

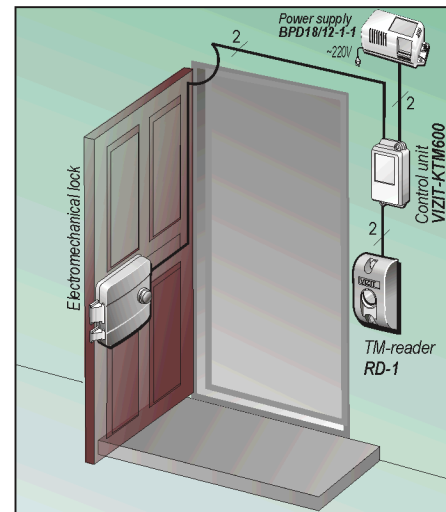
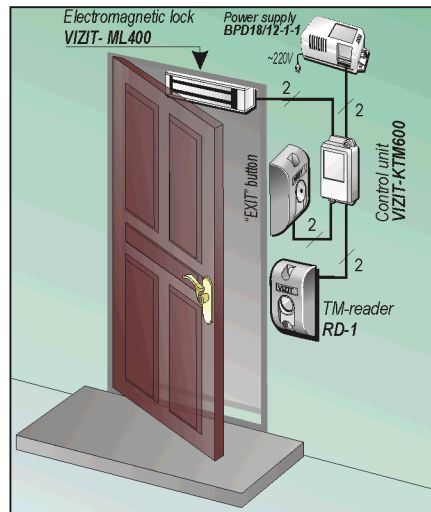
ACCESS CONTROL SYSTEMS

TOUCH MEMORY button controller

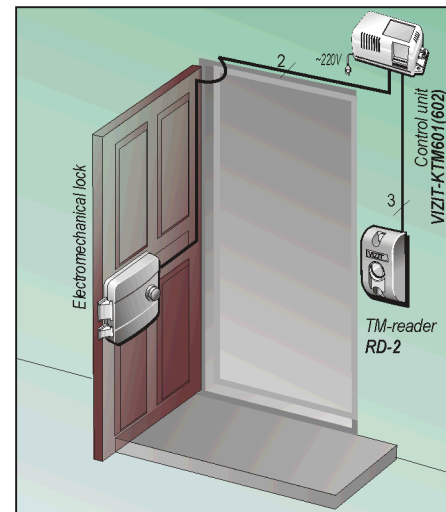
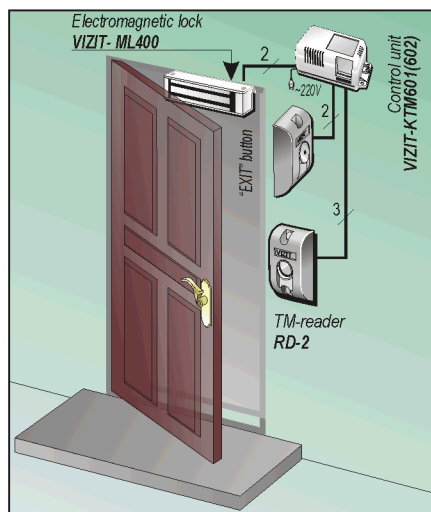
Features:

- Entrance door unlocking with ACCESS TM-buttons and MASTER TM-button
- Entrance door unlocking at pressing the indoor "EXIT" button
- Guard mode can be enabled and disabled with GUARD TM-buttons
- All ACCESS TM-buttons are disabled in this mode
- Memorizing / deleting TM-buttons' codes by means of MASTER TM-button
- Beep sounds while unlocking the entrance door
- Power supply for lock (**VIZIT-KTM601**)
- Power supply for lock and individual doorphone (**VIZIT-KTM602**)

VIZIT-KTM600



VIZIT-KTM601 VIZIT-KTM602



MODEL		VIZIT-KTM600	VIZIT-KTM601	VIZIT-KTM602
Access TM-buttons , max.		670		
Guard TM-buttons max.		6		
Master TM-button		1		
Operating voltage, V		+(12 ... 24) VDC	~220 (50-60Hz)	
Supply voltage for doorphone		————		+18V 0.4Amax
Unlocking duration, sec		1 or 5		
Temperature range	TM-reader	from -40°C to +50°C		
	Control unit	from -10°C to +45°C	from 1°C to +40°C	
Power supply		BPD18/12-1-1	built-in	
Electromagnetic lock		VIZIT-ML300, VIZIT-ML400		
Electromechanical lock		12V 1.5A max		
Dimensions, mm	TM-reader	75 x 47 x 22		
	Control unit	135 x 75 x 35	165 x 90 x 60	
Weight, kg		0.3	1.0	

OPERATING INSTRUCTION

TOUCH MEMORY BUTTON CONTROLLER **VIZIT-KTM600** (hereinafter – KTM600) is intended for access control in auxiliary, industrial, inhabited buildings and premises. DS1990A-F5 Touch Memory digital electronic identifiers (**iButton®**, Maxim / Dallas Semiconductor Ltd., USA) are used as the keys (TM-buttons).

KTM600 consists of TM-button reader (**RD-1**) and control unit (**BU-600**) and may be used as part of doorphone system, as well as stand-alone system. **KTM600** is able to control either electromagnetic or electromechanical lock.

