Paxos® *compact*
Event logging

```
20  c000    20.04.95   18:06
90  1B59    20.04.95   18:06
30  0000    20.04.95   18:06
20  c000    20.04.95   18:06
30  0000    20.04.95   18:06
20  c000    20.04.95   18:06
90  1B60    20.04.95   18:05
    60      20.04.95   18:05
            20.04.95   18:05
            20.04.95   18:05
            20.04.95   18:04
         0.04.95       18:04
           04.95       18:04
          04.95        18:04
          1.95         18:03
           95          18:02
           5           18:01
                       18:01
                       18:00
                       8:00
                     7:58
                       57
                       56
                       56
                       00
                       54
                      :57
            15:58
        04.95   15:58
       20.04.95   15:58
35    00    20.04.95   16:00
25  cc00    20.04.95   16:00
40  0000    20.04.95   16:02
35  0100    20.04.95   16:07
25  cc00    20.04.95   16:08
40  0000    20.04.95   16:10
```

Technical description

Paxos compact electronic high-security locking system

Event logging

Contents

Logging

Logging

At the log outputs of the options box and of the switching unit box a data log is supplied via a unidirectional current loop (20 mA); it can be used for an electronic log of the system events. A log printer, a terminal, a computer (PC), or any other electronic storage device can be connected to these current loops.

Data log

Event codes are transmitted as pure ASCII characters. For a log in plain text, the log device must interpret this code and convert it to plain text. One or several lines of 22 characters each are transmitted for each event. In addition to the event code, the line also includes the system date and system time (if this option is present in the high-security lock). The data log contains no data from which the locking codes stored in the system can be deduced. The event memory output is in chronological order (with the most recent event first). No commands can be sent to the electronic locks nor can the locking system be sabotaged via the interface.

Logged events

The following events are – depending on the version of the locking system software – distinguished by the event code, and to some of them such additional information as lock number or authorisation is added.:
• Start-up after the battery compartment was opened in secured state
• Start-up after the battery comportment was opened in locked or unlocked state
• Reaching the 'secured' state
• Reaching the 'locked' state with information on the used authorisation
• Reaching the 'unlocked' state with information on the used authorisation
• Partial opening of the locking system with information on the used authorisation
• Entry of a duress code (event can be hidden for logging)
• Inquiry of the system status with information on the used authorisation
• Entry of the service code
• Change of the system time or the system date
• Change of the opening delay, hold-up opening delay, maximum door-open time or maximum entry time after delay with information on the programmed values
• Change of a locking period, weekly locking period, yearly locking period or partial locking period with information on the programmed values
• Change of the fast locking time with information on the used authorisation and the programmed values
• Change of summer/winter time changeover data with information on the programmed values
• Change or deletion of an opening code OCa to OCk
• Change or deletion of the opening-& code OCa& or OCb&
• Change or deletion of the master code (MA), time code (TC) or mutation code (MU)
• Changeover from winter time to summer time or vice versa
• Activation or deactivation of the settings 'Authorisation disabling', 'Manual locking', 'Fast locking', 'Code linkage', 'Parallel mode', 'Duress code entry logging online', 'Duress code entry logging offline' and 'Badge + code'
• Message 'Battery empty'
• Error messages
• Incorrect code entries and manipulation attempts

Interface description

Interface

The interface of the log output provides the collector and emitter of the photo-transistor of an opto-coupler and has no power supply of its own for the current loop. The power of the 20 mA current loop (TTY) has to be supplied by the logging device.
An interface adaptor must be used if a logging device with an RS 232C serial interface is to be connected to the current loop interface of the locking system.

Baud rate

The transmission rate is 1200 Baud and cannot be changed. Eight bits, 1 start bit, 1 stop bit and no parity bit are transmitted. No 'handshaking' is possible.

Data format

For each event at least one to 4 lines with 22 or 16 information characters is transmitted. At the end of each line, the ASCII character 'CR' is added. For the purpose of synchronisation of the receiver, five ASCII 'NUL' characters are added at the start of each line.

<NUL><NUL><NUL><NUL><NUL>CC_SSSS_DD.MM.YY_hh:mm<CR>

<NUL><NUL><NUL><NUL><NUL>CC_SSSS__nnn<CR>   (without time ft./event time)

CC	Event code (two ASCII characters)
SSSS	Supplementary information (four ASCII characters)
DD	Day (two digits)
MM	Month (two digits)
YY	Year (two digits)
hh	Hour, 24 hrs/day (two digits)
mm	Minutes (two digits)
_	Space <SP> (hex 20)
.	Full stop in the date display (hex 2E)
:	Colon in the time display (hex 3A)
<NUL>	ASCII command without effect (hex 00)
<CR>	ASCII command to return to the start of the line (hex 0D)
nnn	Consecutive event number (right alignment)

Timing

Since no 'handshaking' is possible between sender and receiver, the locking system uses fixed pauses to give the log device enough time to process the data it receives. The pause between lines is 620 msec.

Code table

The following table contains all possible event codes with the additional information. If the Time functions option or the Event time option is installed, the date and the time for each event are transmitted as well.

CC	ZZZZ	Description
10	0000	Start of the locking system after failure of the power supply with the locks in the secured state.
15	0000	Start of the locking system after failure of the power supply with the locks in the locked or unlocked state.
20	ab00	Locking system (a = lock 1, b = lock 2) opened from the secured state with: 0 = lock does not exist (one-lock system) 1 = opening with opening code a 2 = opening with opening code b 3 = opening with code key A 4 = opening with code key B 5 = opening with opening code a, but from the service menu 6 = opening with opening code b, but from the service menu 7 = opening with code key A, but from the service menu 8 = opening with code key B, but from the service menu 9 = opening with emergency key c = opening with opening code c d = opening with opening code d e = opening with opening code e f = opening with opening code f g = opening with opening code g h = opening with opening code h i = opening with opening code i k = opening with opening code k Example: Interpretation: 20 d000 03.01.94 12:30 On January 3rd 1994 at 12 h 30 minutes the safe was opened from the secured state. The opening code OCd1 was used. No second lock exists.
25	ab00	Locking system (a = lock 1, b = lock 2) opened from the locked state with: 0 = lock does not exist (one-lock system) 1 = opening with opening code a 2 = opening with opening code b 3 = opening with code key A 4 = opening with code key B 5 = opening with opening code a, but from the service menu 6 = opening with opening code b, but from the service menu 7 = opening with code key A, but from the service menu 8 = opening with code key B, but from the service menu 9 = opening with emergency key c = opening with opening code c d = opening with opening code d e = opening with opening code e f = opening with opening code f g = opening with opening code g h = opening with opening code h i = opening with opening code i k = opening with opening code k Example: Interpretation: 25 1d00 03.01.94 12:30 On January 3rd 1994 at 12 h 30 minutes the safe was opened from the locked state. For lock 1, the opening code OCa1 was used; for lock 2, the opening code OCd2 was used.

30	0000	All locks of the locking system are in the secured state.
35	1000	Lock 2 did not reach the secured state due to a fault; lock 1 did reach the secured state.
	0100	The system is in an active partial-locking period (only lock 2 is locked, lock 1 remains open) or lock 1 did not reach the secured state due to a fault, whereas lock 2 did reach the secured state.
40	0000	The time and/or the date of the locking system was set to the indicated value. Example: Interpretation: 40 0000 03.01.94 12:30 The system was set to the time 12 h 30 minutes and/or the date was set to January 3rd 1994.
41	0000	The normal opening delay was changed.
42	0000	The hold-up opening delay was changed.
43	0000	The maximum open-door time was changed.
44	0000	A locking-period was changed.
45	0000	A weekly locking-period was changed.
46	0000	A partial-locking period was changed.
47	0000	The summer/winter time changeover data were changed.
51	1000	Opening code a of lock 1 (OCa1) was changed.
	0100	Opening code a of lock 2 (OCa2) was changed.
52	1000	The AND code a& of lock 1 (OCa1&) was changed.
	0100	The AND code a& of lock 2 (OCa2&) was changed.
53	1000	Opening code b of lock 1 (OCb1) was changed.
	0100	Opening code b of lock 2 (OCb2) was changed.
54	1000	The AND-Code b& of lock 1 (OCb1&) was changed.
	0100	The AND-Code b& of lock 2 (OCb2&) was changed.
57	1000	The master code of lock 1 (MA1) was changed.
	0100	The master code of lock 2 (MA2) was changed.
60	c000	Opening code c of lock 1 (OCc1) was changed.
	d000	Opening code d of lock 1 (OCd1) was changed.
	e000	Opening code e of lock 1 (OCe1) was changed.
	f000	Opening code f of lock 1 (OCf1) was changed.
	g000	Opening code g of lock 1 (OCg1) was changed.
	h000	Opening code h of lock 1 (OCh1) was changed.
	i000	Opening code i of lock 1 (OCi1) was changed.
	k000	Opening code k of lock 1 (OCk1) was changed.
	0c00	Opening code c of lock 2 (OCc2) was changed.
	0d00	Opening code d of lock 2 (OCd2) was changed.
	0e00	Opening code e of lock 2 (OCe2) was changed.
	0f00	Opening code f of lock 2 (OCf2) was changed.
	0g00	Opening code g of lock 2 (OCg2) was changed.
	0h00	Opening code h of lock 2 (OCh2) was changed.
	0i00	Opening code i of lock 2 (OCi2) was changed.
	0k00	Opening code k of lock 2 (OCk2) was changed.
61	c000	Opening code c of lock 1 (OCc1) was cancelled.
	d000	Opening code d of lock 1 (OCd1) was cancelled.

