For over 50 years BAUSER has offered reliable counting.

After the war the engineer Julius BAUSER started producing "watchman's clocks" in the Swabian town of Empfingen. In the year 1953 he developed the first electromechanical hour counter. Until today BAUSER remain in this production field and have become a specialist and market leader for counters; with the largest world-wide electromechanical program. Beside it, of course there are electronic and innovative digital products amongst the BAUSER range, as for example battery and time controllers, as well as digital counters in Twin-version.

As medium-sized company with Swabian traditions, BAUSER is represented in all leading industrialised countries.

Always aiming to meet future demands – with the objective to continuously improve the products for your needs, BAUSER technology seems to become an important part of many national and international companies.

Convince yourself! Find in register 1 and 4 our two fabulous product innovations; the digital double counter BAUSER-Twin and the BAUSER all-round battery and time controller.

Not only with our products do we take care of achieving the utmost quality, but also at our complete working process. This is testified by the certification DIN ISO 9001:2000.

Are you searching for a partner, who could assist you with the development and realisation from the beginning to the end? No matter, if it is a complete solution or only a detail? A partner who is experienced in CAN-Bus, ASIC–technology, light guide technics and a lot more?

Then we should meet each other!


ZERTIFIKAT

TÜV

Die Zertifizierungsstelle
der TÜV Management Service GmbH

BAUSER

DIN EN ISO 9001:2000

Digital time and pulse counters

not only count, they even monitor and control.

The new BAUSER-Twin technology as time, service or pulse counters (double counter) LC-Display with 7mm digit height - optional with manual or electrical reset

The BAUSER-Twin registers cost effectively two different counting values as digital indication in just one counter. So, we offer you two counters in one unit. You decide which value should be indicated permanently and which one in the background. We programme the BAUSER-Twin individually for you, according to your priorities and requirements of service intervals, prewarning times, reset etc.

type 3820, 3830, 3840, 3850, 3860, 3870, 3880, 3890

Choose between the following software configurations
(The background counter appears for approx. 10 seconds every time you switch-on):

- time and service counter (fix values)
- pulse and service counter (fix values)
- periodical and totalising counter
- time and pulse counter

type 3821, 3831, 3841, 3851, 3861, 3871, 3881, 3891

Order specifications:

counting type twin-counter	housing dimensions 24 x 48 mm	48 x 48 mm	Ø 56 mm with glass ring	reset for the following counter	notes
HC with HC (bg)*	3820	3821	3822	HC	HC(bg) not resetable
PC with PC (bg)*	3830	3831	3832	PC	PC(bg) not resetable
HC with PC (bg)*	3840	3841	3842	HC+PC	both counters are resetable, even PC while appearing on the display
PC with HC (bg)*	3850	3851	3852	PC+HC	both counters are resetable, even HC while appearing on the display
HC with STC (bg)*	3860	3861	3862	STC	HC not resetable
PC with SPC (bg)*	3870	3871	3872	SPC	PC not resetable
STC with HC (bg)*	3880	3881	3882	STC	HC not resetable
SPC with PC (bg)*	3890	3891	3892	SPC	PC not resetable

*** HC= hour counter, PC=pulse counter, STC= service time counter, SPC=service pulse counter, bg=background**

Further specifications for your order selection are shown on page 1-4.

type 3822, 3832, 3842, 3852, 3862, 3872, 3882, 3892

The new BAUSER-Twin technologie as time, service or pulse counters (double counter)

Order specifications in addition to page 1-3:

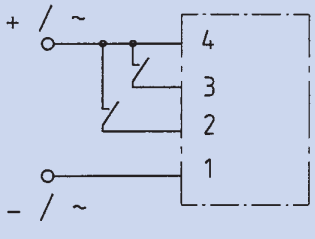
38 □□ . ▒ . ▒ . ▒ . ▒ . ▒

- **connections**
  - 0 blank
  - 1 plug connection 6,3 mm x 0,8 mm/ bent 90°
  - 2 terminal connection
- **indication time counter**
  - 0 blank
  - 1 1/100 h indication
  - 2 1/10 h indication
- **max. counting frequency pulse counter**
  - 0 blank
  - **1 30 Hz at DC operation**
  - 2 200 Hz at DC operation
  - 3 30 Hz with prescaler at DC operation
  - 4 30 Hz with multiplier at DC operation
  - 5 200 Hz with prescaler at DC operation
  - 6 200 Hz with multiplier at DC operation
  - **7 10 Hz at AC or AC/DC operation**
  - 8 10 Hz with prescaler at AC or AC/DC operation
  - 9 10 Hz with multiplier at AC or AC/DC operation
- **input signal**
  - 0 blank
  - **1 reset input pos./counting input pos.**
  - 2 reset input neg./counting input neg. (only at DC)
  - 3 reset input pos./counting input neg. (only at DC)
  - 4 reset input neg./counting input pos. (only at DC)
  - 5 counting input pos.
  - 6 counting input neg. (only at DC)
- **reset type**
  - 0 blank
  - 1 without reset
  - 2 with electrical reset
  - 3 with el. and man. reset

written fat = preferred variants

Our digital hour counters with signal output series 4000... are described on page 1-9 to 1-11!