FEATURES

- Entrance door unlocking with ACCESS TM-buttons and MASTER TM-button
- Entrance door unlocking at pressing the indoor "EXIT" button
- Guard mode can be enabled and disabled with GUARD TM-button.
- All ACCESS TM-buttons and indoor "EXIT" button are disabled in this mode
- Memorizing / deleting TM-buttons' codes by means of MASTER TM-button
- Beep sounds while unlocking the entrance door

SPECIFICATIONS

ACCESS TM-buttons , max.	670 pcs.
GUARD TM-buttons, max.	6 pcs.
MASTER TM-button	1 pcs.
Unlocking duration	1 or 5 sec
Operating voltage, VDC	+ (12 ... 24)
Current consumption, max, mA	50
Door lock control:	NO or NC relay contact
Max. switchable current, A	1.5 @ 24 VDC
Max. length of cable, meters :	
Reader-to-Control unit	15
"EXIT" button-to-Control unit	15

Part	Dimensions, mm:	Weight, kg:
TM-button reader	75x50x25	0.1
Control unit	135x75x35	0.2

OPERATING CONDITIONS

Part	Ambient temperature range:	Relative humidity of air:
TM-button reader	from -40°C to +50°C	up to 98 % @ 25°C
Control unit	from -10°C to +45°C	up to 93 % @ 25°C

PARTS LIST

Control unit BU-600	1 pc.
TM-button reader RD-1	1 pc.
Accessories (montage kit)	1 pc.
Diode 1N4007	1 pc.
Operating instruction	1 pc.

SAFETY INSTRUCTIONS

This product does not contain voltage above 24 VDC.
Do not make any repair at the powered product.

INSTALLATION

TM-button reader is to be fixed at the entry door or near it. "EXIT" button (not included) is to be installed indoors near a door. Control unit is to be installed in any convenient place of a premise on a wall and fastens either with a springing clip to a DIN - strip or with 2 screws. Don't mount the unit near heating equipment! Electromagnetic lock, if any, must have built-in degaussing module.

Connect all circuits according to connection diagrams (Figures 1, 2).

It's allowed to connect the control unit and lock to one power supply, as is shown on figure 1 (in case of use the electromagnetic lock VIZIT-ML400, for example) or figure 2 (in case of use the electromechanical lock).

In case of use the locks with large current consumption or interference it is recommended to connect the control unit and lock to separate power sources.

The two-channel power supply BPD18/12-1-1 or similar one may be used.

Requirements to the wires are given in the next table:

Circuit	Max. distance, meters		
	Ø 0.3mm	Ø 0.5 mm	Ø 0.75mm
Control unit ↔ Electromagnetic lock (ML400)	10	25	50
Control unit ↔ Electromechanical lock	5	10	25

Remove the control unit cover off and set 2 jumpers according to the next table:

- "**NO – NC**" jumper defines the type of lock.
"NC" position means normally closed relay contacts.
"NO" position means normally open relay contacts.
Note, that relay is turned off in STAND-BY mode.
- "**5s – 1s**" jumper defines the unlocking time (seconds).

Lock	Jumper	
	NO – NC	5s – 1s
Electromagnetic lock VIZIT-ML400	NC	5s
Electromechanical lock EL-301B	NO	1s
Electromechanical lock DL-3	NO	1s

OPERATING PROCEDURE

One of the following operation modes are available:

- **Programming** (Memorizing / erasing the TM-buttons' codes in the control unit's memory)
- **ACCESS mode**
- **GUARD mode**

Programming

There is no need for electric "EXIT" button in case of electromechanical lock since it has mechanical release button. However, any button with N.O. contacts must be temporarily connected across OP and RG terminals for programming, as shown with dashed wires on wiring diagram.

Three types of TM-buttons may be established during programming:

- **MASTER TM-button** (used for memorizing or erasing the ACCESS and GUARD TM-buttons' codes).
- **ACCESS TM-buttons** (used for unlocking the door)
- **GUARD TM-buttons** (used for setting and cancelling the GUARD mode)

Memorizing TM-buttons' codes into control unit's memory

During memorizing the TM-buttons control unit stores each TM-button's code into the next memory cell, numbering them from №1 up to №670 for ACCESS TM-buttons and from №1 up to №6 for GUARD TM-buttons. It is recommended beforehand to enumerate TM-buttons and to touch them one after another to the reader during memorizing procedure. It is useful also to keep account: «a TM-button №... - User ... », that will be necessary when deleting the unused or lost TM-button's code in the future.

• Memorizing the MASTER TM-button

1. Turn off the power.
2. Remove a cover and pick up the "XA-XB" jumper.
3. Turn on the power. The beeper produces **one long beep**.
4. After ending the beep touch the reader with TM-button, which is to be MASTER TM-button. **One short and two long beeps** ("STORED"). In case of touching the reader with several TM-buttons only last one will be memorized as **MASTER**.
5. For canceling this mode turn off the power, restore the "XA-XB" jumper to its place and close the cover.

• Memorizing the ACCESS TM-buttons

1. Touch the reader with MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
2. Touch the reader with TM-button which is to be ACCESS TM-button. **One short and one long beeps** sound («STORED»). One long beep (without short one) testifies an error. It is possible at attempt of storing the TM-button, which is already stored before.
3. For next TM-button memorizing touch the reader with it, and so on.
4. Touching twice the reader with MASTER TM-button returns the ACCESS mode (**STAND-BY**).

NOTE: If all 670 users' TM-buttons are stored, then 671st TM-button will be memorized into a GUARD TM-button's storage area without any signalling, and this TM-button will be the GUARD TM-button.