6	`e000`	Opening code e of lock 1 (OCe1) was cancelled.
	`f000`	Opening code f of lock 1 (OCf1) was cancelled.
	`g000`	Opening code g of lock 1 (OCg1) was cancelled.
	`h000`	Opening code h of lock 1 (OCh1) was cancelled.
	`i000`	Opening code i of lock 1 (OCi1) was cancelled.
	`k000`	Opening code k of lock 1 (OCk1) was cancelled.
	`0c00`	Opening code c of lock 2 (OCc2) was cancelled.
	`0d00`	Opening code d of lock 2 (OCd2) was cancelled.
	`0e00`	Opening code e of lock 2 (OCe2) was cancelled.
	`0f00`	Opening code f of lock 2 (OCf2) was cancelled.
	`0g00`	Opening code g of lock 2 (OCg2) was cancelled.
	`0h00`	Opening code h of lock 2 (OCh2) was cancelled.
	`0i00`	Opening code i of lock 2 (OCi2) was cancelled.
	`0k00`	Opening code k of lock 2 (OCk2) was cancelled.
70	`0000`	The function 'Authorisation disabling' was deactivated (switched off) in the service menu.
	`1000`	The function 'Authorisation disabling' was activated (switched on) in the service menu.
71	`0000`	The function 'Manual locking' was switched off in the service menu.
	`1000`	The function 'Manual locking' was switched on in the service menu.
81	`0000`	Changeover from winter time (normal time) to summer time (+ 60 minutes). The indicated time is the new, changed time.
82	`0000`	Changeover from summer time to winter time (normal time; - 60 minutes). The indicated time is the new, changed time.

90	`tuvv`	Fault message
		    t = lock number (1 or 2)
		    u = lock part (A or B)
		    vv = fault number (service number 01 to 99)
		
		Example: Interpretation:
		90 2B51 03.01.94 12:30 On January 3rd 1994 at 12 h 30 minutes, a fault with service number 51 (mechanical blocked) occurred in lock 2 in the redundant lock part B.

95	`1000`	Manipulation on lock 1 detected (five or more wrong code entries).
	`0100`	Manipulation on lock 2 detected (five or more wrong code entries).

Code table

The following table contains all possible event codes with the additional information. Instead of the characters DD.MM.YY HH:MM the date (day, month, year) and the time (hours, minutes) are transmitted. In place of date and time a consecutive event number of the current log is output if none of the options Event time, Time functions or Switching unit are installed.

CC	SSSS	Date, Time	Description
00	400.65A – 401.65A		Software version of the input unit – lock 1 This information appears on the first line of the event memory output.
10	0000	DD.MM.YY HH:MM	Start-up of the locking system after failure of the power supply with the locks in the secured state.
15	0000	DD.MM.YY HH:MM	Start-up of the locking system after failure of the power supply with the locks in the locked or unlocked state.
20	ab00	DD.MM.YY HH:MM	All locks of the locking system (a = lock 1, b = lock 2) have reached the 'unlocked' state when the following identification is entered:

0 = Lock was already open (partial locking) or does not exist
(single lock system)
a = Opening with opening code a
b = Opening with opening code b
c = Opening with opening code c
d = Opening with opening code d
e = Opening with opening code e
f = Opening with opening code f
g = Opening with opening code g
h = Opening with opening code h
i = Opening with opening code i
j = Opening with opening code j
k = Opening with opening code k
l = Opening with opening code l
m = Opening with opening code m
n = Opening with opening code n
o = Opening with opening code o
p = Opening with opening code p
q = Opening with opening code q
r = Opening with opening code r
s = Opening with opening code s
t = Opening with opening code t
u = Opening with opening code u
v = Opening with opening code v
w = Opening with opening code w
x = Opening with opening code x
y = Opening with opening code y
z = Opening with opening code z
1 = Opening with opening code a&
2 = Opening with opening code b&

Example 1:
20 d000 03.01.98 12:30

Interpretation:
On 3 January 1998 at 12 h 20 minutes the safe reached the 'unlocked' state. The opening code OCd1 was used. No second lock exists.

Example 2:
20 0f00 03.01.98 12:30

Interpretation:
On January 3rd, 1998 at 12 h 30 min the safe reached the 'unlocked' state. The Opening code OCf2 was used. The first lock was already open (partial locking).

| 21 | ab00 | DD.MM.YY HH:MM | Opening or partial opening of the locking system (a = lock 1, b = lock 2) by entering the additional identification (AND code OC& or additional code with Code linkage function): |

0 = No additional identification to this lock given
a = Identification with opening code a
b = Identification with opening code b
c = Identification with opening code c
d = Identification with opening code d
e = Identification with opening code e
f = Identification with opening code f
g = Identification with opening code g
h = Identification with opening code h
i = Identification with opening code i
j = Identification with opening code j
k = Identification with opening code k
l = Identification with opening code l
m = Identification with opening code m
n = Identification with opening code n
o = Identification with opening code o
p = Identification with opening code p
q = Identification with opening code q
r = Identification with opening code r
s = Identification with opening code s
t = Identification with opening code t
u = Identification with opening code u
v = Identification with opening code v
w = Identification with opening code w
x = Identification with opening code x
y = Identification with opening code y
z = Identification with opening code z
1 = Identification with opening code a&
2 = Identification with opening code b&

Example:
21 0h00 03.01.98 12:30

Interpretation:
On January 3rd, 1998 at 12 h 30 min the opening code OCh2 was entered after the first entry of an opening code as additional identification. The first lock did not request any additional identification or was already open (partial locking)).

| 22 | ab00 | DD.MM.YY HH:MM | When opening or partially opening the locking system (a = lock 1, b = lock 2) the following was performed after the programmed delay time had elapsed: |

0 = Lock does not exist (single-lock system) or is already open (e.g. partial locking)
a = Identification after opening delay with opening code a
b = Identification after opening delay with opening code b
c = Identification after opening delay with opening code c
d = Identification after opening delay with opening code d
e = Identification after opening delay with opening code e
f = Identification after opening delay with opening code f
g = Identification after opening delay with opening code g
h = Identification after opening delay with opening code h
i = Identification after opening delay with opening code i
j = Identification after opening delay with opening code j
k = Identification after opening delay with opening code k
l = Identification after opening delay with opening code l

m = Identification after opening delay with opening code m
n = Identification after opening delay with opening code n
o = Identification after opening delay with opening code o
p = Identification after opening delay with opening code p
q = Identification after opening delay with opening code q
r = Identification after opening delay with opening code r
s = Identification after opening delay with opening code s
t = Identification after opening delay with opening code t
u = Identification after opening delay with opening code u
v = Identification after opening delay with opening code v
w = Identification after opening delay with opening code w
x = Identification after opening delay with opening code x
y = Identification after opening delay with opening code y
z = Identification after opening delay with opening code z
1 = Identification after opening delay with opening code a&
2 = Identification after opening delay with opening code b&

Example 1:
22 h000 03.01.98 12:30

Interpretation:
On January 3rd, 1998 at 12 h 30 min the opening code OCh1 was entered as identification after the programmed delay time of lock 1.

Example 2:
22 0k00 03.01.98 12:30

Interpretation:
On January 3rd, 1998 at 12 h 30 min the opening code OCk2 was entered as identification after the programmed delay time of lock 2. The locking system was partially locked, lock 1 was already open for at least one minute.

| 25 | ab00 | DD.MM.YY HH:MM | The locking system (a = lock 1, b = lock 2) is partially locked. Lock 1 was opened by entering the identification: |

0 = lock is already open or does not exist (single lock system)
a = Opening with opening code a
b = Opening with opening code b
c = Opening with opening code c
d = Opening with opening code d
e = Opening with opening code e
f = Opening with opening code f
g = Opening with opening code g
h = Opening with opening code h
i = Opening with opening code i
j = Opening with opening code j
k = Opening with opening code k
l = Opening with opening code l
m = Opening with opening code m
n = Opening with opening code n
o = Opening with opening code o
p = Opening with opening code p
q = Opening with opening code q
r = Opening with opening code r
s = Opening with opening code s
t = Opening with opening code t
u = Opening with opening code u
v = Opening with opening code v
w = Opening with opening code w

x = Opening with opening code x
y = Opening with opening code y
z = Opening with opening code z
1 = Opening with opening code a&
2 = Opening with opening code b&

Example: Interpretation:
25 a000 03.01.98 12:30   On January 3rd, 1998 at 12 h 30 min the
                                  safe reached the 'locked' state. To this purpose
                                  the opening code OCa1 was used for lock 1

29	a000	DD.MM.YY HH:MM	The monitored sector was disarmed by using a Legic badge:

A = Disarming with Legic badge A1
B = Disarming with Legic badge B1
C = Disarming with Legic badge C1
D = Disarming with Legic badge D1
E = Disarming with Legic badge E1
F = Disarming with Legic badge F1
G = Disarming with Legic badge G1
H = Disarming with Legic badge H1
I = Disarming with Legic badge I1
J = Disarming with Legic badge J1
K = Disarming with Legic badge K1
L = Disarming with Legic badge L1
M = Disarming with Legic badge M1
N = Disarming with Legic badge N1
O = Disarming with Legic badge O1
P = Disarming with Legic badge P1
Q = Disarming with Legic badge Q1
R = Disarming with Legic badge R1
S = Disarming with Legic badge S1
T = Disarming with Legic badge T1
U = Disarming with Legic badge U1
V = Disarming with Legic badge V1
W = Disarming with Legic badge W1
X = Disarming with Legic badge X1
Y = Disarming with Legic badge Y1
Z = Disarming with Legic badge Z1

30	0000	DD.MM.YY HH:MM	All locks of the locking system are in the 'Secured' state.
35	1000	DD.MM.YY HH:MM	Lock 2 has not reached the 'Secured' position due to a fault; lock 1 reached the 'Secured' position.
35	0100	DD.MM.YY HH:MM	The system is in an active partial locking period (only lock 2 is locked, lock 1 remains open) or lock 1 did not reach the 'Secured' position due to a fault; lock 2 reached the 'Secured' position.
39	a000	DD.MM.YY HH:MM	The monitored sector was armed by using a Legic badge:

A = Arming with Legic badge A1
B = Arming with Legic badge B1
C = Arming with Legic badge C1
D = Arming with Legic badge D1
E = Arming with Legic badge E1
F = Arming with Legic badge F1
G = Arming with Legic badge G1
H = Arming with Legic badge H1
I = Arming with Legic badge I1
J = Arming with Legic badge J1

K = Arming with Legic badge K1
L = Arming with Legic badge L1
M = Arming with Legic badge M1
N = Arming with Legic badge N1
O = Arming with Legic badge O1
P = Arming with Legic badge P1
Q = Arming with Legic badge Q1
R = Arming with Legic badge R1
S = Arming with Legic badge S1
T = Arming with Legic badge T1
U = Arming with Legic badge U1
V = Arming with Legic badge V1
W = Arming with Legic badge W1
X = Arming with Legic badge X1
Y = Arming with Legic badge Y1
Z = Arming with Legic badge Z1

40	0000	DD.MM.YY	HH:MM	Time and/or date of the locking system was set to this value.
40	****	DD.MM.YY	HH:MM	(old value at the time of change)

Example:
40 0000 03.01.98 12:30
40 **** 03:01.98 00:05

Interpretation:
On January 3rd, 1998 at 00 h 5 min
the time was reset to 12 h 30 minutes.
The date remained unchanged.