Wiring diagram (for positive signal inputs):



Pin 1 + 4 = voltage supply

Further order specifications:

12 - 24 V DC
24 - 48 V DC
24 V AC/DC
110 - 240 V AC 50/60 Hz

Please indicate your desired service and prewarning times. i.e. The service should happen after 1.000 pulses with a prewarning after 900 pulses, maximum 4, minimum 1 digit values.

With our pulse counters you get the opportunity to introduce a prescaler and multiplier value. i.e. prescaler 10, multiplier 5.

accessories:
additional sealing
rubber seal at additional costs.

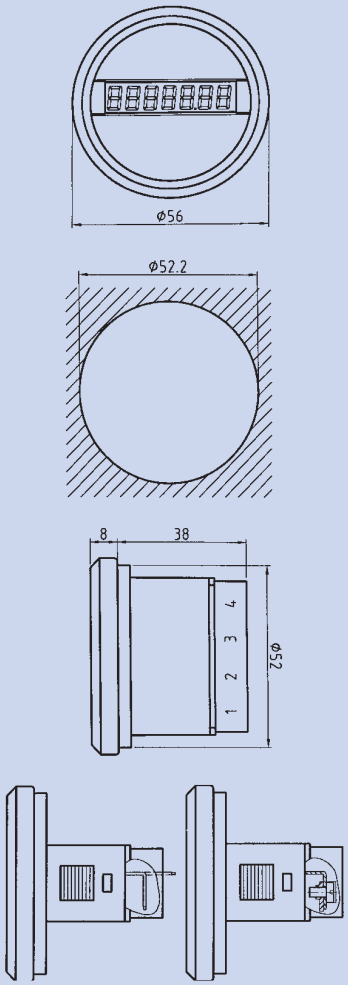
Technical specifications of the single and double counters (pages 1-1 to 1-4)

On this page you will find the complete technical specifications and drawings of the single and double digital counters.

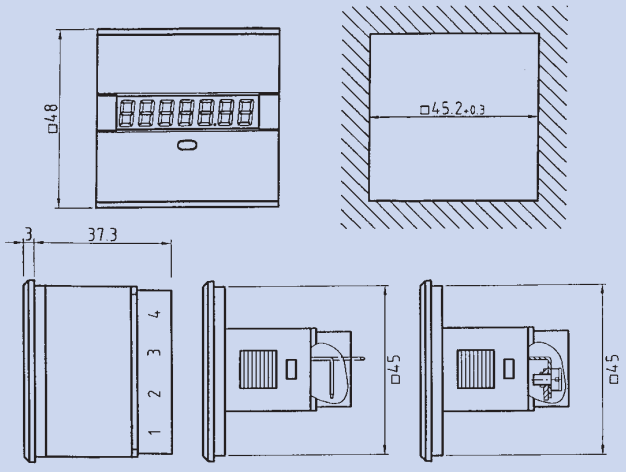
Technical specifications:

housing:	black plastic
indication:	LC-display with 7 digits (only active while connected)
character height:	7 mm
operating voltages:	12-24 V DC / ± 25 % 110-240 V AC 50/60 Hz / ± 10 %
special voltages (at additional cost):	24-48 V DC / ± 25 % 24 V AC/DC / ± 10 %
current consumption:	12 - 24 V DC and 24 - 48 V DC / 2 - 4 mA 24 V AC / DC / 2 mA 110 - 240 V AC 50/60 Hz / 7 - 15 mA
ambient temperature:	-30° C to +70° C
stocking temperature:	-40° C to +80° C
electrical connection:	plug connection 6,3 x 0,8 mm /90° bent or terminal connection
reset:	without, manual or electrical
protection:	without reset button = IP 65, with reset button = IP 54
vibration resistance:	20 g according to SAEJ1378, 1 g (10...500 Hz) according to EN 60068-2-34
shock resistance:	55 g according to SAEJ1378, 30 g (18 ms) according to EN 60068-2-27 25 g (6 ms) according to EN 60068-2-29
EMC:	EN 55011, EN 61000-6-2
industrial norm:	EN 61010, protection class II
approval:	CE, UL, cUL
counting frequency / pulse counter:	30 or 200 Hz = DC-counter 10 Hz = AC-counter
data storage:	EEPROM
fixing:	retaining clip
weight:	39, 42 or 57 g.