• Memorizing the GUARD TM-buttons

1. Touch the reader with the MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
 2. Press "EXIT" button briefly (**one long beep** sounds, LED lights).
 3. Touch the reader with TM-button which is to be GUARD TM-button. **One short and one long beeps** sound («STORED»).
 4. For next TM-button memorizing touch the reader with it, and so on.
 5. Touching the reader with MASTER TM-button returns the ACCESS mode (**STAND-BY**).
- WARNING!** If 5 short beeps sound, it means that all GUARD TM-button's memory is filled, and the further storing is impossible.

Erasure of TM-buttons' codes from control unit's memory

• Erasure of ACCESS and GUARD TM-buttons

1. Touch the reader with MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
2. Touch the reader with MASTER TM-button briefly (**two long beeps** sound, LED lights).
3. Touch the reader with TM-button, which code must be erased. **One short and one long beeps** sound ("DONE"). One long beep (without short one) testifies an error, which is possible at erasing of a non-existent TM-button.
4. For erasing next TM-button just touch the reader with it, and so on.
5. For erasing the lost TM-button after 1 and 2 steps press twice the "EXIT" button. LED shuts off. Touch the reader with TM-button number **N** -- and TM-button number **N+1** code (lost) will be erased.
6. Touching the reader with MASTER TM-button returns the ACCESS mode (**STAND-BY**).

During erasing of TM-button's code corresponding memory cell (number **N**) becomes free.
During next memorizing the TM-button's code will be recorded into first found free memory cell, so TM-button will have number **N**.
Mind it when keeping account: «a TM-button №... - User ... ».

NOTE: TM-button number **1** can only be erased at erasure of all TM-buttons's codes (see below).
At inactivity in any mode during 30 - 50 seconds the control unit automatically returns to **STAND-BY** mode.

- **Erase of all TM-buttons's codes**

CAUTION! The following sequence of operations erases all TM-buttons from memory, including MASTER TM-button!

1. Turn off the power.
2. Remove a cover and pick up the "XA-XB" jumper.
3. Turn on the power. The beeper produces **one long beep**.
4. Press the "EXIT" button. **Twenty short beeps** sound, LED lights. (The product waits for confirmation of erasing mode.)
For confirmation press the "EXIT" button for 2 seconds **before the 20-th beep**. Then **two short beeps** will sound, processor will delete all TM-buttons' codes (including MASTER one) from memory and return to the ACCESS mode.
5. Turn off the power, restore "XA-XB" jumper to its place and close the cover.

ACCESS mode

A door is locked in stand-by mode. The control unit's LED blinks.

- For unlocking the door apply **ACCESS TM-button** or **MASTER TM-button** to the reader.
Lock opens, **short beeps** sound for 5 seconds, LED lights continuously in case if applied TM-button's code is stored in the control unit's memory. If code is not stored, then long beep sounds and lock does not open.
- For unlocking the door from within press the "EXIT" button.

GUARD mode

- Apply **GUARD TM-button** to the reader. **One short and one long beeps** sound, LED lights continuously – the system is now in **GUARD** mode. Unlocking is impossible with any ACCESS TM-button and "EXIT" button.
Touching the reader with ACCESS TM-button or pressing the "EXIT" button results in **one long beep**. That's an additional sign of **GUARD** mode.
- Repeated application of **GUARD TM-button** or **MASTER TM-button** returns the ACCESS mode - **two short and one long beeps** sound.

ATTENTION! **GUARD TM-button** is not an access key. It does not unlock the door.

MAINTENANCE: In case of glitches clean up the TM-button's and reader's contacts with soft cloth.

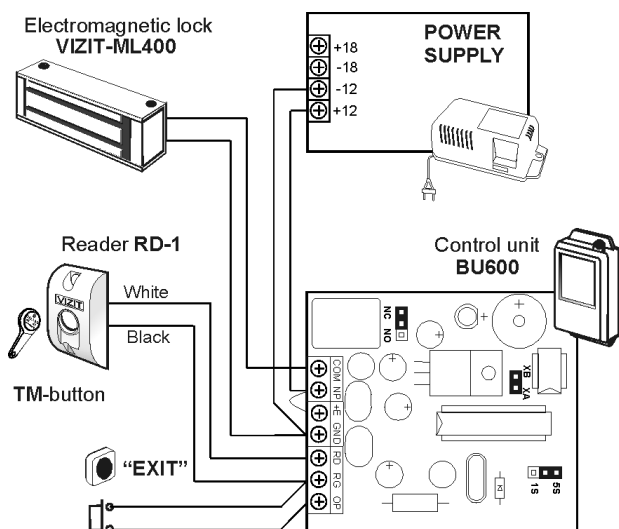


Figure 1. Connection diagram for **KTM600** with electromagnetic lock **VIZIT-ML400** and **EXIT** button.

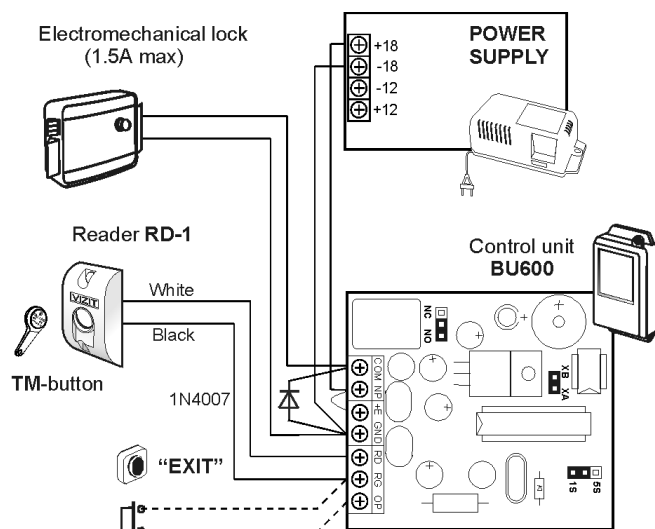


Figure 2. Connection diagram for **KTM600** with electromechanical lock. **EXIT** button is used for programming only.

