## Electromechanical hour counters

register operating and service times.

## Hour counters for AC or DC in BAUSER design, type range 631...-638...

The world-wide known BAUSER hour counters can be fast and easily mounted. As the counters are available in all current front dimensions, you do not require additional bezels.

Front frame $52 \times 52 \mathrm{~mm}$, cutout $\emptyset 50,2+0,3 \mathrm{~mm}$ or $\square 45,2+0,3 \mathrm{~mm}$

| AC | DC | grey | black | terminal connection | plug connection | protection against accidental contact with without |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 631 | 629 | - |  | - |  | - |  |
| 632 | 630 |  | - | - |  | - |  |
| 633 | 637 | - |  | - |  |  | - |
| 634 | 638 |  | - | - |  |  | - |
| 631.1 | 629.1 | $\bigcirc$ |  |  | - | - |  |
| 632.1 | 630.1 |  | - |  | - | - |  |
| 633.1 | 637.1 | - |  |  | - |  | - |
| 634.1 | 638.1 |  | - |  | - |  | - |

with or without protection against accidental contact




Front frame $48 \times 48 \mathrm{~mm}$, cutout $\square 45,2+0,3 \mathrm{~mm}$

| AC | DC | grey | black | terminal connection | plug connection | protection against accidental contact with without |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 631.2 | 629.2 | - |  | - |  | - |  |
| 632.2 | 630.2 |  | $\bigcirc$ | - |  | - |  |
| 633.2 | 637.2 | - |  | - |  |  | - |
| 634.2 | 638.2 |  | - | - |  |  | - |
| 631.3 | 629.3 | $\bigcirc$ |  |  | - | - |  |
| 632.3 | 630.3 |  | $\bigcirc$ |  | - | - |  |
| 633.3 | 637.3 | - |  |  | - |  | - |
| 634.3 | 638.3 |  | - |  | - |  | - |



type 631, 631.1, 633, 633.1, 629, 629.1, 637, 637.1

type $632,632.1,634,634.1,630,630.1,638,638.1$

type 631.2, 631.3, 633.2, 633.3, 629.2, 629.3, 637.2, 637.3

type 632.2, 632.3, 634.2, 634.3, 630.2, 630.3, 638.2, 638.3

## Electromechanical hour counters

register operating and service times.
Hour counters with or without integrated protection against accidental contact according to VBG4, protection class IP 65 (front)

type 631.4, 631.5, 633.4, 633.5, 629.4, 629.5, 637.4, 637.5

type 632.4, 632.5, 634.4, 634.5, 630.4, 630.5, 638.4, 638.5

type 631 A.2, 629 A. 2


[^0]You can obtain the BAUSER counters in the housing colours grey (RAL no. 7032) and black, on request even in light-grey (RAL no. 7035) and with your logo on it (minimum quantity required). Approved to UL/CSA, CE, VDE.

Front frame Ø 58 mm , cutout $\emptyset 50,2+0,3 \mathrm{~mm}$
$\left.\begin{array}{|c|c|c|c|c|c|c|c|c|}\hline \text { AC } & \text { DC } & \text { grey } & \text { black } & \begin{array}{c}\text { terminal } \\ \text { connection }\end{array} & \begin{array}{c}\text { plug } \\ \text { connection }\end{array} & \begin{array}{c}\text { protection against } \\ \text { accidental contact } \\ \text { with }\end{array} \\ \hline \text { without }\end{array}\right]$
with or without protection against accidental contact


Front frame $48 \times 48 \mathrm{~mm}$, surface or DIN rail 35 mm (DIN 46277)

| AC | DC | grey | black | terminal <br> connection | plug <br> connection | protection against <br> accidental contact |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| with |  |  |  |  |  |  |



## Electromechanical hour counters

register operating and service times.

## Accessories and special types at additional cost

Beside the standard program BAUSER offers you a range of individual special developments. Inform us about your requirements and ideas we find a solution for you.

```
variants for 50 and 60 Hz operation:
order code, i.e. 631/943
bezel 55 x 55 mm:
grey or black, fitting to the counter with front frame 48\times48 mm
bezel 72 x 72 mm:
grey or black, fitting to the counter with front frame 48\times48 mm
blind cover 53 x 53 mm:
suited for types with square cutout
terminal cover type A:
fitting for type 631A.2, 632A.2, 629A.2, 630A.2
A later combination to get a DIN-rail counter is possible with types 633... or 634...or 637...or 638...
and a mounting socket.
additional sealing:
rubber seal for all versions with square or round cutout -
please indicate type in your order
metal clamp:
available for all types, but the mounting depth changes: ..+ 16 mm,
order code, i.e.: 631.4/879
additional water-proof surface housing:
available for all types with 48\times48 front frame - (protection class IP 65, with cable)
order code, i.e.: 633.3/765
illuminated display:
at important quantities on request
```



[^1]
counter $48 \times 48 \mathrm{~mm}$, with bezel $55 \times 55 \mathrm{~mm}$

counter $48 \times 48 \mathrm{~mm}$, with bezel $72 \times 72 \mathrm{~mm}$

## Electromechanical hour counters

register operating and service times.