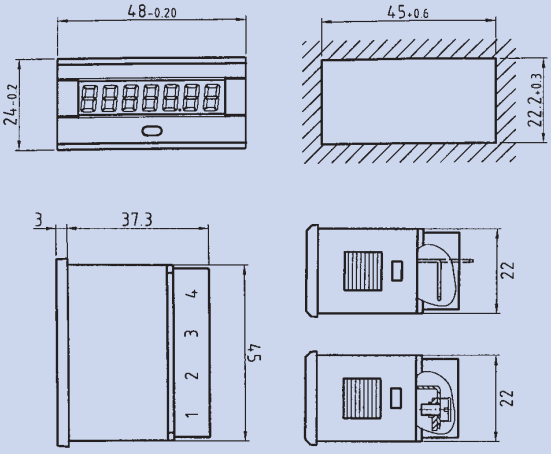
Drawing: Ø 56 mm with glass ring



Drawing: 48 x 48 mm



Drawing: 24 x 48 mm



Digital time and pulse counters

not only count, they even monitor and control.

NEW

The smallest ASIC-digital-counter from BAUSER with multi voltage 12 - 150 V DC and 24 - 240 V AC (in one unit) or even available in battery-operated version.

type 4500, 4510, 4550, 4560, 4580, 4590

The new electronic time or pulse counter range 4500 is based on a specially developed by BAUSER ASIC-component. This ASIC features ultra low current consumption, as well as by its integrated temperature compensation for the high visibility LCD.

The digital counters are powered by an external power supply or by an internal lithium battery (life time minimum 10 years). At the external power supply the data are stored by an EEPROM. The battery-operated counters feature a permanently readable indication and can therefore be considered as a real alternative to the traditional electromechanical hour counters.

The wide voltage range and the variety of housing sizes (from minimum to maximum) are the basis for various applications. The design and the quality are further positive aspects for applying these counters in the utility vehicle or industrial sector.

type 4501, 4511, 4551, 4561, 4581, 4591

The technical advantages of this product range:

- high visibility LCD with digits height of 5mm and temperature range of – 40°C to + 85°C
- sealed completely against dirt and humidity, IP66
- battery-operated version (life time of battery: 10 years) is a real alternative to the electromechanical hour or pulse counters, alternatively with voltage-free input
- voltage range 12-48 V DC / 12 - 150 V DC and 24 - 240 V AC (in one unit), low current consumption
- pulse counter with input frequency of up to 500 Hz (DC operation)
- 2- or 3-wire connection at hour counter
- high shock and vibration resistant
- operating indication: clock-symbol on the display
- data storage by battery (life time: min. 10 years) or EEPROM (min. 25 years)
- optionally with single reset

type 4502, 4512, 4552, 4562

Order specifications of range 45XX

Counter type	24 x 36 mm	24 x 48 mm	Ø 56mm with glassring	rectangular with front fixing
Counter with external power supply				
Time counter	4500	4501	4502	4503
Pulse counter	4510	4511	4512	4513
Counter with internal lithium battery				
Time counter	4550	4551	4552	4553
Pulse counter	4560	4561	4562	4563
Counter with internal lithium battery and voltage-free input				
Time counter	4580	4581		
Pulse counter	4590	4591		

type 4503, 4513, 4553, 4563

Please note: our digital counters with signal output, series 40XX are discribed on page 1 -9 to 1- 11!

Order specifications in addition to page 1-6:

45 □□ . ▒ . ■ . ▒ . ▒ . ▒ . ▒

- ▒ (reset):
  - 0 without reset
  - 1 with electrical reset
  - 2 with el. single reset*
  - → reset
- ■ (input signal):
  - 0 without count input, 2-wire connection (only at HC with external power supply)
  - 1 with count input (HC or PC)
  - → input signal
- ▒ (max. count frequency PC):
  - 0 blank (=HC)
  - 1 30 Hz at DC operation
  - 2 500 Hz at DC operation*
  - 3 10 Hz at AC or AC/DC operation
  - → max. count frequency PC
- ▒ (indication PC):
  - 0 blank (=HC)
  - 1 without decimal point
  - 2 with decimal point*
  - → indication PC
- ▒ (backlight):
  - 0 without backlight
  - 1 with backlight*
  - → backlight
- □ (connections):
  - 1 plugs 6,3 mm x 0,8 mm
  - 2 plugs 4,8 mm x 0,8 mm*
  - → connections

HC = hour counter
PC = pulse counter
* = no standard version - available on request!

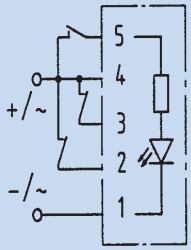
Please note further specifications:
Variant 1 = 12 - 48 V DC
(recommendation: up to 48 V DC!)
Variant 2 = 12 - 150 V DC and
24 - 240 V AC (in one unit).