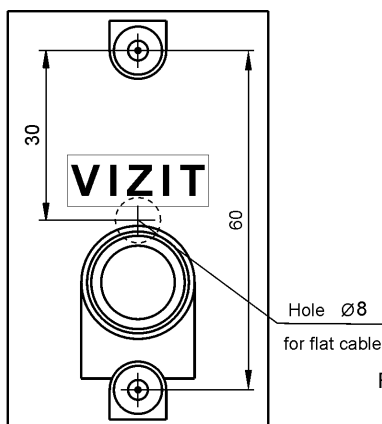


Figure 3. TM-reader mounting drawing.

OPERATING INSTRUCTION

TOUCH MEMORY BUTTON CONTROLLER **VIZIT-KTM601** (hereinafter – KTM601) is intended for access control in auxiliary, industrial, inhabited buildings and premises. DS1990A-F5 Touch Memory digital electronic identifiers (**iButton®**, Maxim / Dallas Semiconductor Ltd., USA) are used as the keys (TM-buttons).

KTM601 consists of TM-button reader (**RD-2**) and control unit (**BU-601**) and may be used as part of doorphone system, as well as stand-alone system. **KTM601** is able to control either electromagnetic or electromechanical lock.

FEATURES

- Entrance door unlocking with ACCESS TM-buttons and MASTER TM-button
- Entrance door unlocking at pressing the indoor "EXIT" button
- Guard mode can be enabled and disabled with GUARD TM-button
All ACCESS TM-buttons are disabled in this mode
- Memorizing / deleting TM-buttons' codes by means of MASTER TM-button
- Beep sounds while unlocking the entrance door
- Power supply for lock

SPECIFICATIONS

ACCESS TM-buttons , max. **670 pcs.**
 GUARD TM-buttons, max. **6 pcs.**
 MASTER TM-button **1 pcs.**
 Unlocking duration **1 or 5 sec**
 Operating voltage (50 – 60 Hz), V **220 +22 / -33**
 Power consumption, max, VA **30**

Lock supply voltage at "+DL" & "- DL " terminals, VDC
 "VOLT" jumper is in "12" position: 12±1.2 @ 0.6A
 "VOLT" jumper is in "18" position: 18±1.8 @ 0.7A
 13±1.3 @ 1.5A (T<1sec)

Part	Dimensions, mm:	Weight, kg:
TM-button reader	75x50x25	0.08
Control unit	165x90x60	0.85

OPERATING CONDITIONS

Part	Ambient temperature range:	Relative humidity of air:
TM-button reader	from -40°C to +50°C	up to 98 % @ 25°C
Control unit	from +1°C to +40°C	up to 93 % @ 25°C

PARTS LIST

Control unit **BU-601** 1 pcs.
 TM-button reader **RD-2** 1 pcs.
 Mains cord 1 pcs.
 Operating instruction 1 pcs.
 Accessories (montage kit) 1 pcs.

SAFETY INSTRUCTIONS

WARNING!

Dangerous voltage is present in powered unit!
 Disconnect it from the mains before connecting the wires, setting the jumpers or replacing the fuse.

INSTALLATION

TM-button reader is to be fixed at the entry door or near it. "EXIT" button (not included) is to be installed indoors near a door. Control unit is to be installed in any convenient place of a premise on a wall and fastens by the screws. Output terminals must be oriented downward for proper ventilation. Don't mount the unit near heating equipment! Electromagnetic lock, if any, must have built-in degaussing module.

Connect the power cord and all circuits according to connection diagrams (Figures 1, 2).

Requirements to the wires are given in the next table:

Circuit	Max. distance, meters		
	Ø 0.3mm	Ø 0.5 mm	Ø 0.75mm
Control unit ↔ Reader	25	50	50
Control unit ↔ "Exit" button	25	50	50
Control unit ↔ Electromagnetic lock (ML400)	10	25	50
Control unit ↔ Electromechanical lock	5	10	25

Remove the control unit cover off and set 3 jumpers according to the next table:

1. "VOLT" jumper defines the lock supply voltage across +DL and - DL terminals.
2. "REL" jumper defines the type of lock.
 "NC" position means normally closed relay contacts.
 "NO" position means normally open relay contacts.
 Note, that relay is turned off in STAND-BY mode.
3. "TIME" jumper defines the unlocking time (seconds).

Lock	Jumper		
	REL	VOLT	TIME
Electromagnetic lock VIZIT-ML400	NC	12V	5s
Electromechanical lock EL-301B	NO	18V	1s
Electromechanical lock DL-3	NO	12V	1s

OPERATING PROCEDURE

One of the following operation modes are available:

- **Programming** (Memorizing / erasing the TM-buttons' codes in the control unit's memory)
- **ACCESS mode**
- **GUARD mode**

Programming

There is no need for electric "EXIT" button in case of electromechanical lock since it has mechanical release button. However, any button with N.O. contacts must be temporarily connected across OP and RG terminals for programming, as shown with dashed wires on wiring diagram.