41	ab00	DD.MM.YY	HH:MM	The normal opening delay was changed (a= lock 1, b= lock 2; date, time of the change):

0 = No change was made.
1 = Change made in this lock.

41	++++	xx:xx	yy:yy	xx:xx = Old value of the normal opening delay in minutes and seconds
				yy:yy = New value of the normal opening delay in minutes and seconds

42	ab00	DD.MM.YY	HH:MM	The hold-up opening delay was changed (a = lock 1, b = lock 2; date, time of the change):

0 = No change made.
1 = Change made in this lock.

42	++++	xx:xx	yy:yy	xx:xx = Old value of the hold-up opening delay in minutes and seconds.
				yy:yy = New value of the hold-up opening delay in minutes and seconds.

Example:
42 1000 03.01.98 12:30
42 ++++ 00:00   60:00

Interpretation:
On January 3rd, 1998 at 00 h 5 min the
hold-up opening delay of lock 1 was defined
to 60 minutes. The old value was 00:00
(= function deactivated).

43	0000	DD.MM.YY	HH:MM	Change to the maximum door-open time (date, time of the change):
43	++++	xx:xx	yy:yy	xx:xx = Old value of the maximum opening duration in minutes and seconds
				yy:yy = New value of the maximum opening duration in minutes and seconds

44	0000	DD.MM.YY	HH:MM	Change to a locking period (date, time of the change):
44	++++	DD.MM.YY	HH:MM	New begin of the Locking period (only 00 if the locking period is deleted)
44	----	DD.MM.YY	HH:MM	New end of the locking period (only 00 if the locking period is deleted)
44	****	DD.MM.YY	HH:MM	Old start date and time (only 00 when newly entered)

45	0000	DD.MM.YY	HH:MM	Change to a weekly locking period (date, time of the change):
45	WW HH:MM – WW HH:MM			Begin and end of the stored time range (weekday, hour, minute; in the event of deletion only 00 are logged instead of new data)
45	****		WW HH:MM	Old start day and time (only 00 when newly entered)

WW = weekday (01=Mo, 02=Tu, 03=We, 04=Th, 05=Fr, 06=Sa, 07=Su)

46	`0000  DD.MM.YY HH:MM`	Change to a partial locking period (date, time of the change):
46	`WW HH:MM – WW HH:MM`	Begin and end of the stored time range (weekday, hour, minute; in the event of a deletion only 00 are logged instead of new data)
46	`****        WW HH:MM`	Old start day and time (only 00 when newly entered)
		WW = weekday (01=Mo, 02=Tu, 03=We, 04=Th, 05=Fr, 06=Sa, 07=Su)
47	`0000  DD.MM.YY HH:MM`	Change to the summer/wintertime changeover data (date, time of the change):
47	`++++  DD.MM.YY HH:MM`	Time of summertime activation (only 00 when changeover is deleted)
47	`----  DD.MM.YY HH:MM`	Time of wintertime activation (only 00 when the changeover is deleted)
48	`0000  DD.MM.YY HH:MM`	Change to a yearly locking period (date, time of the change):
48	`++++   TT.MM.  HH:MM`	New begin of the locking period (only 00 if the locking period is deleted)
48	`----   TT.MM.  HH:MM`	New end of the locking period (only 00 if the locking period is deleted)
48	`****   TT.MM.  HH:MM`	Old start date and time (only 00 when newly entered)
49	`a000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCa
	`b000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCb
	`c000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCc
	`d000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCd
	`e000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCe
	`f000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCf
	`g000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCg
	`h000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCh
	`i000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCi
	`j000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCj
	`k000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCk
	`l000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCl
	`m000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCm
	`n000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCn
	`o000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCo
	`p000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCp
	`q000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCq
	`r000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCr
	`s000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCs
	`t000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCt
	`u000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCu
	`v000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCv
	`w000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCw
	`x000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCx
	`y000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCy
	`z000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCz
	`1000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCa&
	`2000 DD.MM.YY HH:MM`	Change to fast locking by identification with opening code OCb&
	`3000 DD.MM.YY HH:MM`	Change to fast locking by identification with master code MA
	`4000 DD.MM.YY HH:MM`	Change to fast locking by identification with mutation code MU
	`5000 DD.MM.YY HH:MM`	Change to fast locking by identification with time code TC
49	`---- DD.MM.YY HH:MM`	New end of fast locking (only 00 if the locking period is deleted)
49	`**** DD.MM.YY HH:MM`	Old end date and time (only 00 when newly entered)
4A	`ab00 DD.MM.YY HH:MM`	Change to the entry time after opening delay (a = lock 1, b = lock 2; date, time of the change): 0 = No change made. 1 = Change made in this lock.
4A	`++++  xx:xx    yy:yy`	xx:xx = old value of the entry time after opening delay in minutes and seconds yy:yy = new value of the entry time after opening delay in minutes and seconds
50	`ab00  DD.MM.YY HH:MM`	The mutation code MU (a = lock 1, b = lock 2) was changed. 0 = No code change made in this lock. 1 = Code change made in this lock to a new code.

N = Code 'change' made in this lock but to the same code as before.
W = Change to the factory code. The code in this lock was deleted.

51	ab00	DD.MM.YY HH:MM	The Opening code OCa (a = lock 1, b = lock 2) was changed.

0 = No code change made in this lock.
1 = Code change made in this lock to a new code.
N = Code 'change' made in this lock but to the same code as before.
W = Code change to the factory code (10 20 30 40).

52	ab00	DD.MM.YY HH:MM	The AND code OCa& (a = lock 1, b = lock 2) was changed.

0 = No code change made in this lock.
1 = Code change made in this lock to a new code.
N = Code 'change' made in this lock but to the same code as before.
W = Code change to the factory code. The code in this lock was deleted.

53	ab00	DD.MM.YY HH:MM	The Opening code OCb (a = lock 1, b = lock 2) was changed.

0 = No code change made in this lock.
1 = Code change made in this lock to a new code.
N = Code 'change' made in this lock but to the same code as before.
W = Code change to the factory code. The code in this lock was deleted.

54	ab00	DD.MM.YY HH:MM	The AND code OCb& (a = lock 1, b = lock 2) was changed.

0 = No code change made in this lock.
1 = Change to a new code in this lock.
N = 'Change' to the same code in this lock.
W = Change to the factory code. The code in this lock was deleted.

55	ab00	DD.MM.YY HH:MM	The time code TC (a = lock 1, b = lock 2) was changed.

0 = No code change made in this lock.
1 = Code change made in this lock to a new code.
N = Code 'change' made in this lock but to the same code as before.
W = Code change to the factory code. The code in this lock was deleted.

57	ab00	DD.MM.YY HH:MM	The master code MA (a = lock 1, b = lock 2) was changed.

0 = No code change made in this lock.
1 = Code change made in this lock to a new code.
N = Code 'change' made in this lock but to the same code as before.
W = Change to the factory code. The master code, mutation code, time code, the additional codes OCc to OCk and all time functions in this lock were deleted. All settings in the service menu were reset to default values (exception: functions 'parallel mode' and 'manual locking').

60	ab00	DD.MM.YY HH:MM	An additional opening code (a = lock 1, b = lock 2) was changed.

0 = No code change made in this lock.
c = Opening code OCc in this lock changed.
d = Opening code OCd in this lock changed.
e = Opening code OCe in this lock changed.
f = Opening code OCf in this lock changed.
g = Opening code OCg in this lock changed.
h = Opening code OCh in this lock changed.
i = Opening code OCi in this lock changed.
j = Opening code OCj in this lock changed.
k = Opening code OCk in this lock changed.
l = Opening code OCl in this lock changed.
m = Opening code OCm in this lock changed.
n = Opening code OCn in this lock changed.
o = Opening code OCo in this lock changed.
p = Opening code OCp in this lock changed.

		q	= Opening code OCq in this lock changed.
		r	= Opening code OCr in this lock changed.
		s	= Opening code OCs in this lock changed.
		t	= Opening code OCt in this lock changed.
		u	= Opening code OCu in this lock changed.
		v	= Opening code OCv in this lock changed.
		w	= Opening code OCw in this lock changed.
		x	= Opening code OCx in this lock changed.
		y	= Opening code OCy in this lock changed.
		z	= Opening code OCz in this lock changed.
61	ab00 DD.MM.YY HH:MM		An additional opening code (a = lock 1, b = lock 2) was deleted.