Technical specifications:

housing:	black plastic		
indication:	LC-Display, 7 digits, at battery-operated version permanent indication		
character height:	5 mm		
reset:	without or electrical		
data storage:	EEPROM (min. 25 years) or battery (min. 10 years)		
ambient temp.:	- 40°C to + 85 °C		
storage temp:	- 40°C to + 90 °C		
electr. connection:	plugs 6.3 x 0.8mm optionally 4.8 x 0.8mm		
vibration resistance:	20 g according to SAEJ1378, 1 g (10..500 Hz) according to EN60068-2-34		
shock resistance:	55 g according to SAEJ1378, 30 g (18 ms) according to EN60068-2-27 25 g (6 ms) according to EN60068-2-29		
counting frequency (PC):	maximum 30 Hz or 500 Hz at DC operation maximum 10 Hz for AC or AC/DC variant		
operating voltage :	12 V DC - 48 V DC ±25%	12 V DC - 150 V DC und 24 V AC - 240 V AC ±10%	
current consumption:	1 mA - 5 mA	100 µA - 3 mA	
input resistance:	approx. 40kOhm (count, reset)	approx. 120kOhm (count, reset)	
life time of battery:	minimum 10 years Conditions: 10 million on/off-operations on count or reset minimum rise time on count and reset: 5 ms signal voltage on count and reset on: operating voltage ±25%, off: ‹ 0,75V or open		
option	operating voltage:	12 V DC ±25%	24 V DC ±25% / 36 V DC ±25% - 48 V DC ±25%
backlight:	current consumption:	ca. 30 mA	ca. 15 mA / ca. 5 mA - 8 mA
EMC:	EN 55011, EN 61000-6-2		
industrial norm:	EN 61010, protection class II		
approval:	CE, UL, cUL		
protection:	IP66, pins IP00		
fixing:	retaining clip or front fixing		

Attention: Wiring diagram and dimensions on page 1-8.

Wiring diagram (external power supply):



5 = backlight (option only at DC version)

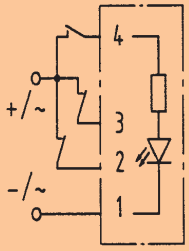
4 = DC "+" or AC

3 = time and pulse counter input

2 = Reset

1 = DC "-" or AC

Wiring diagram (battery-operated version):



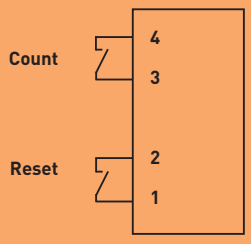
4 = backlight (option only at DC version)

3 = time and pulse counter input

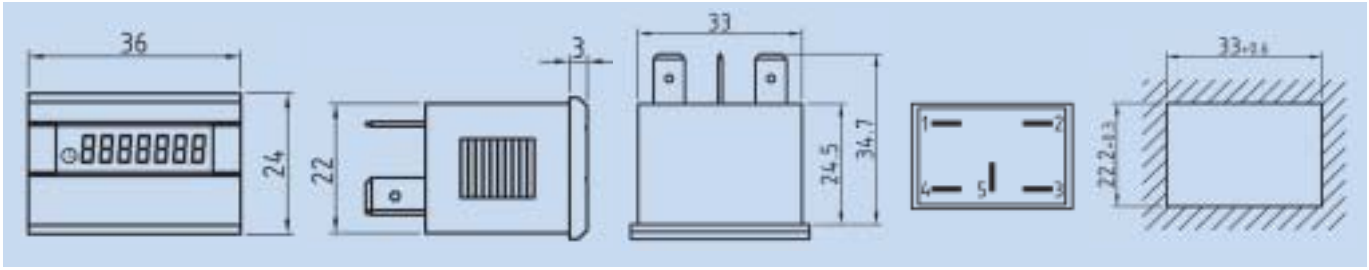
2 = Reset

1 = DC "-" or AC

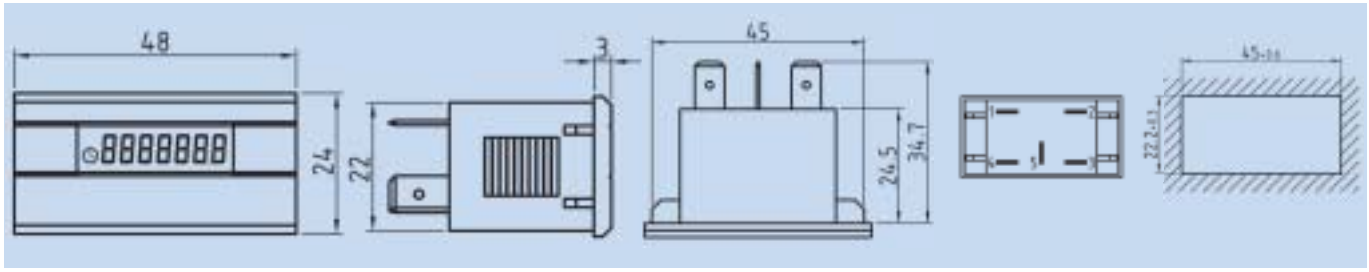
Wiring diagram (battery version voltage-free):