Three types of TM-buttons may be established during programming:

- **MASTER TM-button** (used for memorizing or erasing the ACCESS and GUARD TM-buttons' codes).
- **ACCESS TM-buttons** (used for unlocking the door)
- **GUARD TM-buttons** (used for setting and cancelling the GUARD mode)

Memorizing TM-buttons' codes into control unit's memory

During memorizing the TM-buttons control unit stores each TM-button's code into the next memory cell, numbering them from №1 up to №670 for ACCESS TM-buttons and from №1 up to №6 for GUARD TM-buttons. It is recommended beforehand to enumerate TM-buttons and to touch them one after another to the reader during memorizing procedure. It is useful also to keep account: «a TM-button №... - User ... », that will be necessary when deleting the unused or lost TM-button's code in the future.

• Memorizing the MASTER TM-button

1. Turn off the power.
2. Remove a cover and pick up the "PRG" jumper.
3. Turn on the power. The beeper produces **one long beep**.
4. After ending the beep touch the reader with TM-button, which is to be MASTER TM-button. **One short and two long beeps** ("STORED"). In case of touching the reader with several TM-buttons only last one will be memorized as **MASTER**.
5. For canceling this mode turn off the power, restore the "PRG" jumper to its place and close the cover.

• Memorizing the ACCESS TM-buttons

1. Touch the reader with MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
2. Touch the reader with TM-button which is to be ACCESS TM-button. **One short and one long beeps** sound («STORED»). One long beep (without short one) testifies an error. It is possible at attempt of storing the TM-button, which is already stored before.
3. For next TM-button memorizing touch the reader with it, and so on.
4. Touching twice the reader with MASTER TM-button returns the ACCESS mode (**STAND-BY**).

NOTE: If all 670 users' TM-buttons are stored, then 671st TM-button will be memorized into a GUARD TM-button's storage area without any signalling, and this TM-button will be the GUARD TM-button.

• Memorizing the GUARD TM-buttons

1. Touch the reader with the MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
 2. Press "EXIT" button briefly (**one long beep** sounds, LED lights).
 3. Touch the reader with TM-button which is to be GUARD TM-button. **One short and one long beeps** sound («STORED»).
 4. For next TM-button memorizing touch the reader with it, and so on.
 5. Touching the reader with MASTER TM-button returns the ACCESS mode (**STAND-BY**).
- WARNING!** If 5 short beeps sound, it means that all GUARD TM-button's memory is filled, and the further storing is impossible.

Erasure of TM-buttons' codes from control unit's memory

• Erasure of ACCESS and GUARD TM-buttons

1. Touch the reader with MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
2. Touch the reader with MASTER TM-button briefly (**two long beeps** sound, LED lights).
3. Touch the reader with TM-button, which code must be erased. **One short and one long beeps** sound ("DONE"). One long beep (without short one) testifies an error, which is possible at erasing of a non-existent TM-button.
4. For erasing next TM-button just touch the reader with it, and so on.
5. For erasing the lost TM-button after 1 and 2 steps press twice the "EXIT" button. LED shuts off. Touch the reader with TM-button number **N** -- and TM-button number **N+1** code (lost) will be erased.
6. Touching the reader with MASTER TM-button returns the ACCESS mode (**STAND-BY**).

During erasing of TM-button's code corresponding memory cell (number **N**) becomes free.
During next memorizing the TM-button's code will be recorded into first found free memory cell, so TM-button will have number **N**.
Mind it when keeping account: «a TM-button №... - User ... ».

NOTE: TM-button number **1** can only be erased at erasure of all TM-buttons's codes (see below).
At inactivity in any mode during 30 - 50 seconds the control unit automatically returns to **STAND-BY** mode.

- **Erasure of all TM-buttons's codes**

CAUTION! The following sequence of operations erases all TM-buttons from memory, including MASTER TM-button!

1. Turn off the power.
2. Remove a cover and pick up the "PRG" jumper.
3. Turn on the power. The beeper produces **one long beep**.
4. Press the "EXIT" button. **Twenty short beeps** sound, LED lights. (The product waits for confirmation of erasing mode.)
For confirmation press the "EXIT" button for 2 seconds **before the 20-th beep**. Then **two short beeps** will sound, processor will delete all TM-buttons' codes (including MASTER one) from memory and return to the ACCESS mode.
5. Turn off the power, restore "PRG" jumper to its place and close the cover.

ACCESS mode

A door is locked in stand-by mode. The control unit's LED blinks.

- For unlocking the door apply **ACCESS TM-button** or **MASTER TM-button** to the reader.
Lock opens, **short beeps** sound for 5 seconds, LED lights continuously in case if applied TM-button's code is stored in the control unit's memory. If code is not stored, then long beep sounds and lock does not open.
- For unlocking the door from within press the "EXIT" button.

GUARD mode

- Apply **GUARD TM-button** to the reader. **One short and one long beeps** sound, LED lights continuously – the system is now in **GUARD** mode. Unlocking is impossible with any ACCESS TM-button, but still available with "EXIT" button.
Touching the reader with ACCESS TM-button or pressing the "EXIT" button results in **one long beep**. That's an additional sign of **GUARD** mode.
- Repeated application of **GUARD TM-button** or **MASTER TM-button** returns the ACCESS mode - **two short and one long beeps** sound.

ATTENTION! **GUARD TM-button** is not an access key. It does not unlock the door.

MAINTENANCE: In case of glitches clean up the TM-button's and reader's contacts with soft cloth.