61	ab00 DD.MM.YY HH:MM	An additional opening code (a = lock 1, b = lock 2) was deleted.
		0 = No deletion in this lock.
		c = Opening code OCc in this lock deleted.
		d = Opening code OCd in this lock deleted.
		e = Opening code OCe in this lock deleted.
		f = Opening code OCf in this lock deleted.
		g = Opening code OCg in this lock deleted.
		h = Opening code OCh in this lock deleted.
		i = Opening code OCi in this lock deleted.
		j = Opening code OCj in this lock deleted.
		k = Opening code OCk in this lock deleted.
		l = Opening code OCl in this lock deleted.
		m = Opening code OCm in this lock deleted.
		n = Opening code OCn in this lock deleted.
		o = Opening code OCo in this lock deleted.
		p = Opening code OCp in this lock deleted.
		q = Opening code OCq in this lock deleted.
		r = Opening code OCr in this lock deleted.
		s = Opening code OCs in this lock deleted.
		t = Opening code OCt in this lock deleted.
		u = Opening code OCu in this lock deleted.
		v = Opening code OCv in this lock deleted.
		w = Opening code OCw in this lock deleted.
		x = Opening code OCx in this lock deleted.
		y = Opening code OCy in this lock deleted.
		z = Opening code OCz in this lock deleted.
62	ab00 DD.MM.YY HH:MM	An additional opening code (a = lock 1, b = lock 2) was 'changed' to the same code.
		0 = No code 'change' in this lock.
		c = Opening code OCc in this lock 'changed' to the same code
		d = Opening code OCd in this lock 'changed' to the same code
		e = Opening code OCe in this lock 'changed' to the same code
		f = Opening code OCf in this lock 'changed' to the same code
		g = Opening code OCg in this lock 'changed' to the same code
		h = Opening code OCh in this lock 'changed' to the same code
		i = Opening code OCi in this lock 'changed' to the same code
		j = Opening code OCj in this lock 'changed' to the same code
		k = Opening code OCk in this lock 'changed' to the same code
		l = Opening code OCl in this lock 'changed' to the same code
		m = Opening code OCm in this lock 'changed' to the same code
		n = Opening code OCn in this lock 'changed' to the same code
		o = Opening code OCo in this lock 'changed' to the same code
		p = Opening code OCp in this lock 'changed' to the same code

		q	=	Opening code OCq in this lock 'changed' to the same code
		r	=	Opening code OCr in this lock 'changed' to the same code
		s	=	Opening code OCs in this lock 'changed' to the same code
		t	=	Opening code OCt in this lock 'changed' to the same code
		u	=	Opening code OCu in this lock 'changed' to the same code
		v	=	Opening code OCv in this lock 'changed' to the same code
		w	=	Opening code OCw in this lock 'changed' to the same code
		x	=	Opening code OCx in this lock 'changed' to the same code
		y	=	Opening code OCy in this lock 'changed' to the same code
		z	=	Opening code OCz in this lock 'changed' to the same code
65	ab00	DD.MM.YY HH:MM		Non-permissible attempt to re-assign a Legic badge since it is already assigned to this locking system (a = on lock 1, b = on lock 2).
			0 = No re-assignment on this lock.	
			A = Re-assignment of Legic badge A.	
			B = Re-assignment of Legic badge B.	
			C = Re-assignment of Legic badge C.	
			D = Re-assignment of Legic badge D.	
			E = Re-assignment of Legic badge E.	
			F = Re-assignment of Legic badge F.	
			G = Re-assignment of Legic badge G.	
			H = Re-assignment of Legic badge H.	
			I = Re-assignment of Legic badge I.	
			J = Re-assignment of Legic badge J.	
			K = Re-assignment of Legic badge K.	
			L = Re-assignment of Legic badge L.	
			M = Re-assignment of Legic badge M.	
			N = Re-assignment of Legic badge N.	
			O = Re-assignment of Legic badge O.	
			P = Re-assignment of Legic badge P.	
			Q = Re-assignment of Legic badge Q.	
			R = Re-assignment of Legic badge R.	
			S = Re-assignment of Legic badge S.	
			T = Re-assignment of Legic badge T.	
			U = Re-assignment of Legic badge U.	
			F = Re-assignment of Legic badge V.	
			W = Re-assignment of Legic badge W.	
			X = Re-assignment of Legic badge X.	
			Y = Re-assignment of Legic badge Y.	
			Z = Re-assignment of Legic badge Z.	
68	ab00	DD.MM.YY HH:MM		Assignment of a Legic badge (a = on lock 1, b = on lock 2).
			0 = No assignment on this lock.	
			A = Assignment of Legic badge A.	
			B = Assignment of Legic badge B.	
			C = Assignment of Legic badge C.	
			D = Assignment of Legic badge D.	
			E = Assignment of Legic badge E.	
			F = Assignment of Legic badge F.	
			G = Assignment of Legic badge G.	
			H = Assignment of Legic badge H.	
			I = Assignment of Legic badge I.	
			J = Assignment of Legic badge J.	
			K = Assignment of Legic badge K.	
			L = Assignment of Legic badge L.	
			M = Assignment of Legic badge M.	

N = Assignment of Legic badge N.
O = Assignment of Legic badge O.
P = Assignment of Legic badge P.
Q = Assignment of Legic badge Q.
R = Assignment of Legic badge R.
S = Assignment of Legic badge S.
T = Assignment of Legic badge T.
U = Assignment of Legic badge U.
F = Assignment of Legic badge V.
W = Assignment of Legic badge W.
X = Assignment of Legic badge X.
Y = Assignment of Legic badge Y.
Z = Assignment of Legic badge Z.

69	ab00	DD.MM.YY HH:MM	Removal of a Legic badge (a = from lock 1, b = from lock 2).

0 = No removal from this lock.
A = Removal of Legic badge A.
B = Removal of Legic badge B.
C = Removal of Legic badge C.
D = Removal of Legic badge D.
E = Removal of Legic badge E.
F = Removal of Legic badge F.
G = Removal of Legic badge G.
H = Removal of Legic badge H.
I = Removal of Legic badge I.
J = Removal of Legic badge J.
K = Removal of Legic badge K.
L = Removal of Legic badge L.
M = Removal of Legic badge M.
N = Removal of Legic badge N.
O = Removal of Legic badge O.
P = Removal of Legic badge P.
Q = Removal of Legic badge Q.
R = Removal of Legic badge R.
S = Removal of Legic badge S.
T = Removal of Legic badge T.
U = Removal of Legic badge U.
F = Removal of Legic badge V.
W = Removal of Legic badge W.
X = Removal of Legic badge X.
Y = Removal of Legic badge Y.
Z = Removal of Legic badge Z.

70	0000	DD.MM.YY HH:MM	The function 'authorisation disabling' was deactivated in the service menu (switched off)
	1000	DD.MM.YY HH:MM	The function 'authorisation disabling' was deactivated in the service menu (switched on)
71	0000	DD.MM.YY HH:MM	The function 'manual locking' was deactivated in the service menu (switched off)
	1000	DD.MM.YY HH:MM	The function 'manual locking' was deactivated in the service menu (switched on)
72	1000	DD.MM.YY HH:MM	The function 'parallel mode' was activated in the service menu (switched on)
	0000	DD.MM.YY HH:MM	The function 'parallel mode' was deactivated in the service menu (switched off)
73	ab00	DD.MM.YY HH:MM	The function 'code linkage' (a = lock 1, b = lock 2) was changed in the service menu.

0 = No change made in this lock.
1 = Function activated in this lock (switched on)
2 = Function deactivated in this lock (switched off)

74	1000	DD.MM.YY HH:MM	The function 'online logging duress code' was activated in the service menu

	0000	DD.MM.YY HH:MM	The function 'online logging duress code' was deactivated in the service menu
75	1000	DD.MM.YY HH:MM	The function 'offline logging duress code' was activated in the service menu
	0000	DD.MM.YY HH:MM	The function 'offline logging duress code' was deactivated in the service menu
76	1000	DD.MM.YY HH:MM	The function 'allow fast locking' was activated in the service menu
	0000	DD.MM.YY HH:MM	The function 'allow fast locking' was deactivated in the service menu
77	1000	DD.MM.YY HH:MM	The function 'badge + code' was activated in the service menu
	0000	DD.MM.YY HH:MM	The function 'badge + code' was deactivated in the service menu
81	0000	DD.MM.YY HH:MM	Changeover from wintertime (normal time) to summertime (+ 60 minutes). The logged time shows the new, changed time.
82	0000	DD.MM.YY HH:MM	Changeover from summertime to wintertime (normal time; - 60 minutes). The logged time shows the new, changed time.
83	a000	DD.MM.YY HH:MM	System status inquired with opening code OCa1 while safe closed.
	b000	DD.MM.YY HH:MM	System status inquired with opening code OCb1 while safe closed.
	c000	DD.MM.YY HH:MM	System status inquired with opening code OCc1 while safe closed.
	d000	DD.MM.YY HH:MM	System status inquired with opening code OCd1 while safe closed.
	e000	DD.MM.YY HH:MM	System status inquired with opening code OCe1 while safe closed.
	f000	DD.MM.YY HH:MM	System status inquired with opening code OCf1 while safe closed.
	g000	DD.MM.YY HH:MM	System status inquired with opening code OCg1 while safe closed.
	h000	DD.MM.YY HH:MM	System status inquired with opening code OCh1 while safe closed.
	i000	DD.MM.YY HH:MM	System status inquired with opening code OCi1 while safe closed.
	j000	DD.MM.YY HH:MM	System status inquired with opening code OCj1 while safe closed.
	k000	DD.MM.YY HH:MM	System status inquired with opening code OCk1 while safe closed.
	l000	DD.MM.YY HH:MM	System status inquired with opening code OCl1 while safe closed.
	m000	DD.MM.YY HH:MM	System status inquired with opening code OCm1 while safe closed.
	n000	DD.MM.YY HH:MM	System status inquired with opening code OCn1 while safe closed.
	o000	DD.MM.YY HH:MM	System status inquired with opening code OCo1 while safe closed.
	p000	DD.MM.YY HH:MM	System status inquired with opening code OCp1 while safe closed.
	q000	DD.MM.YY HH:MM	System status inquired with opening code OCq1 while safe closed.
	r000	DD.MM.YY HH:MM	System status inquired with opening code OCr1 while safe closed.
	s000	DD.MM.YY HH:MM	System status inquired with opening code OCs1 while safe closed.
	t000	DD.MM.YY HH:MM	System status inquired with opening code OCt1 while safe closed.
	u000	DD.MM.YY HH:MM	System status inquired with opening code OCu1 while safe closed.
	v000	DD.MM.YY HH:MM	System status inquired with opening code OCv1 while safe closed.
	w000	DD.MM.YY HH:MM	System status inquired with opening code OCw1 while safe closed.
	x000	DD.MM.YY HH:MM	System status inquired with opening code OCx1 while safe closed.
	y000	DD.MM.YY HH:MM	System status inquired with opening code OCy1 while safe closed.
	z000	DD.MM.YY HH:MM	System status inquired with opening code OCz1 while safe closed.
	1000	DD.MM.YY HH:MM	System status inquired with AND code OCa1& while safe closed.
	2000	DD.MM.YY HH:MM	System status inquired with AND code OCb1& while safe closed.
	3000	DD.MM.YY HH:MM	System status inquired with master code MA1 while safe closed.
	4000	DD.MM.YY HH:MM	System status inquired with mutation code MU1 while safe closed.
	5000	DD.MM.YY HH:MM	System status inquired with time code TC1 while safe closed.
84	ab00	DD.MM.YY HH:MM	The duress code was entered (a = for lock 1, b = for lock 2) by identification with:

0 = No duress alarm triggered from this lock
a = Identification with opening code a
b = Identification with opening code b
c = Identification with opening code c
d = Identification with opening code d
e = Identification with opening code e
f = Identification with opening code f
g = Identification with opening code g
h = Identification with opening code h

	i = Identification with opening code i	
	j = Identification with opening code j	
	k = Identification with opening code k	
	l = Identification with opening code l	
	m = Identification with opening code m	
	n = Identification with opening code n	
	o = Identification with opening code o	
	p = Identification with opening code p	
	q = Identification with opening code q	
	r = Identification with opening code r	
	s = Identification with opening code s	
	t = Identification with opening code t	
	u = Identification with opening code u	
	v = Identification with opening code v	
	w = Identification with opening code w	
	x = Identification with opening code x	
	y = Identification with opening code y	
	z = Identification with opening code z	
	1 = Identification with opening code a&	
	2 = Identification with opening code b&	
	3 = identification with master code MA	
	4 = identification with mutation code MU	
	5 = identification with time code TC	
85 ab00 DD.MM.YY HH:MM	The opened lock (a = lock 1, b = lock 2) was closed again before opening of the locking system was completed. Opening was performed by identification with:	

0 = Lock does not exist (single-lock system) or was not closed.
a = Identification with opening code a
b = Identification with opening code b
c = Identification with opening code c
d = Identification with opening code d
e = Identification with opening code e
f = Identification with opening code f
g = Identification with opening code g
h = Identification with opening code h
i = Identification with opening code i
j = Identification with opening code j
k = Identification with opening code k
l = Identification with opening code l
m = Identification with opening code m
n = Identification with opening code n
o = Identification with opening code o
p = Identification with opening code p
q = Identification with opening code q
r = Identification with opening code r
s = Identification with opening code s
t = Identification with opening code t
u = Identification with opening code u
v = Identification with opening code v
w = Identification with opening code w
x = Identification with opening code x
y = Identification with opening code y
z = Identification with opening code z
1 = Identification with opening code a&
2 = Identification with opening code b&

90	tuvv	DD.MM.YY HH:MM	Fault message t = Lock number (1 or 2) u = Lock part (A or B) vv = Error number (Service number 01 to 99) <u>Example:</u> <u>Interpretation:</u> 90 2B51 03.01.98 12:30 On January 3rd, 1998 at 12 h 30 minutes a fault with the service number 51 (mech. blocked) occurred in lock 2 in the redundant lock part B.
91	0000	DD.MM.YY HH:MM	The message 'battery empty' appeared when the input unit was activated
92	0000 1000	DD.MM.YY HH:MM DD.MM.YY HH:MM	The service code was entered with the locking system in the secured state. The service code was entered with the locking system either unlocked or locked.
93	!000 #000	DD.MM.YY HH:MM DD.MM.YY HH:MM	Attempted identification with a Legic badge which is either not yet assigned or no longer assigned and is therefore invalid Reading error during identification with a Legic badge
94	ab00	DD.MM.YY HH:MM	Entry of invalid identification (a = for lock 1, b = for lock 2), i.e. incorrect code or for this application invalid Legic badge when identification requested:

0 = No invalid identification on this lock.
# = Identification for opening lock, change to fast locking, status or locking period inquiry
! = Identification for arming/disarming (non-system Legic badge)
a = Identification for changing the code of opening code OCa or for activating opening code OCb, OCa& or OCb&
b = Identification for changing the code of opening code OCb
c = Identification for changing the code of opening code OCc
d = Identification for changing the code of opening code OCd
e = Identification for changing the code of opening code OCe
f = Identification for changing the code of opening code OCf
g = Identification for changing the code of opening code OCg
h = Identification for changing the code of opening code OCh
i = Identification for changing the code of opening code OCi
j = Identification for changing the code of opening code OCj
k = Identification for changing the code of opening code OCk
l = Identification for changing the code of opening code OCl
m = Identification for changing the code of opening code OCm
n = Identification for changing the code of opening code OCn
o = Identification for changing the code of opening code OCo
p = Identification for changing the code of opening code OCp
q = Identification for changing the code of opening code OCq
r = Identification for changing the code of opening code OCr
s = Identification for changing the code of opening code OCs
t = Identification for changing the code of opening code OCt
u = Identification for changing the code of opening code OCu
v = Identification for changing the code of opening code OCv
w = Identification for changing the code of opening code OCw
x = Identification for changing the code of opening code OCx
y = Identification for changing the code of opening code OCy
z = Identification for changing the code of opening code OCz
1 = Identification for changing the code of opening code OCa&
2 = Identification for changing the code of opening code OCb&
3 = Identification with master code MA after power on, activating a function or changing a code
4 = Identification with mutation code MU after power on, activating a function or changing a code

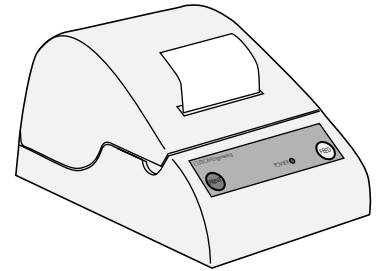|			
			5 = Identification with time code TC after power on, when function activated or code change
95	1000	DD.MM.YY HH:MM	Manipulation to code of lock 1 detected (five or more incorrect entries). Manipulation blocking activated
	0100	DD.MM.YY HH:MM	Manipulation to code of lock 2 detected (five or more incorrect entries). Manipulation blocking activated.
99	1000	DD.MM.YY HH:MM	It was not possible to arm the monitored sector. Reason: No response from central station (time-out).
	2000	DD.MM.YY HH:MM	It was not possible to arm the monitored sector. Reason: The operation was cancelled by the operator

Log printer   Connection

Log printer DP24	A printer, for example the log printer 'DP24' (order no. 302.024), can be connected to the log output of the options box or the switching element box. The printer has a built-in mains supply (1A printer, for example the log printer 'DP24' (order no.: 302.024) can be connected to the log output of the option box or the switching unit box. The printer has a built in mains supply (220 - 240 VAC) and a serial interface.
Connection	To connect the 'DP24' a special printer connection cable (order no. 302.119) is needed . This cable is also used for the power supply of the TTY interface. If a cable is too long, this can cause an error in data transmission. Only cable lengths up to 8 m are tested. There are two basic connection modes:
'Off-line' logging	With 'off-line' logging, the contents of the event memory are printed on the log printer after an authorisation identification on the input unit of the locking system. For this mode, the jack plug (ø 3.5 mm) of the cable is plugged into the jack socket of the options box.

Options box   Log printer 302.024
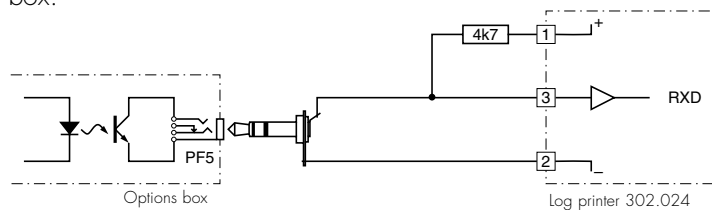
'On-line' logging	For this mode, the option 'Mains operation' or the switching unit box must be installed. With 'on-line' logging, the events are automatically printed on the log printer as soon as they occur. For this mode, the cable (without contact plug) is connected to the terminals 10 and 11 of the connection and options box or terminals 5 and 6 of the switching unit box.

Connection and
options box 302.020   Log printer 302.024

Switching unit box 302.033   Log printer 302.024

Log printer

Operating/ Configuration

Control panel

CUSTOM Engineering

PRINT button — PRINT   POWER ●   FEED — FEED button (line feed)

POWER-LED (on/off indicator)
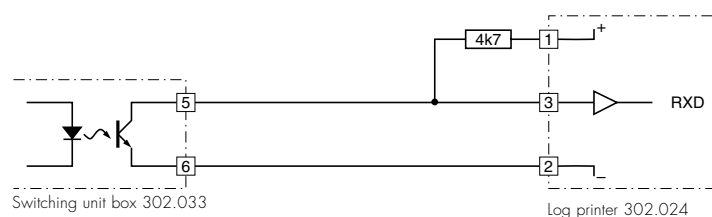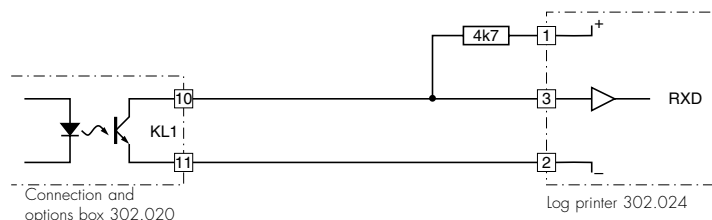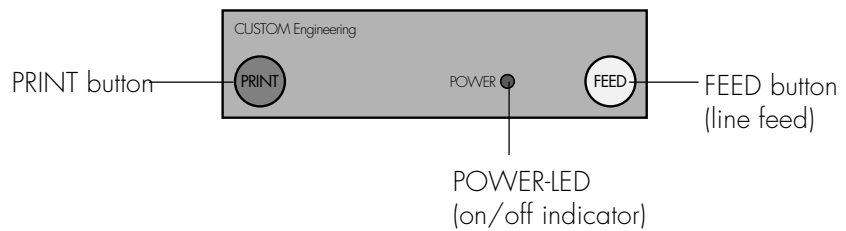
Autotest

Keep the FEED button pressed during start-up of the printer in order to start the autotest. The autotest consists of printing the printer configuration, a memory check and printing the character sets that are available.

Configuration

Normally, the log printer DP24 comes with the correct configuration.
The configuration defines print direction , character set, information for data receipt, etc. The configuration is stored in a power failure-proof memory (EEPROM).
The printer configuration can only be changed in the 'configuration' mode. During start-up of the printer keep the buttons PRINT and FEED pressed simultaneously to activate this mode.

The user guidance in the 'configuration' mode is given in English.
A heading is printed, followed by the first parameter. This parameter can be changed by pressing the PRINT button
When the required parameter has been printed, it is confirmed by pressing the FEED button. The next parameter which can be changed is then printed automatically.
When all parameters have been worked through, a printout of the then valid printer configuration is then performed.

