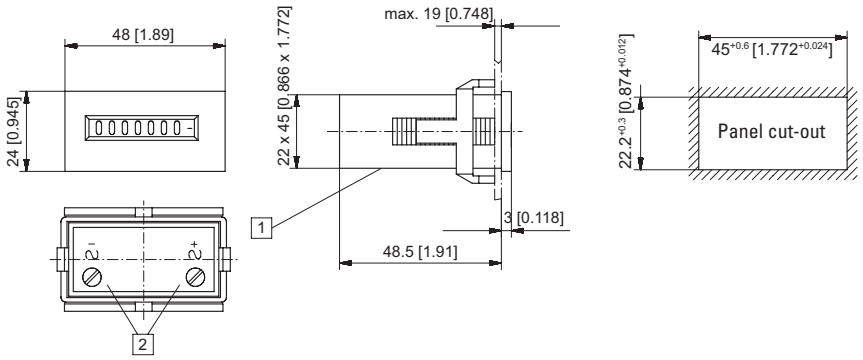
Timers with DIN dimensions | DIN counters for panel mount, 48 x 24 mm (AC+DC) | H 37

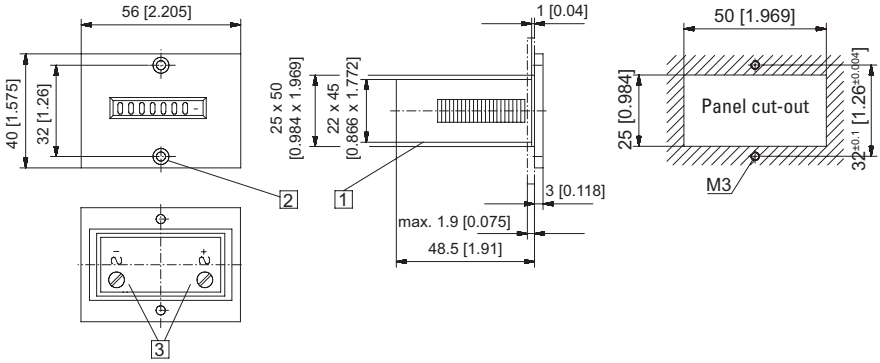
Mounting clip, on rear,
panel mount dimensions 45 x 22 [1.77 x 0.91]
Type H 37



1 Wire entry 2 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	
H 37	7 digits	AC (50 Hz)		**3.240.201.071**		**3.240.201.072**	**3.240.201.074** 1)	**3.240.201.075** 1)	
	7 digits	AC (60 Hz)		**3.240.201.081**		**3.240.201.082**	**3.240.201.084**	**3.240.201.085**	
	8 digits	DC	**3.240.201.351** 1)		**3.240.201.353**		**3.240.201.381**		

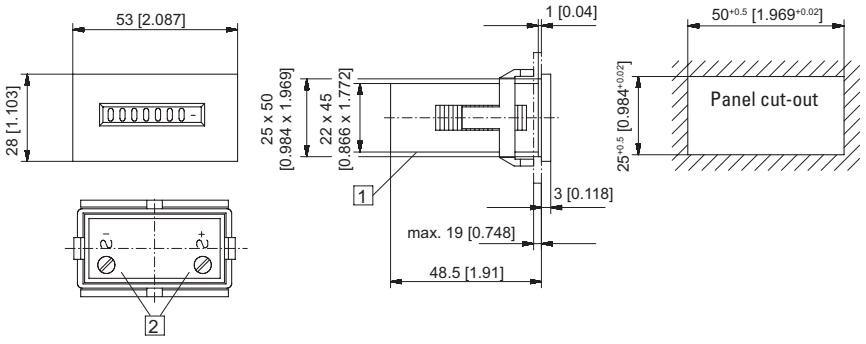
2 mounting holes,
panel mount dimensions 50 x 25 [1.97 x 0.98"]
Type H 37.1



1 Wire entry 2 Countersinking Af3, DIN 74 3 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	
H 37.1	7 digits	AC (50 Hz)		**3.241.201.071**		**3.241.201.072**	**3.241.201.074**	**3.241.201.075**	
	7 digits	AC (60 Hz)		**3.241.201.081**		**3.241.201.082**	**3.241.201.084**	**3.241.201.085**	
	8 digits	DC	**3.241.201.351** 1)		**3.241.201.353**		**3.241.201.381**		

Mounting clip, on rear,
panel mount dimensions 50 x 25 [1.97 x 0.98"]
Type H 37.2



1 Wire entry 2 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	
H 37.2	7 digits	AC (50 Hz)		**3.242.201.071**		**3.242.201.072**	**3.242.201.074**	**3.242.201.075** 1)	
	7 digits	AC (60 Hz)		**3.242.201.081**		**3.242.201.082**	**3.242.201.084**	**3.242.201.085**	
	8 digits	DC	**3.242.201.351** 1)		**3.242.201.353**		**3.242.201.381**		

Dimensions in mm [inch]

1) Stock types

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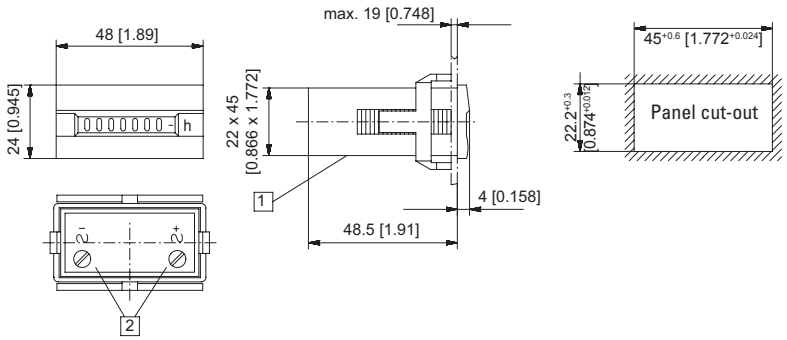
Timers with DIN dimensions | DIN counters for panel mount, 48 x 24 mm (AC+DC) | H 37

DIN counter for panel mount
mounting clip, on rear,
panel mount dimensions 45 x 22 [1.77 x 0.91]
Type H 37.5



1 Wire entry 2 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	
H 37.5	7 digits	AC (50 Hz)		**3.245.201.071**		**3.245.201.072**	**3.245.201.074**	**3.245.201.075** 1)	
	7 digits	AC (60 Hz)		**3.245.201.081**		**3.245.201.082**	**3.245.201.084**	**3.245.201.085**	
	8 digits	DC	**3.245.201.351** 1)		**3.245.201.353**		**3.245.201.381**		

Dimensions in mm [inch]

1) Stock types

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Timers with DIN dimensions | DIN counter for panel mount / DIN rail housing, 48 x 48 mm | H 57 / AH 57

The hour meters H 57, H 57.55, H 57.72 and AH 57 feature a very high shock resistance.
These panel / DIN rail mount counters have a reduced mounting depth. They can be used in many different fields of application.
These non-resettable counters are extremely tamper-proof.

5 Jahre / years Gewährleistung / warranty
Made in Germany by Kübler

Characteristics

- 7 or 8-digit hour meter.
- High shock and impact resistance.
- Without reset, small mounting depth.
- Magnified large figures.
- Protection IP52 (optional IP65), suitable for any mounting position.
- UL-approved.
- Various front bezel sizes
  - H 57 48 x 48 mm
  - H 57.55 55 x 55 mm
  - H 57.72 72 x 72 mm
  - AH 57 48 x 48 mm for DIN rail

Benefits

- 5 years guarantee. [1)]
- High reliability: for a better sale of your final product.
- Data 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

Description	*Mounting*	*Front bezel*	*Type*
Standard DIN timer	clip mounting, on rear	48 x 48 mm [1.89 x 1.89“]	**H 57**
Standard DIN timer	clip mounting, on rear	55 x 55 mm [1.97 x 1.97“]	**H 57.55**
Standard DIN timer	clip mounting, on rear	72 x 72 mm [2.83 x 2.83“]	**H 57.72**
Base mount timer	DIN rail 35 mm [1.38“] acc. to DIN EN 50022		**AH 57**

Accessories	Dimensions in mm [inch]		Order no.
Adapter front bezel, 55 x 55 [2.17 x 2.17]	for cut-out 50 x 50 [1.97 x 1.97] or ø 50.5 [2.17] to cut-out 45 x 45 [1.77 x 1.77], with clip mounting for counters 48 x 48 [1.89 x 1.89]	black	**T008171**
Adapter front bezel, 60 x 75 [2.36 x 2.95]	for cut-out 50 x 50 [1.97 x 1.97] to cut-out 45 x 45 [1.77 x 1.77] with screw mounting for counters 48 x 48 [1.89 x 1.89]	black	**T008860**
Adapter front bezel, 72 x 72 [2.83 x 2.83]	for cut-out 68 x 68 [2.68 x 2.68] to cut-out 45 x 45 [1.77 x 1.77] (Mating clip T009420 must be ordered separately)	black	**T008177**
Adapter front bezel, ø 72 [2.83]	for cut-out ø 60 [2.36] to 45 x 45 [1.77 x 1.77], with clip mounting for counters 48 x 48 [1.89 x 1.89]	black	**N510226**
Base-mount socket	for H 57	black	**G008040**

Suitable gaskets, other accessories and installation examples for optional accessories can be found in chapter accessories or in the accessories section under: www.kuebler.com/accessories.

1) When used as specified in the technical data

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Timers with DIN dimensions | DIN counter for panel mount / DIN rail housing, 48 x 48 mm | H 57 / AH 57

Technical data

Electrical connection		screw terminals (tightening torque max. 0.8 Nm) wire entry from behind, for ø 2.5 mm² [AWG13]
Power consumption	10 ... 30 V DC	approx. 500 mW
	100 ... 130 V DC	approx. 750 mW
	20 ... 30 V AC, 50 Hz	approx. 0.3 VA
	42 ... 48 V AC, 50 Hz	approx. 0.25 VA
	100 ... 130 V AC, 50 Hz	approx. 0.6 VA
	187 ... 264 V AC, 50 Hz	approx. 1.2 VA
	360 ... 440 V AC, 50 Hz	approx. 1.65 VA
Rated voltages	AC (50 or 60 Hz)	20 ... 30 V, 42 ... 48 V, 100 ... 130 V, 187 ... 264 V, 360 ... 440 V
	DC	10 ... 30 V, 36 ... 80 V, 100 ... 130 V
On time		100 %
Number of digits	7 at AC	99999.99 h
	8 at DC	999999.99 h
Count mode		adding
Height of figures		4 mm [0.16“]
Color of figures		white and red on black
Operating temperature		-15°C ... +50°C [+5°F ... +122°F] (non-condensing)
Storage temperature		-40°C ... +85°C [-40°F ... +185°F]
Relative humidity		< 95 % (non-condensing)
Mounting position		any
Protection		IP52, DIN 40050 (front side)
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2
UL approval		file E128604 the version 360 ... 440 V AC is not UL listed
Housing		plastic PC (Polycarbonate)
Accuracy	AC	supply frequency + 30 ms
	DC	< 0.003 % (at 24 h)
Weight	H 57	approx. 48 g [1.69 oz]
	base mount socket no. 48	36 g [1.27 oz]
	slip-on bezel 55	8 g [0.28 oz]
	slip-on bezel 72	13 g [0.46 oz]
Operating indicator of the running time meter	AC	fast rotating wheel with red dashes
	DC	1/100 h display turns continuously by 1 digit in 36 s
Test voltage		2000 V AC, 50 Hz for AC counters

Options

Color of housing	grey	Art. no. 3.22X.400.XXX
Timer H 57.55 mounted with adapter front bezel 55 x 55 mm [2.17 x 2.17“]		Art. no. 3.221.XXX.XXX
Timer H 57.72 montiert mit Adapter-Frontrahmen 72 x 72 mm [2.83 x 2.83“]		Art. no. 3.222.XXX.XXX
Electrical connection		
flat pin 0.8 x 6.3 mm [0.031 x 0.25“]		Art.-No.: 3.228.401.XXX
IP65 version, welded front cover		
	H 57	Art. no. 3.220.XXX.XXX.422
	H 57.55	Art. no. 3.221.XXX.XXX.423
	H 57.72	Art. no. 3.222.XXX.XXX.424
Required gaskets between the counter and the bezel		
	H 57	N511018
Gasket set	H 57.55	N511018 + N511017
	H 57.72	N511018 + N511016
(with the IP65 version, the gasket is included in the delivery)		
Further voltages on request		
Counter with cable inlet from underneath, screw fixing from rear		Art. no. 3.220.401.XXX.044