## Hour counters of type range 631...-638... - High in capacity, low in price



* This retaining clip is included in the delivery at types for flush mounting (panel thickness up to 10 mm ).

Our developing and production know-how is excellent.
This was certified according IS09001. That is why we can guarantee to our world-wide OEM customers high quality products in the shortest time.

Technical specifications:

|  | AC | DC |
| :---: | :---: | :---: |
| reset: | no | no |
| counting range: | 99999,99 h | 99999,99 h |
| digits: | $1,5 \times 3,5 \mathrm{~mm}$ (with lens 4 mm ), white on black, decimals black on white | $1,5 \times 3,5 \mathrm{~mm}$ (with lens 4 mm ), white on black, decimals black on white |
| standard voltages: | 115 or 230 V AC | 10-80 V DC (1,5-15 mA) |
| special voltages: <br> (at additional cost) | 12, 24, 36-48 and 400 V AC | $\begin{gathered} 2-20 \text { V DC }(0,5-27 \mathrm{~mA}) \\ 80-220 \vee \mathrm{DC}(1,5-4,5 \mathrm{~mA}) \end{gathered}$ |
| voltage tolerance: | $\pm 10 \%$ | - |
| frequency: | 50 or 60 Hz (on request 50 and 60 Hz ) | - |
| current consumption: | approx. 10 mA at rated voltage | see above |
| protection class: | DIN 40050, housing IP 65 (front) <br> terminals: IP 20 (Variant VBG 4) <br> IP 00 (without VBG 4) | DIN 40050, housing IP 65 (front) <br> terminals: IP 20 (Variant VBG 4) <br> IP 00 (without VBG 4) |
| testing voltage: | winding and contact against GND $2500 \mathrm{~V} / 50 \mathrm{~Hz}$ | - |
| ambient temperature: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| fixing: | via included retaining clip*, panel thickness up to 10 mm , or via integrated snap-in lugs, panel thickness up to 2 mm , whereas the cutout should be $45,2^{+0,3} \times 45,2^{+0,3}$ | via included retaining clip*, panel thickness up to 10 mm , or via integrated snap-in lugs, panel thickness up to 2 mm , whereas the cutout should be $45,2^{+0,3} \times 45,2^{+0,3} \mathrm{~mm}$ |
| connection: | terminals or plugs, with or without protection against accidental contact | terminals or plugs, short circuit and reverse battery protected |
| approval: | (UL, CSA and VDE at additional cost) | ( $\epsilon$ |
| operation indication: | yes | yes |
| weight: | approx. 46 g | approx. 46 g |

## Electromechanical hour counters

register operating and service times.

## New hour counters - now with large digits and DIN dimensions $48 \times 24 \mathrm{~mm}$ type range 250...

These are 7 digit BAUSER hour counters with the smallest dimensions for AC and DC operation. They are even suited for heavy applications on utilitly vehicles. Even for this range a protection class of IP65 (front) is offered.

A BAUSER top program, where everything is correct. From the technical solution, through the design up to the usual good value for money.

Front frame $36 \times 24 \mathrm{~mm}$, protection class IP 65

| AC | DC | front black | front grey | plug connect. 6,3 x 0,8 "straight" | plug connect. "bent" $90^{\circ}$ | terminal connect. "bent" $90^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 250 | 260 | - |  | - |  |  |
| 250.1 | 260.1 | - |  |  | - |  |
| 250.2 | 260.2 | - |  |  |  | - |
| 251 | 261 |  | - | - |  |  |
| 251.1 | 261.1 |  | - |  | - |  |
| 251.2 | 261.2 |  | - |  |  | - |



Front frame DIN dimension $48 \times 24 \mathrm{~mm}$ ! Protection class IP 65

| AC | DC | front black | front grey | plug connect. 6,3 $\times 0,8$ .,straight" | $\begin{aligned} & \text { plug connect. } \\ & \text { "bent" } \\ & 90^{\circ}{ }^{\circ} \end{aligned}$ | terminal connect. "bent" $90^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 252 | 262 | - |  | - |  |  |
| 252.1 | 262.1 | - |  |  | - |  |
| 252.2 | 262.2 | - |  |  |  | - |
| 253 | 263 |  | - | - |  |  |
| 253.1 | 263.1 |  | - |  | - |  |
| 253.2 | 263.2 |  | - |  |  | - |


type 252, 252.1, 252.2, 262, 262.1, 262.2


## Electromechanical hour counters

register operating and service times.
Hour counters with different front, connection and colour variants, with protection class IP65 (front), quartz controlled

type 254, 254.1, 254.2-256, 256.1, 256.2,
264, 264.1, 264.2-266, 266.1, 266.2,

BAUSER offers - especially for your vehicle technology hour counters with different housing variants. For power supply, you can choose between the classical plug- or terminal connection.

