Bewacard BC640

Installation and User manual

GB

BEWATOR

Contents

What is the BC640?

BC640 is a reader controller designed for <u>one</u> door. It has a capacity of storing up to 8000 cards. Card readers for both entry and exit can be connected. Programming is done on the controller's/card reader's keypad.

We strongly recommend that Bewator Entro is used when <u>several</u> doors is to be controlled.

Features included

- *Bank lobby function*. It is possible to use one or several types of cards, e.g. American Express or Visa. This operates using prefixes (see next page).

- *Six different security levels*. Various methods of opening the door, e.g. Card, Card + PIN and Common code.

- *Built-in time clock*. Enables time control of cards and security levels. Holidays, half-days and holiday periods can be pre-programmed.

- *Door Monitoring*. Enables activation of an alarm if the door is forced open or held open too long.

- *Access registration*. Enables time-controlled printouts of the 1000 latest events, sorted according to date, card or alarm.

- *Alarm control*. Monostable function (e g in an alarmed door) or bistable function for control of an alarmed area in an intruder alarm.

- *Automatic adjustment of clock for daylight saving* according to European standard (last Sunday in March and October).

Using non Bewator cards for entrance

In BC640, cards of different types, e.g. credit cards or some organisation's special card can be used for access. This is possible by programming the card's prefix in the BC640.

Example: The card number is 5760 0096 0029 5679. The four first digits – the prefix – identifies the card as a certain bank's card.

When programming a prefix, a digit in the prefix can be substituted for a "wild card". Any digit may occur in the wild card's place to make the card valid.

Example: If a prefix is programmed as 57*0, cards using the prefixes 5700, 5710, 5720, 5730, 5740, 5750, 5760, 5770, 5780 and 5790 will be valid.

In BC640, 15 prefixes can be programmed. Each prefix may consist of 7 digits. The first digit in the prefix may begin at any position on the card.

Information about prefixes on different cards can be obtained from the bank or company supplying the card. You may also contact Bewator for advice.

For information on how to activate Bank lobby function, read the Bank lobby function chapter (see Table of contents).

Note! If bank lobby function is enabled, BC640's other functions cannot be used.

How does the BC640 work?

BC640 can easily be adapted to the security requirements in a particular building, a particular day of the week or time of day. To make this possible you have to be familiar with the following concepts:

- Security levels
- Time zones
- Day types
- Time schedules
- Antipassback

Security levels

The security level determines what action is required to open the door. The following security levels exist:

- Unlocked door. Neither cards nor codes are needed to open the door (free access).

- Common code. A four-digit code (one code per time schedule) is required to open the door.

- Card. The user must swipe their card to open the door.

- Card + PIN. The user must swipe their card and enter a personal code to open the door. The cardholder can choose/change their personal code on the keypad.

- Toggle function. Used together with current security level, i.e. Card, Common code or Card + PIN. When the card or code is used the first time the door is opened and remains unlocked until the card/code is used the next time or until another security level starts by a time schedule.

- Card reader inhibited. The card reader is completely inhibited. Only exit request works.

Examples of timing security levels

During office hours, when there are people in the premises, the security level may not need to be high: *Unlocked door* or *Common code* may be suitable levels.

During lunchtime, the level may be raised to *Card*.

The remaining time, i.e. evenings, nights and weekends *Card + PIN* is a suitable security level.

The *Toggle function* can be used in premises where a person is responsible during certain hours; e.g. a classroom or a loading bay door. In a classroom, the teacher can open the door, which remains open until he or she locks the door. The pupils may come in and out without having cards or common code.

Time zones and day types

There are two purposes of creating time zones:

- To be able to assign different security levels to different times of the day.
- To be able to make certain cards valid at certain times.

Example: The working hours in an office could be as follows:

Monday to Friday:	08.30-11.59 and 13.00-17.59
Lunch:	12.00-12.59
Saturdays, Sundays and holidays:	Closed
Half-days, e.g. the day before Christmas:	08.30-11.59 and 13.00-14.59

To make the reader controller understand that holidays, e.g. Christmas Eve and holiday periods, should not be treated as ordinary working days, this information must be programmed.

Note! A time zone is valid from and including the first second in the first minute up to and including the last second in the last minute. So a 24 hour day is programmed as 00:00 – 23:59

The *day type* determines what day of the week the time zone applies. **1** = Monday, **2** = Tuesday etc. **8** is an extra day type that can be used for half-days, e.g. the day before Christmas.

Each time zone may consist of two intervals. To be able to assign suitable *security levels* to the office example above, the following time zones are needed:

Time zone no	Applies
01	Applies 24 hours a day (all day types). Note: Default time zone that can be changed.
02	08.30 – 11.59 and 13.00 – 17.59 Monday to Friday (day types 1, 2, 3, 4 and 5).
03	12.00 – 12.59 Monday to Friday and half-days (day types 1, 2, 3, 4, 5 and 8).
04	00.00 – 08.29 and 18.00 – 23.59 Monday to Friday (day types 1, 2, 3, 4 and 5).
05	00.00 – 23.59 Saturdays and Sundays (day types 6 and 7).
06	08.30 – 11.59 and 13.00 – 14.59 on half-days (day type 8).
07	00.00 – 08.29 and 15.00 – 23.59 on half-days (day type 8).

Up to 15 different time zones can be created. You may for example define a specific time zone for the cleaning staff:

08	Applies between 06.00 and 07.59 (day types 1 and 3).

Time schedules

There are two purposes for creating time schedules:

To be able to combine time zones for the control of security levels.

To be able to combine time zones defined for the time control of specific cards.

Up to four time zones can be included in one time schedule.

When the desired time schedules have been defined, it is an easy task to tie them either to a certain security level or to specific cards (see the *Programming* chapter).

This example shows how to include time zones into time schedules (the time zones defined in the previous example are used).

Time schedule no	Includes time zone/s
01	01 (enabling assignment of time zone 01 to the cards). Note: Default time schedule that can be changed
02	02 and 06 (enabling the "Common code" security level to be assigned to both time zones).
03	03 (enabling assignment of the "Card" security level to the lunch hour).
04	04, 05 and 07 (enabling assignment of the "Card + PIN" security level to evenings, nights, weekends and holidays).
05	08 (enabling assignment of time zone 08 to the cleaning staff's cards).