The following configuration is required for using the log printer with the high-security lock:

Parameter	Description
PRINT = REVERSE	Print direction; setting 'PRINT= NORMAL' prints upside down.
LITTLE	Selection of character size
FONT1	Using character set 1; the setting 'FONT2' also functions.
CR-LF HONOR CR	Line switching in software. Attention: This setting must be correct, otherwise nothing is printed!
TEXT = DISABLE	No stored heading is printed.
BAUD : 1200	Baud rate (data-transmission frequency). Attention: This setting must be correct, otherwise nothing is printed!
PROT. : 8,N,1	Data log; 8 data bits, no parity bit, 1 stop bit are expected. Attention: This setting must be correct, otherwise nothing is printed!
CONTROL CTS-RTS	Hardware or software handshake. Attention: This setting must be correct, otherwise nothing is printed!

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Log printer   Maintenance

General

Never print without paper or ribbon, otherwise the printer pins wear out excessively.

Keep the inside of the printer free of dirt (bits of paper, etc.).

Check that the printer is switched off before connecting it to the mains and to the locking system.

Changing the paper

1. Open cover, remove remainder of old roll. Put the new paper roll in its place with the leading edge on the bottom (see figure 1).
2. Insert the edge of the paper into the slit of the printer.
3. Press the FEED button to move the paper a couple of centimetres out of the printer.
4. Feed the paper edge through the slit in the cover and close the cover

Changing the ink ribbon

1. Open the cover, remove old ink ribbon (press your thumb on point A, the ink ribbon pops out of its mount at point B and can be removed).
2. Insert new ink ribbon by pressing points A and B simultaneously. Check correct position.
3. Turn the knurled wheel on the ink ribbon to pull the ribbon taut, then close the cover.
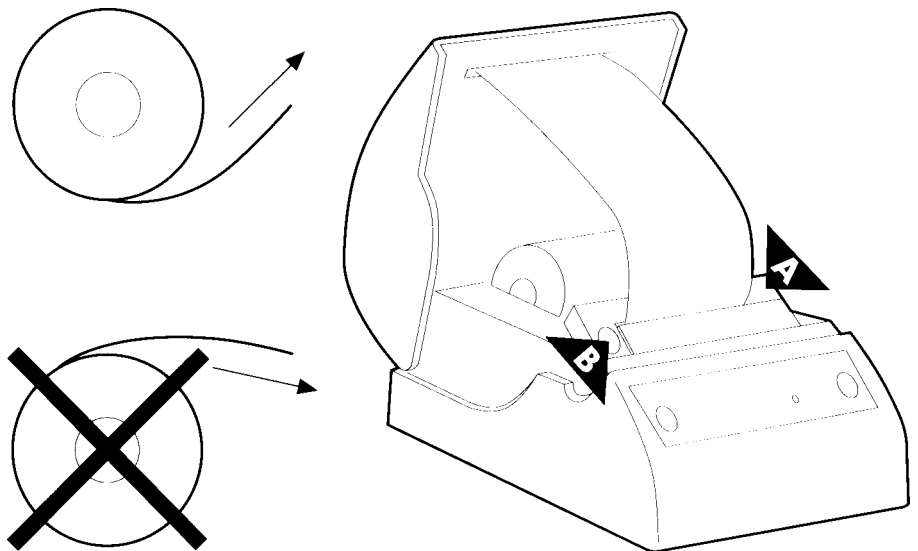
Fig. 1

| Paper roll: | Width 57 mm, ø max. 60 mm | Order no. | 302.026 |
| Ink ribbon: | Type 'ERC 22 Longlife' | Order no. | 302.025 |

Log printer

Connection

|	
Log printer PRIMO-BIT	A printer, for example the thermal printer 'PRIMO-BIT' (order no. 301.450), can be connected to the log interface. The printer has a suitable TTY interface and an integrated 20 mA power supply for the interface.
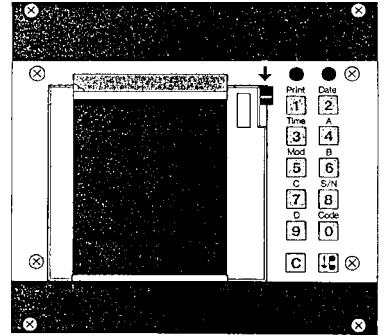
Connection

A special printer connection cable (order no. 302.116) is required for connection of the 'PRIMO-BIT'. The current loop (TTY) interface is also power supplied by this cable. There are two principle types of connection:

Off-line' logging

With offline logging the content of the event memory is output to the log printer after authorisation identification. For this operating mode the cable is provided with a jack plug (ø 3,5 mm) and connected to the jack socket of the options box.
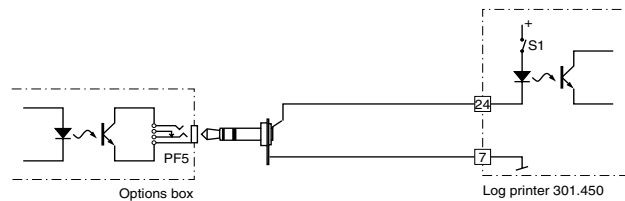
'On-line' logging

For this mode, one of the options 'Mains operation', 'UPS connection' or 'Switching unit' must be installed. With 'on-line' logging, the events are automatically output when they occur. For this mode, the cable is to be connected to the terminals 10 and 11 of the connection and options box or terminals 5 and 6 of the switching unit box.
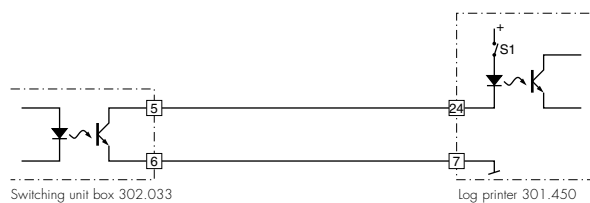


Power supply to 20 mA current loop

To supply the current loop with power from the printer, switch the wire jumper S1 in the printer on and switch the wire jumper S2 off. For this purpose, draw out the upper cover of the printer to the rear and place wire jumper S1 next to the 25-pole Cannon plug (but not S2). Close the printer again.

Log printer   Configuration

Opening the code lock

To program the printer, first unlock the code lock, which prevents the programming from being changed by non-authorised persons.
Press key 0 (Code); the printer prints 'CODE OFF'. Then enter the code 6051; the printer prints 'CODE ON'. Now the printer can be programmed.
In this application of the printer, date and time are supplied by the Paxos locking system. However, the printer has a clock of its own, the values of which are automatically printed after a power failure. The printer clock can be set with keys 2 (Date) and 3 (Time).

Selecting the interface

Press key 4 (A) to set the interface. Then press key 1 to activate the current interface TTY needed by Paxos.

Print image

Press key 5 (Mod) to select the print image. Then press the key combination 1 3 0 to select the setting necessary for use with the Paxos locking system.

Baud rate

To parametrise the interface, press key 6 (B). By pressing the key combination 6 0 the baud rate is set to 1200 Baud and the parity bit is not evaluated

Summer/winter-time changeover

Press key 8 (S/N) to set the time for switching from summer time to regular time. Follow the operating instructions of the printer. This setting has no influence on the system clock of the Paxos locking system.

Print intensity

Press key 9 (D) to adapt the print intensity to the thermal printing paper that is used. Pressing 6 next gives a satisfactory print image for most paper types. (Key 1 gives the lightest printing, key 9 the darkest.)

Closing the code lock

To protect the programming of the printer against unintended changes, the code lock can be locked again by pressing key 0 (Code) and entering the code 9999. The printer prints 'CODE OFF'.
The programming is maintained even if the power supply is disconnected for a prolonged period of time (up to 14 days).

Log printer   Maintenance

Changing the paper

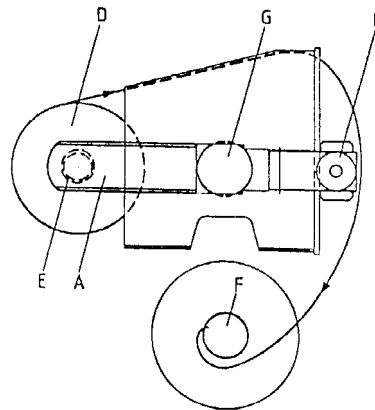To change the paper remove the cartridge by pressing the eject lever.
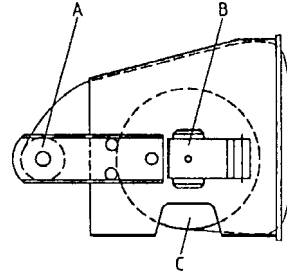
Removing the old paper

Slightly lift lever A and remove the empty paper roll.

Lift flap B and swivel it fully to the right.

Remove the roll of printed paper and take it from the spool spindle.

Inserting the new paper roll

Push the new, unprinted paper roll D on axle E folded out to the left.

Swivel axle E (with the new paper roll) back to the right until it locks into lever A.

Lead the paper around the cartridge in the direction of the arrow, insert it in spool spindle F and wrap it around tightly several times.

Place spool spindle F in the inside of the cartridge (in position G) and swivel flap B back again.
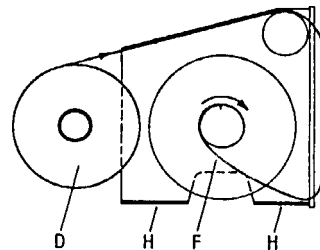
Rotate spool spindle F several times in the direction of the arrow until the paper lies tightly in the paper guide.

Push the cartridge back into the printer box and press lightly until it audibly locks into place.

If roll D is incorrectly inserted, the paper is transported, but nothing is printed!

