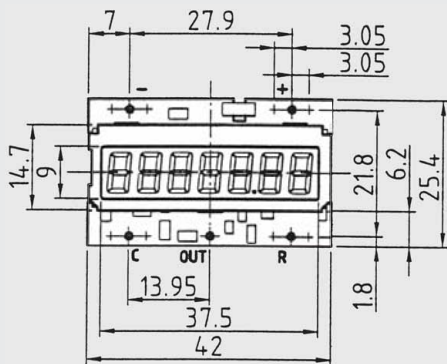


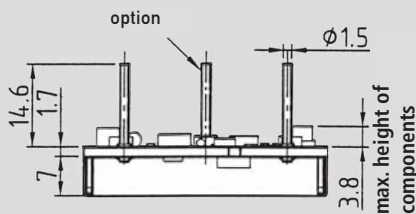
## LCD modules as time, service or pulse counters, (single or Twin-counters), 7 mm digit height, 12 - 24 V DC



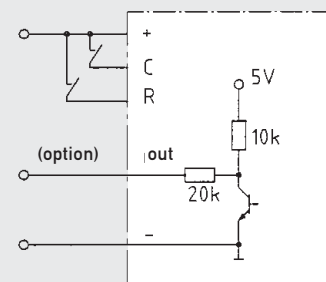
type 6000 to 6090



alternative positions of the connection pins are optionally possible



- Pin:
- + = DC "+"
  - = DC "-"
  - C = time and pulse counter input
  - OUT = service counter output (option)
  - R = reset



wiring diagram

Are you searching for individual solutions for recording time, service or pulses, which are integratable into your equipment or machinery?

Additionally to the digital counter range BAUSER offers also different modules:

- single counter for time and pulses,
- BAUSER Twin-counters, which supply two indications in one display.  
You decide which value should be indicated permanently and which one in the background. The background counter appears for approx. 10 sec. on the display every time you switch-on.

These smart double counters are also available as counters with housing. See pages 4 to 6.

The fix values for service intervals and prewarning are programmed factory set to your priority. Choose between the following software configurations:

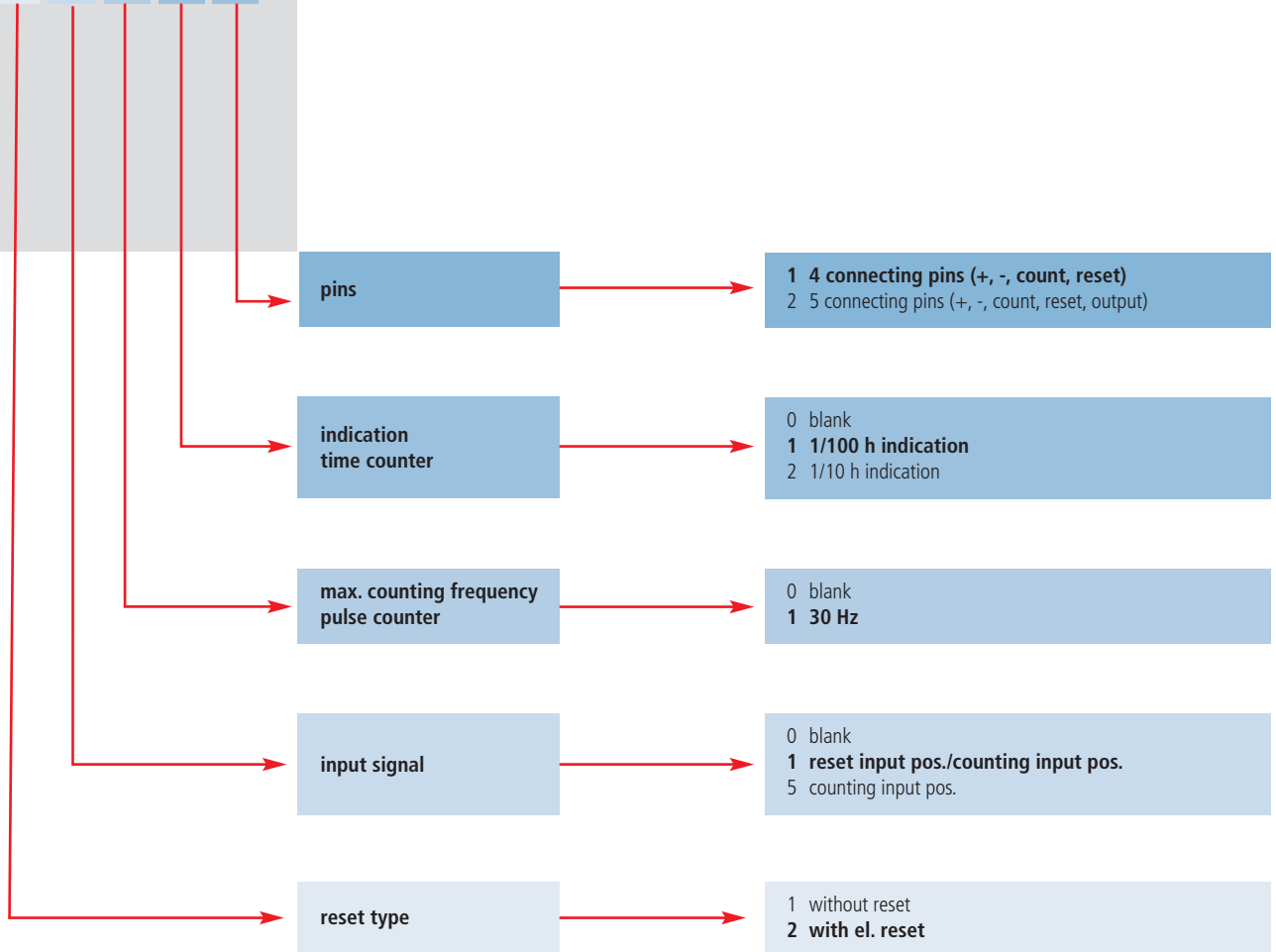
### Order specifications

counter type	LCD module 7 mm	signal output	reset for the following counter	notes
<b>single counter</b>				
HC*	6000	-	HC	
PC*	6010	-	PC	
<b>Twin-counter</b>				
HC with HC (bg)*	6020	-	HC	HC (bg) not resettable
PC with PC (bg)*	6030	-	PC	PC (bg) not resettable
HC with PC (bg)*	6040	-	HC + PC	both counters are resettable, even PC while appearing on the display (e.g. combination of power-on time and frequency)
PC with HC (bg)*	6050	-	PC + HC	both counters are resettable, even HC while appearing on the display (e.g. combination of power-on time and frequency)
HC with SHC (bg)*	6060	optionally	SHC	HC not resettable
PC with SPC (bg)*	6070	optionally	SPC	PC not resettable
SHC with HC (bg)*	6080	optionally	SHC	HC not resettable
SPC with PC (bg)*	6090	optionally	SPC	PC not resettable

- \* HC = hour counter
- PC = pulse counter
- SHC = service hour counter,
- SPC = service pulse counter
- bg = background

## Further specifications for your order selection

60XX.X.X.X.X.X



written fat = preferred variants

### Technical specifications:

<b>indication:</b>	LC-display with 7 digits (only active while connected)
<b>character height:</b>	7 mm
<b>version:</b>	display holder black-chromed, optionally brass-blank (on request)
<b>operating voltage:</b>	12 - 24 V DC ±25 %
<b>current consumption:</b>	2-4 mA
<b>ambient temp.:</b>	- 30 ° C to + 70° C
<b>stocking temp.:</b>	- 40 ° C to + 80° C
<b>electr. connection:</b>	pins for soldering
<b>reset:</b>	electrical
<b>vibration</b>	20 g acc. to SAEJ1378,
<b>resistance:</b>	1 g (10 ... 500 Hz) acc. to EN 60068-2-34
<b>shock resistance:</b>	55 g acc. to SAEJ1378, 30 g (18ms) acc. to EN 60068-2-27, 25 g (6ms) acc. to EN 60068-2-29
<b>EMC:</b>	EN 55011, EN 61000-6-2
<b>industrial norm:</b>	EN 61010, protection class II
<b>approval:</b>	CE, UL, cUL
<b>counting frequency/ pulse counter:</b>	30 or 200 Hz
<b>data storage:</b>	EEPROM

### Further order specifications:

Please state your required service and prewarning time. i.e.: The service should happen after 500 hours and the prewarning time activated after 480 hours through a flashing display, maximum 4 - minimum 1 digit values.

### Mounting:

Please note: Setup and operation of the module only according to the current national guide lines and standards!

## LCD modules as time or pulse counters, 5 mm digit height, 12 - 48 V DC or battery-operated



type 6100, 6110



type 6150, 6160

For recording time and pulses BAUSER offers you a LCD module family to be integrated in your equipment and machinery. With these modules you are able to realize quite individual solutions.

The basis is an especially developed ASIC component by BAUSER. One of the remarkable features of this ASIC is the very low power consumption as well as an integrated temperature compensation for the high visibility LCD.

The counter modules are powered by an external power supply or by an internal lithium battery (life time of minimum 10 years). For the external power supply the data are stored by an EEPROM. Battery-operated modules feature a permanently readable indication.

The wide voltage range as well as the small dimensions are the basis for various applications. The high quality is an additional feature for applying these modules in utility vehicles and in the industrial sector.