Up to 15 different time schedules can be created.

Alarm control

If the BC640 is to be used for controlling a separate intruder alarm system you have to set up the function. First some key concepts:

- **Monostable** mode means the door is in alarmed condition all the time – but a temporary alarm bypass of the intruder alarms' door monitor contact is performed for every granted access. See command A60.

- **Bistable** mode, which can activate/deactivate an alarmed area in an intruder alarm system. Only valid cards with the level "Alarm" can perform these actions. See command A60.

- **Cards with level Alarm** are cards that (when logged on) have been set to control alarms. See command A01, A03 or A04.

- **Door Held Warning Time** is the time the monostable mode uses. When this time ends, an alert can be activated (e g when a door is opened but not closed). See command A29.

- **Alarm by-pass warning time** is the time, which warns people that the intruder alarm is about to be activated. See command A61.

Anti-pass back

Anti-pass back is a method to further increase security. In short, antipassback means that a cardholder should not be able to enter through a door twice in succession, without having gone out through the door in between. This is to prevent cards from being lent to other persons.

To make this possible, card readers (with BC link operation only) have to be installed on the outside and on the inside of the door. In addition, the door should be of a type where only one person at a time can pass the door, e.g. a turnstile, to prevent "tail-gating".

The first time a card is used, BC640 assumes that the cardholder is on the outside and wants to enter through the door. It is not possible to go out through the door the first time the card is used.

Keypad layout

This is how the buttons work on the BC640's keypad or the card reader's keypad.

A.
Initiates program-ming sequence, e.g. A01 to log on cards. Also used when choosing PIN code.

B.
Press B + the 6-digit password whenever you want to program BC640. Press B to leave programming mode.
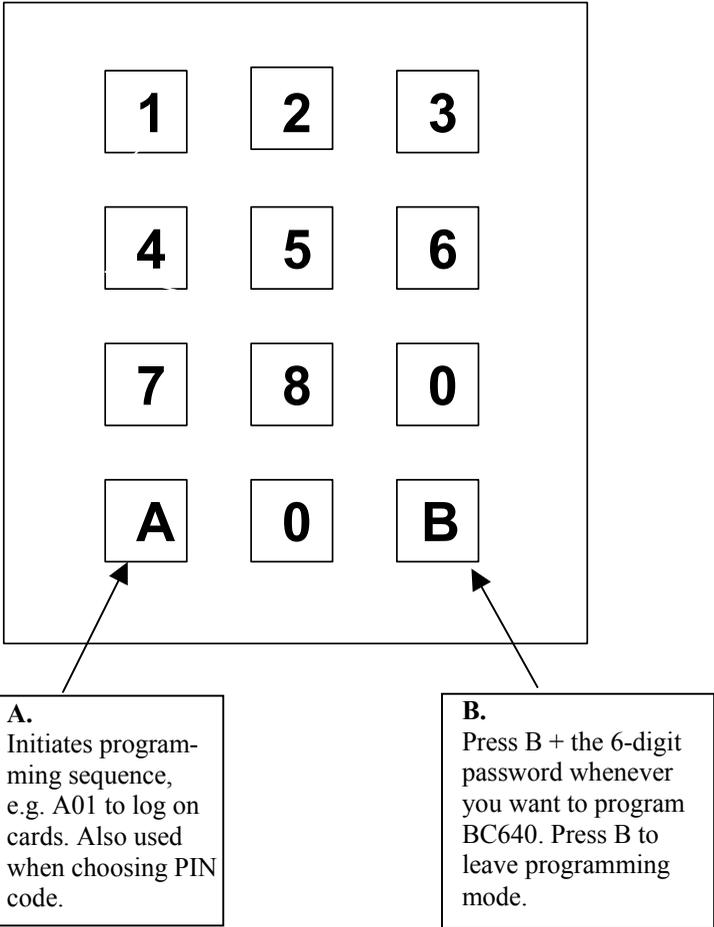
Installing BC640

Install BC640 within 100 metres (readers with 12 or 24 volt operation) or 30 metres (readers operating from 5 volt) of the card readers to be controlled by the unit. See also the section on cabling and voltage drop for more detailed information.

Note! If you are using the Bewacard BC600 card reader product to control an **electric lock strike plate** – we recommend you to earth the lock. The wiring should be as near the lock as possible.

Installing the BC43 readers

Install the card reader at a height of 120–140 cm (from the floor to the bottom edge of the card reader). To cater for disabled persons, a suitable height is approximately 95 cm.

1   Open the card reader with the key supplied. The lock is located on the underside of the reader.

2   Fasten the back plate against the wall, using three screws according to the illustration below. Seal the screw and cable holes with sealant if the unit is externally mounted.
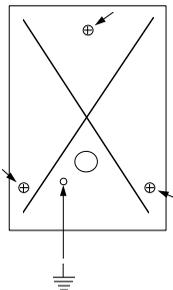
3   Make sure the back plate is earthed. Use a separate cable to the earthing point. Make sure the front and back plates are connected with the internal strap.

4   Fit the front and check that the card reader is securely fastened.

Instructions for **other type of readers** are to be found in separate documentation supplied with these.

How to select connecting cables

It is important to use cables with the correct conductor gauge, to keep the voltage drop in the cables as low as possible.

- *12 volt supplies*. A 12 V electric locking device generally needs at least 11 V to work properly, so the voltage at the reader controller should never be less than 11 V.

- *24 volt supplies.* A 24 V electric locking device generally needs at least 21 V to work properly, so the voltage at the reader controller should never be less than 21 V.

The recommended gauge (cross-sectional area) of the conductor depends on the distance between the power supply and the reader controller, the distance between the readers and the controller and on the load at the reader controller.

This is particularly important when a reader with 5-Volt operation is being used, as virtually no voltage drop can be allowed between the controller and the reader.

The table below is for a Bewacard 640 with an electric release. The total load is 300 mA at 24 V or 600 mA at 12 V.