Front frame $\emptyset 58 \mathrm{~mm}$, with two cutouts: $\emptyset 50,5 \mathrm{~mm}$ or $\emptyset 52 \mathrm{~mm}$, or type for front fixing.


Cutout $36,8 \times 24,1 \quad \pm 0,5$


| AC | DC | front black | front grey | cutout $\emptyset 50,5 \mathrm{~mm}$ | $\begin{aligned} & \text { cutout } \\ & \emptyset 52 \mathrm{~mm} \end{aligned}$ | cutout $\begin{gathered} 36,8 \times 24,1 \\ \pm 0,5 \mathrm{~mm} \end{gathered}$ | $\begin{gathered} \text { plug-con. } \\ 6,3 \times 0,8 \\ \text { "straight" } \end{gathered}$ | ```plug-con. "bent" 90*"``` | ```terminal-con. "bent" 90**``` |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 254 | 264 | - |  | $\bigcirc$ |  |  | - |  |  |
| 254.1 | 264.1 | - |  | - |  |  |  | $\bigcirc$ |  |
| 254.2 | 264.2 | - |  | - |  |  |  |  | - |
| 255 | 265 |  | - | - |  |  | - |  |  |
| 255.1 | 265.1 |  | - | - |  |  |  | - |  |
| 255.2 | 265.2 |  | - | - |  |  |  |  | $\bigcirc$ |
| 256 | 266 | - |  |  | - |  | - |  |  |
| 256.1 | 266.1 | - |  |  | - |  |  | $\bigcirc$ |  |
| 256.2 | 266.2 | - |  |  | - |  |  |  | $\bigcirc$ |
| 257 | 267 |  | - |  | - |  | $\bigcirc$ |  |  |
| 257.1 | 267.1 |  | - |  | - |  |  | - |  |
| 257.2 | 267.2 |  | - |  | - |  |  |  | - |
| 258 | 268 | - |  |  |  | - | $\bigcirc$ |  |  |
| 258.1 | 268.1 | - |  |  |  | - |  | - |  |
| 258.2 | 268.2 | $\bigcirc$ |  |  |  | - |  |  | - |

Accessories and special types at additional cost:

## variant for 20- and $\mathbf{1 0 0} \mathbf{~ H z}$ operation:

 order code i.e.: 250/943rubber seal: for additional sealing (please indicate for which type it is required)
spring wire bracket: optionally, if there is only little space available - but only up to maximum 48 V
variant with front fixing, panel cutout $36,8 \times 22 \pm 0,5 \mathrm{~mm}$

type 258, 258.1, 258.2, 268, 268.1, 268.2

Technical specifications:

|  | AC | DC |
| :---: | :---: | :---: |
| reset: | no | no |
| counting range: | 99999,99 h | 99999,99 h (new - two decimals) |
| digit height: | $1,8 \times 3,6 \mathrm{~mm}$ (with lens), white on black, decimals black on white | $1,8 \times 3,6 \mathrm{~mm}$ (with lens), white on black, decimals black on white |
| voltages: | 115 or 230 V AC | 12-24 V DC |
| special voltages (at additional cost): | 12, 24 or 42 V AC | on request |
| voltage tolerance: | $\pm 10$ \% | - |
| frequency: | 50 or 60 Hz <br> (on request 20 and 100 Hz operation) | - |
| current consumption: | approx. 8 mA | approx. 5-15 mA |
| protection DIN 40050: | housing: IP 65 (front) terminals: IP 00 | housing: IP 65 (front) terminals: IP 00 |
| ambient temperature: | $-30^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| fixing: | retaining clip | retaining clip |
| connections: | terminals or plugs (straight or bent) | terminals or plugs short circuit and reverse battery protected |
| approvals: | ( $¢$, VDE (UL, CSA - at additional cost) | ( $\in$ |
| weight: | approx. 35 g | approx. 35 g |

## Electromechanical hour counters

register operating and service times.
Hour counters for AC and DC with or without reset type range 603...617....

These AC or DC counters offer a snap-in fixing for fast mounting and are available with or without cable connection and reset. On request even with detachable key, that is why they are protected against manipulation.

## Front frame $54 \times 29 \mathrm{~mm}$, in BAUSER design

| AC | DC | grey | black | terminal connection | plug connection $6,3 \times 0,8$ | $\begin{gathered} \text { cable } \\ 2 \times 0,38 ~ \\ \mathrm{~L}: 500 \mathrm{~mm} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 603 | 608 | $\bigcirc$ |  |  | - |  |
| 603.2 | 608.2 | - |  | $\bigcirc$ |  |  |
| 603.3 | 608.3 | - |  |  |  | $\bigcirc$ |
| 604 | 609 |  | - |  | - |  |
| 604.2 | 609.2 |  | - | - |  |  |
| 604.3 | 609.3 |  | - |  |  | - |



type 603, 603.2, 603.3, 608, 608.2, 608.3

type $604,604.2,604.3,609,609.2,609.3$

type 610.11, 610.11.1, 617.11, 617.11.1

Type 610.10-617.11.1


Type 604.10-609.10.3


## Electromechanical hour counters

register operating and service times.

