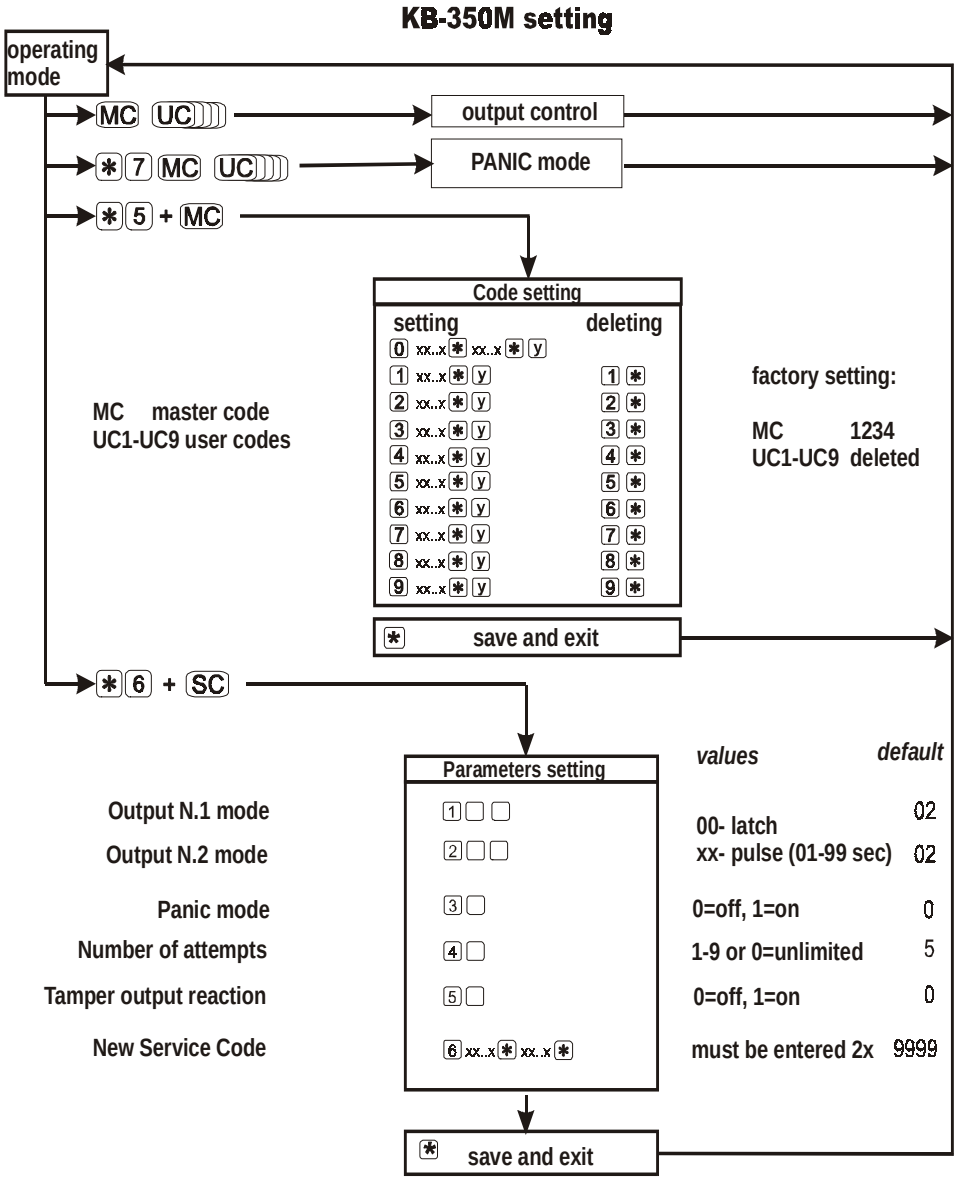
Reset

If the master code or service code is forgotten or if you connect a new keypad, it is necessary to reset the control unit. Disconnect power and connect the RESET jumper and after 20sec. reconnect power. After 5 seconds, disconnect the jumper. This procedure will restore the factory default settings (master code = 1234, service code = 9999, all user codes are erased) and it will also enroll connected keypads to the control unit.



KB-350M Digital Access Keypad

The KB-350M access control keypad can operate electric devices such as door locks, gates, or security systems. It consists of two parts - a keypad and a control unit. Both parts are connected by a two-core cable. One or two keypads can be wired to each control unit (e.g. they can be installed on both sides of a single door). While one keypad is being accessed, the second keypad is temporarily bypassed.

A separated control unit insures maximum security. The communication in the cable from the keypad to the control unit is encrypted with a sophisticated floating code protocol. This ensures that there is no other way to operate the device than by entering a valid access code.

The keypad itself is made of a solid alloy and it is suitable for vandal proof applications.