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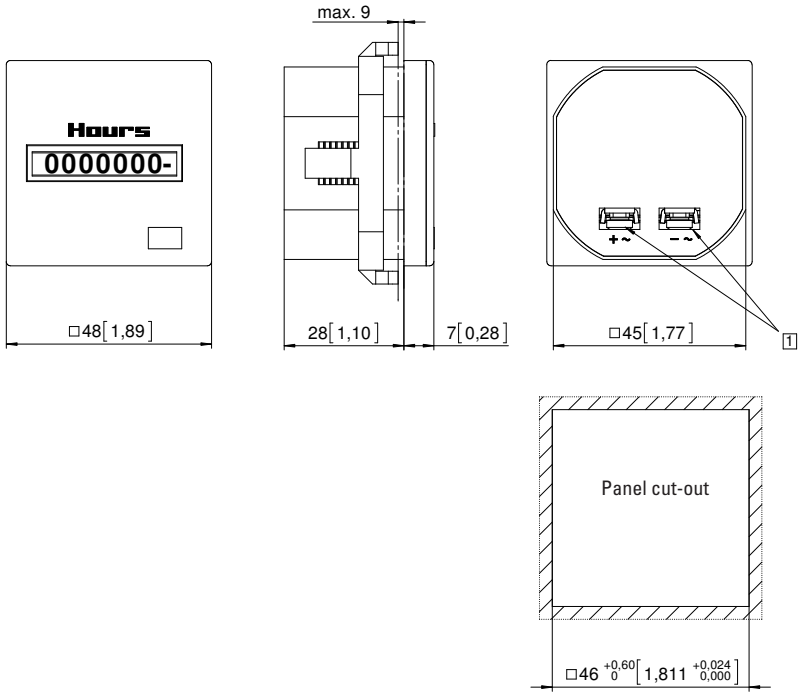
Timers with DIN dimensions | DIN counter for panel mount / DIN rail housing, 48 x 48 mm | H 57 / AH 57

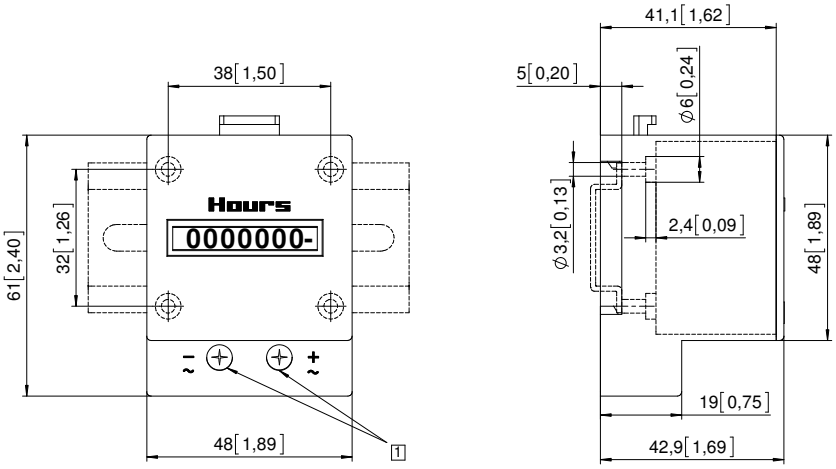
Standard DIN timer
clip mounting, on rear
Type H 57



1 Screw terminal with flat pin x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
H 57	7 digits	AC (50 Hz)		**3.220.401.071** 1)	**3.220.401.072**	**3.220.401.074** 1)	**3.220.401.075** 1)	**3.220.401.079**
	7 digits	AC (60 Hz)		**3.220.401.081** 1)	**3.220.401.082**	**3.220.401.084** 1)	**3.220.401.085** 1)	**3.220.401.089**
	8 digits	DC	**3.220.401.351** 1)			**3.220.401.381**		
Further stock types:			3.220.401.075.422 187... 264 V AC, IP65 3.220.401.351.422 10 ... 30 V DC, IP65					

Base mount timer
DIN rail mount 35 [1.38] acc. to DIN EN 50022
Type AH 57



1 Screw terminals

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
AH 57	7 digits	AC (50 Hz)		**3.223.401.071**	**3.223.401.072**	**3.223.401.074** 1)	**3.223.401.075** 1)	**3.223.401.079**
	7 digits	AC (60 Hz)		**3.223.401.081**	**3.223.401.082**	**3.223.401.084** 1)	**3.223.401.085** 1)	**3.223.401.089**
	8 digits	DC	**3.223.401.351** 1)			**3.223.401.381**		

Dimensions in mm [inch]

1) Stock types

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Standard timers | 9999.99 h / 99999.9 h with reset (AC+DC) | HB 26

The timer HB 26 with reset measure time ranges up to max. 99999.9 h or 9999.99 h.

These panel-mount counters can be used in many different fields of application.

Characteristics

- 6-digit hour meter without reset.
- High shock and impact resistance.
- Magnified large figures; height 4.5 mm.
- Data retention in case of power failure.
- Long service life.
- Plug-in versions.
- Counter without front bezel for mounting in front bezel F1B and F2B and for combination in 50 x 25 mm size with socket box 945.2.

Benefits

- Can be combined with preset counters BVa and HVa, and with pulse counter B.
- Can be equipped with various sealing covers to protect the counter against dust, dirt and moisture.
- Key-locking 0-reset.

Applications

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

Type series

Description	*Type*
Screw mounting, 56 x 40 mm [2.20 x 1.57“]	**HB 26.11**
Clip mounting, 53 x 28 mm [2.09 x 1.10“]	**HB 26.21**
Plug-in for socket box 945.2 and front bezel F1B	**HB 26.01.3**

Options

- Different voltages
- Extended temperature range on request
- Flat pin 0.8 x 6.3 mm [0.031 x 0.25“] without flat push on connectors: Art.-Nr. 3.168.X11.XXX
- Flat pin 0.8 x 2.8 mm [0.031 x 0.11“] with flat push on connectors: Art.-Nr. 3.167.X11.XXX
- Lockable 0-reset: Art.-Nr. 3.160.XX7.XXX
  The button can be unlocked by means of the key

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Hour meters / timers, electromechanical

Standard timers	9999.99 h / 99999.9 h with reset (AC+DC)	HB 26

Accessories	Dimensions in mm [inch]		Order no.
Front bezel, type F1B plastic	for cut-out 54 x 49 [2.13 x 1.93], for screw mounting, for plug-in counters B1x.0x and HB2x.0x in socket box type 945.2	beige black	**G007501** **G007502**
Socket box, type 945.2	for counters B1x.0x and HB2x.0x, can be used for plug-in connections in front bezel F1B	black	**G008434**
Sealing cover, type K1, IP65	for front bezel 60 x 50 [2.36 x 1.97], with screw mounting, for electromechanical counters and via adapter front bezel N003001 for counters 48 x 24 [1.89 x 0.94]	transparent / grey transparent / black	**G008300** **G008301**
Transparent cover, lockable, IP65	for cut-out 54 x 29 [2.13 x 1.14], for screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 [1.97 x 0.98] or 45 x 22.2 [1.77 x 0.87]		**N003002**
Blind enclosure, 53 x 28 [2.07 x 1.10]	for cut-out 50 x 25 [1.97 x 0.98], for counters 53 x 28 [2.09 x 1.10]	black	**T005753**
Mounting frame with cut-out 50 x 25 [2.36 x 1.97] via separate adapter also for 45 x 22.2 [1.77 x 0.87]	for snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 53 x 28 [2.09 x 1.10] and via separate adapter (T008180) for counters 48 x 24 [1.89 x 0.94]	chromated	**G300004**
Mounting rail frame SR	for B and HB counters for snap-on mounting on 35 [1.38] top-hat DIN rail	SR 1 for 1x3 B counters SR 2 for 2x3 B counters	**G300000** **G300001**

Suitable gaskets, other accessories and installation examples for optional accessories can be found in chapter accessories or in the accessories section under: www.kuebler.com/accessories.

Technical data

Electrical characteristics

Electrical connection	cable	2 x 0.5 mm² [AWG20], NYFAZ, 0.5 m [1.64'] long AC: grey/grey, DC: red +, black –
	type HB 26.01.3	round pins ø 1.6 mm [0.063"] (plugs into socket box type 945.2)
Power consumption	10 ... 30 V DC	approx. 500 mW
	36 ... 80 V DC	approx. 900 mW
	100 ... 130 V DC	approx. 750 mW
	20 ... 30 V AC	approx. 0.3 VA
	42 ... 48 V AC	approx. 0.25 VA
	100 ... 130 V AC	approx. 0.6 VA
	187 ... 264 V AC	approx. 1.2 VA
	360 ... 440 V AC	approx. 1.65 VA
Rated voltages	AC (50 or 60 Hz)	20 ... 30 / 42 ... 48 / 100 ... 130 / 187 ... 264 / 360 ...440 V AC
	DC	10 ... 30 / 36 ... 80 / 100 ... 130 V DC
Accuracy	AC	supply frequency + 30 ms
	DC	< 0.003 % (at 24 h)
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2

General technical data

Display	number of digits	6, AC: 9999.99 h, DC: 99999.9 h
	height of figures	4.5 mm [0.17"]
	color of figures	white and red on black
Operating temperature		-15°C ... +50°C [+5°F ... +122°F] (non-condensing)
Mounting position		any

Mechanical characteristics

Housing	plastic PC (Polycarbonate)
Protection	IP41 (front side)
with flexible sealing cover K1	IP54 (front side)
with transparent cover Dv., Dvs	IP55 (front side)
Weight	approx. 45 g [1.59 oz]

Options

Different voltages and extended temperature range on request

Flat pin 0.8 x 6.3 mm [0.031 x 0.25"] without flat push on connectors	Art. no. 3.168.X11.XXX
Flat pin 0.8 x 2.8 mm [0.031 x 0.11"] with flat push on connectors	Art. no. 3.167.X11.XXX
Key-locking 0-reset	Art. no. 3.160.XX7.XXX

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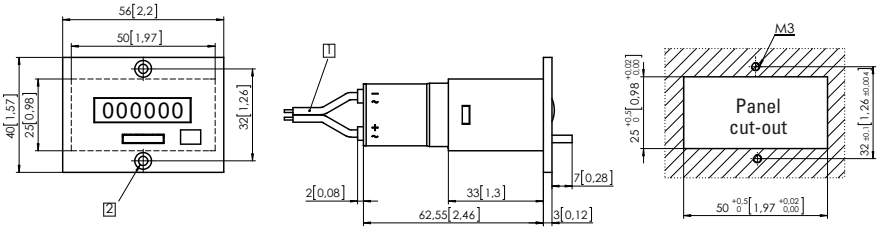
Standard timers | 9999.99 h / 99999.9 h with reset (AC+DC) | HB 26

Screw mounting, 56 x 40 [2.20 x 1.57]

Type HB 26.11

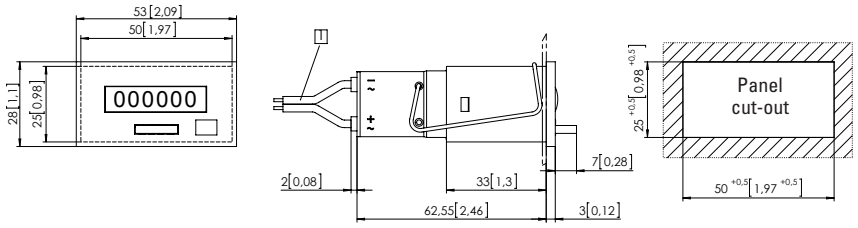


1 Connection cable, 2 x 0.5 mm² [AWG20], NYFAZ, 0.5 m [1.64'] long 2 Countersinking Af3, DIN 74

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HB 26.11	6 digits	AC (50 Hz)		**3.160.111.071**		**3.160.111.072**	**3.160.111.074**	**3.160.111.075** [1]	**3.160.111.079**
	6 digits	AC (60 Hz)		**3.160.111.081**		**3.160.111.082**	**3.160.111.084**	**3.160.111.085**	**3.160.111.089**
	6 digits	DC	**3.160.111.351** [1]		**3.160.111.353**		**3.160.111.381**		

Clip mounting, 53 x 28 [2.09 x 1.10]

Type HB 26.21



1 Connection cable, 2 x 0.5 mm² [AWG20], NYFAZ, 0.5 m [1.64'] long

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HB 26.21	6 digits	AC (50 Hz)		**3.160.211.071**		**3.160.211.072**	**3.160.211.074**	**3.160.211.075** [1]	**3.160.211.079**
	6 digits	AC (60 Hz)		**3.160.211.081**		**3.160.211.082**	**3.160.211.084**	**3.160.211.085**	**3.160.211.089**
	6 digits	DC	**3.160.211.351** [1]		**3.160.211.353**		**3.160.211.381**		
Further stock types:			187... 264 V AC, key lockable reset				3.160.217.075		
			187... 264 V AC, flat pin 0.8 x 2.8 mm [0.031 x 0.11"]				3.167.211.075		
			10 ... 30 V DC, flat pin 0.8 x 2.8 mm [0.031 x 0.11"]				3.167.211.351		

Dimensions in mm [inch]

1) Stock types

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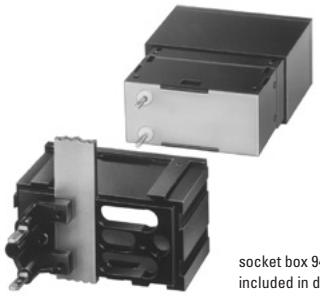
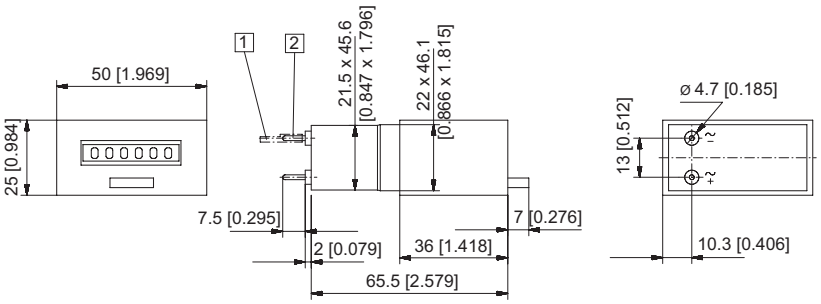
Standard timers | 9999.99 h / 99999.9 h with reset (AC+DC) | HB 26