Cable length (metres)	24 V Supply		12 V Supply	
	Min conductor area (mm^2)	dia (mm)	Min conductor area (mm^2)	dia (mm)
0-50	0.17	0.46	0.51	0.80
51-100	0.34	0.65	1.02	1.14
101-150	0.51	0.80	1.53	1.40
151-200	0.68	0.93	2.04	1.61
201-250	0.85	1.04	2.55	1.80
251-300	1.02	1.14	3.06	1.95

Wiring
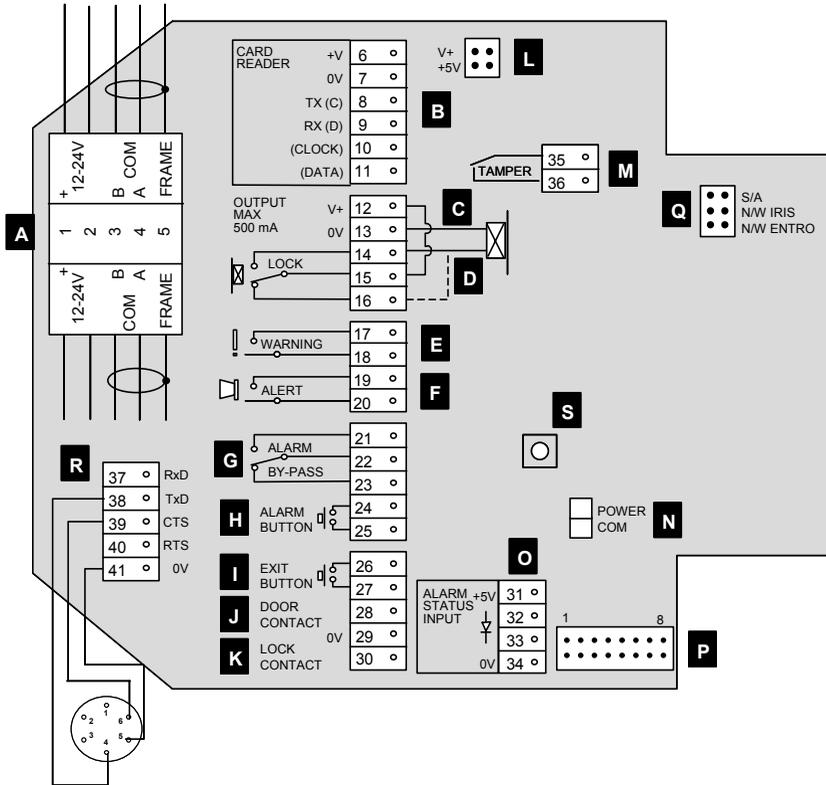
A	**Power in**: Terminal block nos. 1 and 2. 8-40V DC or 8-30V AC. Terminal block nos. 3, 4 and 5 are not used in stand-alone mode.
B	Connection of card reader. Maximum load 500 mA. Maximum distance for BC Link readers 100 m. (dependant on cabling) Maximum distance for Clock & Data readers, e.g. proximity reader: 50 m. Maximum distance for 5 volt readers 30m
C	Power supply for electric locking device. Max 500 mA.
D	Opening relay. Voltage free contacts. Maximum load 2 A.
E	Warning relay. Controlled by door contacts. Activated if the door is still open when the opening time has expired.
F	Alarm relay. Controlled by e.g. door contacts. Activated if the door is still open when the door held warning time has expired.
G	Alarm by-pass relay. Monostable (by-pass time = opening time + door held warning time), bistable or bistable pulse. Operated in by-passed/alarm activated mode.
H	Alarm activation input. Pulse activation of the alarm bypass relay. Only in bistable mode, bistable pulse.
I	Remote opening input. For connection of an exit request button (push to make).
J	Input for door monitor contact. Indicates open or closed door. Place jumper if door monitor contacts are not used
K	Input for lock monitor contact/reader inhibit. Choose function with A command. Lock monitor contact must be closed within 15 seconds after the door monitor input has been closed, or the alarm relay will be activated. Reader inhibit: Only exit request works.
L	Power supply to reader on terminal 6 & 7. Link on V+, voltage is same as supply. Link on + 5V for reader types requiring 5 Volt as power supply. **Warning**! Make sure the setting is correct, otherwise readers will be damaged.

M	Tamper switch. Gives warning if the BC-640 controller door is opened.
N	POWER. Indicates that the controller is powered. COM. Not used in stand-alone mode.
O	Input for alarm status indication with red LED on BC43. Terminal block no 32 +ve, terminal block 33 -ve. Allowed input voltage: 5-30 V.
P	Not used in stand-alone mode
Q	Place the jumper on S/A (standalone).
R	Connection of printer. If direct connection is made (without using Bewator printer terminal socket) the cable should look like this: **RS232** **Term.** **25 pol DSUB** TxD 38 3 CTS 39 20 0V 41 7
S	The SW1 push button. Used when erasing the memory and setting a new password.

Connect the keypad circuit board

Fasten the keypad circuit board on the inside of the controller's door. Then connect the ribbon cable to BC640's circuit board.
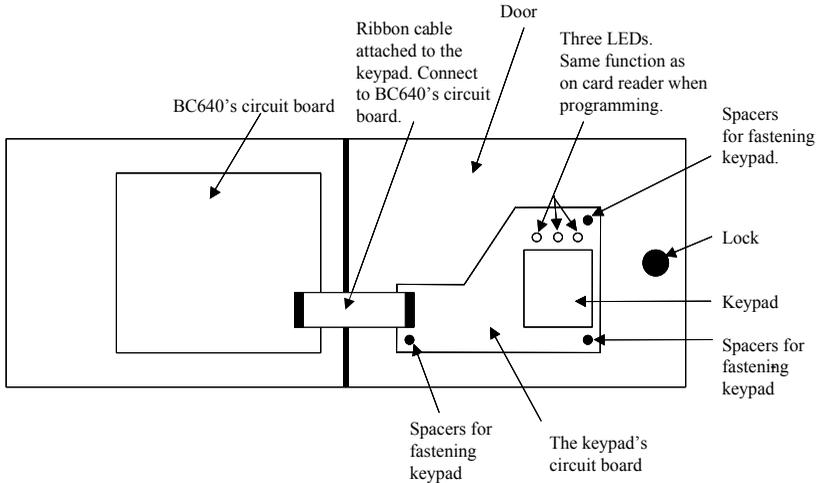
Recommended cables

Cable between BC640 and reader

The readers' documentation states what type of cables to be used.

Considerations concerning earthing & screening

The cable screens must be connected to protective earth, **but only in one place** in the system. Also remember that metal parts in doors or vehicle barriers can be in contact with earth. For readers installed on these surfaces, the screen must not be connected to the metalwork.