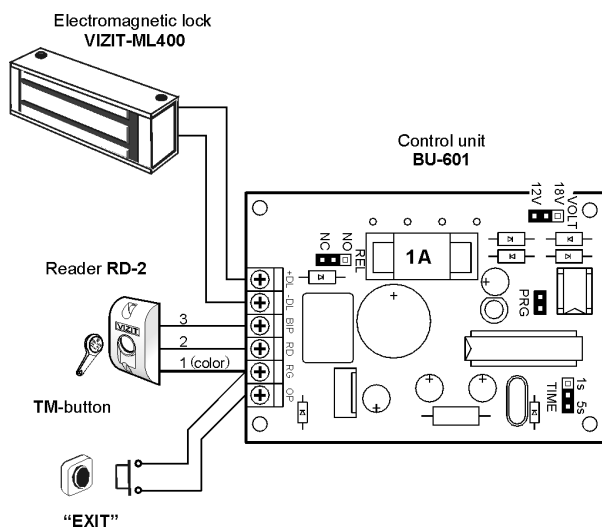


Figure 1. Connection diagramm for **KTM601** with electromagnetic lock **VIZIT-ML400** and **EXIT** button.

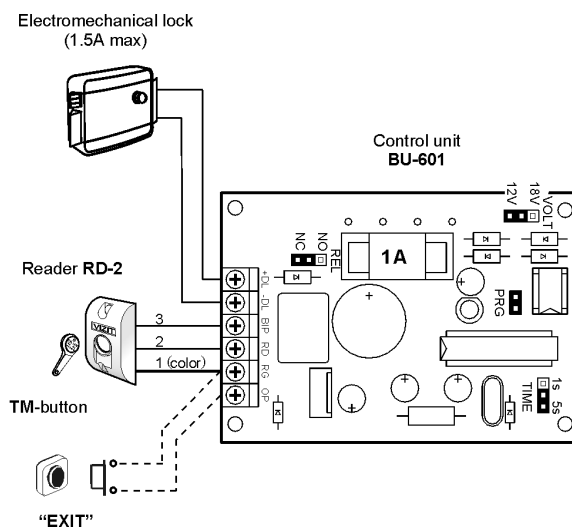


Figure 2. Connection diagramm for **KTM601** with electromechanical lock. **EXIT** button is used for programming only.

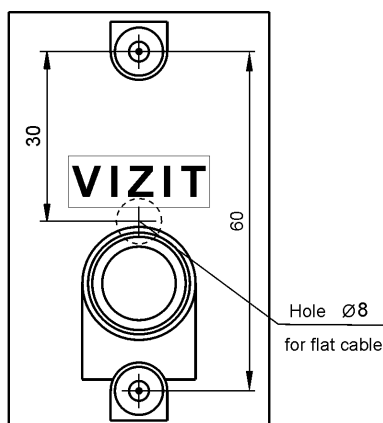


Figure 3. TM-reader mounting drawing.

OPERATING INSTRUCTION

TOUCH MEMORY BUTTON CONTROLLER **VIZIT-KTM602** (hereinafter – KTM602) is intended for access control in auxiliary, industrial, inhabited buildings and premises. DS1990A-F5 Touch Memory digital electronic identifiers (**iButton®**, Maxim / Dallas Semiconductor Ltd., USA) are used as the keys (TM-buttons).

KTM602 consists of TM-button reader (**RD-2**) and control unit (**BU-602**) and may be used as part of doorphone system, as well as stand-alone system. **KTM602** is able to control either electromagnetic or electromechanical lock.

FEATURES

- Entrance door unlocking with ACCESS TM-buttons and MASTER TM-button
- Entrance door unlocking at pressing the indoor "EXIT" button
- Guard mode can be enabled and disabled with GUARD TM-button.
All ACCESS TM-buttons are disabled in this mode
- Memorizing / deleting TM-buttons' codes by means of MASTER TM-button
- Beep sounds while unlocking the entrance door
- Power supply for lock and **VIZIT** individual doorphones

SPECIFICATIONS

ACCESS TM-buttons, max. **670 pcs.**
 GUARD TM-buttons, max. **6 pcs.**
 MASTER TM-button **1 pcs.**
 Unlocking duration **1 or 5 sec**
 Operating voltage (50 – 60 Hz), **V 220 +22 / -33**
 Power consumption, max, **VA 30**

Lock supply voltage at "+DL" & "RG" terminals, VDC
 "VOLT" jumper is in "12" position: 12±1.2 @ 0.6A
 "VOLT" jumper is in "18" position: 18±1.8 @ 0.7A
 13±1.3 @ 1.5A (T<1sec)

Supply voltage for doorphone
 across **ELC & RG** terminals, VDC 18±1.8 @ 0.4A

Part	Dimensions, mm:	Weight, kg:
TM-button reader	75x50x25	0.08
Control unit	165x90x60	0.85

OPERATING CONDITIONS

Part	Ambient temperature range:	Relative humidity of air:
TM-button reader	from -40°C to +50°C	up to 98 % @ 25°C
Control unit	from +1°C to +40°C	up to 93 % @ 25°C

PARTS LIST

Control unit **BU-602** 1 pcs.
 TM-button reader **RD-2** 1 pcs.
 Mains cord 1 pcs.
 Operating instruction 1 pcs.
 Accessories (montage kit) 1 pcs.

SAFETY INSTRUCTIONS

WARNING!

Dangerous voltage is present in powered unit!
 Disconnect it from the mains before connecting the wires, setting the jumpers or replacing the fuse.