## Hour counters with protection against accidental contact according to VBG4

BAUSER offers hour counters for operation on 50 and 60 Hz for the world-wide sales. These special types are available with order code .../943. Just as the AC standard counters are UL- and CSA approved.

Technical specifications:

|  | AC | AC | DC | DC |
| :---: | :---: | :---: | :---: | :---: |
| type: | 603-604.10.3 | $\begin{aligned} & \text { 610.10, } 610.10 .1 \text {, } \\ & \text { 610.11, } 610.11 .1 \end{aligned}$ | 608-609.10.3 | $\begin{aligned} & \text { 617.10, 617.10.1, } \\ & \text { 617.11, 617.11.1 } \end{aligned}$ |
| reset: | no | yes | no | yes |
| counting range: | 99999,99 h | $\begin{aligned} & 9999,99 \mathrm{~h} \\ & (99999,9 \mathrm{~h}=610.10 .1,610.11 .1) \end{aligned}$ | 999999,9 h | $\begin{aligned} & 9999,99 \mathrm{~h} \\ & (99999,9 \mathrm{~h}=617.10 .1,617.11 .1) \end{aligned}$ |
| digits: | $1,5 \times 4 \mathrm{~mm}$ (with lens) white on black, decimals black on white | $2 \times 4 \mathrm{~mm}$, white on black, decimals black on white | $1,5 \times 4 \mathrm{~mm}$ (with lens) white on black, decimals black on white | $2 \times 4 \mathrm{~mm},$ <br> white on black, decimals black on white |
| voltages: | 115 or 230 V AC | 115 or 230 V AC | 10-50 V DC | 12-24VDC |
| special voltages (at additional cost): | 12, 24, 42 and 400 VAC | 12, 24 and 42 V AC over 230 V AC with loose capacitor | 50-120 V DC | $36,80,110 \mathrm{~V}$ DC |
| voltage tolerance: | $\pm 10$ \% | $\pm 10$ \% | - | $\pm 15$ \% |
| frequency: | $50 \text { or } 60 \mathrm{~Hz}$ <br> (on request 20 and 100 Hz operation) | $50 \text { or } 60 \mathrm{~Hz}$ <br> (on request 20 and 100 Hz operation) | - | - |
| current consumption: | approx. 8 mA | approx 2 VA | $\begin{aligned} & 2,6-14,5 \mathrm{~mA} \\ & (1,3-3,5 \mathrm{~mA} \text { at special voltage }) \end{aligned}$ | $\begin{aligned} & 7,5-30 \mathrm{~mA} \\ & \text { ( } 8-14 \mathrm{~mA} \text { at special voltage) } \end{aligned}$ |
| protection class <br> DIN 40050: | housing: IP 65 (front) terminals: IP 00 | housing: IP 41 (front) | housing: IP 65 (front) terminals: IP 00 | housing: IP 41 (front) |
| ambient temperature: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $+50^{\circ} \mathrm{C}$ |
| fixing: | integr. snap-in lugs, panel thickness 0,5-3 mm cutout $50,5 \times 25,5 \mathrm{~mm}$ | metal clamp | integr. snap-in lugs, panel thickness $0,5-3 \mathrm{~mm}$ cutout $50,5 \times 25,5 \mathrm{~mm}$ | metal clamp |
| retaining clip <br> (at additional cost): | for panel thickness up to 15 mm | - | for panel thickness up to 15 mm | - |
| approvals: | ( $\in$ IVDE, UL and CSA at additional cost) | ( $\epsilon$ | ( $\epsilon$ | C $\Theta$ |
| operation indication: | yes | no | yes | no |
| conn. short circuit <br> a. reverse batt. prot.: | - | - | yes | yes |
| protect. ag. accidental contact (to VBG 4): | yes | yes | yes | yes |
| weight: | approx. 45 g | approx. 135 g | approx. 45 g | approx. 135 g |


retaining clip at additional cost

## Accessories and special types at additional cost:

[^2]
## Electromechanical hour counters

register operating and service times.

## Mini-hour counters for recording time in minimum available space

If you want to register operation hours and have only minimum space available, then you can count on the mini counter with a counting range of rounded up 10.000 hours This counter needs only a cutout of $22,3 \mathrm{~mm}$.