Avoid placing the cables close to heavy current installations, (e.g. lifts and power doors) since they may cause disturbance.

Programming

In the sections below are the instructions on how to program the BC640 controller

To be able to program BC640 you have to set the reader controller to programming mode. This is done by entering a six-digit code (see the next page).

Buzzer and LEDs

During programming you will be guided by the buzzer and the LEDs.

In this manual the LEDs are illustrated in the following way:

$\bigcirc$ = OFF $\bullet$ = Lit $\ast$ = Flashes

In programming mode before a function is chosen: All three LEDs are flashing. $\ast$ $\ast$ $\ast$

During programming: The LEDs are lit or OFF depending on the function being programmed.

Correct programming: Confirmed by a rising signal consisting of two quick beeps.

Faulty programming: Confirmed by a falling signal consisting of one long and one short beep.

Note! If, having entered programming mode, no key is pressed within 20 seconds; the unit will leave programming mode.

Set password

The first thing to do before starting to program the controller is to set a password.

1   Open the reader controller with the key supplied.

2   Press the SW1 button (see wiring diagram) the reader controller starts beeping.

3   Enter the desired 6-digit password on the card reader's or reader controller keypad.

The password is now set.

Set BC640 to programming mode

To program a function, the controller has to be in programming mode. All programming is done from the controller's or the card reader's keypad.

1   Press B.   ○○✳

2   Enter the 6-digit password.   ✳✳✳

The reader controller is now in programming mode.

Note! If the wrong password is entered twice in succession, the reader controller is blocked from further attempts for 40 seconds.

Set time and date

1   Set BC640 to programming mode.

2   Press **A23**.   ●●●

3   Enter the current year, month and date, e.g. 041021 for the 21st of October 2004.

4   Enter the current day of the week.

      Example: 1 = Monday, 2 = Tuesday etc.

5   Enter the current time, e.g. 1601 for one minute past 4 PM.

BC640 automatically goes back to programming mode.

Program time zones

This function is used to program the time zones to be used in the installation.

1   Take out the completed time zone chart/s.

2   Set BC640 to programming mode.

3   Press **A31**.   ○○●

4   Enter the number of the time zone to be programmed. Use two digits, e.g. 01 for time zone 1.

5   Enter the starting time of the first time interval using four digits, e.g. 0800 for 8 am.

6   Enter the finishing time of the first time interval using four digits, e.g. 1159 for 11.59 p.m.

    If there is no need for a second time interval, press A to skip and go to step 9.

7   Enter the start time of the second time interval using four digits, e.g. 1300 for 1 p.m.

8   Enter the stop time of the second time interval using four digits, e.g. 1659 for 16.59 p.m.

9   Enter the desired day type/s for this time zone.

10   Press B and go to step 4 to program another time zone or press B twice to go back to programming mode.

Erase a time zone

1   Set BC640 to programming mode.

2   Press **A31**.   ○○●

3   Enter the number of the time zone to be erased.

4   Press A.

Program time schedules

This function is used to program the time schedules to be used in the installation.

1   Take out the completed time schedule chart/s.

2   Set BC640 to programming mode.

3   Press **A32**.   ○○●

4   Enter the number of the time schedule to be programmed. Use two digits, e.g. 01 for time schedule 1.

5   Enter the time zones to be included in the time schedule. Example: To include time zones 1, 2 and 4, enter 010204.

6   Press B and go to step 4 to program another time schedule or press B twice to go back to programming mode.

Erase a time schedule

1   Set BC640 to programming mode.

2   Press **A32**.   ○○●

3   Enter the number of the time schedule to be erased.

4   Press A.

Set time schedule "Door unlocked"

1   Set BC640 to programming mode.

2   Press **A33**.   ○●○

3   Enter the number of the time schedule to control the "Door unlocked" security level. Use two digits, e.g. 01 for time schedule 1.

4   Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Set time schedule "Common code"

1   Set BC640 to programming mode.

2   Press **A34**.   ○●○

3   Enter the number of the time schedule to control the "Common code" security level. Use two digits, e.g. 01 for time schedule 1.

4   Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Set time schedule "Card Only"

1   Set BC640 to programming mode.

2   Press **A35**.   ○●○

3   Enter the number of the time schedule to control the "Card Only" security level. Use two digits, e.g. 01 for time schedule 1.

4   Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Set time schedule "Card + PIN"

1   Set BC640 to programming mode.

2   Press **A36**.   ❍●❍

3   Enter the number of the time schedule to control the "Card + PIN" security level. Use two digits, e.g. 01 for time schedule 1.

4   Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Set time schedule "Toggle"

1   Set BC640 to programming mode.

2   Press **A37**.   ❍●❍

3   Enter the number of the time schedule to control the "Toggle" security level. Use two digits, e.g. 01 for time schedule 1.

4   Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Log on a card (with a card)

Using this function, the cards to be used are programmed.

Note! To use this function, you must be programming from the reader keypad, not the controller keypad, if fitted.

1 Set BC640 to programming mode.

2 Press **A01**.   ○●●

3 If the card should not be an alarm card, go to step 4.

   Press A1 if the card should be used to activate and deactivate the alarm in bistable mode.

   Press A2 if the card should be used to deactivate the alarm in bistable mode.

   Press A3 if the card should be used to activate the alarm in bistable mode.

4 Enter the time schedule during which the card/s should be valid. Use 2 digits, e.g. 01 for time schedule 1.

5 Use the card at the reader.

6 If several cards should be valid during the same time schedule, use these cards as well.

7 When finished, press B to go back to programming mode.

8 Press B one more time to leave programming mode.

Log on a card (without the card)

Using this function, cards can be programmed by keying in the card number.

1   Set the reader controller to programming mode.

2   Press **A03**.   ○●●

3   If the card should not be an alarm card, go to step 4.

     Press A1 if the card should be used to activate and deactivate the alarm in bistable mode.

     Press A2 if the card should be used to deactivate the alarm in bistable mode.

     Press A3 if the card should be used to activate the alarm in bistable mode.

4   Enter the time schedule during which the card/s should be valid. Use 2 digits, e.g. 01 for time schedule 1.

5   Enter the card number on the keypad.

6   If several cards should be valid during the chosen time schedule, key in these cards as well.

7   When finished, press B to go back to programming mode.

8   Press B one more time to leave programming mode.

Log on a series of cards

Using this function you can quickly log on a contiguous series of cards.