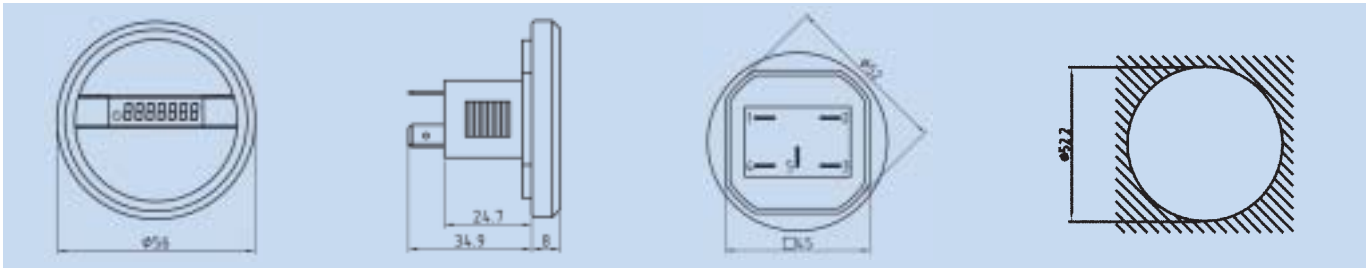
Drawing 36 x 24 mm



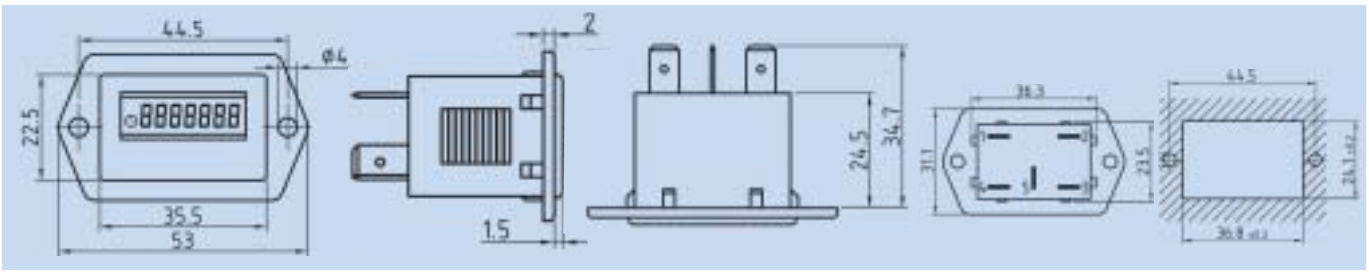
Drawing 48 x 24 mm



Drawing 56 mm



Drawing front fixing

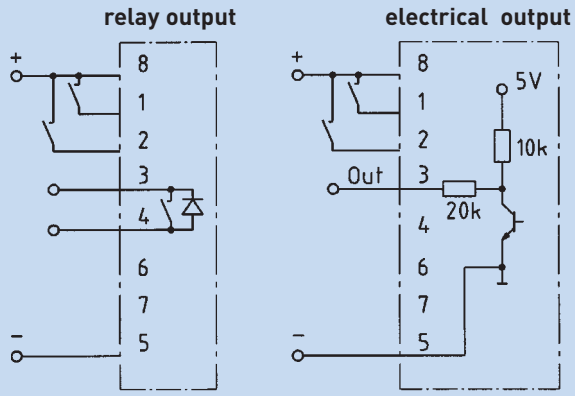


Digital counters with signal or relay output and LED display for recording time, service or pulses. 1 display = with/without background counter - 2 displays = 2 permanent indications

Technical specifications:

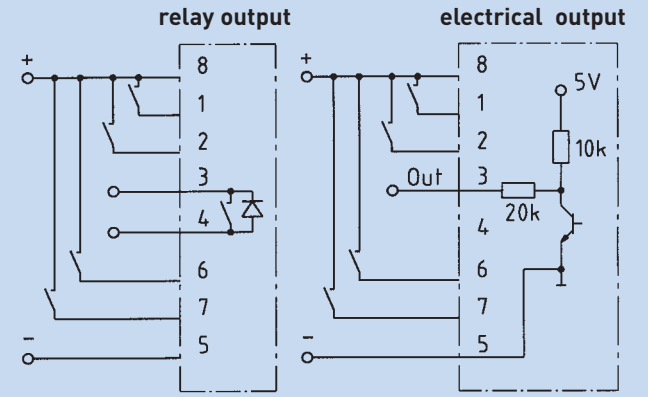
housing:	black plastic with glass and bevelled black chrome-plated bezel
indication:	LC-display with 7 digits = 1 or 2 indications (only active while connected)
character height:	7 mm
operating voltages:	12 - 24 V DC / ± 25% 24 V DC – with relay output
special voltages (at additional cost):	24-48 V DC / ± 25 % 12, 36, 48 V DC – with relay output
current consumption:	12 - 24 V DC, 24- 48 V DC / < 10 mA 12 V / < 35 mA 24 V / < 25 mA 36 V / < 25 mA 48 V / < 20 mA } with relay output
relay contact:	1 voltage-free make contact / breaking capacity 12 V/2 A; 24 V/2 A; 36 V/1,5 A; 48 V/1 A
ambient temperature:	-30°C to +70°C
stocking temperature:	-40°C to +80°C
electrical connection:	8 pole compact plug (optionally with cable-glands)
protection:	IP 65 (front)
reset:	without, manual (button on the rear of the housing) or electrical
vibration resistance:	20 g according to SAEJ1378, 1 g (10...500 Hz) according to EN 60068-2-34
shock resistance:	55 g according to SAEJ1378, 30 g (18 ms) according to EN 60068-2-27, 25 g (6 ms) according to EN 60068-2-29
EMC:	EN 55011, EN 61000-6-2
industrial norm:	EN 61010, protection class II
counting frequ./pulse counter:	30 or 200 Hz
data storage:	EEPROM
approval:	CE, UL, cUL
fixing:	metal clamp with two nuts

Wiring diagram type 4060.0 to 4091.0: 1 Display (for positive signal inputs):



1 = count display 1**
2 = reset display 1
3 = out } electrical output
4 = nc*
3 = relay "+" } relay output
4 = relay "-"
5 = DC "-"
6 = nc*
7 = nc*
8 = DC "+"

Wiring diagram type 4060.1 to 4091.1 and 4060.2 to 4091.2: 2 Displays (for positive signal inputs):



1 = count display 1**
2 = reset display 1
3 = out } electrical output display 1
4 = nc*
3 = relay "+" } relay output display 1
4 = relay "-"
5 = DC "-"
6 = count display 2**
7 = reset display 2
8 = DC "+"

* not connected
** „time and pulse counter input"

Digital time and pulse counters

not only count, they even monitor and control.

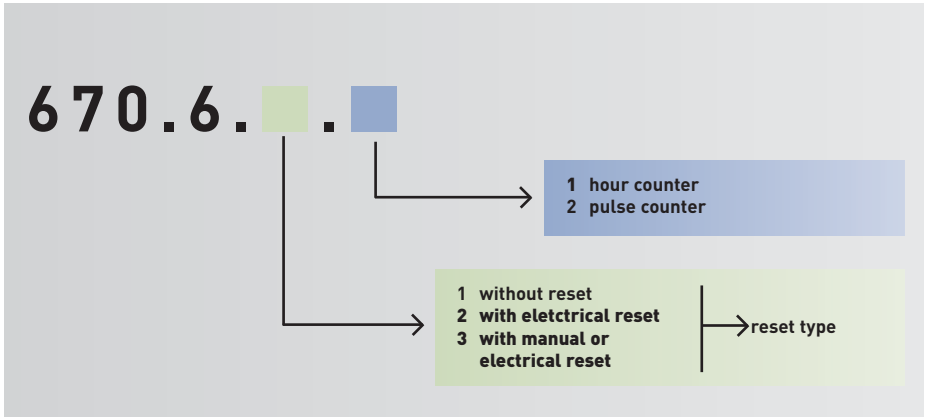
NEW

Electronic time or pulse counters for DIN-rail mounting, multi voltage from 12-150 V DC and 24-240 V AC, with or without reset

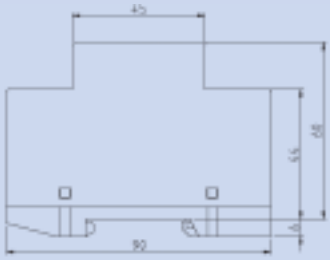
type 670.6.X.X

The basis of the new digital time and pulse counter is a special ASIC-component which has been developed by BAUSER. The voltage range of 12 to 240 V AC and DC in only one unit is very particular to these time and pulse counters. Further advantages are the high visibility 7-digit-LC-display and a reset selection of: without, electrical or manual and electrical.