## Accessories and special types at additional cost:

## variants for $\mathbf{2 0 -}$ and $\mathbf{1 0 0 ~ H z}$ operation:

 order code i.e.: 200.4/943, but only up to 24 V AC or a pre-resistor is neededtype 200.4 R with $\mathbf{2}$ counting inputs: for recording of different sizes

## UL-approval:

for AC type 200.4


type 200.4, 208


Technical specifications:

|  | AC | DC |
| :---: | :---: | :---: |
| reset: | no | no |
| counting range: | 9999,9 h | 9999,9 h |
| digits: | $1,5 \times 3,5 \mathrm{~mm}$ (with lens) white on black, decimals black on white | $1,5 \times 3,5 \mathrm{~mm}$ (with lens) white on black, decimals black on white |
| voltages: | 12-24 or 230 V AC | 10-27 V DC |
| special voltages (at additional cost): | 36-60, 60-140 V AC, over 230 V with separate capacitor | - |
| voltage tolerance: | $\pm 10$ \% | - |
| frequency: | 50 or 60 Hz <br> (on request $20-100 \mathrm{~Hz}$ operation) | - |
| current consumption: | approx. 8 mA | 7,5-39 mA |
| protection class <br> DIN 40050: | housing: IP 54 terminals: IP 00 | housing: IP 54 terminals: IP 00 |
| ambient temperature: | $-30^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $+50^{\circ} \mathrm{C}$ |
| fixing: | spring wire | spring wire |
| approval: | ( $\in$, IUL at additional cost) | ( $\in$ |
| operation indication: | yes | yes |
| cutout: | Ø 22,3 mm, for an optimal fixing | Ø 22,3 mm, for an optimal fixing |
| mounting depth: | 34 mm at $12-24 \mathrm{~V}$ counters, $68,5 \mathrm{~mm}$ at higher voltages | 68,5 mm |
| connection: | at $12-24 \mathrm{~V}$, plugs $1,5 \times 0,5$ as solder part, for all higher voltages 2 plugs $6,3 \times 0,8 \mathrm{~mm}$ | 2 plugs $6,3 \times 0,8 \mathrm{~mm}$ |
| weight: | approx. 30 g | approx. 30 g |

## Electromechanical hour counters

register operating and service times.
Minutes and hour counters for AC or DC with or without reset, type range R5 72... R5 97

type R5 72, R5 77

type R5 72N

Accessories and special types at additional cost:

```
terminal cover type R5
protection against accidental contact
detachable key for reset
order code i.e.: R5 72 N/S
*DC hour counter with reset
```


## grey front frame

```
anti-reflective front glass
```

Hour counters with DIN dimensions 72 and $96 \mathrm{~mm} \square$, suitable for all standard measuring instruments. For AC or DC, for recording of hours or minutes, with our without reset.

Front frame $72 \times 72 \mathrm{~mm}$ or $96 \times 96 \mathrm{~mm}$

| AC | DC | reset |  | front frame mm | cutout mm | counting range |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | with | without |  |  |  |
| R5 72 | R5 77 |  | - | $72 \times 72$ | $68 \times 68$ | 99999,99 h |
| R5 72 N |  | $\bigcirc$ |  | $72 \times 72$ | $68 \times 68$ | 9999,99 h |
| R5 $72 \mathrm{~N} / \mathrm{M}$ |  | - |  | $72 \times 72$ | $68 \times 68$ | 99999,9 min. |
| R5 96 | R5 97 |  | , | $96 \times 96$ | $92 \times 92$ | 99999,99 h |
| R5 96 N |  | - |  | $96 \times 96$ | $92 \times 92$ | 9999,99 h |
| R5 $96 \mathrm{~N} / \mathrm{M}$ |  | - |  | $96 \times 96$ | $92 \times 92$ | 99999,9 min |



Technical specifications:

|  | AC | DC |
| :--- | :--- | :--- | :--- |
| reset: | yes and no | no or on request* |

## Electromechanical hour counters

register operating and service times.
Hour counter for DIN rail mounting, for AC or DC, overall height: 55, 60 or 64 mm

With its overall height of 55,60 or 64 mm it is an ideal counter program for DIN rail mounting. A part of these AC or DC counters are produced with two decimals and special terminals (lift principle) values in just one single housing.

Find pulse counter as single counter on page 7-1.

| AC | DC | counting range | overall height in mm |  |  | terminal connection | "Lift"-terminal connection |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 55 | 60 | 64 |  |  |
| 660.5 | 665.5 | 99999,9 h | - |  |  | - |  |
| 661.6 | 666.6 | 99999,99 h |  | - |  |  | - |
| 661.7 | 666.7 | 99999,99 h |  |  | - |  | - |

Technical specifications:

|  | AC | DC |
| :---: | :---: | :---: |
| housing: | plastic light grey RAL 7035 | plastic light grey RAL 7035 |
| gearing: | plastic | plastic |
| counting range: | see table above | see table above |
| digits: | $1,8 \times 3,6 \mathrm{~mm}$, white on black, Decimals black on white | $1,8 \times 3,6 \mathrm{~mm}$, white on black, Decimals black on white |
| voltages: | 115 or 230 V AC | 12-24 V DC |
| special voltages: (additional charge) | 12, 24, 48, 400 V AC |  |
| voltage tolerance: | $\pm 10$ \% | $\pm 10$ \% |
| frequency: | 50 or 60 Hz (on request 20 to 100 Hz ) |  |
| current consump.: | approx. 5-15 mA | approx. 5-15 mA |
| protection (front): | IP 65, screws IP 20 | IP 65, screws IP 20 |
| ambient temp.: | $-10^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| stocking temp.: | $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ |
| elec. connection: (see table above) | Terminal Blocks (lift principle) with Philips-Head-Screw ( $+/-$ screw) in combination with slotted screw with 3 mm screwdriver size, $0-2.5 \mathrm{~mm}^{2}$ fine wire or $0-4 \mathrm{~mm}^{2}$ single wire | Terminal Blocks (lift principle) with Philips-Head-Screw ( $+/-$ screw) in combination with slotted screw with 3 mm screwdriver size, $0-2.5 \mathrm{~mm}^{2}$ fine wire or $0-4 \mathrm{~mm}^{2}$ single wire |
| vibration resist.: | $1 \mathrm{~g}(10 . . .500 \mathrm{~Hz})$ acc. to EN 60068-2-34 | $1 \mathrm{~g}(10 . . .500 \mathrm{~Hz})$ acc. to EN 60068-2-34 |
| shock resistance: | 30 g ( 18 ms ) acc. to EN 60068-2-27 <br> 25 g (6 ms) acc. to EN 60068-2-29 | $30 \mathrm{~g}(18 \mathrm{~ms})$ acc. to EN 60068-2-27 <br> 25 g (6 ms) acc. to EN 60068-2-29 |
| EMC: | EN 55011, EN 61000-6-2 | EN 55011, EN 61000-6-2 |
| industrial norm: | EN 61010, protection class II | EN 61010, protection class II |
| reset: | without | without |
| weight: | approx. 75 g | approx. 75 g |
| approval: | C $\epsilon$ | ( |
| fixing: | snap-on fixing for DIN-rail according to DIN EN | snap-on fixing for DIN-rail according to DIN EN |


type 660.5, 665.6

type 661.6, 661.7,666.6, 666.7

## Drawings:



## Electromechanical hour counters

register operating and service times.

## DC hour counters for printed circuit or front panel mounting, disable input, protection class IP 65



Mini hour counter for 5, 12 or 24 VDC
These mini hour counters for DC operation are suited for panel or printed circuit mounting. Find the corresponding pulse counters with same dimensions on page 7-2.

| DC | front panel mounting (snap-in fixing max. 3 mm ) | Technical specifications: |  |
| :---: | :---: | :---: | :---: |
|  |  |  | DC |
| 656 | - | reset: | no |
|  |  | counting range: | 99999,99 h |
| Special features: |  | character height: | 4 mm |
|  |  | operating voltage: | 4,5 to 35 V DC |
|  |  | power consumption: | at $\mathrm{U}_{\mathrm{B}}=5 \mathrm{~V}$ DC type 82 mW at $\mathrm{U}_{\mathrm{B}}=12 \mathrm{~V}$ DC type 135 mW at $\mathrm{U}_{\mathrm{B}}=24 \mathrm{~V}$ DC type 135 mW max. 170 mW <br> Only ervery 36 s with a pulse length of 3 ms |
| with very | le input for recording operating times |  |  |
| high s | - and vibration resistance |  |  |
| little current consumption |  | protection: | IP 65 (front) |
| well suited for battery-operated application and electronic circuits |  | ambient temperature: | $-10^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
|  |  | electr. connections: | soldered conn. $0,4 \times 1,2 \mathrm{~mm}$ |
|  |  | weight: | 16 g |
|  |  | maintenance-free operation: | yes |



## Electromechanical hour counters

register operating and service times.

## DC hour counters with hour and minute indication, vibration resistant, low current consumption

These quartz-operated hour counters for the utility vehicle industry have stood the test of decades. They have an elevated design, are robust, with water-proof front-face and available for the 52 or 60 mm panel cutout. The time is rapide and easily readable with the circulating minute hand.

Housing Ø 52 mm with chromed 3-edge-frontal ring

| DC | terminal connection | plug connection <br> $6,3 \times 0,8 \mathrm{~mm}$ | 3-edge-frontal ring <br> chromed |
| :---: | :---: | :---: | :---: |
| 557 |  |  |  |
| 558 |  |  |  |



Housing $\emptyset 52 \mathrm{~mm}$ with black-chromed 3-edge-frontal ring


type 557, 558

type 557.2, 558.2

type 557/60, 558/60
Find the technical specifications for the DC hour counters with hour and minute indication on page 6-14.

Housing $\emptyset 52 \mathrm{~mm}$ with detachable adapter ring for reaching housing of $\emptyset 60 \mathrm{~mm}$ with chromed or black-chromed 3-edge-frontal ring


## Electromechanical hour counters

register operating and service times.

## Quartz-operated hour counters, 10-80 V DC in one housing, protection class IP 65

The standard type is suited for applications with a voltage range of $10-80 \mathrm{~V}$ DC.
Further they can be used for different applications, for example with damping rubber ring for extreme vibrations.