Plug-in for socket box 945.2 and front bezel F1B

Type HB 26.01.3



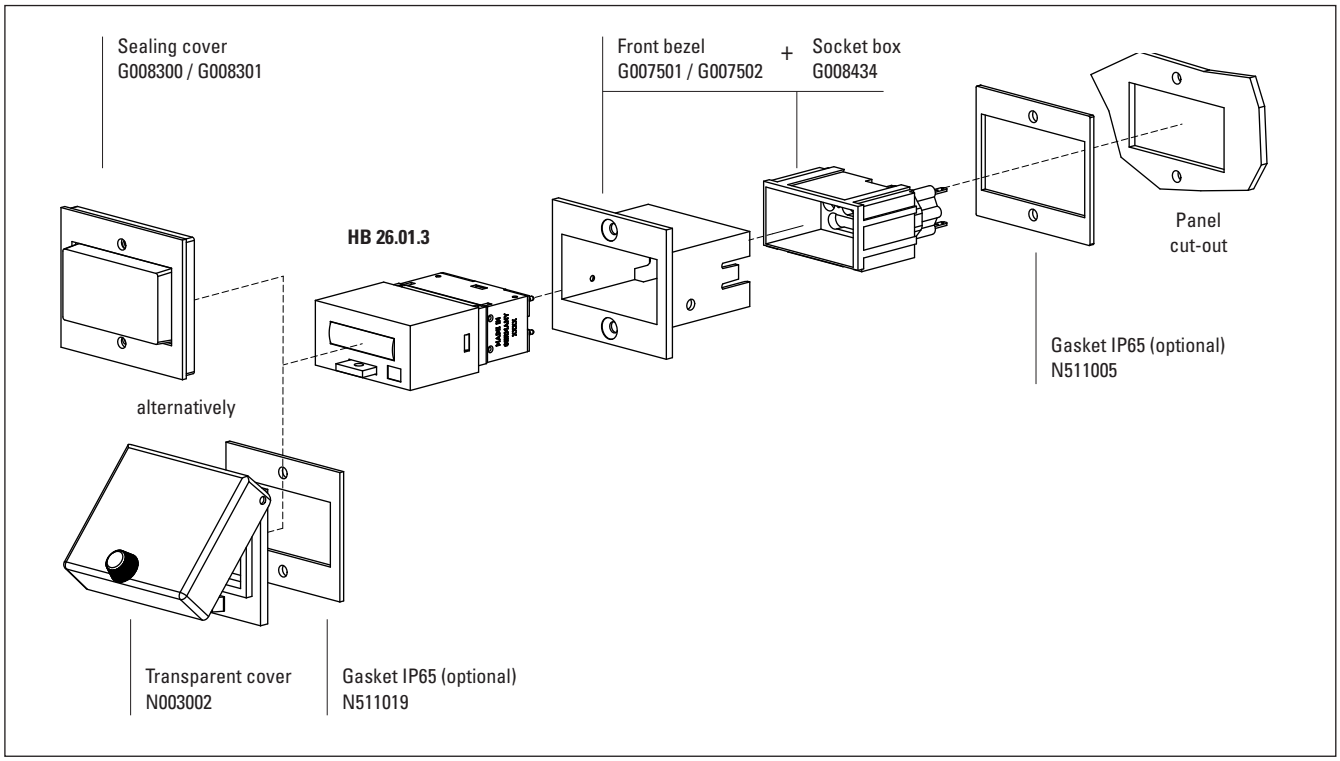
socket box 945.2 not included in delivery



1 Push on connector ø 1.5 [0.059] tinned 2 Round pin ø 1.6 [0.063] tinned

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HB 26.01.3	6 digits	AC (50 Hz)		**3.165.011.071**		**3.165.011.072**	**3.165.011.074**	**3.165.011.075**	**3.165.011.079**
	6 digits	AC (60 Hz)		**3.165.011.081**		**3.165.011.082**	**3.165.011.084**	**3.165.011.085**	**3.165.011.089**
	6 digits	DC	**3.165.011.351**		**3.165.011.353**		**3.165.011.381**		

Mounting examples for optional accessories



Dimensions in mm [inch]

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Hour meters / timers, electromechanical

Standard timers | 99999.99 h (AC) / 999999.9 h (DC) without reset | HB 27

The timers HB 27 without reset measure time ranges up to max. 99999.99 h (AC) or 999999.9 h (DC).

These panel mount counters can be used in many different fields of application.

Characteristics

- 7-digit hour meter without reset.
- High shock and impact resistance.
- Magnified large figures; height 4.5 mm.
- Data retention in case of power failure.
- Long service life.
- Plug-in versions.
- Counter without front bezel for mounting in front bezel F1B and F2B and for combination in 50 x 25 mm size with socket box 945.2.

Benefits

- Can be combined with preset counters BVa and HVa, and with pulse counter B.
- Can be equipped with various sealing covers to protect the counter against dust, dirt and moisture.
- Tamper-proof.

Applications

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

Type series

Description	*Type*
Plug-in for socket box 945.2 945.2 and front bezel F1B	**HB 27.00.3**
Screw mounting 56 x 40 mm [2.20 x 1.57"]	**HB 27.10**
Clip mounting 53 x 28 mm [2.09 x 1.10"]	**HB 27.20**

Options

- Different voltages / extended temperature range on request
- Flat pin 0.8 x 6.3 mm [0.031 x 0.25"] without flat push on connectors: Art. no. 3.208.X11.XXX
- Flat pin 0.8 x 2.8 mm [0.031 x 0.11"] with flat push on connectors: Art. no. 3.207.X01.XXX
- Round pins ø 1.5 mm (tinned) with push on connectors Art. no. 3.205.X01.XX

Accessories	Dimensions in mm [inch]		Order no.
Front bezel, type F1B plastic	For cut-out 54 x 49 [2.13 x 1.93], with screw mounting, for plug-in counters B1x.0x and HB2x.0x in socket box type 945.2	beige black	**G007501** **G007502**
Socket box, type 945.2	For counters B1x.0x and HB2x.0x, can be used for plug-in connections in front bezel F1B	black	**G008434**
Sealing cover, type K1, IP65	For front bezel 60 x 50 [2.36 x 1.97], with screw mounting, for electromechanical counters and via adapter front bezel N003001 for counters 48 x 24 [1.89 x 0.94]	transparent / grey transparent / black	**G008300** **G008301**
Transparent cover, lockable, IP65	For cut-out 54 x 29 [2.13 x 1.14], with screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 [1.97 x 0.98"] or 45 x 22.2 [1.77 x 0.87]	transparent / black	**N003002**
Blind enclosure, 53 x 28 [2.09 x 1.10]	For cut-out 50 x 25 [1.97 x 0.98], for counters 53 x 28 [2.09 x 1.10]	black	**T005753**
Mounting frame with cut-out 50 x 25 [1.97 x 1.97] via separate adapter also for 45 x 22.2 [1.77 x 0.87]	For snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 53 x 28 [2.09 x 1.10] and via separate adapter (T008180) for counters 48 x 24 [1.89 x 0.94]	chromated	**G300004**
Mounting rail frame SR	For B and HB counters for snap-on mounting on 35 [1.38] top-hat DIN rail	SR 1 for 1x3 B counters SR 2 for 2x3 B counters	**G300000** **G300001**

Suitable gaskets, other accessories and installation examples for optional accessories can be found in chapter accessories or in the accessories section under: www.kuebler.com/accessories.

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Hour meters / timers, electromechanical

Standard timers | 99999.99 h (AC) / 999999.9 h (DC) without reset | HB 27

Technical data

General technical data

Display		7 digits
	AC	99999.99 h
	DC	999999.9 h
Height of figures		4.5 mm [0.17"]
Color of figures		white and red on black
Operating temperature		-15°C ... +50°C [+5°F ... +122°F] (non-condensing)
Mounting position		any

Mechanical characteristics

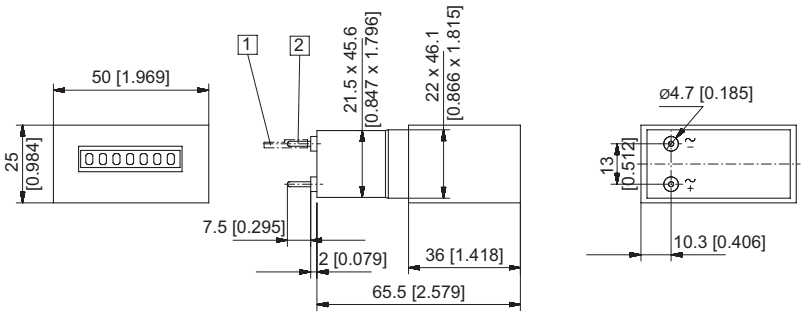
Protection	up to IP51 (front side)
with sealing cover K1	IP54 (front side)
with transparent cover Dv, Dvs	IP55 (front side)
Housing	plastic PC (Polycarbonate)
Weight	approx. 45 g [1.59 oz]

Electrical characteristics

Electrical connection	cable	2 x 0.5 mm² [AWG20], NYFAZ, 0.5 m [1.64'] long AC: grey/grey DC: red +, black –
	type HB 27.00.3	round pins ø 1.6 mm [0.063"] (plugs into socket box type 945.2)
Test voltage		2000 V AC, 50 Hz for AC counters
Power consumption	10 ... 30 V DC	approx. 500 mW
	36 ... 80 V DC	approx. 900 mW
	100 ... 130 V DC	approx. 750 mW
	20 ... 30 V AC	approx. 0.3 VA
	42 ... 48 V AC	approx. 0.25 VA
	100 ... 130 V AC	approx. 0.6 VA
	187 ... 264 V AC	approx. 1.2 VA
	360 ... 440 V AC	approx. 1.65 VA
Rated voltages	AC (50 or 60 Hz)	20 ... 30 / 42 ... 48 / 100 ... 130 / 187 ... 264 / 360 ... 440 V AC
	DC	10 ... 30 / 36 ... 80 / 100 ... 130 V DC
Accuracy	AC	supply frequency + 30 ms
	DC	< 0.003 % (at 24 h)
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2

Plug-in for socket box 945.2 and front bezel F1B

Type HB 27.00.3



1 Push on connector ø 1.5 [0.059] tinned 2 Round pin ø 1.6 [0.063] tinned

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HB 27.00.3	7 digits	AC (50 Hz)		**3.205.001.071**		**3.205.001.072**	**3.205.001.074**	**3.205.001.075**	**3.205.001.079**
	7 digits	AC (60 Hz)		**3.205.001.081**		**3.205.001.082**	**3.205.001.084**	**3.205.001.085**	**3.205.001.089**
	7 digits	DC	**3.205.001.351**		**3.205.001.353**		**3.205.001.381**		

Dimensions in mm [inch]

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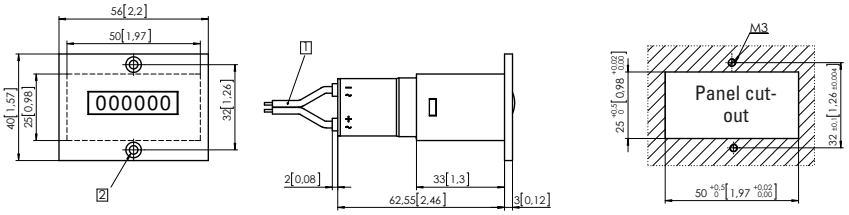
Standard timers | 99999.99 h (AC) / 999999.9 h (DC) without reset | HB 27

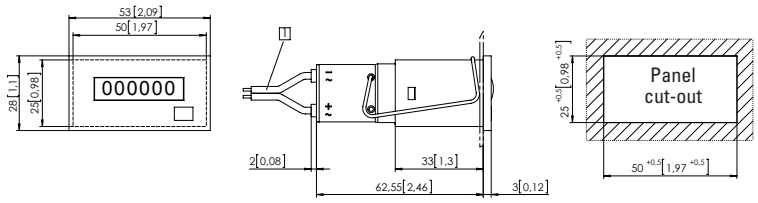
Screw mounting 56 x 40 [2.20 x 1.57]
Type HB 27.10



1 Connection cable, 2 x 0.5 mm² [AWG20], NYFAZ, 0.5 m [1.64'] long 2 Countersinking Af3, DIN 74

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HB 27.10	7 digits	AC (50 Hz)		**3.200.101.071**		**3.200.101.072**	**3.200.101.074**	**3.200.101.075**	**3.200.101.079**
	7 digits	AC (60 Hz)		**3.200.101.081**		**3.200.101.082**	**3.200.101.084**	**3.200.101.085**	**3.200.101.089**
	7 digits	DC	**3.200.101.351**		**3.200.101.353**		**3.200.101.381**		