Specifications

Voltage	*10 – 16 V AC or DC*
Consumption	*60mA no relay on, 120 mA both relays on*
Keypad connecting cable	*2 core cable, max. 100 m, arbitrary polarity*
Output relay (output 1)	*over-switching contact 1 A / 60 V*
Transistor output (output 2)	*switches to GND – max. current 1.5 A / 25 V*
Tamper output	*max. 100 mA / 25 V (control unit, keypad and cable tamper protection)*
Power output	*rectified voltage from PWR input terminals - max. 1.2 A for max. 5 sec*
Access codes	*4, 5 or 6 digits, 1 master + 9 user codes (each code can be addressed to output 1 or 2)*
Output modes	*programmable duration of pulse (from 1 to 99 sec.) or latch mode*
Number of attempts	*programmable*
keypad working environment	*outdoor use (class III), -25 °C to 50 °C, mech. resistance IK08 (EN 50102)*
cover class	*IP52 (EN 60529)*
control unit working envir.	*indoor – general (class II), -10 °C to +40 °C (EN 50131-1)*

Installation

Keypad can be installed on a standard electro installation box (screw spacing - 60 mm).

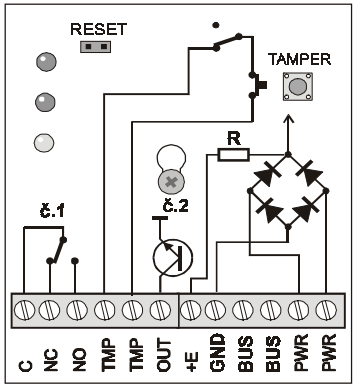
- remove front panel - use the provided tool to unscrew the 4 screws
- connect the keypad's terminals with the control unit's BUS terminals using two wires (twisted pair) (e.g. SYKFY cable), max. distance – 100 m, arbitrary polarity
- up to 2 keypads can be wired in parallel, the total length of all cables should not exceed 100 m
- reattach the keypad after powering and testing (see bellow)

Note, if you change or add a keypad, you must reset the control unit!

Control unit can be installed directly on a wall or on an installation box. Terminal descriptions follow:

C, NC, NO	over-switching relay contact (output N.1), max. 1 A / 60 V, (C=common, NC=normally closed, NO=normally opened)
TMP, TMP	NC tamper output, max. 0.1 A / 25 V; opens when a control unit is opened, if any keypad is lost, if the connecting cable is cut or shortened or if a pre-programmed number of attempts to enter the correct code is exceeded or if a panic sequence is entered (programmable)
OUT	transistor output (output N.2), max. 1.5 A / 25 V. It switches to GND when activated.
+E	rectified power voltage (from PWR input terminals). It can be used for the powering of an electric door lock etc. Maximum permanent load is 0.25 A, short period load (max. 5 sec.) - can be 1.2 A (for electric strike release). Note that a corresponding power supply must be used to power the unit (RWR terminals).
GND	ground terminal of internal power supply
BUS, BUS	bus line terminals for keypad connection. Up to 2 keypads can be connected in parallel. Twist pair (e.g. SYKFY) is recommended, max. length – 100 m. Polarity is arbitrary. The bus is used for both powering the keypads and for data transfer (a highly secure floating code is used). **Note**, if you change keypads, you must reset the control unit.

PWR, PWR power supply input (10 - 16 V AC or DC). Adapter DE20-15 or backup power supply BP-12 are recommended.



LED indicators on the control unit:

green	output relay is triggered (output N.1)
red	output transistor is triggered (output N.2)
yellow	tamper is triggered (TMP)

LED indicators on the keypad:

green	output relay is triggered (output N.1)
red	output transistor is triggered (output N.2)
yellow	both output N.1 and N.2 are triggered
green flashing	programming mode
red flashing	keypad is bypassed (the other one is being used or a number of attempts to enter the code was exceeded)

First powering

Connect the RESET jumper in the control unit and switch on the power supply. After 5 seconds, disconnect the jumper. This procedure will enroll all of the keypads into the control unit. Test the keypads by entering the factory default code 1234. If everything is operating correctly, the green LED on the keypad should switch on. Leave the RESET jumper disconnected.

Access codes setting

10 different access codes can be used. One code is a master code which can operate the keypad as well as set the other user codes. The factory default master code is 1234, the other user codes are blank. All access codes can have 4,5 or 6 digits and a corresponding output (N.1 or N.2) can be assigned to each code.

Enter: ∗ **5 master code** (default 1234) first. The green LED will start flashing (programming mode).

- **Master code setting**:
  0 xx...x ∗ xx...x ∗ y
  where **xx...x** is a new code (4 to 6 digits), after pressing ∗ it is necessary to reenter the new code
  y enter 1 or 2 to assign a corresponding output
- **User codes setting**:
  A xx...x ∗ y
  where **A** is a user code number (from 1 to 9)
  xx...x is a new user code (4, 5 or 6 digits)
  y enter 1 or 2 to assign a corresponding output
- **User code deleting**:
  A ∗ where **A** is a code number (1 to 9)

To exit the code setting mode press the ∗ key. If you press the # key**,** none of the codes entered in the current session will be stored in the memory.