Electronic
event memory

Description

The Paxos Databox (order no. 301.455) is a modern, powerful electronic data logging device for installation in the secured area (strongroom) of a locking system. It stores up to 12,000 events in a loop memory (ring buffer). When the memory is full, the first (oldest) entry is overwritten by the new entry.
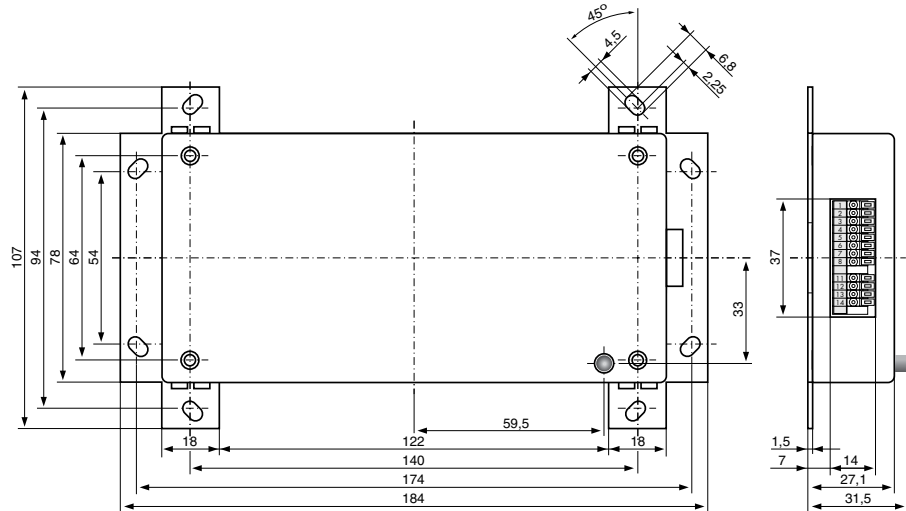
The stored data are retained for up to 750 hours without external power supply. The Paxos Databox can receive events from a maximum number of three independent input lines simultaneously, provide an origin index (1, 2 or 3) and store chronologically. The memory content is output chronologically from the latest to the first event or until output is terminated. The stored data are not deleted during output and can be output repeatedly.

Electronic data evaluation

The Paxos Databox can be connected to a laptop or personal computer (PC) via a standard RS232 serial interface for subsequent electronic processing of the stored events. The data can be called up when required with a conventional terminal driver, e.g. the 'HyperTerminal' programme which is usually installed with Microsoft® Windows® operating systems (see page 27), and stored in a file.
It is possible to protect the stored data against unauthorised access by programming an individual password for communication with the Paxos Databox.

20 mA current loop interface (TTY)

The Paxos Databox is also provided with a serial 20 mA current interface for direct connection of e.g. a printer. The power supply to this electrically isolated output must be provided by the connected device (e.g. printer).
If no individual password has been programmed for communication with the Paxos Databox, data output can be started by briefly pressing the button on the Paxos Databox. If the key is pressed for a long time, output is stopped again.
As soon as an individual password (≠ 10 20 30 40) is programmed, the command for output of the stored events can only be given via a the RS232 serial interface and no longer with the button.
The 20 mA current interface runs in parallel to the RS 232 serial interface. The set transmission parameters (Baud rate, number of data bits and stop bits, parity) are therefore valid for both the RS232 and the 20 mA current loop interface.

Electronic
event memory

Connection of the power supply

The Paxos Databox must be provided with a minimum voltage of 10.0 V to a maximum voltage of 25.0 V on terminals 12 and 13. A rectifier circuit installed in the unit permits the supply with AC or DC voltage. The current consumption depends on the number of the connected input lines. The maximum value is 200 mA.

With locking systems which are supplied with power from a UPS (uninterruptible power supply) system, the power supply of the Paxos Databox must also be connected to the UPS system, as otherwise the events could not be stored in the event of a power failure.

Power supply for connection of additional devices is in turn provided on terminals 11 and 14 (observe the maximum consumption values).

Connection of the input lines

The first locking system is connected to input line via terminals 1 and 2. If required additional locking systems can be connected to a second and third input line via terminals 3 and 4 as well as 5 and 6. Three independent power sources supply the current loops of each input line with 20 mA. Ensure correct polarity during connection. When the unit is switched on, all events arriving through the input lines are consecutively recorded in the memory of the Databox.

Connection to the computer

Serial connection to a laptop or computer is performed with its serial interface (RS232) and via the 9-pin D-SUB connector of the Paxos Databox with a conventional 'AT link cable' or with a cable in accordance with the circuit diagram.
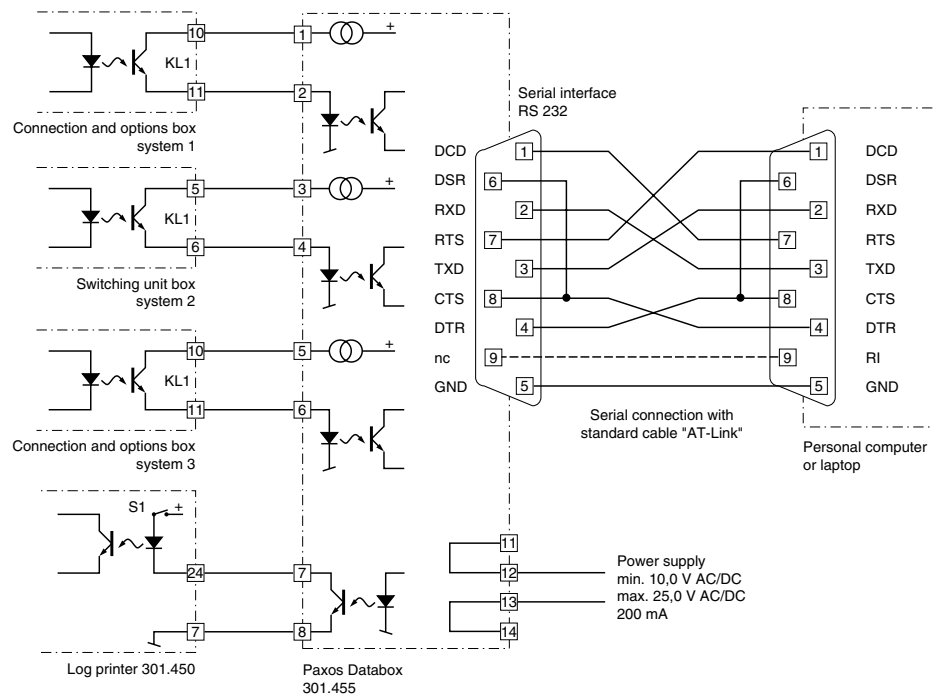
Electronic
event memory

Interface factory default settings

When the power supply to the Paxos Databox is switched on or when the button on the Paxos Databox is pressed, the factory setting for serial connection to a personal computer is loaded. Only a previously programmed password and the stored events are retained.
Factory setting: 1200 Baud, 1 start bit, 8 data bits, 1 stop bit, no parity bit.

Starting the terminal programme

As soon as a terminal programme is activated and the parameters of the interface of the personal computer (laptop) are also set accordingly to the parameters of the Databox, communication with the Paxos Databox can be commenced.

Press ENTER

When the ENTER (or RETURN) key on the computer is pressed the Paxos Databox responds with the current selection menu or with:

```
....................................................................
•        Kaba Schliesssysteme AG, CH-8620 Wetzikon - (C) 1996-99      •
....................................................................
•                PAXOS EVENT MEMORY        Version EM 1.1.2           •
....................................................................

Password: _
```

Enter password

When the valid password has been entered, the factory password is 10 20 30 40, the main menu appears:

```
Password: ••••••••

-------------------------------------------------------------------

Main menu:
1) Print-out event memory
2) Setup
9) Logout

Please enter your choice: _
```

When key 1 is pressed, output of the stored events to the PC can be started. The setup menu is activated when key 2 is pressed. When key 9 is pressed, authorisation is cancelled and the start menu is reactivated for entry of the password.

Electronic
event memory

Starting the main menu	Start the main menu by entering the password or by returning from another menu:

```
----------------------------------------------------------------------

Main menu:
1) Print-out event memory
2) Setup
9) Logout

Please enter your choice: 2
```

Press key 2	When key 2 is pressed the setup menu appears:

```
----------------------------------------------------------------------

Setup menu:
1) Port configuration
2) Change Password
9) Go to main menu

Please enter your choice: _
```

Press key 1	Press key 1 to start parametrisation of the interface:

```
----------------------------------------------------------------------

Port configuration            Current setting: 1200,N,8,1,H

BAUD RATE:     PARITY:      DATA BITS:    STOP BITS:    HANDSHAKE:
1)  1200       N) None      7) 7 Bits     5) 1 Bit      X) Xon/Xoff
2)  2400       E) Even      8) 8 Bits     6) 2 Bits     H) Hardware
3)  4800       O) Odd
4)  9600       S) Space
W) 19200                                  D) Default settings

Exit:          Z) Quit and save          Q) Quit without save

Please enter your choice: _
```

Change settings	Select the required setting of the interface by pressing the respective keys. The selected setting is displayed under 'Current setting', the interface is, however, not yet switched over. The meaning of the individual settings is given in the description of the terminal programme or the operating instructions of the computer.
Press key Z	When the 'Z' key is pressed, verification is required whether the interface should be switched over or not:

```
Are you sure, that you want to change the port-setting? (Y/N) _
```

Press key Y	When the 'Y' key is pressed the selected setting is stored and the interface switched over after the following message has appeared:

```
----------------------------------------------------------------------

Please change now your terminal-settings to:

Port configuration            Current setting: 9600,N,8,1,X

and press <Enter> to continue
```

Changing the computer interface settings	Change the settings of the computer interface to the new values in the setup menu of the terminal programme and save. Restart communication with the Paxos Databox by pressing the ENTER key. The connection then runs with the newly set parameters.
Automatic reset to factory setting	The interface runs automatically with the factory setting 1200,N,8,1,H when the power supply has been interrupted or, if a password (≠ 10 20 30 40) has been programmed, when the button has been pressed.