Clip mounting 53 x 28 [2.09 x 1.10]
Type HB 27.20



1 Connection cable, 2 x 0.5 mm² [AWG20], NYFAZ, 0.5 m [1.64'] long

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HB 27.20	7 digits	AC (50 Hz)		**3.200.201.071**		**3.200.201.072**	**3.200.201.074**	**3.200.201.075**	**3.200.201.079**
	7 digits	AC (60 Hz)		**3.200.201.081**		**3.200.201.082**	**3.200.201.084**	**3.200.201.085**	**3.200.201.089**
	7 digits	DC	**3.200.201.351**		**3.200.201.353**		**3.200.201.381**		
Further stock types:			187... 264 V AC, flat pin 0.8 x 2.8 mm [0.031 x 0.11"]				3.207.201.075		

Dimensions in mm [inch]

1) Stock types

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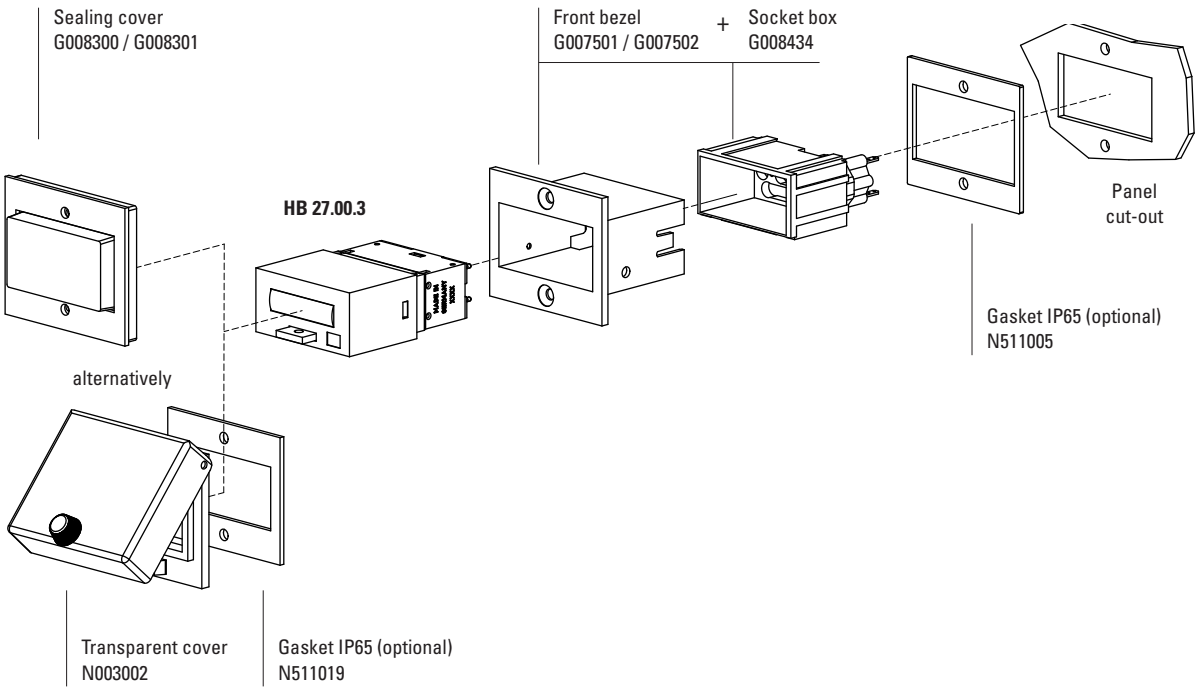
Standard timers	99999.99 h (AC) / 999999.9 h (DC) without reset	HB 27

Mounting examples for optional accessories



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Dual function counters | Pulse + time / 2 x time (AC+DC) | HC 77

The counter combinations HC 77 and HC 77.55 comprise an hour meter and a totalizer. They can be controlled both simultaneously and separately.

These panel mount counters have a reduced mounting depth. They can be used in many different fields of application.

Optionally with 2 hour meters on request.

Characteristics

- Hour meter and totalizer in one single device.
- Without reset.
- High shock resistance.
- Magnified large figures.
- Protection IP52 front side (optional IP65).
- Data retention in case of power failure.
- UL-approved.

Benefits

- Long service life.
- Optional: counters controlled separately.

Applications

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

Type series

Description	*Type*
Dual function counter 48 x 48 mm [1.89 x 1.89“]	**HC 77**
With adapter front bezel 55 x 55 mm [2.17 x 2.17“]	**HC 77.55**

Order information:

Art. no. (for special voltages etc. indicate exact model, voltage and frequency e.g. HC 77, 120 V AC, 60 Hz)

Options

- Color of housing grey — Art. no. 3.55X.400.XXX
- Flat pin 0.8 x 6.3 mm [0.031 x 0.25“] — Art.-No.: 3.55X.40X.XXX.011
- Separate connections for running time meter and adding counter.
  This model is available for AC or DC (not mixed)
  Adding counter max. 10 Hz
  Electrical connection:
  2 x cable 2 x 0.5 mm² [AWG20], NYFAZ, 0.5 m [1.64‘]
  (hour meter cable red/black, adding counter grey cable)
  Art. no. 3.55X.40X.XXX.060
- Sealed window (IP65 front side) with:
  - Screw terminal — Art. no. 3.55X.40X.XXX.419
  - Flat pin 0.8 x 6.3 mm [0.031 x 0.25“] — Art. no. 3.55X.40X.XXX.062
  - Separated connections (cable) — Art. no. 3.55X.40X.XXX.061
- Counter combination with 2 hour meters 10 ... 30 V DC
  - 2 x cable 2 x 0.5 mm² [AWG20] — Art. no. 3.554.401.351.060
  - Spring-type terminal — on request

Accessories	Dimensions in mm [inch]		Order no.
Adapter front bezel, 55 x 55 [2.17 x 2.17“]	for cut-out 50 x 50 [1.97 x 1.97] to cut-out ø 50.5 [1.99], with clip mounting for counters 48 x 48 [1.89 x 1.89]	black	**T008171**
Adapter front bezel, 60 x 75 [2.36 x 2.95“]	for cut-out 50 x 50 [1.97 x 1.97] to cut-out 45 x 45 [1.7 x 1.77], with screw mounting for counters 48 x 48 [1.89 x 1.89]	black	**T008860**
Adapter front bezel, 72 x 72 [2.83 x 2.83“]	for cut-out 68 x 68 [2.68 x 2.68] to cut-out 45 x 45 [1.7 x 1.77], (Mating clip T009420 must be ordered separately)	black	**T008177**
Adapter front bezel, ø 72 [2.83“]	for cut-out ø 60 [2.36] to 45 x 45 [1.77 x 1.77], with clip mounting for counters 48 x 48 [1.89 x 1.89]	black	**N510226**

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories.

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Dual function counters | Pulse + time / 2 x time (AC+DC) | HC 77

Technical data

General technical data

Operating indicator of the running time meter	AC	fast rotating wheel with red dashes: 99999.99 h
	DC	1/100 h display turns continuously by 1 digit in 36 s: 999999.99 h
Height of figures		4 x 1.7 mm [0.16 x 0.067"] optical
Color of figures	hour meter	hour: white on black decimal: red on black
	pulse counter	white on black
Operating temperature		-15°C ... +50°C [+5°F ... +122°F] (non-condensing)
Mounting position		any

Mechanical characteristics

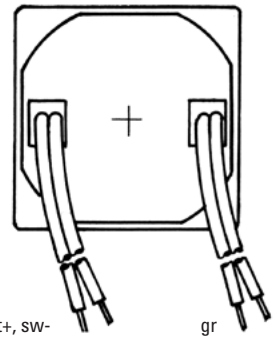
Protection		IP52 (front side) when built in
Color of housing		black (standard)
Weight	HC 77	65 g [2.29 oz]
	plug in frame 55	8 g [0.28 oz]
	plug in frame 72	13 g [0.46 oz]

Electrical characteristics

Electrical connection		screw terminal (tightening torque max. 0.8 Nm)
Power consumption	10 ... 30 V DC	approx. 1 W
	36 ... 80 V DC	approx. 1.65 W
	100 ... 130 V DC	approx. 1.75 W
	20 ... 30 V AC, 50 Hz	approx. 0.53 VA
	42 ... 48 V AC, 50 Hz	approx. 0.53 VA
	100 ... 130 V AC, 50 Hz	approx. 1.43 VA
	187 ... 264 V AC, 50 Hz	approx. 3.0 VA
Rated voltages		
	AC (50 or 60 Hz)	20 ... 30/42 ... 48/100 ... 130/187 ... 264 V
	DC	10 ... 30/36 ... 80/100 ... 130 V
On time		100 %
Count mode		adding
Accuracy	AC	supply frequency + 30 ms
	DC	< 0.003 % (at 24 h)
Reset		no reset
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2
UL approval		file E128604

Terminal assignment

Counter with separate connections (rear view)



rt+, sw- gr

hour meter adding counter

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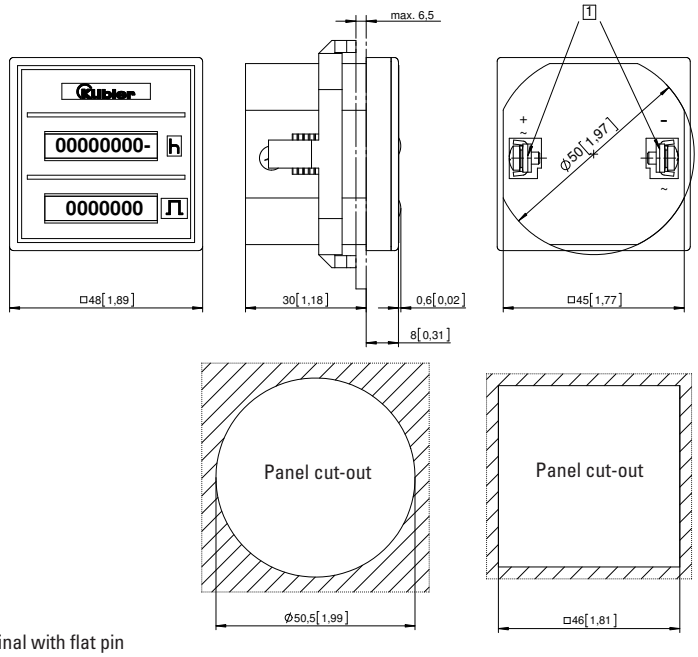
Dual function counters | Pulse + time / 2 x time (AC+DC) | HC 77

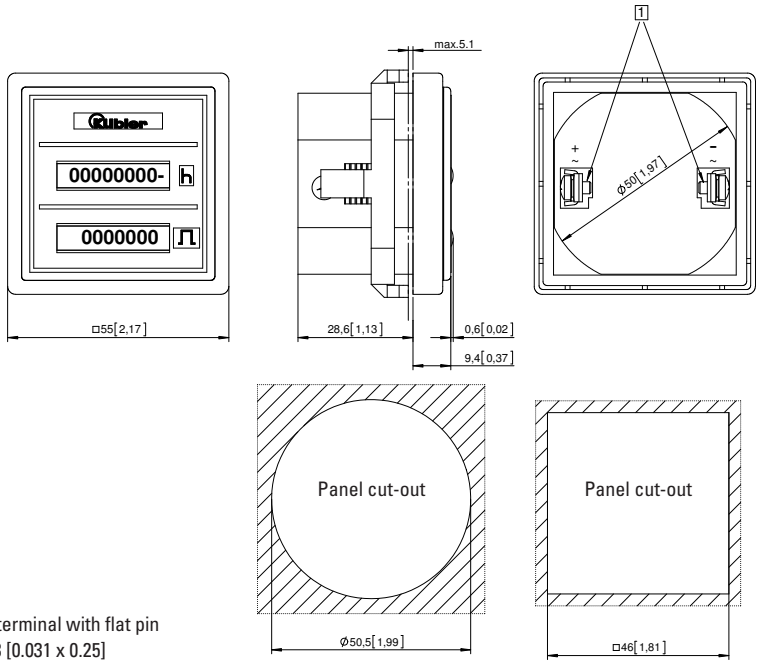
Dual function counter 48 x 48 [1.89 x 1.89“]
Type HC 77



1 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V
HC 77	7/8 digits	AC (50 Hz)		**3.550.401.071**		**3.550.401.072**	**3.550.401.074** [1)]	**3.550.401.075** [1)]
	7/8 digits	AC (60 Hz)		**3.550.401.081**		**3.550.401.082**	**3.550.401.084**	**3.550.401.085**
	7/8 digits	DC	**3.550.401.351** [1)]		**3.550.401.353**		**3.550.401.381**	
Color of housing grey:			Art. no.	3.550.400.XXX				

Dual function counter 48 x 48 [1.89 x 1.89“] with adapter front bezel 55 x 55 [2.17 x 2.17“]
Type HC 77.55



1 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V
HC 77.55	7-/8 digits	AC (50 Hz)		**3.551.401.071**		**3.551.401.072**	**3.551.401.074**	**3.551.401.075**
	7/8 digits	AC(60 Hz)		**3.551.401.081**		**3.551.401.082**	**3.551.401.084**	**3.551.401.085**
	7/8 digits	DC	**3.551.401.351**		**on request**		**3.551.401.381**	
Color of housing grey:			Art. no.	3.551.400.XXX				

Dimensions in mm [inch]

1) Stock types

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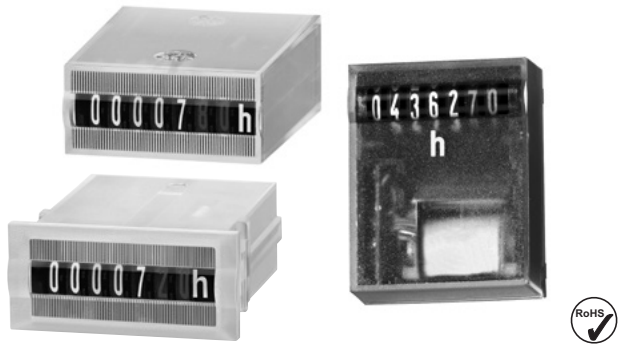
Micro timers | Many different installation options (DC) | HK 07 / AHK 07



The micro timers of the HK 07 and AHK 07 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.