Optional parameters setting

Enter: ∗ **6 service code** (default 9999) in order to enter the parameters programming mode. The green LED will start flashing.

- **Working mode of output N.1** (relay):
  1 xx

where **xx** is a period of time during which the relay is switched on (01 – 99 sec.). If 00 is entered, then the output N.1 will be set to a latch mode (it changes its status whenever a valid assigned code is entered)

- **Operating mode of output N.2** (transistor):
  2 xx

where **xx** is a period of time during which the relay is switched on (01 – 99 sec.). If 00 is selected, then the output N.2 will be set to a latch mode (it changes its status whenever a valid assigned code is entered)

- **Panic** (access under duress ∗ 7 is pressed before a valid code):
  3 x

where **x** can be 0 = off, 1 = on (if ∗ 7 is pressed before a valid code, the TMP output is triggered for 3 seconds simultaneously with the associated output reaction)

- **Number of attempts** to enter an access code:
  4 x

where **x** is the maximum number of attempts (0 = no check). If this number is exceeded, the keypad is blocked for two minutes (can be overridden with a repeated entry of a valid code). The TMP output can also be triggered (see following setting).

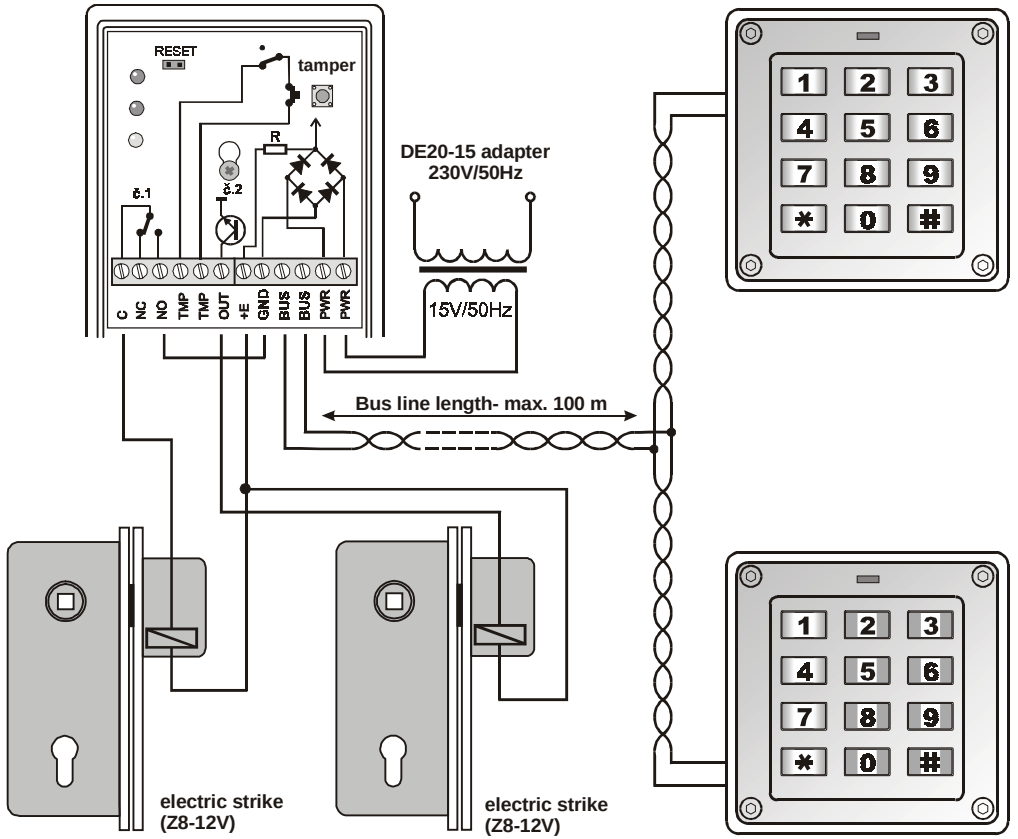
- **TMP output reaction** if a number of attempts to enter a code has been exceeded:
  5 x

where **x** can be 0 = no reaction, 1 = triggered for 3 sec.

- **New service code setting**:
  6 xx...x ∗ xx...x ∗

where **xx...x** is a new service code (4, 5 or 6 digits), code must be repeated after pressing ∗

To **exit the programming mode** press the ∗ key. If you press the # key, programming will not be stored.



Example two doors access control. AC or DC power supply may be used. Pulse length on outputs N.1 and N.2 should be set to 1 – 5 sec. (depending on the type of electric lock). Garage gates, parking bars etc. can be controlled in a similar way.