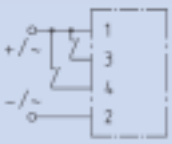
Order specifications type range 670.6.X.X



Drawing:



Wiring diagram:



1 = DC "-" or AC
2 = DC "+" or AC
3 = time and pulse counter input
4 = reset option

Technical specifications:

housing:	plastic light grey RAL 7035
indication:	LC-display, 7 digits (0.1h resolution for hour counter)
character height:	5 mm
operating voltage (Ub):	12 V DC - 150 V DC und 24 V AC - 240 V AC ±10% (in one unit)
frequency:	50/60 Hz
current consumption:	100 µA - 3 mA
input resistance:	approx. 120kOhm (Count, Reset)
protection (front):	IP65 (without reset button) IP40 (with reset button), screw IP20
ambient temperature:	-10° C bis +70° C
stocking temperature:	-40° C bis +80° C
electrical connection:	Terminal Blocks (lift principle) with Philips-Head-Screw (+/- screw) in combination with slotted screw with 3 mm screwdriver size, 0-2.5 mm² fine wire or 0-4 mm² single wire
max. torque:	0,5 Nm
vibration resistance:	1 g (10...500 Hz) according to EN 60068-2-34
shock resistance:	30 g (18 ms) according to EN 60068-2-27 25 g (6 ms) according to EN 60068-2-29
EMC:	EN 55011, EN 61000-6-2
industrial norm:	EN 61010, protection class II
approval:	CE
reset:	without, electrical or manual and electrical (sunk button, for example utilisable with ball point pen)
weight:	approx. 75 g
counting frequency/ pulse counter:	maximum 10Hz for AC signal voltage optionally higher counting frequency at DC-version
data storage:	EEPROM (min. 25 years)
fixing:	snap-on fixing for DIN-rail according DIN EN

Digital time and pulse counters

not only count, they even monitor and control.

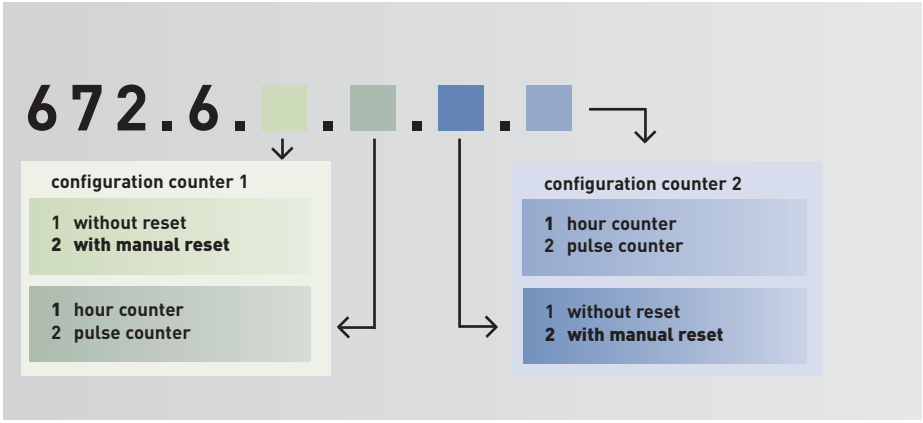
NEW

Digital double counter as time or pulse counters for DIN-rail mounting, multi voltage from 12-150 V DC and 24-240 V AC, with or without reset

Electronic time or pulse counters with high visibility 7-digit-LC-display. You decide, which value should be indicated by this double counter. Two times time or pulses or even one time and one pulse indication. The heart of these counters is a new ASIC-component, which has been developed by BAUSER. This component enables a voltage range of 12 to 240 VAC or DC in just one unit. The single counters are available without or with a manual reset and with common or separate input.

type 672.6.X.X.X.X

Order specifications type range 672.6.X.X.X.X

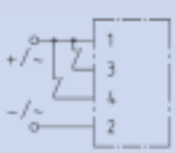


Technical specifications:

housing:	plastic light grey RAL 7035
indication:	LC-display, 7 digits (0.1h resolution for hour counter)
character height:	5 mm
operating voltage (Ub):	12 V DC - 150 V DC und 24 V AC - 240 V AC ±10% (in one unit)
frequency:	50/60 Hz
current consumption:	100 µA - 3 mA
input resistance:	approx. 120kOhm (Count, Reset)
protection (front):	IP65 (without reset button) IP40 (with reset button), screw IP20
ambient temperature:	-10° C bis +70° C
stocking temperature:	-40° C bis +80° C
electrical connection:	Terminal Blocks (lift principle) with Philips-Head-Screw (+/- screw) in combination with slotted screw with 3 mm screwdriver size, 0-2.5 mm² fine wire or 0-4 mm² single wire
max. torque:	0,5 Nm
vibration resistance:	1 g (10...500 Hz) according to EN 60068-2-34
shock resistance:	30 g (18 ms) according to EN 60068-2-27 25 g (6 ms) according to EN 60068-2-29
EMC:	EN 55011, EN 61000-6-2
industrial norm:	EN 61010, protection class II
approval:	CE
reset:	without, electrical or manual and electrical (sunk button, for example utilisable with ball point pen)
weight:	approx. 75 g
counting frequency/ pulse counter:	maximum 10Hz for AC signal voltage optionally higher counting frequency at DC-version
data storage:	EEPROM (min. 25 years)
fixing:	snap-on fixing for DIN-rail according DIN EN