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.

Benefits

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

Applications

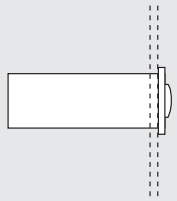
General time measurement, maintenance intervals for measuring instruments (respiration units, oxygen, dialysis), small appliances, UV lamps, display panels in vehicles.

Type series

Fig.	*Mounting options*	*Display*	*Protection*	*El. connection*	*Housing*	*Height of fig.*	*Type*
1)	Panel mount with latch	front side	IP65, front side	flying leads	plastic	4 mm [0.16“]	**HK 07.20**
2)	PCB mount, lying	on the top	IP65, front side/on rear	solder pins	plastic	4 mm [0.16“]	**HK 07.90**
4)	PCB mount, upright	front side	IP65, front side/on rear	solder pins	plastic	4 mm [0.16“]	**HK 07.92**
5)	Base mount, upright	front side	IP40	flying leads	plastic	4 mm [0.16“]	**AHK 07.00**

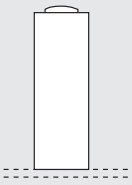
Mounting options and position of the display

1) Panel mount
display front side

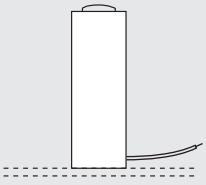


2) PCB mount, lying
display on the top

3) PCB mount, upright
display front side



4) Base mount, upright
display front side



Optional: PCB mount, hanging
display front side

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 HK 07.20	**N511058**

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Micro timers | Many different installation options (DC) | HK 07 / AHK 07

Technical data

Electrical connection	panel mount	flying leads, AWG 22 (red +, black -) approx. 150 mm [5.91"], 6 mm [0.24"] stripped wire ends, tinned
	PCB mount	solder pins 0.4 x 1.2 mm [0.016 x 0.047"], tinned
Power consumption (every 36 s with a pulse length 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
Rated voltage		4.5 ... 35 V DC
Residual ripple		< 1 %
Current consumption		< 1.5 mA (average)
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: 99999.99 h
Accuracy		22.5 ppm at 25°C [77°F]

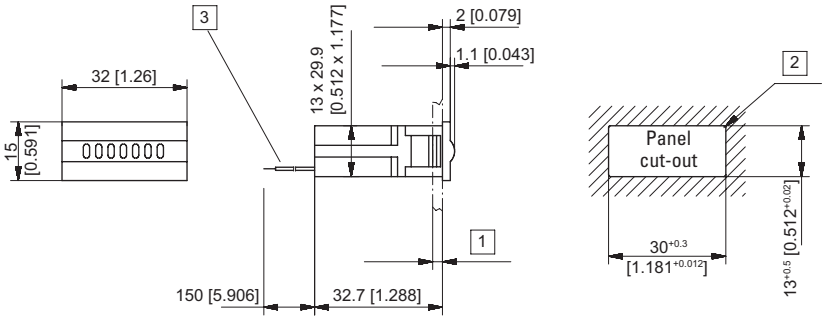
Height of figures	1.2 x 4.0 mm [0.047 x 0.16"]
Color of figures	white and red on black
Reset	no reset
Operating temperature	-10°C ... +60°C [+14°F ... +140°F] (non-condensing)
Mounting position	horizontal, other on request
Solderable and washproof versions	HK 07.90, HK 07.91, HK 07.92
Soldering temperature	265°C [+509°F], 3 s
Protection	up to IP65 depending on kind of type
EMC standards	EN 55011 class B EN 61000-6-2, EN 61000-6-3
Housing	plastic PC (Polycarbonate)
Weight	15 ... 18 g [0.53 ... 0.63 oz]

Options

HK 07.20 flat pin 0.8 x 2.8 mm [0.031 x 0.11"] (others on request)

Panel mount with latch / display front side

Type HK 07.20

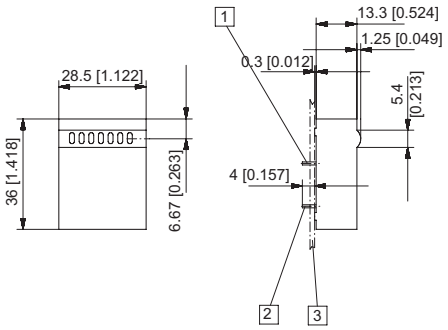


1 1.2 ... 3 [0.047 x 0.12"] 2 R_{max} 0.5 3 Flying leads (red+ / black–)

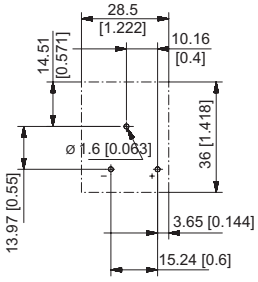
Type		Display	Art. no. 4.5 ... 35 V DC
HK 07.20		7 digits	**3.100.200.383** 1)
HK 07.20.35	with flat pins	7 digits	**3.107.200.383** 1)

PCB mount, lying / display on the top

Type HK 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 Electrical connection 0.4 x 1.2 [0.016 x 0.047] 3 PCB

Type	Display	Art. no. 4.5 ... 35 V DC
HK 07.90	7 digits	**3.100.900.383**

Dimensions in mm [inch]

1) Stock types

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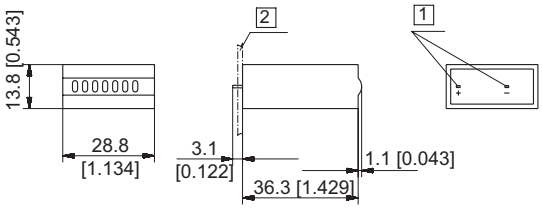
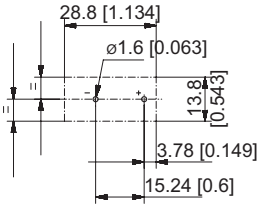
Micro timers | Many different installation options (DC) | HK 07 / AHK 07

PCB mount, upright / display front side
Type HK 07.92



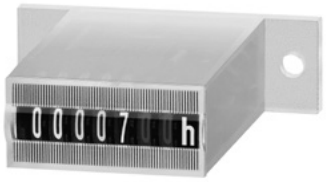
Punching diagram for PCB (component side)

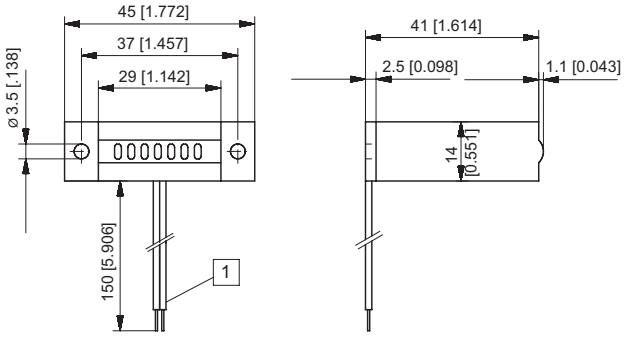


1 Electrical connection 0.4 x 1.2 [0.016 x 0.047] 2 PCB

Type	Display	Art. no. 4.5 ... 35 V DC
HK 07.92	7 digits	**3.100.920.383**

Base mount, upright / display front side
Type AHK 07.00





1 Flying leads (red+ / black–)

Type	Display	Art. no. 4.5 ... 35 V DC
AHK 07.00	7 digits	**3.100.000.383** 1)

Dimensions in mm [inch]

1) Stock types

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Timers with DIN dimensions | Small format (AC+DC) | HK 17

The hour meters HK 17 feature a very high shock resistance.

These panel-mount counters are available in many panel sizes. They can be used in many different fields of application. These non-resettable counters are extremely tamper-proof.

Characteristics

- 7 or 8-digit hour meter.
- Without reset.
- High shock resistance.
- Small dimensions.
- Magnified large figures.
- Protection IP65 on the font side.
- UL-approved.

Benefits

- Many different front panel sizes and cut-outs.
- Data retention in case of power failure.
- Long service life.

Applications

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

Order code

HK17 . X X 1 . XX . 56 [1]
(a) (b) (c) (d)

(a) *Front bezel*
0 = without front bezel (through housing)
2 = small front bezel with clip
4 = front bezel with holes at the side

(b) *Type of housing*
5 = housing black with welded viewing window

(c) *Color*
1 = black

(d) *Electrical connection*
11 = flat pin 0.8 x 6.3 mm [0.031 x 0.25“] (en option)
39 = screw terminal (standard) with flat pin 0.8 x 6.3 mm [0.031 x 0.25“]

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories.

Technical data

Electrical connection		flat pins 0.8 x 6.3 mm [0.031 x 0.25“] with screw terminals (max. tightening torque 0.8 Nm) or flat pins 0.8 x 6.3 mm [0.031 x 0.25“]
Power consumption	10 ... 30 V DC	approx. 500 mW
	36 ... 80 V DC	approx. 900 mW
	100 ... 130 V DC	approx. 750 mW
	20 ... 30 V AC, 50 Hz	approx. 0.3 VA
	42 ... 48 V AC , 50 Hz	approx. 0.25 VA
	100 ... 130 V AC, 50 Hz	approx. 0.6 VA
	187 ... 264 V AC, 50 Hz	approx. 1.2 VA
	360 ... 440 V AC, 50 Hz	approx. 1.65 VA
Rated voltages	AC (50 or 60 Hz)	20 ... 30 V, 42 ... 48 V, 100 ... 130 V, 187 ... 264 V, 360 ... 440 V
	DC	10 ... 30 V, 36 ... 80 V, 100 ... 130 V
Number of digits	7 at AC	99999.99 h
	8 at DC	999999.99 h
Accuracy	AC	supply frequency + 30 ms
	DC	<0.003 % (at 24 h)

Height of figures		3.8 x 1.7 mm [0.15 x 0.067“] optical
Color of figures		white and red on black
Operating temperature		-15°C ... +50°C [+5°F ... +122°F] (non-condensing)
Storage temperature		-40°C ... +85°C [-40°F ... +185°F]
Mounting position		any
Protection		IP65 (front side)
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2
UL approval		file E128604 [2]
Housing		plastic PC (Polycarbonate) types with protection IP65 are sealed
Weight		approx. 40 g [1.41 oz]

Options

Counter with flat pin 0.8 x 6.3 mm [0.031 x 0.25“]	Art. no. 3.138.X51.XXX

1) 56 for front bezel 36 x 24 mm [1.42 x 0.94“]

2) The version 360 ... 440 V AC is not UL listed

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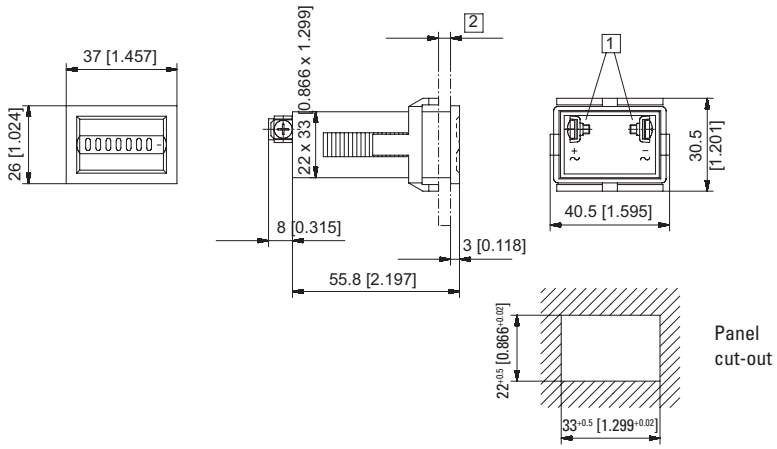
Timers with DIN dimensions | Small format (AC+DC) | HK 17

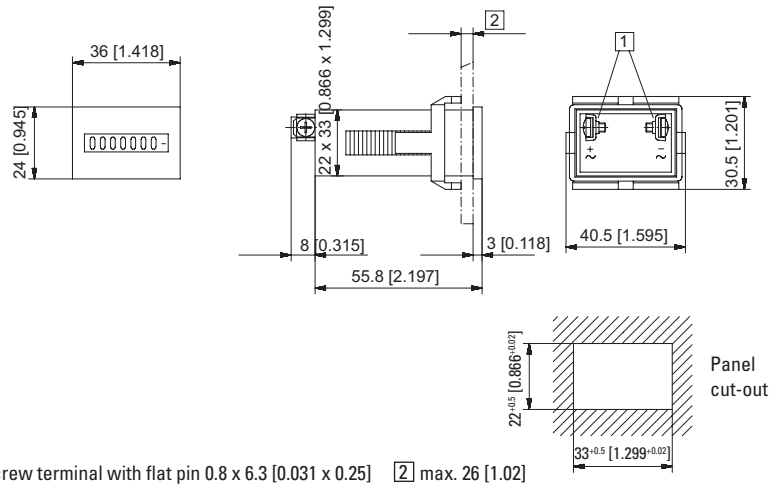
Panel mount with mounting clip
Type HK 17.251.39