INSTALLATION

TM-button reader is to be fixed at the entry door or near it. "EXIT" button (not included) is to be installed indoors near a door.
 Control unit is to be installed in any convenient place of a premise on a wall and fastens by the screws. Output terminals must be oriented downward for proper ventilation. Don't mount the unit near heating equipment! Electromagnetic lock, if any, must have built-in degaussing module.

Connect the power cord and all circuits according to wiring diagrams (see below). For stand-alone system dashed line enclosed area is not used.

Requirements to the wires are given in the next table:

Circuit	Max. distance, meters		
	Ø 0.3mm	Ø 0.5 mm	Ø 0.75mm
Control unit ↔ Reader	25	50	50
Control unit ↔ Doorstation (Fig. 1)	25	50	50
Control unit ↔ Connecting box KC (Fig. 2)	10	25	50
Control unit ↔ "Exit" button	25	50	50
Control unit ↔ Electromagnetic lock (ML400)	10	25	50
Control unit ↔ Electromechanical lock	5	10	25

Remove the control unit cover off and
 set 4 jumpers according to the next table:

1. "VOLT" jumper defines the lock supply voltage across +DL and RG terminals.
2. "REL" jumper defines the type of lock.
 "NC" position means normally closed relay contacts.
 "NO" position means normally open relay contacts.
 Note, that relay is turned off in STAND-BY mode.
3. "TIME" jumper defines the unlocking time (seconds).
4. "ELC" jumper's position depends on a doorstation and handset type, if any.

Lock / Doorstation / Handset	Jumper			
	REL	VOLT	TIME	ELC
Electromagnetic lock VIZIT-ML400	NC	12V	5s	
Electromechanical lock EL-301B	NO	18V	1s	
Electromechanical lock DL-3	NO	12V	1s	
Doorstation BVD-4 or BVD-2 + handset UKP-9M				E
Doorstation BVD-101 + handset UKP-101				LC

OPERATING PROCEDURE

One of the following operation modes are available:

- **Programming** (Memorizing / erasing the TM-buttons' codes in the control unit's memory)
- **ACCESS mode**
- **GUARD mode**

Programming

There is no need for electric "EXIT" button in case of electromechanical lock since it has mechanical release button. However, any button with N.O. contacts must be temporarily connected across OP and RG terminals for programming, as shown with dashed wires on wiring diagram.

Three types of TM-buttons may be established during programming:

- **MASTER TM-button** (used for memorizing or erasing the ACCESS and GUARD TM-buttons' codes).
- **ACCESS TM-buttons** (used for unlocking the door)
- **GUARD TM-buttons** (used for setting and cancelling the GUARD mode)

Memorizing TM-buttons' codes into control unit's memory

During memorizing the TM-buttons control unit stores each TM-button's code into the next memory cell, numbering them from №1 up to №670 for ACCESS TM-buttons and from №1 up to №6 for GUARD TM-buttons. It is recommended beforehand to enumerate TM-buttons and to touch them one after another to the reader during memorizing procedure. It is useful also to keep account: «a TM-button №... - User ... », that will be necessary when deleting the unused or lost TM-button's code in the future.

• Memorizing the MASTER TM-button

1. Turn off the power.
2. Remove a cover and pick up the "PRG" jumper.
3. Turn on the power. The beeper produces **one long beep**.
4. After ending the beep touch the reader with TM-button, which is to be MASTER TM-button. **One short and two long beeps** ("STORED"). In case of touching the reader with several TM-buttons only last one will be memorized as **MASTER**.
5. For canceling this mode turn off the power, restore the "PRG" jumper to its place and close the cover.

• Memorizing the ACCESS TM-buttons

1. Touch the reader with the MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
2. Touch the reader with TM-button which is to be ACCESS TM-button. **One short and one long beeps** sound («STORED»). One long beep (without short one) testifies an error. It is possible at attempt of storing the TM-button, which is already stored before.
3. For next TM-button memorizing touch the reader with it, and so on.
4. Touching twice the reader with MASTER TM-button returns the usual access mode (**STAND-BY**).

NOTE: If all 670 users' TM-buttons are stored, then 671st TM-button will be memorized into a GUARD TM-button's storage area without any signalling, and this TM-button will be the GUARD TM-button.

• Memorizing the GUARD TM-buttons

1. Touch the reader with the MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
2. Press "EXIT" button briefly (**one long beep** sounds, LED lights).
3. Touch the reader with TM-button which is to be GUARD TM-button. **One short and one long beeps** sound («STORED»).
4. For next TM-button memorizing touch the reader with it, and so on.
5. Touching the reader with MASTER TM-button returns the ACCESS mode (**STAND-BY**).

WARNING! If 5 short beeps sound, it means that all GUARD TM-button's memory is filled, and the further storing is impossible.

Erasure of TM-buttons' codes from control unit's memory

• Erasure of ACCESS and GUARD TM-buttons

1. Touch the reader with MASTER TM-button for more than 5 seconds. The lock opens, **short beeps** then **three long beeps** sound. Disconnected the MASTER TM-button before ending the third long beep.
2. Touch the reader with MASTER TM-button briefly (**two long beeps** sound, LED lights).
3. Touch the reader with TM-button, which code must be erased. **One short and one long beeps** sound ("DONE"). One long beep (without short one) testifies an error, which is possible at erasing of a non-existent TM-button.
4. For erasing next TM-button just touch the reader with it, and so on.
5. For erasing the lost TM-button after 1 and 2 steps press twice the "EXIT" button. LED shuts off. Touch the reader with TM-button number **N** -- and TM-button number **N+1** code (lost) will be erased.
6. Touching the reader with MASTER TM-button returns the ACCESS mode (**STAND-BY**).