1   Set BC640 to programming mode.

2   Press **A04**.   ○●●

3   If the cards should not be alarm cards, go to step 4.

    Press A1 if the card should be used to activate and deactivate the alarm in bistable mode.

    Press A2 if the card should be used to deactivate the alarm in bistable mode.

    Press A3 if the card should be used to activate the alarm in bistable mode.

4   Enter the time schedule during which the cards should be valid. Use 2 digits, e.g. 01 for time schedule 1.

5   Enter the card number of the first card in the series.

6   Enter the card number of the last card in the series.

    If the programming is done at the card reader the yellow LED lit all the time as the cards are logged on. If the programming are made at the central – the buzzer in the central will sound instead. It takes approximately 30 seconds to log on 100 cards. 1000 cards takes approximately four and a half minutes.

7   Press B to leave programming mode.

Cancel card (with card)

Using this function a card can be cancelled (with the card) so that it cannot be used in the card reader.

> *Note!* To use this function, you must be programming from the reader keypad, not the controller keypad, if fitted.

1   Set BC640 to programming mode.

2   Press **A14**.   ●○○

3   Use the card at the reader.

4   Use the next card, as required.

5   When finished, press B to go back to programming mode.

6   Press B one more time to leave programming mode.

Cancel card (without card)

Using this function, cards can be cancelled using the card number.

1   Set BC640 to programming mode.

2   Press **A16**.   ●○○

3   Enter the card number. If the card is not logged on the "faulty programming" signal is heard.

4   Cancel the next card, as required.

5   When finished, press B to go back to programming mode.

6   Press B one more time to leave programming mode.

Programme/change/erase common code

This is how to program a common code.

1   Set BC640 to programming mode.

2   Press **A21**.   ●○●

3   Enter to which time schedule the code should belong. Use 2 digits, e.g. 01 for time schedule 1.

4   Enter a four-digit common code. The existing code, if any, will be over-written.

    To erase the common code from a time schedule, enter 0000.

5   To programme, change or erase another common code, follow steps 3-4.

6   Press B to leave programming mode.

Program holidays

This function is used to pre-program holidays that do not occur on Sundays and holiday periods.

1   Set BC640 to programming mode.

2   Press **A51**.   ●●○

3   Enter the number of the holiday using two digits (01-15).

4   Enter the date of the holiday, e.g. 1224 for the 24th of December.

5   To program a holiday period, enter the starting date of the period, e.g. 0701 for the 1st of July.

6   If an isolated holiday is being programmed, enter 01.

     If a holiday period is being programmed, enter the duration in days of the period, including the starting date. Max number days 21.

7   Enter the day type to apply for this holiday/holiday period, e.g. 7 for Sunday.

8   Follow steps 3-6 to enter a new holiday/holiday period or press B to go back to programming mode.

Delete individual holidays

This function is used to delete individual holidays, as distinct to deleting all programmed holidays (see the next section).

1   Set BC640 to programming mode.

2   Press **A52**.   ●●○

3   Enter the number of the holiday, e.g. 01.

4   Press B to go back to programming mode.

Delete all holidays

This function is used to delete all programmed holidays.

1   Set BC640 to programming mode.

2   Press **A55**.   ●●○

3   Press **A55** one more time.

BC640 automatically goes back to programming mode.

Set door release time

The door release time determines for how long the lock should remain released following a correct transaction. The default value is 7 seconds. This is how to change the opening time, if required:

1   Set BC640 to programming mode.

2   Press **A28**.   ●●●

3   Enter the desired door release time (between 01 and 99 seconds).

4   Press B to leave programming mode.

Set door held warning time

If the door is still open when the door release time is over, a buzzer sounds at the door for the time set as door held warning time. The buzzer reminds the person entering to close the door immediately as an alarm is about to go OFF. This is how to change the door held warning time, if required:

1   Set BC640 to programming mode.

2   Press **A29**.   ●●●

3   Enter the desired door held warning time (between 01 and 99 seconds).

4   Press B to leave programming mode.

Buzzer ON/OFF

The default is that the buzzer is activated. If you do not want the buzzer to beep on key presses or door opening, it can be turned OFF. Note that even when the buzzer is OFF for normal operation, it will continue to sound during programming.

1   Set BC640 to programming mode.

2   Press **A65**.   ●●●

3   Press 0.

4   Press B to leave programming mode.

To reactivate the buzzer, press 1 in step 3 instead.

Calculated PIN

If it is preferred not to have the users choose their own PIN codes, this function will enable automatic calculation of PIN codes, based on the card holder's card number. Proceed as follows:

1   Set BC640 to programming mode.

2   Press **A24**.   ●○●

3   Enter a 4-digit calculation factor.

4   Press B to leave programming mode.

To disable the function, enter 0000 in step 3.

The calculation factor is added to the last four digits in the card number.

Example: If the card number is 15278014 and the calculation factor is 4567, the code will be 2571.

8014 + 4567 = 12571

All the extra result (1) is disregarded.

```
  X  X
   8014
   4567
  ─────
  X2571
```

Card reading parameters

NOTE: Card-reading parameters can only be changed when using magnetic strip card readers.

Magnetic strip card reader

When BC640 is delivered, the card reader reads positions 9 to 16 on the card's magnetic strip, or the last 8 positions if they are fewer than 16. If you want to use your own cards and they should be read differently, enter from which position on the magnetic strip the reader should start reading and how many digits should be read (max. 8).

Note! Previously logged on cards will not work if you change the card parameters.

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1   Set BC640 to programming mode.

2   Press **A97**.   ●●○

3   Enter from which digit in the card number (01-40) the digits should be read.

    To reset this function to the default setting, press A at this point.

4   Enter the number of digits to be read (1-8).

5   Press B to leave programming mode.

Note! If less than 8 digits are used in the card number, add as many 0 digits as necessary to make up an eight-digit card number when using the A03, A04 and A16 commands.

Example: If the card number is 5432, enter 00005432 when using the A03, A04 and A16 commands.

Proximity reader

When using proximity readers the co-operation between the reader and the cards are stated at the factory and cannot be changed. The digits used for logging on a card – or cancelling a card – will be the eight digits seen on the card. E g 00226225.