### The technical advantages of this Modules:

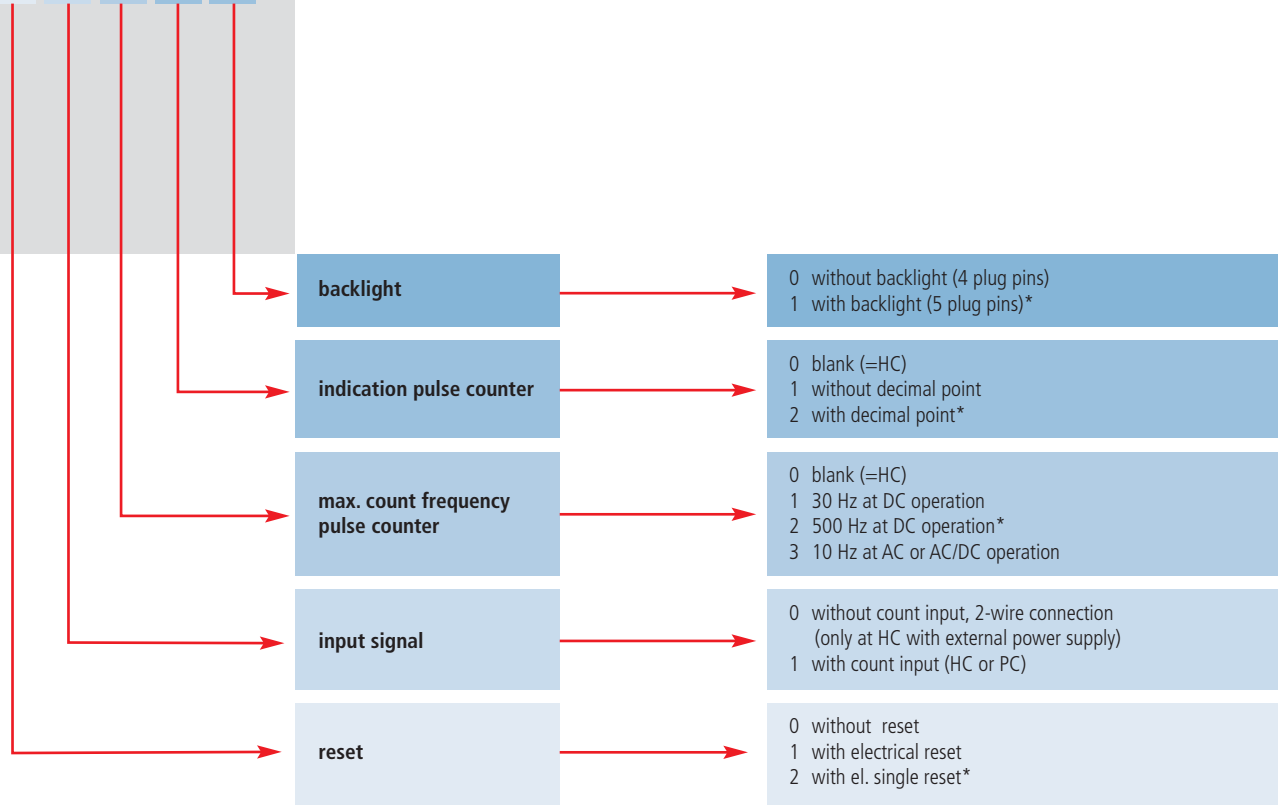
- high visibility LCD with digits height of 5 mm and temperature range of -40 °C to +85 °C
- battery-operated version (life time of battery: 10 years) is a real alternative to the electromechanical hour or pulse counters
- multi voltage from 12 - 48 V DC and low current consumption
- pulse counter with input frequency of up to 500 Hz (DC operation)
- 2- or 3-wire connection for hour counter
- highly shock and vibration resistant
- operating indication: clock-symbol on display
- data storage by battery (life time: min. 10 years) or EEPROM (min. 25 years)
- optionally with single reset
- optionally with decimal point for the pulse counter (for example kilometres counter)

### Order specifications of range 61XX

counter type	module with 5 mm digits height
<b>module with external power supply</b>	
time counter	6100
puse counter	6110
<b>module with internal lithium battery</b>	
time counter	6150
puse counter	6160

### Further specifications for your order selection

61XX.X.X.X.X.X



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

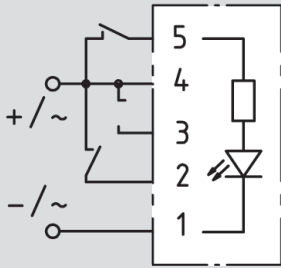
#### Technical specifications:

<b>display holder:</b>	black plastic
<b>indication:</b>	LC-Display, 7 digits, at battery-operated version permanent indication
<b>character height:</b>	5 mm
<b>reset :</b>	without or electrical
<b>data storage:</b>	EEPROM (min. 25 years) or battery (min. 10 years)
<b>ambient temp.:</b>	-40 °C to +85 °C, -40 °C to +70 °C at battery supply
<b>storage temp:</b>	-40 °C to + 90 °C, -40 °C to +70 °C at battery supply
<b>electr. connection:</b>	pins for soldering
<b>vibration resistance:</b>	20 g according to SAEJ1378, 1 g (10..500 Hz) according to EN60068-2-34
<b>shock resistance:</b>	55 g according to SAEJ1378, 30 g (18 ms) according to EN60068-2-27 25 g (6 ms) according to EN60068-2-29
<b>counting frequency (PC):</b>	maximum 30 Hz or 500 Hz at DC operation maximum 10 Hz for AC or AC/DC variant
<b>operating voltage:</b>	12 V DC - 48 V DC ±25%
<b>current consumption:</b>	1 mA - 5 mA
<b>input resistance:</b>	approx. 40 kOhm (count, reset)
<b>life time of battery:</b>	Min. 10 years under the following conditions: <ul style="list-style-type: none"> <li>• 10 Mio. switching cycles of count and reset at 23 °C</li> <li>• mean duty cycle at count and reset: 12h/day</li> <li>• min. signal rise time at count and reset: 5 ms</li> <li>• signal voltage at count and reset: Ub ±25 %, off: &lt; 0,75V or floating</li> </ul>
<b>option backlight:</b>	operating voltage: 12 V DC ±25 %    24 V DC ±25 %    36 V DC ±25 % - 48 V DC ±25 % current consumption: ca. 30 mA    ca. 15 mA    ca. 5 mA - 8 mA
<b>EMC:</b>	EN 55011, EN 61000-6-2
<b>industrial norm:</b>	EN 61010
<b>approval:</b>	CE, UL, cUL
<b>protection class:</b>	pins IP00
<b>fixing:</b>	print mounting

**Please note:**

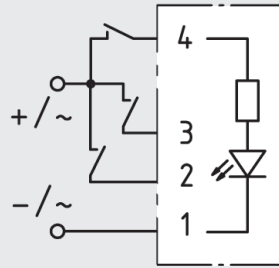
Setup and operation of the module only according to the current national guide lines and standards!

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

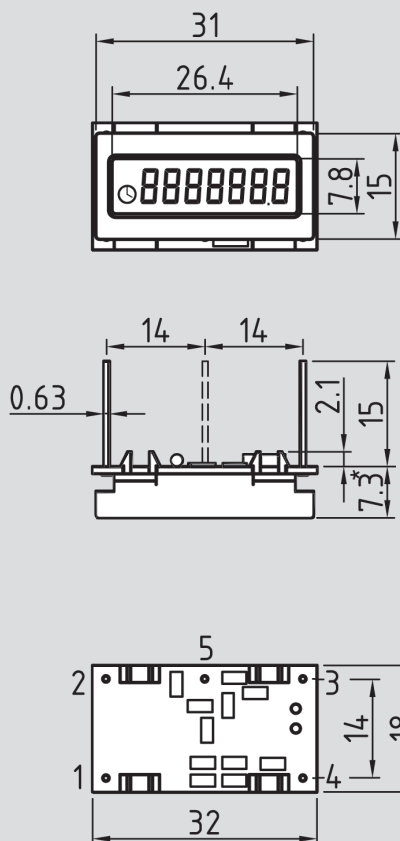
wiring diagram battery version:



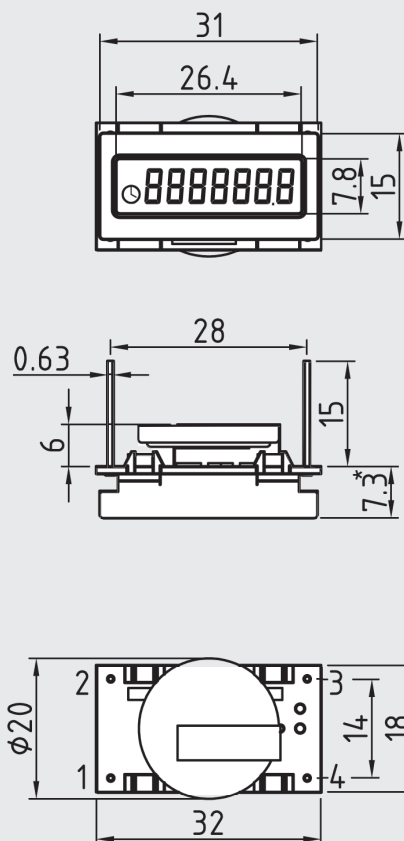
4 = backlight (option only at DC version)  
 3 = time and pulse counter input  
 2 = reset  
 1 = DC "-" or AC

## Wiring diagrams type 6100 to 6160:

drawing type 6100, 6110



drawing type 6150, 6160



## Drawings type 6100 to 6160:

\*optional: 5,9 mm,  
 backlight version: 14,8 mm