1 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25] 2 max. 26 [1.02]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HK 17.251.39	7 digits	AC (50 Hz)		**3.130.251.071**		**3.130.251.072**	**3.130.251.074**	**3.130.251.075** [1)]	**3.130.251.079**
	7 digits	AC (60 Hz)		**3.130.251.081**		**3.130.251.082**	**3.130.251.084**	**3.130.251.085**	**3.130.251.089**
	8 digits	DC	**3.130.251.351** [1)]		**3.130.251.353**		**3.130.251.381**		

Panel mount with mounting clips
Type HK 17.251.39.56



1 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25] 2 max. 26 [1.02]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HK 17.251.39.56	7 digits	AC (50 Hz)		**3.130.251.071.056**		**3.130.251.072.056**	**3.130.251.074.056**	**3.130.251.075.056** [1)]	**3.130.251.079.056**
	7 digits	AC (60 Hz)		**3.130.251.081.056**		**3.130.251.082.056**	**3.130.251.084.056**	**3.130.251.085.056**	**3.130.251.089.056**
	8 digits	DC	**3.130.251.351.056** [1)]		**3.130.251.353.056**		**3.130.251.381.056**		

Dimensions in mm [inch]

1) Stock types

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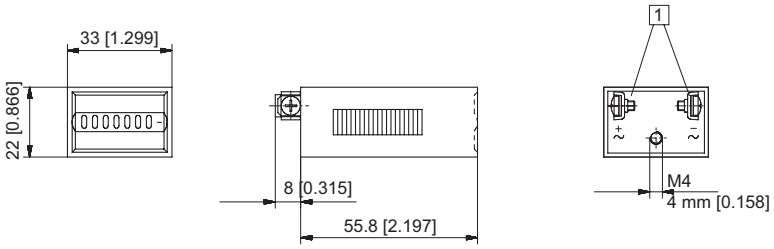
Timers with DIN dimensions | Small format (AC+DC) | HK 17

Base mount with central fixing on rear

Type HK 17.051.39

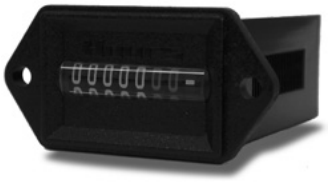


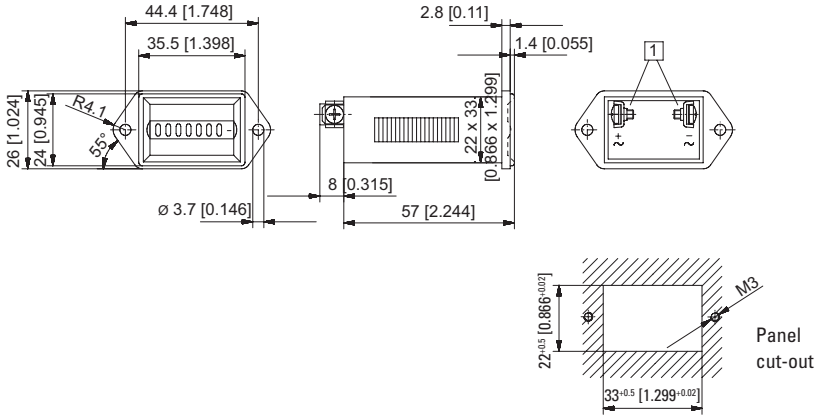
1 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HK 17.051.39	7 digits	AC (50 Hz)		**3.130.051.071**		**3.130.051.072**	**3.130.051.074**	**3.130.051.075**	**3.130.051.079**
	7 digits	AC (60 Hz)		**3.130.051.081**		**3.130.051.082**	**3.130.051.084**	**3.130.051.085**	**3.130.051.089**
	8 digits	DC	**3.130.051.351**		**3.130.051.353**		**3.130.051.381**		

Panel mount with 2 holes at the side

Type HK 17.451.39





1 Screw terminal with flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V	360 ... 440 V
HK 17.451.39	7 digits	AC (50 Hz)		**3.130.451.071**		**3.130.451.072**	**3.130.451.074**	**3.130.451.075** [1]	**3.130.451.079**
	7 digits	AC (60 Hz)		**3.130.451.081**		**3.130.451.082**	**3.130.451.084**	**3.130.451.085**	**3.130.451.089**
	8 digits	DC	**3.130.451.351**		**3.130.451.353**		**3.130.451.381**		

Dimensions in mm [inch]

1) Stock types

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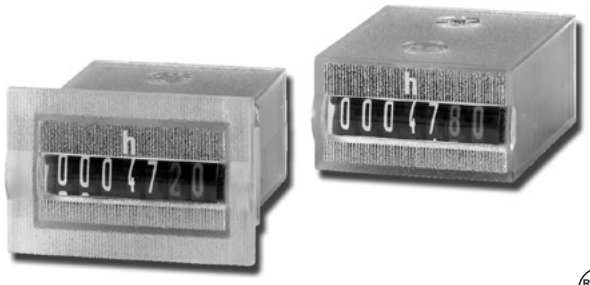
Micro timers | High shock resistance (DC) | HK 47



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

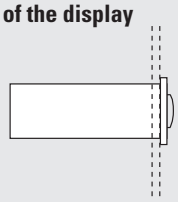
Time registration, maintenance intervals for measuring instruments (respiration units, oxygen, dialysis), small appliances, UV lamps, display panels.

Type series

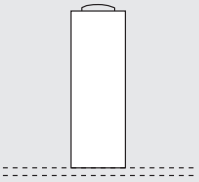
Fig.	*Mounting options*	*Display*	*Protection*	*El. connection*	*Type*
1)	Panel mount with latch	front side	IP65, front side	flying leads	**HK 47.20**
2)	PCB mount, upright	front side	IP65, front side/on rear	solder pins	**HK 47.80**

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 [5.91"] long (red +, black -)
	HK 47.80	solder pins ø 0.64 mm [0.025"]
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 [77°F]
Height of figures		4 x 1.25 mm [0.16 x 0.049"]
Reset		no reset
Operating temperature		-10°C ... +60°C [+14°F ... +140°F] (non-condensing)
Storage temperature		-20°C ... +70°C [-4°F ... +158°F]
Mounting position		horizontal (other on request)
Solderable and wash proof version		HK 47.80
Soldering temperature		265°C [+509°F], 3 s
Protection (acc. to EN 60529)	HK 47.80 HK 47.20	IP65 IP65 (front side)
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Housing		PC transparent; HK 47.80 fully sealed (potted)
Weight		13 ... 15 g [0.46 ... 0.53 oz]

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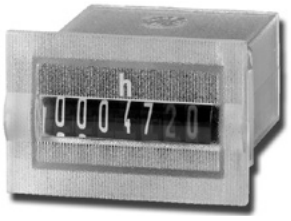
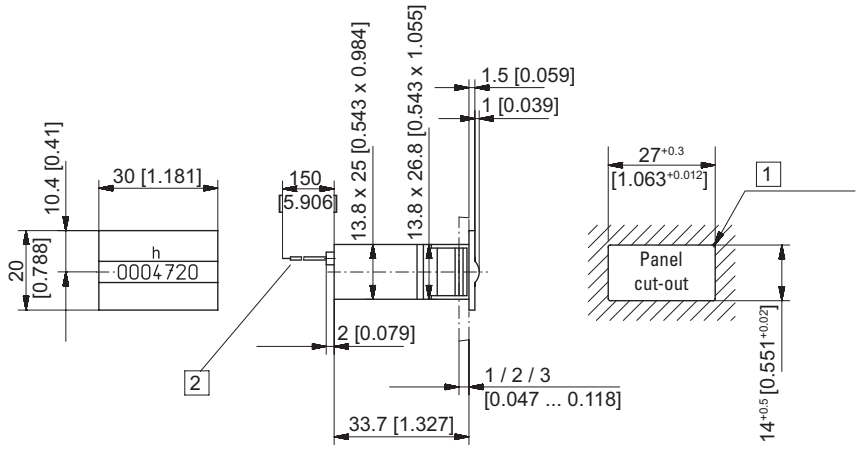
Micro timers | High shock resistance (DC) | HK 47

Options	
HK 47.20, HK 47.80	flat pin 0.8 x 2.8 mm [0.031 x 0.11“] and push-on connectors
HK 47.20	solder pins ø 0.64 x 1.2 mm [0.025 x 0.047“]
HK 47.80	flying leads AWG 22 approx. 150 mm [5.91“] long

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

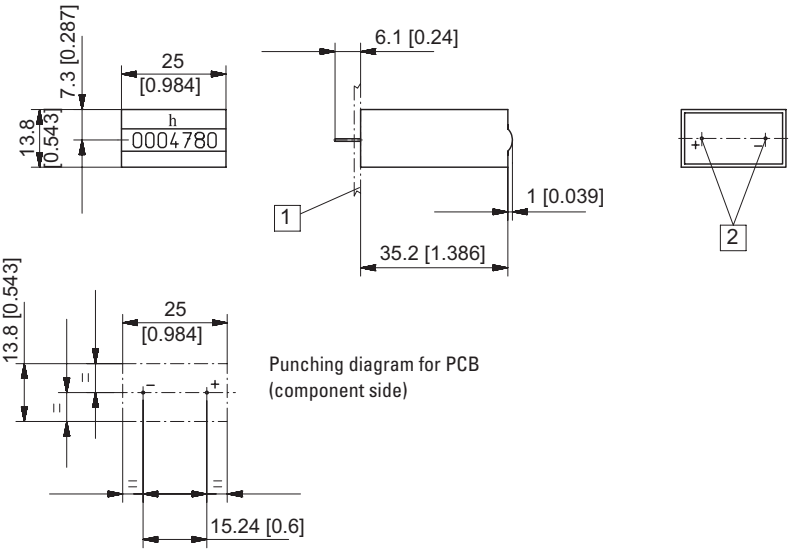




1 R_{max} 0.5 2 Flying leads AWG 22 (red+ / black–)

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



1 PCB 2 Solder pins ø 0.64 [0.025]

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

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Timers, round design | With LED run indicator (AC+DC) | HR 47

The hour meter HR 47 with run indicator feature a very high shock resistance.

These panel-mount counters for round panel cut-outs can be used in many different fields of application. These non-resettable counters are very robust and extremely tamper-proof.

Characteristics

- 7-digit hour meter.
- For voltage ranges 10 ... 80 V DC, 100 ... 130 V AC and 187 ... 264 V AC.
- Magnified large figures.
- Protection IP65 on the front and rear sides.
- Suitable for any mounting position.
- Without reset, and thus tamper-proof.
- High shock and impact resistance.

Benefits

- With run indicator (AC version), optional LED (DC version).
- For panel cut-out ø 50.5 mm with front panel dimensions ø 58 mm.
- Simple and secure mounting with screwed clamping clip.

Applications

General time measurement, construction machinery and industrial trucks, small appliances, UV lamps, display panels in vehicles, compressors, air-conditioning equipment, etc..

Type series

Description	*Mounting*	*Type*
Timer, round	Clamping clip fixing, screw-on	**HR 47**

Accessories	Dimensions in mm [inch]		Order no.
Counter mounting fixture	for round counters with cut-out ø 53 [2.09"]	black	**N510199**
Gasket, ø 58 [2.28"]	for cut-out ø 50 [1.97"]	black	**N511182**
Adapter and anti-vibration set	for HR 47, ø 80 [3.15"] for cut-out ø 71 [2.80"]	black	**255319**

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories.

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Timers, round design | With LED run indicator (AC+DC) | HR 47

Technical data

Electrical connection		screw terminal for flat pin 6.3 x 0.8 mm [0.25 x 0.031"]
Power consumption	10 ... 80 V DC	max. 720 mW
	100 ... 130 V AC, 60 Hz	max. 1.1 VA
	187 ... 264 V AC, 50 Hz	approx. 1.2 VA
Rated voltages	AC (50 or 60 Hz)	100 ... 130/187 ... 264 V AC,
	DC	10 ... 80 V DC
On time		100 %
Number of digits	AC	7: 99999.99 h
	DC	7: 999999.9 h
Resolution	AC	0.01 h equals 36 s
	DC	0.1 h equals 6 min
Count mode		adding
Height of figures		4 mm [0.16"]
Color of figures	hours	white on black
	decimal position	50 Hz - red on black 60 Hz - red on white
Count position at delivery		1.00 - 1.02
Operating temperature	AC	-25°C ... +80°C [-13°F ... +176°F] (non-condensing)
	DC	-20°C ... +70°C [-4°F ... +158°F] (non-condensing)
Relative humidity		< 95 % (non-condensing)

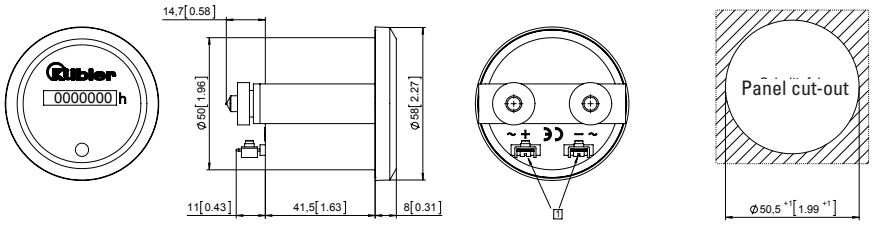
Mounting position		any
Protection		IP65, EN 60529 (except the connections)
Housing		plastic PC (Polycarbonate)
Accuracy	AC	±0.02 %
	DC	±0.002 %
Weight		approx. 50 g [1.76 oz]
Run indicator	AC	fast rotating wheel in viewing window
	DC	optional LED
Test voltage		2000 V AC , 50 Hz for AC version
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2

Options

Counter for ø 52 mm [0.20"] with screwed clamping bracket or screw thread on request

Timer, round

Type HR 47



1 Electrical connection: +/~ left, -/~ right (rear view)

Front bezel thickness max. 6 [0.24] without having to shorten the clamping bracket

Type	Display	Voltage	Art. no. 10 ... 80 V DC	100 ... 130 V 60 Hz	187 ... 264 V 50 Hz	
HR 47	7 digits	V AC, with run indicator		**3.474.901.084** 1)	**3.474.901.075** 1)	
	7 digits	V DC, without run indicator	**3.474.901.373** 1)			further types on request
	7 digits	V DC, with run indicator	**3.474.911.373** 1)			

Dimensions in mm [inch]

1) Stock types

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Timers, round design | High protection rating (AC+DC) | HR 76

The hour meter HR 76 feature a very high shock resistance.