Note! Only cards and tags delivered from Bewator will be valid because the identification number sent from the card contains more information than the eight digits visible on the card.

Set alarm by-pass method

Using this function, the desired alarm by-pass method can be set.

1   Set BC640 to programming mode.

2   Press **A60**.   ●●●

3   Enter the desired alarm by-pass method:

   0 = None

   1 = Monostable

   2 = Bistable

   3 = Bistable pulse

4   Press B to leave programming mode.

Set length of alarm by-pass warning

Using this function, you may set for how long a warning buzzer should sound before the external alarm system is activated (up to 255 seconds). The buzzer warns people still in the building that the alarm is about to be activated.

1   Set BC640 to programming mode.

2   Press **A61**.   ●●●

3   Enter the desired time (000-255 seconds).

   000 = No alarm by-pass warning.

4   Press B to leave programming mode.

Day and night locking

This function is used for combination locks of Day and night type, where both electric releases and electric motor locks are used. The electric release is connected to the opening relay and the motor lock to the warning relay. Using a time schedule, the warning relay can be activated to keep the motor lock unlocked, e.g. during daytime. During the night the opening relay and the warning relay work together. This is how to activate day and night locking:

1   Set BC640 to programming mode.

2   Press **A62**.   ●●●

3   Enter the number of the time schedule to control the relay, e.g. 09.

4   Press B to leave programming mode.

To deactivate the function, enter 00 in step 3.

Anti-pass back

Anti-pass back only works with card readers of the BC-link type, where the reader can be set to be an IN or OUT reader.

This is how to activate anti-pass back:

1   Set BC640 to programming mode.

2   Press **A63**.   ●●●

3   Press 1.

4   Press B to leave programming mode.

To deactivate anti-pass back, press 0 in step 3.

Door monitor contacts ON/OFF

If door monitor contacts are used and this function is activated, a warning signal sounds during the time set as door held warning time, i.e. when the opening time has expired and the door is still open.

This is how to make the settings:

1   Set BC640 to programming mode.

2   Press **A66**.   ●●●

3   Press any of the following:

    0 = door contacts deactivated

    1 = door contacts activated, normal

    2 = door contacts activated, magnetic locks

4   Press B to leave programming mode.

Lock monitor contacts

Lock monitor contacts indicates whether the door is locked or unlocked. Lock monitor input has to be closed within 15 sec after the door contact has been closed, if not the warning relay will be activated.

Proceed as follows:

1   Set BC640 to programming mode.

2   Press **A67**.   ●●●

3   Press any of the following:

    0 = lock monitor contacts deactivated.

    1 = lock monitor contacts activated.

4   Press B to leave programming mode.

Bank lobby function

Using this function, BC640 can be programmed so those cards of a certain type, e.g. credit cards, can be used for entrance. Up to 15 prefixes can be programmed.

1   Set BC640 to programming mode.

2   Press **A98**.   ●●○

3   Enter the number of the prefix (01-15).

4   Enter from which position in the card number (01-40) the digits should be read.
     To remove an existing prefix, enter 00.

5   Enter how many digits to be read (1-7). Press A in the desired place to enter a wild card digit (see page 6).

6   Press B to end the command.

7   Press B to leave programming mode.

Note 1! The Bank lobby function will only work with Clock/Data readers (that reads all characters on the card).

Note 2! If Bank lobby function is used, do not forget to set security level to Card (command A35), with e.g. time schedule 01 (24 hours, all days).

Note 3! If Bank lobby function is used; BC640's other functions cannot be used.

Change programming password

To change the password:

1   Press B and enter the present password.

2   Press **A27**.   ●●●

3   Enter the new password. A warning tone is heard.

4   Enter the new password again. The warning tone sounds until all six digits have been entered.

5   Press B to leave programming mode.

6   Make a note of the new password.

Note! If you should forget the password you can set a new password. See the *Set password* section.

Programming barring

Another way to increase security is to enable programming barring, which means that programming can only be done in the controller – not on the card reader.

Note! Enable this function only if the reader controller is equipped with a keypad.

This is how to enable programming barring:

1   Set BC640 to programming mode.

2   Press **A25**.   ●●●

3   Press 1.

4   Press B to leave programming mode.

To disable barring, press 0 in step 3.

Erase the memory

When the reader controller's memory is erased, the default settings are restored (see below).

1 Set BC640 to programming mode.

2 Press the **SW1** button (see the wiring diagram on page 16) until a rising tone is heard.   ●○○

3 Press **112186**.

4 Press **112186** one more time.

All previously entered data have now been erased. The reader controller reverts to the following settings:

Factory settings:

- Password: 112233

- Programming barring: OFF

- Alarm by-pass: OFF

- Length of alarm by-pass warning: 0

- Buzzer: ON

- Door monitor contacts: OFF

- Lock monitor contacts: OFF

- Antipassback: OFF

- Common code: None

- Opening time: 7 seconds

- Door held warning time: 10 seconds

- Card parameters: Position 9-16, the last 8 positions if fewer than 16 positions.

- Time zone 01: 00.00 – 23.59, day types 1-7

- Time schedule 01: time zone 01

Printout of events

Use this function to print the latest 1000 events. It will start printing the latest and then go backwards. Press B to cancel the printout at any time.

1 Set BC640 to programming mode.

2 Press **A41**. ●○○

Press B to cancel the printout at any time.

Printout format:

YY-MM-DD D HH:MM TS XXXXXXXX TA

YY-MM-DD	=Date
D	=Day type
HH:MM	=Time
TS	=Time schedule (if needed)
XXXXXXXX	=Card number (if used)
DIR	=The reader controller's ID (if used)
TA	=Type of event

3 Press B to leave programming mode.

Printout of common codes

Using this function, printouts of programmed common codes can be requested.

1   Set BC640 to programming mode.

2   Press **A44**.   ●○○

Printout format:

TS   CCCC

TS   = Time schedule
CCCC   = Common code in the current time schedule

3   Press B to leave programming mode.

Printout of time zones and time schedules

Using this function, printouts of programmed time zones, time schedules and printer time zones can be requested.

1   Set BC640 to programming mode.

2   Press **A45**.   ●○○

Press B to cancel the printout at any time.