Drawing:

Wiring diagram:



1 = DC "-" or AC
2 = DC "+" or AC
3 = time or pulse counter input counter 1
4 = time or pulse counter input counter 2

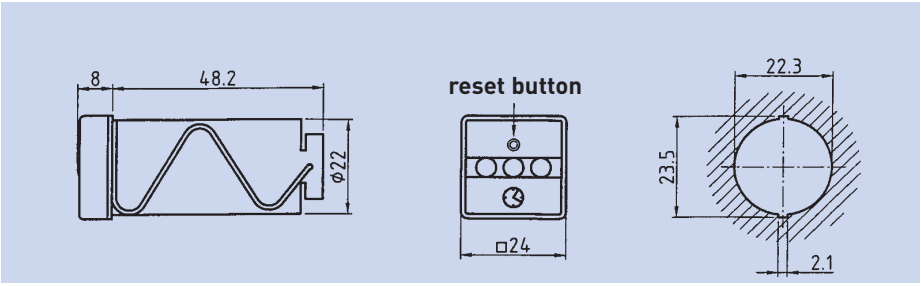
Mini LED service, time or pulse counters with/without signal or relay output

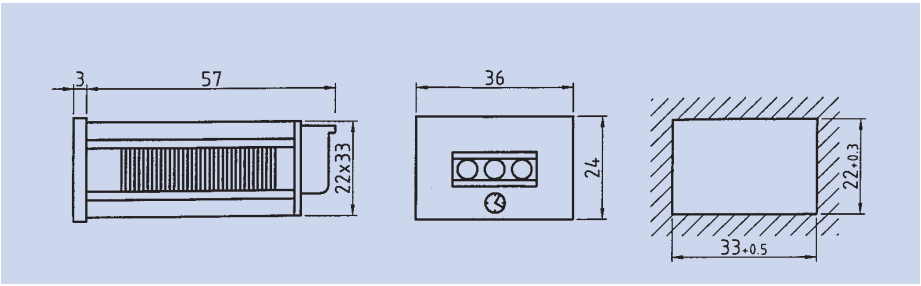
type: 24x24 mm

type: 24x36 mm

Further details on request

The "mini" LED service, time or pulse counter is easily visible and utilises available space. 3 LEDs - green, yellow and red - indicate servicing requirements. The values are factory set to your priorities.



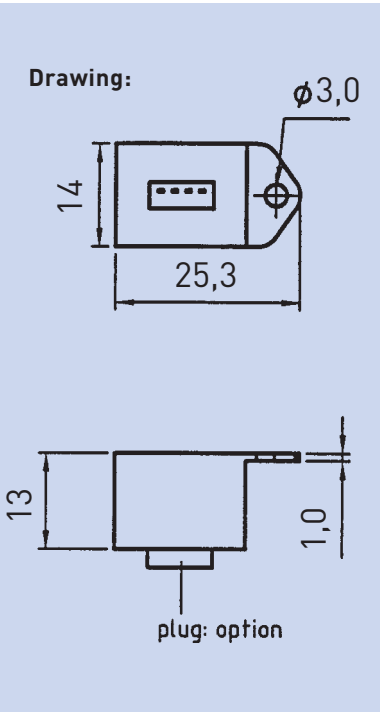


Read-out time counter with serial interface in micro-format

NEW

The new BAUSER-midget is just a few millimetres. Nevertheless it is part of the very big ones. The data can be transmitted by a RS 232-interface or optionally by a special read-out unit. A reset is possible. An operating voltage of 12-240 VAC or VDC is pre-viewed.

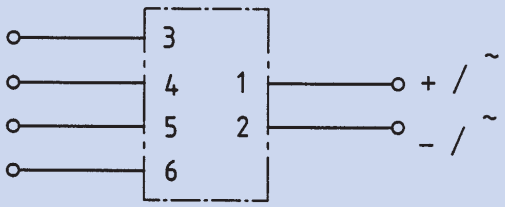
Drawing:



Technical specifications:

ambient temperature:	-40°C...85°C
elect. connection:	cable - protection IP 66 - or 4-pole connector as read-out interface
data storage:	EEPROM
vibration/ shock resistance:	SAEJ1378 (vibration 20 g, shock 55 g)
EMC:	EN 55011, EN 61000-6-2
fixing:	screw, rivet

Wiring diagram:



1 = Supply: DC "+" or AC
2 = Supply: DC "-" or AC
3 = Read-out: "+"
4 = Read-out: "-"
5 = Read-out: "TxD"
6 = Read-out: "Reset"

Further details on request!