These panel-mount counters for round panel cut-outs can be used in many different fields of application. These non-resettable counters are very robust and extremely tamper-proof.

Characteristics

- 6-digit hour meter.
- Low cost.
- High shock resistance.
- Low energy consumption.
- Magnified large figures.
- Protection IP65.
- Data retention in case of power failure.
- Long service life.

Benefits

- 50/60 Hz in the same device.
- Small mounting depth.
- Waterproof on the front and on the rear.

Applications

Operating hours measurement with construction and agricultural machinery, compressors, power units.

Type series

Description	*Mounting*	*Type*
Timer, round	screw mounting front side	**HR 76.1**
Timer, round	clip mounting	**HR 76.2**

Accessories	Dimensions in mm [inch]		Order no.
Counter mounting fixture	for round counters with cut-out ø 53 [2.09"]	black	**N510199**

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories.

Technical data

Electrical connection		flat pin 0.8 x 6.3 mm [0.031 x 0.25"]
Power consumption	AC	max. 0.4 VA
	12 V DC	max. 0.08 W
	48 V DC	max. 0.7 W
Rated voltages	AC (50 or 60 Hz)	115/230 V AC, ±10 %, 50/60 Hz
	DC	10 ... 80 V DC
On time		100 %
Number of digits		6: 99999.9 h
Count mode		adding
Height of figures		3.5 mm [0.14"] heigh
Color of figures		white on black
Reset		no reset

Operating temperature		-30°C ... +65°C [-22°F ... +185°F] (non-condensing)
Storage temperature		-40°C ... +85°C [-40°F ... +149°F]
Mounting position		any
Protection		IP65 (except the connections)
Housing		plastic PC (Polycarbonate)
Accuracy		< 0.02 % over the full range
Weight	HR 76.1	56 g [1.98 oz]
	HR 76.2	54 g [1.91 oz]
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3 EN 61326-1
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2
UL approval		file E128604

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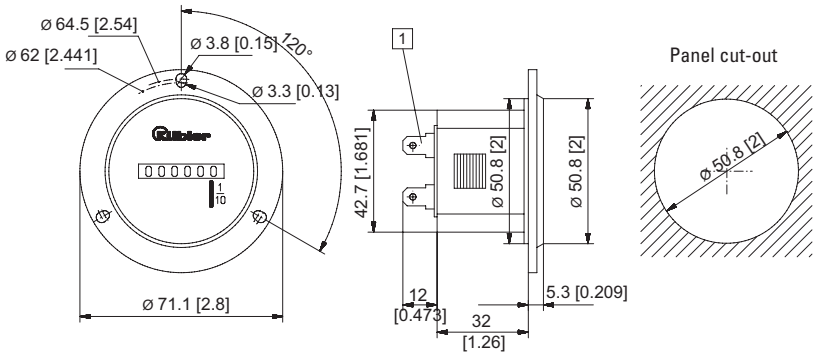
Timers, round design | High protection rating (AC+DC) | HR 76

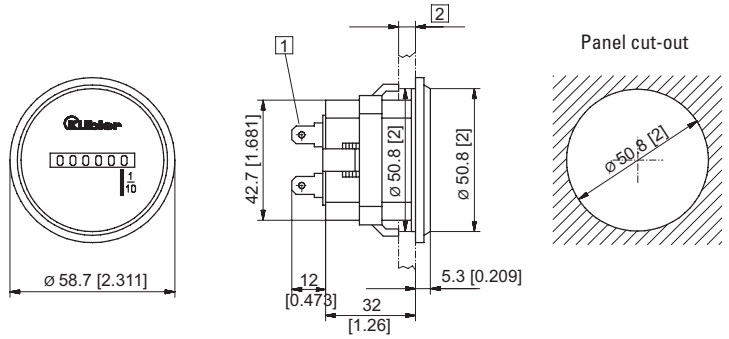
Timer, round
screw mounting front side
Type HR 76.1



1 Electrical connection: flat pin 0.8 x 6.3 [0.031 x 0.25]

Type	Display	Voltage	Art. no. 10 ... 80 V DC	115 V	230 V	
HR 76.1	6 digits	AC (50/60 Hz)		**0.135.100.301** 1)	**0.135.100.302** 1)	Gasket for front bezel N511150
	6 digits	DC	**0.135.100.373** 1)			not included in delivery

Timer, round
clip mounting
Type HR 76.2



For mounting the counter onto a flat plate, see accessories chapter
Art. no.: N510199

1 Electrical connection: flat pin 0.8 x 6.3 [0.031 x 0.25] 2 max. 9 [035]

Type	Display	Voltage	Art. no. 10 ... 80 V DC	115 V	230 V	
HR 76.2	6 digits	AC (50/60 Hz)		**0.135.200.301** 1)	**0.135.200.302** 1)	Gasket integrated in counter
	6 digits	DC	**0.135.200.373** 1)			

Dimensions in mm [inch]

1) Stock types

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Dual function counters | Energy and time (AC) | HW 66 / HW 66 M

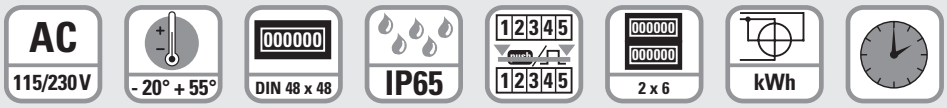
MID approved

RoHS

The HW 66 and HW 66 M combination meters consist of an hour meter and an energy meter.

These panel-mounted devices require only a limited installation depth and can be used in a wide variety of application areas. The count pulses can be read out via the SO output.

Additional model:
HW 66 M – MID version for applications requiring official calibration.



Product features

- Metering of hours run and energy consumption in one compact device – panel mounting.
- Wide temperature range.
- Remote readout via SO outputs on request.
- Shows both values in parallel.
- Easy-to-read display – can also be read if no voltage present.

Benefits

- Tamper-proof fixed installation with high degree of protection.
- High measuring accuracy.
- Can be officially calibrated (MID).

Applications

Dehumidifiers, hire equipment and machinery, air-conditioning, production equipment, current generators.

Order specifications

Type	*Voltage*	*Order no.*
HW 66	230 V AC	**3.563.201.075** [1]
HW 66	115 V AC	**3.563.201.074** [1]
MID version:		
HW 66 M	230 V AC	**3.56M.201.075** [1]

Delivery includes
- Counter
- Flat gasket
- Mounting clip
- Instruction manual

Only for MID version:
- Type plate

  If the type plate on the side of the HW 66 M is no longer legible after the installation, the provided additional type plate can be affixed on the front panel of the device in order to comply if necessary with the legal requirements relating to calibration.

Accessories	Dimensions in mm [inch]		Order no.
Adapter front bezel, 55 x 55 [2.17 x 2.17]	for cut-out 50 x 50 [1.97 x 1.97] to ø 50.5 [1.99], with clip mounting for counters 48 x 48 [1.89 x 1.89]	black	**T008171**
Adapter front bezel, 60 x 75 [2.36 x 2.95]	for cut-out 50 x 50 [1.97 x 1.97] to cut-out 45 x 45 [1.77 x 1.77] with screw mounting for counters 48 x 48 [1.89 x 1.89]	black	**T008860**
Adapter front bezel, 72 x 72 [2.83 x 2.83]	for cut-out 68 x 68 [2.68 x 2.68] to cut-out 45 x 45 [1.77 x 1.77] Mating clip T009420 must be ordered separately	black	**T008177**
Adapter front bezel, ø 72 [2.83]	for cut-out ø 60 [2.36] to cut-out 45 x 45 [1.77 x 1.77] with clip mounting for counters 48 x 48 [1.89 x 1.89]	black	**N510226**
Adapter front bezel, 55 x 55 [2.17 x 2.17]	for cut-out 50 x 50 [1.97 x 1.97] to cut-out 45 x 45 [1.77 x 1.77] with clip mounting for counters 48 x 48 [1.89 x 1.89]	black	**T008853**
	Gasket 58 x 58 [2.28 x 2.28], for cut-out 50.2 x 50.2 [1.98 x 1.98]		**N511004**
Mounting frame with cut-out 50 x 50 [2.36 x 2.36] via separate adapter also for 45 x 45 [1.77 x 1.77]	for snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 48 x 48 [1.89 x 1.89], 53 x 53 [2.09 x 2.09] and 55 x 55 [2.17 x 2.17]	chromated	**G300003**

Suitable gaskets as well as further accessories can be found in theaccessories section or in the accessories area of our website at: www.kuebler.com/accessories.

1) Standard stock model

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Dual function counters | Energy and time (AC) | HW 66 / HW 66 M

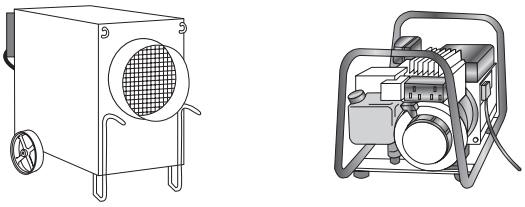
Technical data

General technical data		
Power supply		115/230 V AC, -20 % / +15 % 50 or 60 Hz
Digits		2 x 6 digit (decimale places red)
Height of figures (optical)		4 x 1.7 mm [0.16 x 0.067“]
Colour of figures		white and red on black
Operating temperature	HW 66 HW 66 M	-20°C ... +55°C [-4°F ... +131°F] -10°C ... +55°C [+14°F ... +131°F] (non-condensing)
Storage temperature		-25°C ... +65°C [-13°F ... +149°F]
Housing		DIN panel-mount 48 x 48 mm [1.89 x 1.89“]
Depth		55 mm [2.17“]
EMC standards		EN 55011 classe B, EN 61000-6-2, EN 61000-6-3, EN 61326-3-2
Measuring instruments directive (MID)		EN 50470-1, EN 50470-3
Protection		IP65, EN 60529 (front side) IP20 (rear side)
Connections		screw terminal, touch-safe
Max. core cross-section	inputs/outputs S0 output	2.5 mm² [AWG 13] 2.5 mm² [AWG 13]
LED function	LED on LED blinks	when power supply is connected when energy is being measured

Energy meter	
Display	99999.9 kWh
Accuracy	class B, acc. to MID (for 50 Hz version)
Current	I_B = 5 A, I_{max} = 16 A
Current limits	≥ 20 mA up to 16 A
Start current	≥ 20 mA
S0 output	1000 pulses/kWh, 5 ... 30 V DC, I_{max} = 20 mA
Pulse duration	50 ms

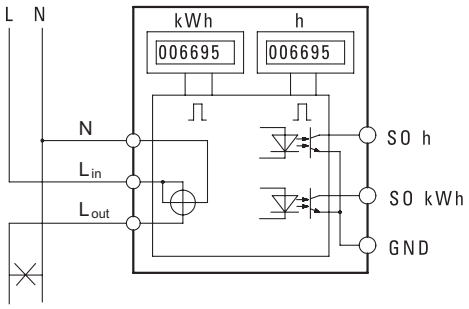
Hour meter	
Display	99999.9 h (0.1 h = 6 min)
Accuracy	± 2 %
S0 output	10 imp/h, 5 ... 30 V DC, I_{max} = 20 mA
Pulse duration	50 ms
Start (Operating time)	with voltage applied to L_{in}
This hour meter shall not be used for electricity consumption calculation.	