Printout format (time zones):

TZ ON1 OFF1   ON2 OFF2   DAYS

TZ	= Time zone (01-15)
ON	= Start time for each interval
OFF	= Stop time for each interval
DAYS	= Day type

Printout format (time schedules):

TS   TZs

TS	= Time schedule (01-15)
TZs	= Time zones (01-15, max four time zones)

3   Press B to leave programming mode.

Printout of reader information

1 Set BC640 to programming mode.

2 Press **A46**.   ●○○

   Press B to cancel the printout at any time.

   Printout format:

BC640 Ver XX.XX	Version number of software
04-02-27 5(5) 11:34	Date, day type, (holiday) time
ID A	Reader ID no
RT 07 S	Release time 07 sec.
DHWT 10 S	Door held warning time 10 sec.
A33 TS	Time schedule Door unlocked
A34 TS	Time schedule Common code
A35 TS	Time schedule Card
A36 TS	Time schedule Card + PIN
A37 TS	Time schedule Toggle

3 Press B to leave programming mode.

Printout of logged on cards

1   Set BC640 to programming mode.

2   Press **A47**.   ●○○

    Press B to cancel the printout at any time.

    Printout format:

XXXXXXXX	Card number with
AX	Alarm card (if used)
TS	Corresponding time schedule

3   Press B to leave programming mode.

Printout of programmed holidays

1   Set BC640 to programming mode.

2   Press **A48**.   ●○○

    Press B to cancel the printout at any time.

    Printout format:

HOL START DAYS TYPE

HOL	= Number of holiday/holiday period (01-15)
START	= Start date
DAYS	= Number of days (01-21)
TYPE	= Day type

3   Press B to leave programming mode.

Explanation of event codes

Event code	Explanation
------	**Access events**
CC	Access granted. Common code
CO	Access granted. Card
CP	Access granted. Card + PIN
DU	Access granted. Card + PIN Duress
IC	Access denied. Illegal common code
NL	Access denied. Card not logged on
IP	Access denied. Illegal PIN
TB	Access denied. Time blocked
AP	Access denied. Antipassback
------	**Door events**
DF	Door forced
DH	Door held
DC	Door closed
------	**Lock events**
LF	Lock forced
LH	Lock held
LC	Lock closed
------	**Reader events**
AS	Alarm set (bistable mode only)
AR	Alarm reset (bistable mode only)
AA	Alarm set denied (bistable mode only)
AN	Alarm reset denied (bistable mode only)
TO	Tamper switch open
TC	Tamper switch closed

Programming overview

Start	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9
Set password	Open BC640	Press the SW1 button	Enter a 6-digit password						
Set BC640 to programming mode	Press B	Enter password							
Set time and date	Enter progr. mode	Press A23	Enter current date (YYMMDD)	Enter current day type (1-7)	Enter current time (HHMM)				
Bank lobby function	Enter progr. mode	Press A98	Select time schedule (01-15)	Select start position (00-99)	Enter prefix (1-7)				
Time zones									
Program time zones	Enter progr. mode	Press A31	Enter time zone no	Enter start time for 1st interval (HHMM)	Enter stop time for 1st interval (HHMM)	Enter start time for 2nd interval (HHMM) or press A to skip	Enter stop time for 2nd interval (HHMM)	Enter day type/s (1-8)	Press B to end input and enter new time zone
Time schedules									
Program time schedules	Enter progr. mode	Press A32	Enter time schedule no	Enter time zone no/s included	Press B to end input and enter new time schedule				

Security levels	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Set time schedule using the "Open" security level	Enter progr. mode	Press A33	Enter time schedule no			
Set time schedule using the "Common code" security level	Enter progr. mode	Press A34	Enter time schedule no			
Set time schedule using the "Card" security level	Enter progr. mode	Press A35	Enter time schedule no			
Set time schedule using the "Card+PIN" security level	Enter progr. mode	Press A36	Enter time schedule no			
Set time schedule using the "Toggle" security level	Enter progr. mode	Press A37	Enter time schedule no			
Cards						
Log on card with card	Enter progr. mode	Press A01	Enter alarm by-pass rights, if any : A1=on/off, A2=off, A3=on	Enter time schedule no	Swipe card	Press B to exit card programming.
Log on card without card	Enter progr. mode	Press A03	Enter alarm by-pass rights, if any : A1=on/off, A2=off, A3=on	Enter time schedule no	Enter card number (8 digits)	Press B to exit card programming

Cards	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Log on a series of cards	Enter progr. mode	Press A04	Enter alarm by-pass rights, if any : A1=on/off, A2=off, A3=on	Enter time schedule no	Enter first card number in the series	Enter last card number in the series (8 digits)
Cancel card with card	Enter progr. mode	Press A14	Swipe card	Press B to exit.		
Cancel card without card	Enter progr. mode	Press A16	Enter card number	Press B to exit.		
Common code						
Programme/change common code	Enter progr. mode	Press A21	Enter time schedule no	Enter common code	Press B to exit.	
Erase common code	Enter progr. mode	Press A21	Enter time schedule no	Press 0000	Press B to exit.	
Holidays/holiday periods						
Program holidays/holiday periods	Enter progr. mode	Press A51	Enter holiday no	Enter date (MMDD)	Enter no of days including start date, e.g. 01	Enter day type (1-8)
Delete individual holidays/holiday periods	Enter progr. mode	Press A52	Enter holiday no			
Delete all holidays/holiday periods	Enter progr. mode	Press A55	Press A55 once again			

Other functions	Step 1	Step 2	Step 3	Step 4	Step 5
Set door release time	Enter progr. mode	Press A28	Enter no of seconds (01-99)		
Set door held warning time	Enter progr. mode	Press A29	Enter no of seconds (01-99)		
Buzzer ON/OFF	Enter progr. mode	Press A65	1 = Buzzer ON 0 = Buzzer OFF		
Calculated PIN	Enter progr. mode	Press A24	Enter a 4-digit calculation factor		
Card reading parameters	Enter progr. mode	Press A97	Enter start position (01-40)	Enter no of positions to be read (1-8)	
Change password	Enter progr. mode	Press A27	Enter new password (6 digits)	Enter new password once again	
Erase memory	Enter progr. mode	Press and hold SW1 until a beep is heard	Press 112186 on the reader controller's keypad	Press 112186 on the reader controller's keypad once again	
Anti-pass back	Enter progr. mode	Press A63	1 = ON 0 = OFF		
Lock monitor contacts	Enter progr. mode	Press A67	1 = ON 0 = OFF		
Door monitor contacts	Enter progr. mode	Press A66	0 = OFF 1 = ON, normal 2 = ON, magnetic lock		
Day and night locking	Enter progr. mode	Press A62	Select time schedule (01-15)		
Alarm by-pass	Enter progr. mode	Press A60	0 = OFF, 1 = Monostable 2 = Bistable 3 = Bistable pulse		
Alarm activation time	Enter progr. mode	Press A61	000 – 255 seconds		