Electronic
event memory

Starting the main menu

Start the main menu by entering the password or by returning from another menu:
```
---------------------------------------------------------------------

Main menu:
1) Print-out event memory
2) Setup
9) Logout

Please enter your choice: 1
```

Press key 1

The following prompt appears when key 1 is pressed:
```
---------------------------------------------------------------------

Print-out event memory:

-> Press <Enter> or 'Print-Button' to start printing.
-> Press <Esc> or 'Print-Button' to stop printing: _
```

Press ENTER

Start output by pressing the ENTER key (example):
```
----------------------
   Start event memory       Meaning
----------------------
1 20 ac00 11.09.96 14:12    System 1, lock 1 opened with OCa1 and lock 2 opened with OCc2
1 30 0000 11.09.96 12:02    System 1, all locks closed
2 30 0000 11.09.96 12:00    System 2, all locks closed
1 25 da00 11.09.96 10:15    System 1, opened from partial locking, lock 2 with OCa2
1 35 0a00 11.09.96 08:58    System 1, partial locking, lock 1 open, lock 2 closed
2 20 aa00 11.09.96 08:17    System 2, lock 1 opened with OCa1, lock 2 opened with OCa2
1 20 da00 11.09.96 07:55    System 1, lock 1 opened with OCd1, lock 2 with OCa2
1 30 0000 10.09.96 18:11    System 1, all locks closed
2 30 0000 10.09.96 16:44    System 2, all locks closed
----------------------
Printing stopped by user
----------------------
```

Press ESC

Printing is stopped by pressing the ESCAPE (Esc) key and the message 'Printing stopped by user' appears. When the end of the event memory is reached, the printout is also stopped, but with the message 'End event memory'. The main menu is then displayed once more:
```
---------------------------------------------------------------------

Main menu:
1) Print-out event memory
2) Setup
9) Logout

Please enter your choice: _
```

Note:

New events on the input lines during output are stored chronologically in the memory. However, to obtain a full data log during printing, it should be ensured that no new events are generated by the connected systems during printing.

Electronic
event memory

Starting the main menu	Start the main menu by entering the valid password or by returning from another menu.

```
----------------------------------------------------------------------

Main menu:
1) Print-out event memory
2) Setup
9) Logout

Please enter your choice: 2
```

Press key 2	The setup menu appears when key 2 is pressed.

```
----------------------------------------------------------------------

Setup menu:
1) Port configuration
2) Change Password
9) Go to main menu

Please enter your choice: _
```

Press key 2	Press key 2 to change the password.

```
----------------------------------------------------------------------

Change Password:

Old Password:    _
```

Enter the old password	The old 8-character password must be entered to identify authorisation and confirmed with the ENTER key. Excess characters are ignored.

```
----------------------------------------------------------------------

Change Password:

Old Password:    ••••••••
New Password:    _
```

Enter the new password	The new 8-character password (digits and/or letters) can be entered and confirmed with the ENTER key. Excess characters are ignored.

```
----------------------------------------------------------------------
Change Password:

Old Password:    ••••••••
New Password:    ••••••••
Repeat Password: _
```

Repeat the new password	For verification the new password must be repeated and confirmed with the ENTER key. If the entry is correct the change is confirmed. Otherwise a corresponding error message is given and the password is not changed.

```
----------------------------------------------------------------------

Change Password:

Old Password:    ••••••••
New Password:    ••••••••
Repeat Password: ••••••••

The Password is now changed!
```

Note:	The change in the password cannot be reversed without a loss of stored data. For this reason keep the password in a safe place.

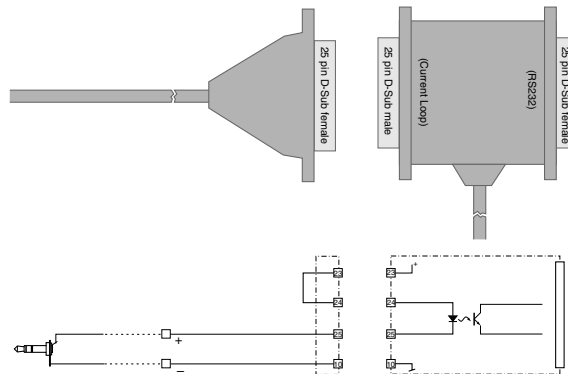# Option: Interface adapter 'CL-CONV.-10'

Accessories

Description	The interface adapter CL-CONV.-10 (order no. 301.451) is used for adaptation of the 20 mA current loop interface (TTY) of the locking system to a standard RS232 interface as provided on many printers and most computers, laptops and other suitable data processing equipment. Both interfaces are separately supplied with the required voltage or current via an integrated mains supply unit (230 V AC). The interface potentials are electrically isolated by optocouplers.

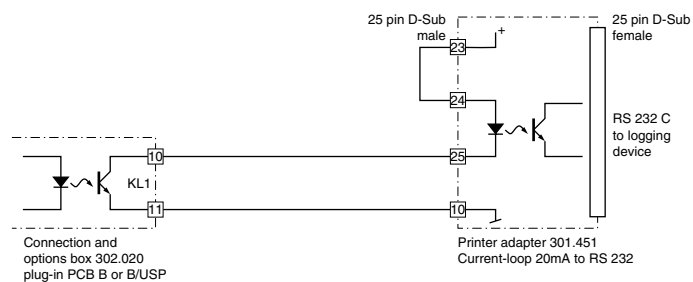|	
Connection	The interface adapter CL-CONV.-10 is connected between the log output of the locking system and the serial interface of the logging device (e.g. computer). The connection cable which leads from the log output to the interface adapter must correspond to the desired logging mode: for 'off-line' logging order no. 302.137 and for 'on-line' logging order no. 302.136.
'Off-line' logging	With 'off-line' logging, the contents of the event memory are output after an authorisation identification on the input unit of the locking system. For this mode, the jack plug (ø 3.5 mm) of the cable is plugged into the jack socket of the options box.
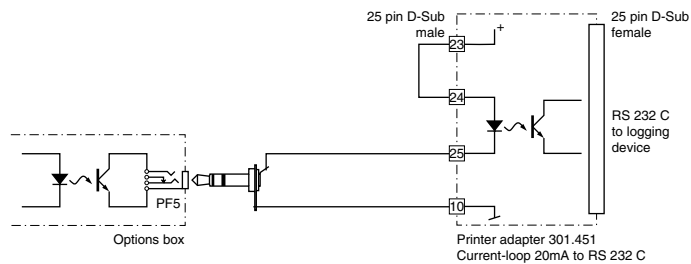
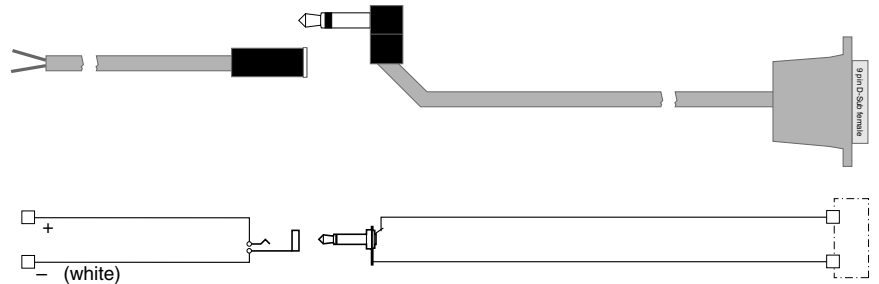|	
'On-line' logging	For this mode, one of the options 'Mains operation', 'UPS connection' or 'Switching unit' must be installed. With 'on-line' logging, the events are automatically output when they occur. For this mode, the cable is to be connected to the terminals 10 and 11 of the connection and options box or terminals 5 and 6 of the switching unit box.

Accessories

Description

The interface adapter 'SD' (order no. 302.028) is used for adaptation of the 20 mA current loop interface (TTY) of the locking system to a standard RS232 interface as provided on many printers and most computers, laptops and other suitable data processing equipment.

An external voltage supply is not necessary, as the converter and the current loop interface are supplied via the serial interface of the logging device.

Connection

The interface adapter 'SD' is connected between the log output of the locking system and the serial interface of the logging device (e.g. computer).

Off-line logging

With 'off-line' logging, the contents of the event memory are output after an authorisation identification on the input unit of the locking system. For this mode, the jack plug (ø 3.5 mm) of the cable is plugged into the jack socket of the options box.

On-line logging

For this mode, one of the options 'Mains operation', 'UPS connection' or 'Switching unit' must be installed. With 'on-line' logging, the events are automatically output when they occur. For this operating mode, the supplied section of cable with a jack socket must be connected to the converter cable and the two wires
 connected to the terminals 10 and 11 of the connection and options box or terminals 5 and 6 of the switching unit box.

Event logging on a computer (PC, laptop, etc.)

Application note

Description

To output the event data to a computer the log output of the locking system is connected to the serial RS232 interface (e.g. COM1) of the computer. To this purpose a suitable interface converter must be used (refer to the chapter 'Interface Converter') which also supplies the 20 mA for the current loop interface.

The output of the event data depends on the logging mode:
– With 'off-line' logging, the contents of the event memory are output after an authorisation identification on the input unit of the locking system. For this mode, the jack plug of the interface adaptor cable is plugged into the jack socket of the options box.
– With 'on-line' logging, one of the options 'Mains operation', 'UPS connection' or 'Switching unit' must be installed. In this logging mode, the events are automatically output when they occur. For this mode, the cable of the interface adaptor is to be connected to the terminals 10 and 11 of the connection and options box or terminals 5 and 6 of the switching unit box.

Configuration of the connection

The data arriving at the serial interface of the computer can be read with a so-called terminal programme and saved if necessary.
The following description is based on the Microsoft® terminal programme 'HyperTerminal'. On computers with the operating systems Microsoft® Windows® 95, Microsoft® Windows® 98 or Microsoft® Windows® NT the programme 'HyperTerminal' (hypertrm.exe) is normally contained in the 'Accessories' folder under 'Programs'.

After starting the programme proceed as follows:

– If the programme asks for a modem, click *No.*
– If the dialog field 'Connection Description' does not open immediately, click 'New connection' in the 'File' menu or, if earlier connections were saved and you wish to open one of these, click 'Open'.
– To configure the new connection enter a file name (e.g. 'paxos001') and select one of the icons. Then click *OK.*
– The dialog box 'Connect to' appears. Under 'Connect using' in the bottom line select the respective interface (COM1, COM2 etc.) and confirm by clicking *OK.*
– Make the following settings in the dialog box 'Properties for…'

Bits per second:	1200
Data bits:	8
Parity:	None
Stop bit:	1
Flow control:	None

and then click *OK.*
– Open the 'File' menu and click 'Properties'. Select the 'Settings' tab at the top and under 'ASCII Setup' click the box 'Append line feeds to incoming line ends'.
– Close both dialog boxes by clicking *OK.*

The computer is then ready to receive the event data. The clock in the status bar shows that the computer is waiting for signals coming in at the serial interface.

Further information is contained in the HyperTerminal help menu or its operating manual. Kaba AG does not provide any service support for this software.