Applications



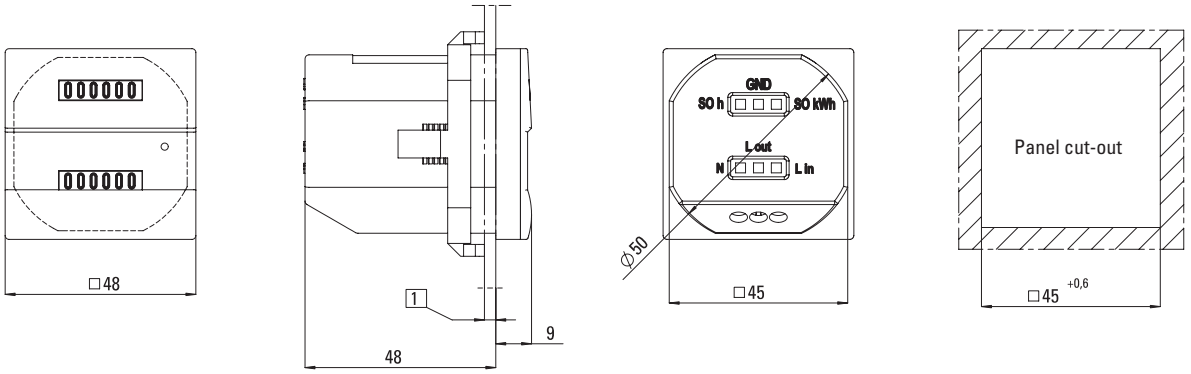
Retro- or standard fitting in dehumidifiers, current generators, air-conditioning, production equipment etc. for the accurate, traceable billing of operating and energy costs – especially also for hire equipment.

Terminal assignment



Dimensions

Dimensions in mm



1 max. 6.5

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Timers for DIN rail mounting | DIN rail housing, 2 modules wide (AC+DC) | SH 17

The hour meters SH 17 feature a very high shock resistance.

These DIN rail mount counters can be used in many different fields of application. These non-resettable counters are extremely tamper-proof.

Characteristics

- 7-digit hour meter.
- DIN rail-mount housing, width 2 modules.
- High shock and impact resistance.
- Without reset.
- Magnified large figures.
- Protection IP65 on the front side.

Benefits

- Easy mounting.
- Data retention in case of power failure.
- Long service life.

Applications

General time measurement, maintenance intervals for measuring instruments, small appliances, UV lamps, integration in control cabinets.

Type series

Description	*Mounting*	*Type*
Standard timer	DIN rail 35 mm [1.38“] acc. to DIN EN 50022	**SH 17**

Technical data

Electrical connection		screw terminals
	finely-stranded	0 ... 2.5 mm² [AWG13]
	single-wires	0 ... 4 mm² [AWG11]
	tightening torque max.	0.5 Nm
Power consumption	DC	approx. 1 W
	AC	approx. 2.5 VA
Rated voltages		24, 115, 230 V AC ±10 %, 50Hz 115 V AC ±10 %, 60Hz 10 ... 27 V DC
On time		100 %
Number of digits		7: 99999.99 h
Height of figures		1.8 x 3.6 mm [0.071 x 0.14“]
Color of figures		white on black
Decimal figures		black on white
Housing		plastic PC (Polycarbonate)
Weight		approx. 60 g [2.12 oz]
Color of housing		grey, Ral 7035

Reset		no reset
Operating temperature	AC/DC	-10°C ... +70°C [+14°F ... +158°F] (non-condensing)
Storage temperature	AC/DC	-40°C ... +80°C [-40°F ... +176°F]
Mounting position		any
Protection acc. to EN 60529		IP65 (front side)
	screw terminal	IP20
Vibration resistance		1 g (10 ... 500 Hz) acc. to EN 60028-2-34
Shock resistance		30 g (18 ms) acc. to EN 60068-2-27 25 g (6 ms) acc. to EN 60068-2-29
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2
Accuracy		< 0.01%, for all versions

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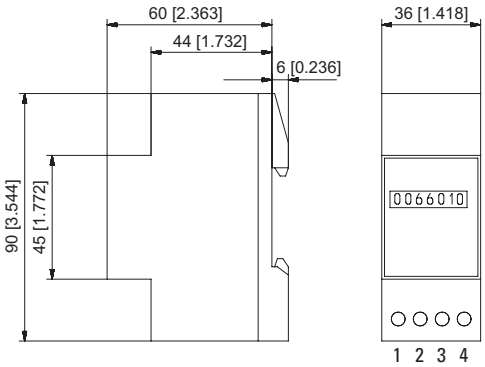
Timers for DIN rail mounting | DIN rail housing, 2 modules wide (AC+DC) | SH 17

Standard timer

Type SH 17



Terminal assignment

PIN	DC	AC
1	n.c.	n.c.
2	+	~
3	–	~
4	n.c.	n.c.

Type	Display	Voltage	Art. no. 24 V	115 V	230 V	10 ... 27 V DC
SH 17	7 digits	AC (50 Hz)	**0.170.000.071**	**0.170.000.284**	**0.170.000.075** [1]	
	7 digits	AC (60 Hz)		**0.170.000.287**		
	7 digits	DC				**0.170.000.351** [1]

Dimensions in mm [inch]

1) Stock types

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Dual function counters | Pulse + time for DIN rail (AC+DC) | SHC 77

The counter combinations SHC 77 comprise an hour meter and a totalizer. They can be controlled both simultaneously and separately.

These DIN rail mount counters have a reduced mounting depth. They can be used in many different fields of application.

Characteristics

- Hour meter and totalizer in one single device optional: counters controlled separately.
- Without reset.
- High shock resistance.
- Magnified large figures.
- Protection IP52 (on the front side).
- Data retention in case of power failure.
- Long service life.
- UL-approved.

Applications

General counting, alarm systems, pay stations, electricity meters, vending and gaming machines, copying machines, medical equipment, car washes, lifts, heating burners.

Type series

Description	*Type*
Dual function counter, common connections	**SHC 77**
Dual function counter, separate connections	**SHC 77.60**

Order information: Art. no. (for special voltages etc. indicate exact counter types, voltage and frequency e.g. SHC 77, 120 V AC, 60 Hz)

Options

SHC 77: The two meters are connected in parallel, this means, that the adding counter registers the total number of events and the time meter the total operating time of the device.

SHC 77.60: Hour meter and adding counter have two separate connections. This version is available for either AC or DC version (not mixed).

General technical data

Operating indicator of the hour meter	AC	fast rotating wheels with red dashes: 99999.99 h
	DC	1/100 h display turns continuously by 1 digit per 36 s: 999999.99 h
Height of figures		4 x 1.7 mm [0.16 x 0.067"] optical
Color of figures	hour meter	hours: white figures on black
	1/10 u. 1/100 h	red figures on black
	adding counter	white figures on black
Operating temperature		-15°C ... +50°C [+5°F ... +122°F] (non-condensing)
Mounting position		any

Mechanical characteristics

Protection		IP52 (front side) when built-in
Color of housing		black (standard)
Weight	SHC 77	85 g [3.00 oz]
	SHC 77.60	105 g [1.70 oz]

Electrical characteristics

Electrical connection	SHC 77	screw terminal (tightening torque max. 0.8 Nm)
	SHC 77.60	2 x cable – 2 x 0.5 mm² [AWG20] NYFAZ, 0.5 m [1.64'] hour meter red/black adding counter grey
Power consumption	10 ... 30 V DC	approx. 1 W
	36 ... 80 V DC	approx. 1.65 W
	100 ... 130 V DC	approx. 1.75 W
	20 ... 30 V AC, 50 Hz	approx. 0.53 VA
	42 ... 48 V AC, 50 Hz	approx. 0.53 VA
	100 ... 130 V AC, 50 Hz	approx. 1.43 VA
	187 ... 264 V AC, 50 Hz	approx. 3.0 VA
Rated voltages	AC (50 or 60 Hz)	20 ... 30/42 ... 48/100 ... 130/187 ... 264 V
	DC	10 ... 30/36 ... 80/100 ... 130 V
On time		100 %
Count mode		adding
Accuracy	AC	supply frequency + 30 ms
	DC	< 0.003 % (at 24 h)
Reset		no reset
Test voltage		2500 V AC, 50 Hz
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2
UL approval		file E128604

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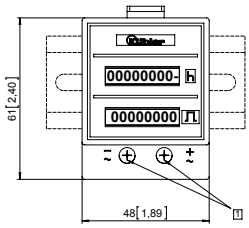
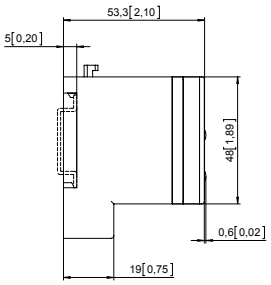
Dual function counters | Pulse + time for DIN rail (AC+DC) | SHC 77

Dual function counter with common connections

Type SHC 77



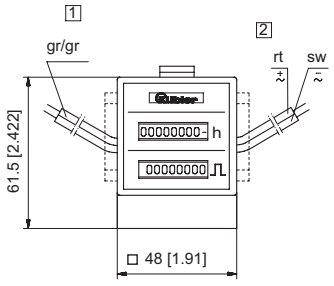


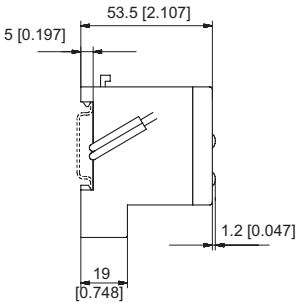
1 screw terminal

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V
SHC 77	7/8 digits	AC (50 Hz)		**3.553.401.071**		**3.553.401.072**	**3.553.401.074**	**3.553.401.075**
	7/8 digits	AC (60 Hz)		**3.553.401.081**		**3.553.401.082**	**3.553.401.084**	**3.553.401.085**
	7/8 digits	DC	**3.553.401.351**		**3.553.401.353**		**3.553.401.381**	

Dual function counter with separate connections

Type SHC 77.60





1 adding counter 2 hour meter

Type	Display	Voltage	Art. no. 10 ... 30 V	20 ... 30 V	36 ... 80 V	42 ... 48 V	100 ... 130 V	187 ... 264 V
SHC 77.60	7/8 digits	AC (50 Hz)		**3.553.401.071.060**		**3.553.401.072.060**	**3.553.401.074.060**	**3.553.401.075.060**
	7/8 digits	AC (60 Hz)		**3.553.401.081.060**		**3.553.401.082.060**	**3.553.401.084.060**	**3.553.401.085.060**
	7/8 digits	DC	**3.553.401.351.060**		**on request**		**3.553.401.381.060**	

Dimensions in mm [inch]

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Timers for DIN rail mounting | Micro DIN rail housing (AC+DC) | SHK 07.1

The micro timers SHK 07.1 feature a very high shock resistance.

These base and DIN rail mount counters can be used in many different fields of application. These non-resettable counters are extremely tamper-proof.

Characteristics

- 7-digit micro hour meter.
- DIN rail mount according to EN 50022.
- Base mount counter.
- High shock resistance.
- Low power consumption.
- Small dimensions.
- Magnified large figures.
- Display range 99999.99 h.

Benefits

- Wide voltage range 4.5 ...35 V DC, 20 …264 V AC.
- Data retention in case of power failure.
- Long service life.

Applications

General time measurement, integration in control cabinets.

Type series

Description	*Mounting*	*Type*
Timer	DIN rail 35 mm [1.38"] acc. to DIN EN 50022	**SHK 07.1**

Technical data

Electrical connection		
	clamp terminal	up to 2.5 mm² [AWG13]
	tightening torque max.	0.8 Nm
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
	at U_B = 22 ... 32 V DC	typ. 170 mW
	20 ... 30 V AC	approx. 0.43 VA
	100 ... 130 V AC	approx. 0.82 VA
	187 ... 264 V AC	approx. 1.8 VA
On time		100 %
Number of digits		7 (99999.99 h)
Accuracy		22.5 ppm at 25°C [77°F]
EMC standards		EN 55011 class B EN 61000-6-2, EN 61000-6-3
Device safety	designed to	EN 61010 part 1
	protection class	2
	application area	pollution level 2

Height of figures		1.2 x 4 mm [0.047 x 0.016"]
Color of figures		white and red on black
Operating temperature	AC	-10°C ... +50°C [-40°F ... +122°F] (non-condensing)
	DC	-10°C ... +60°C [+14°F ... +140°F] (non-condensing)
Mounting position		horizontal, other on request
Protection		up to IP52 depends on version
Housing		plastic PC (Polycarbonate)
Weight		approx. 55 g [1.94 oz]

Options

Temperature range	-20°C .... +70°C [-4°F ... +1858F]

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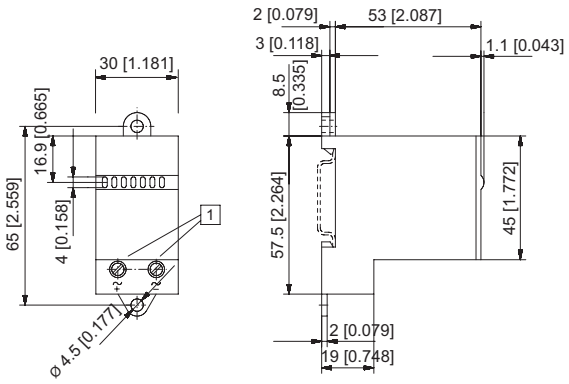
Timer for DIN rail mount

Type SHK 07.1



1 Electrical connection

Type	Display	Voltage	Art. no. 4.5 ... 35 V	20 ... 30 V	100 ... 130 V	187 ... 264 V
SHK 07.1	7 digits	AC (50...60 Hz)		**3.102.101.310**	**3.102.101.312**	**3.102.101.313** [1]
	7 digits	DC	**3.102.101.383** [1]			

Dimensions in mm [inch]

1) Stock types

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