Housing $\emptyset 52 \mathrm{~mm}$ with detachable adapter ring ( $=\varnothing 60 \mathrm{~mm}$ ) and damping rubber ring ( $=\varnothing 72 \mathrm{~mm}$ )

| DC | terminal <br> connection | plug connection <br> $6,3 \times 0,8 \mathrm{~mm}$ | rubber ring <br> for damping <br> $\emptyset 72 \mathrm{~mm}$ | 3-edge <br> frontal ring <br> chromed | 3-edge <br> frontal ring |
| :--- | :--- | :---: | :---: | :---: | :---: |
| black-chromed |  |  |  |  |  |$|$

Accessories and special types at additional cost:

```
flat frontal ring
available for all counters
housing \emptyset 60 mm (without adapter ring)
available for all counters
order code .../600
rubber seal ring
available for housing of \emptyset 52 mm or \emptyset 60 mm
metal fastening bolt
for extreme applications
order code .../894
```


## metal fastening bolt

```
order code .../894
```


$\left.\begin{array}{l}\text { type } 557 / 60.1 \ldots 2 \\ \text { type } 558 / 60.1 \ldots 2\end{array}\right\}$
type 558/60.1 ... 2$\}$ with damping rubber

Technical specifications:


|  | DC |
| :---: | :---: |
| reset: | no |
| counting range: | 99999 h and 0-60 minutes |
| digits char. height: | $2 \times 4 \mathrm{~mm}$, white on black |
| voltage: | 10-80V DC ( $1,4-15 \mathrm{~mA}$ ) |
| special voltages (at additional cost): | $\begin{array}{r} 2-20 V D C(1,5-27 \mathrm{~mA}) \\ 80-220 \mathrm{VDC}(1,4-4,5 \mathrm{~mA}) \end{array}$ |
| protection class (DIN 40050): | housing: IP 65 (front) terminals: IP 00 |
| ambient temperature: | $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ |
| fixing: | metal bolt |
| approval: | C |
| operation indication: | yes |
| connection: | short circuit and reverse battery protected |
| vibration resistance: | tested on 3 levels at 45 Hz , amplitude $\pm 0,5 \mathrm{~mm}$ each level, electronic and plastic version = little specific weight |
| time divergence: | only $0,01 \%$ in 24 h : compared to the electromechanical counters no after running differences arise on the indication |
| weight: | approx. 110 g |

## Electromechanical hour counters

register operating and service times.

## Quartz-operated hour counters, 10-80 V DC in one housing

These instruments meet the high-level requirements for hour counters in construction machines, fork lift trucks or other vehicles. The quartz-controlled electronic and the known BAUSER housing technology offer a basis for optimum value for money. In large quantities it is possible to print your logo on the counter.

Housing $\emptyset 52 \mathrm{~mm}$ - now with price effective 3-edge-plastic frontal ring

| DC | terminal connection | plug connection <br> $6,3 \times 0,8 \mathrm{~mm}$ | 3-edge-plastic ring, <br> black |
| :---: | :---: | :---: | :---: |
| 587.10 .2 |  |  |  |
| 588.10 .2 |  |  |  |



Housing $\emptyset 52 \mathrm{~mm}$ with chromed or black-chromed 3-edge-frontal ring

| DC | terminal connection | plug connection <br> $6,3 \times 0,8 \mathrm{~mm}$ | 3-edge-frontal ring, <br> chromed | 3-edge-frontal ring, <br> black chromed |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 587 |  |  |  |  |
| 588 |  |  |  |  |
| 587.2 |  |  |  |  |
| 588.2 |  |  |  |  |



Housing $\emptyset 52 \mathrm{~mm}$ with detachable adapter ring for reaching housing of $\emptyset 60 \mathrm{~mm}$ with chromed or black-chromed 3-edge-frontal ring


type 587.10.2, 588.10.2

type 587.2, 588.2

type 587/60, 588/60
Find the technical specifications for the quartz-controlled hour counters on page 6-16.

## Electromechanical hour counters

register operatiing and service times.

## Cost effective DC hour counters, protection class IP65, variants with 3 separate inputs

BAUSER technology has convinced already a large number of known OEM customers world-wide. The quartz-controlled hour counters are suited for cutout of $\emptyset 52$ or 60 mm and offer a protection class of IP 65 (front).

Housing $\emptyset 52 \mathrm{~mm}$ with detachable adapter ring ( $=\emptyset 60 \mathrm{~mm}$ ) and damping rubber ring ( $\varnothing 72 \mathrm{~mm}$ )

| DC | terminal conn. | plug connection <br> $6,3 \times 0,8 \mathrm{~mm}$ | rubber ring <br> for damping <br> $\emptyset 72 \mathrm{~mm}$ | 3-edge <br> frontal ring <br> chromed | 3-edge <br> frontal ring <br> black chromed |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $587 / 60.1$ |  |  |  |  |  |
| $587 / 60.1 .2$ |  |  |  |  |  |
| $588 / 60.1$ |  |  |  |  |  |
| $588 / 60.1 .2$ |  |  |  |  |  |

Accessories and special types at additional cost:

## Flat frontring

available for all counters
housing $\emptyset 60 \mathrm{~mm}$ (without adapter ring) available for all counters order code .../600
rubber seal ring
for housing of $\emptyset 52$ or $\emptyset 60 \mathrm{~mm}$
metal fastening bolt
for extreme applications
order code .../894

$\left.\begin{array}{l}\text { type } 587 / 60.1 \ldots 2 \\ \text { type } 588 / 60.1 \ldots 2\end{array}\right\}$ with damping rubber

Technical specifications:


|  | DC |
| :---: | :---: |
| reset: | no |
| counting range: | 99999,99 h |
| digits char. height: | $1,5 \times 3,5 \mathrm{~mm}$, white on black, decimals black on white |
| voltage: | 10-80VDC (1,4-15 mA) |
| special voltages (at additional cost): | $\begin{array}{r} 2-20 V D C(0,5-27 \mathrm{~mA}) \\ 80-220 \mathrm{~V} D(1,5-4,5 \mathrm{~mA}) \end{array}$ |
| protection class (DIN 40050): | housing: IP 65 (front) terminals: IP 00 |
| ambient temperature: | $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ |
| fixing: | metal bolt |
| approval: | C |
| operation indication: | yes |
| connection: | short circuit and reverse battery protected |
| vibration resistance: | tested on 3 levels at 45 Hz , amplitude $\pm 0,5 \mathrm{~mm}$ each level, electronic and plastic version with little specific weight |
| time divergence: | only $0,01 \%$ in 24 h ; compared to the electromechanical counters no after-running differences arise on the indication |
| weight: | approx. 100 g |

## Electromechanical hour counters

register operatiing and service times.

## Cost effective hour and pulse counter combinations for flush and surface/DIN-rail mounting, AC or DC

Here you will find a solid solution for a hour and pulse counter combination. Choose between flush or surface/DIN-rail mounting The connections can be adjusted for a common or separate AC or DC current supply.

Type range 920, 920 A. 2


| type | flush mounting | DIN-rail | front frame $48 \times 48 \mathrm{~mm}$ | terminal connection |
| :---: | :---: | :---: | :---: | :---: |
| 920 | $\bigcirc$ |  | $\bigcirc$ | - |
| 920 A. 2 |  | , | - | - |

## Descriptions and application field:

This counter combination consists of one hour counter and one pulse counter.
As standard version operates with common current supply, that means the pulse counter registers the connecting frequency and the hour counter the total operating time of a machine/equipment, i.e. oil burner. On request at additional cost the counter can be separately current supplied (only for flush mounting) - order code: 920/860.

type 920

type 920 A. 2

Technical specifications:


## Electromechanical hour counters

register operatiing and service times.

## Hour counter and/or pulse counter combinations, with or without reset, for AC or DC


type 593

Here you will find robust counters for recording of operating times, quantities or both combined in only one housing. It is also possible to reset a counter with a button or a key. Inform us about your wishes, we find the suitable solution for you.

Type range 593 ...

| AC | time counter with <br> button reset | totalising hour counter <br> without reset | fixing |
| :---: | :---: | :---: | :---: |
| 593 |  |  | mounting frame <br> with front fixing |



## Technical specifications:

|  | AC |
| :---: | :---: |
| reset: | hour counter: yes totalising counter: no |
| counting range: | hour counter: $9999,99 \mathrm{~h}$ totalising counter: $99999,9 \mathrm{~h}$ |
| digits character height: | $2 \times 4 \mathrm{~mm}$, white on black, decimals black on white |
| voltages: | 115 or 230 V AC |
| special voltages (at additional cost): | 12, 24 and 400 V AC |
| voltage tolerance: | $\pm 10 \%$ |
| frequency: | 50 or 60 Hz |
| current consumpt.: | approx. 2 VA |
| prot. class DIN 40050: | housing: IP 41 (front) |
| ambient temperature: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| approval: | C |
| operation indication: | no |
| weight: | 250 g |

Special types at additional cost:
first counter without reset or with key reset, for AC or DC operation
counter combination with 3 resetable units in one frame, dimensions: on request
combinations with pulse counters, with our without reset or hour counter and pulse counter combined according your requirements, for AC or DC operation.

## example of order:

counter combination type 593, but consisting of: ...


[^0]:    type 632 A.2, 630 A. 2
    with additional terminal cover type A

[^1]:    type 632A.2, 630A. 2 with additional terminal cover type A

[^2]:    variants for $\mathbf{2 0}$ - and $\mathbf{1 0 0 ~ H z}$ operation:
    order code i.e.: 603/943
    reset with key:
    for types 610.10/S, 610.11/S, 617.10/S, 617.11/S (detachable key)
    retaining clip:
    for type range 603-609.10.2
    rubber seal for additional sealing:
    between counter and panel
    blind cover:
    grey or black and cutout of minimum $50,2 \times 25,2 \pm 0,5 \mathrm{~mm}$

    ## prolonged cable connection

    option:
    anthracite housing