During erasing of TM-button's code corresponding memory cell (number **N**) becomes free.
During next memorizing the TM-button's code will be recorded into first found free memory cell, so TM-button will have number **N**.
Mind it when keeping account: «a TM-button №... - User ... ».

NOTE: TM-button number **1** can only be erased at erasure of all TM-buttons's codes (see below).
At inactivity in any mode during 30 - 50 seconds the control unit automatically returns to **STAND-BY** mode.


- **Erase of all TM-buttons's codes**

CAUTION! The following sequence of operations erases all TM-buttons from memory, including MASTER TM-button!


1. Turn off the power.
2. Remove a cover and pick up the "PRG" jumper.
3. Turn on the power. The beeper produces **one long beep**.
4. Press the "EXIT" button. **Twenty short beeps** sound, LED lights. (The product waits for confirmation of erasing mode.)
For confirmation press the "EXIT" button for 2 seconds **before the 20-th beep**. Then **two short beeps** will sound, processor will delete all TM-buttons' codes (including MASTER one) from memory.
5. Turn off the power and set "PRG" jumper to its place.

ACCESS mode

A door is locked in stand-by mode. The control unit's LED blinks.

- For unlocking the door apply **ACCESS TM-button** or **MASTER TM-button** to the reader.
Lock opens, **short beeps** sound for 5 seconds, LED lights continuously in case if applied TM-button's code is stored in the control unit's memory. If code is not stored, then long beep sounds and lock does not open.
- For unlocking the door from within press the "EXIT" button.
- For unlocking the door from handset press  button at the handset during intercom. In this case lock is open while button is kept pressed.

GUARD mode

- Apply the **GUARD TM-button** to the reader.
One short and one long beeps sound, the LED lights continuously – the system is now in the **GUARD** mode.
Unlocking is impossible with any ACCESS TM-button, but still available with "EXIT" button or  button at the handset. Touching the reader with any ACCESS TM-button or pressing the "EXIT" button results in **one long beep**. That's an additional sign of a GUARD mode.
- Repeated application of the **GUARD TM-button** or **MASTER TM-button** returns the ACCESS mode - **two short and one long beeps** sound.
ATTENTION! The **GUARD TM-button** is not an access key. It does not unlock the door.

MAINTENANCE: In case of glitches clean up the TM-button's and reader's contacts with soft cloth.

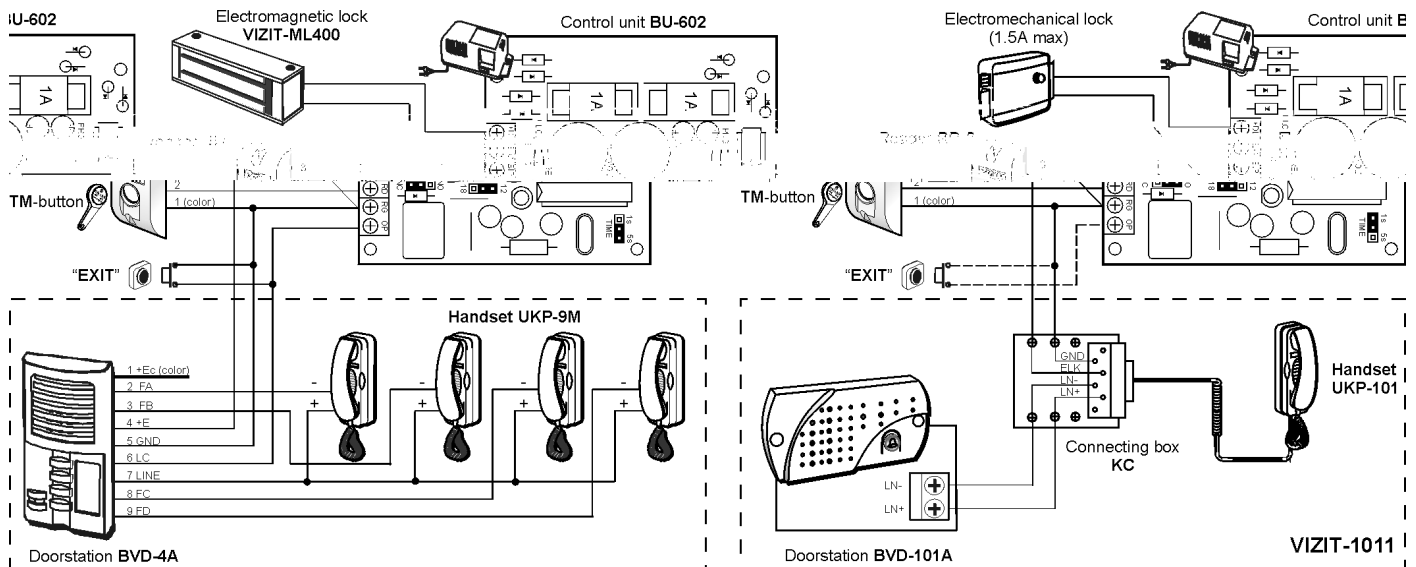


Figure 1 - Connection diagram for **KTM-602** with doorstation **BVD-4A** and electromagnetic lock **VIZIT-ML400**.

Figure 2 - Connection diagram for **KTM-602** with doorphone **VIZIT-1011** and electromechanical lock.