Printouts	Step 1	Step 2	Step 3	Step 4	Step 5
Printout of latest events	Enter progr. mode	Press A41	Press B to cancel printout if desired		
Printout of programmed common codes	Enter progr. mode	Press A44	Press B to cancel printout if desired		
Printout of programmed time zones and time schedules	Enter progr. mode	Press A45	Press B to cancel printout if desired		
Printout of reader information	Enter progr. mode	Press A46	Press B to cancel printout if desired		
Printout of logged on cards	Enter progr. mode	Press A47	Press B to cancel printout if desired		
Printout of programmed holidays	Enter progr. mode	Press A48	Press B to cancel printout if desired		

Daily use

Entrance

To open the door the user should do the following:

- Enter a four-digit common code (if *Common code* is the current security level). If the wrong common code is entered three times in succession, common code is blocked. To release the blockage, enter the correct common code twice in succession.

- Use a card (if *Card* is the current security level).

- Use a card and enter a personal code belonging to the card (if *Card + PIN* is the current security level). Should the wrong PIN-code be entered 3 times in succession the card is automatically cancelled and must be logged on once again.

The toggle function

If the toggle function is activated, the user can open the door in one of the above-mentioned ways (depending on the current security level). The door remains open until a user (need not be the same one as opened the door) again completes a valid transaction or until another security level starts.

Choose/change PIN code

To choose/change your individual PIN. If Calculated PIN is used this function doesn't work:

1   Press A on the reader controller's keypad.

2   Use your card at the reader.

3   If it is the first time you are setting a PIN code for this card, enter 0000. Otherwise enter the existing code.

4   Enter the new code using four digits.

5   Enter the new code again.

Alarm by-pass

To be able to activate and deactivate an external intruder alarm (or any other system to be controlled), the cardholder must have a card logged on as an alarm card. An alarm card can be programmed to activate alarms, deactivate alarms or both.

Activate an alarm system

1   Press **B** on the card reader.

2   Use the card at the reader and enter your PIN code if needed (depends on the current security level). The alarm is activated. The door now has the **Card+PIN** security level, irrespective of the security level applying when the alarm was activated, and only alarm cards are now valid.

Deactivate an alarm system

1   Use the card at the reader. The card must be programmed to deactivate alarms.

2   Enter the card's PIN code.

Duress

This is how to activate the duress alarm output if forced to open the door under threat (this works during the *Card + PIN* security level only):

Swipe the card through the card reader and enter the usual PIN code, only add 1 to the last digit in the code.

Example 1: If the PIN code is 1234, press 1235 instead.

Example 2: If the PIN code is 1239, press 1230 instead.

When a duress code is entered, the door is opened at the same time as the warning relay output is activated (an alarm is sent to a security guard or similar). The alert output will be activated until a user entering programming mode resets it.

Troubleshooting

Problem	Possible cause	Action
Cannot enter programming mode. Red LED is lit after two trials.	Wrong password.	Choose a new password.
Green LED is lit on accepted entrance but the door does not open	Lock error.	Check cable between reader controller and lock. Change locks.
A card is used at the card reader but nothing happens. No beep is heard.	The magnetic reader head is loose. The magnetic reader head is dirty. The reader head is not working.	Tighten the reader head. Clean the reader head using a special cleaning card. Check the cabling. Change card reader or reader head.
A card is used at the reader, a beep is heard, but nothing happens.	The card is not logged on *Card + PIN* is the current security level and the card does not have a PIN code.	Log on the card. Set a PIN code for the card.

Technical information

Power supply:	8-28 V AC, 10-40 V DC. Maximum power consumption 70 mA.
Relay outputs:	Max 2A, 30 V DC.
Tamper switch:	Max 1A, 30 V DC.
Inputs:	Normally pulled high. Active when pulled low, i.e. 0 V.
Red LED external control:	Galvanic insulation. 12-30 V DC.
Communications port:	RS-232 (printer, PC or system).
RS232 interface:	– 9 600 bps – no parity – 8 bits – 1 start bit – 1 stop bit
Temperature range:	–35° C to +50° C, at 90 % relative air humidity.
Dimensions:	200 x 140 x 60 mm (WxHxD).

Charts

Time zones

No (01-15)	Name	1st interval From To		2nd interval From To		Day type/s

Example:

No (01-15)	Name	1st interval From To		2nd interval From To		Day type/s
01	Working hrs	0830	1159	1300	1759	12345

Time schedules

No (01-15)	Name	Time zones included

Example:

No (01-15)	Name	Time zones included
01	Office staff	01020305

In the above example are time zones nos. 1, 2, 3 and 5 included in time schedule no 1.

Security levels

Level	Time schedule
Door unlocked	
Common code	
Card	
Card + PIN	
Toggle	

Special settings

Function	Setting	Default
Password		112233
Common code		None
Release time		7 sec
Door held warning time		10 sec
Buzzer	☐ OFF (0) ☐ ON (1)	ON
Door monitor contact	☐ OFF (0) ☐ ON (1), normal ☐ OFF (2), magnetic lock	OFF
Lock monitor contact	☐ OFF (0) ☐ ON (1)	OFF
Alarm by-pass	☐ OFF (0) ☐ Monostable (1) ☐ Bistable (2) ☐ Bistable pulse (3)	OFF
Alarm activation time		0 sek
Antipassback	☐ OFF (0) ☐ ON (1)	OFF

Holidays/holiday periods

No	Date (MMDD)	Duration in days	Day type	No	Date (MMDD)	Duration in days	Day type

Example:

No	Date (MMDD)	Duration in days	Day type	No	Date (MMDD)	Duration in days	Day type
01	1224	01	7	02	0701	21	7

Persons

Name	Card number	Time schedule	Alarm card

Example:

Name	Card number	Time schedule	Alarm card
Edwards Anthony	12345678	01	A1