



**RS-63RT wireless alarm system**  
**Installation manual**

**Year 2003.**

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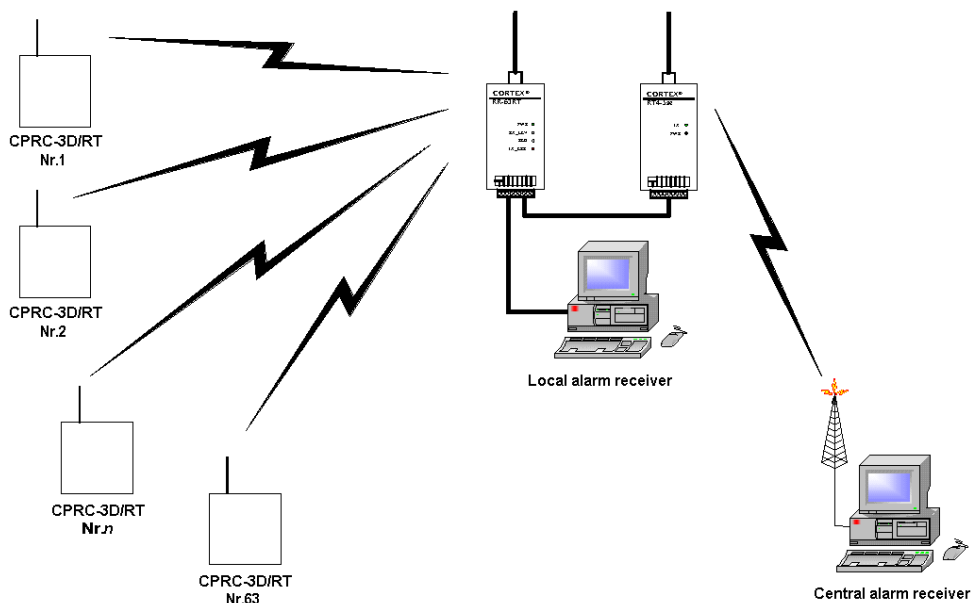
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# 1 Main features

This system consists of 3-zone **CPRC-3D/RT** control panels with integrated transmitter and one **RR-63RT** receiver.

**CPRC-3D/RT** control panel transmits to the **RR-63RT** receiver information about condition of the security loops, power supply battery and about users, arming or disarming the object.

Control panel control is made by the Dallas Semiconductors or Key-Switch company Touch Memory keys, Proximity reader or keypad. Maximum registered user quantity on one panel is 15.



Main panel power supply is made by ac voltage source (220V/50Hz net), in case of main power supply cutoff, panel is automatically switches on spare power source (battery).

**RR-63RT** receiver can transfer received information to RT4-5se transmitter port for further transmitting to the alarm receiver and/or to the COM port in RS-232 format (**RR-63RT/U** model) for local monitoring system organization.

System functioning reliability is provided by periodic channel testing.

System configuration allows using up to 63 **CPRC-3D/RT** control panels working on one receiver. Range is up to 500-1000 meters. Category frequency range – 433MHz.

System standard content includes:

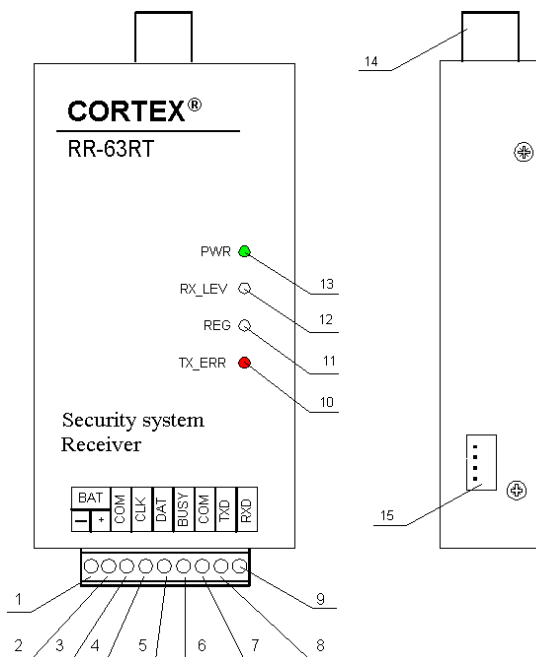
1. **RR-63RT** receiver– 1 item.
2. **CPRC-3D/RT** control panel– 1 item. (Up to 63 if ordered).
3. **ST-1** antenna for **RR-63RT** – 1 item.
4. Installation manual – 1 item.

\* - Control panels and receivers can be complement with a few types of external antennas

## 2 RR-63RT receiver

RR-63RT receiver is a hub, that collects information from 63 radiopanel, wich have their own individual addresss. Receiver-hub also has a unicque address, what allows to connect few receivers to one transmitter.

**Pic.1**



In Pic.1 you can see:

- 1-2 – pad for wiring power supply and information loops
- 3-6 – pad for wiring to the RT4-5se transmitter
- 7-9 - pad for wiring to the computer COM-port
- 10-13 – receiver indication
- 14 – antenna joint
- 15 – joint for programming receiver parameters

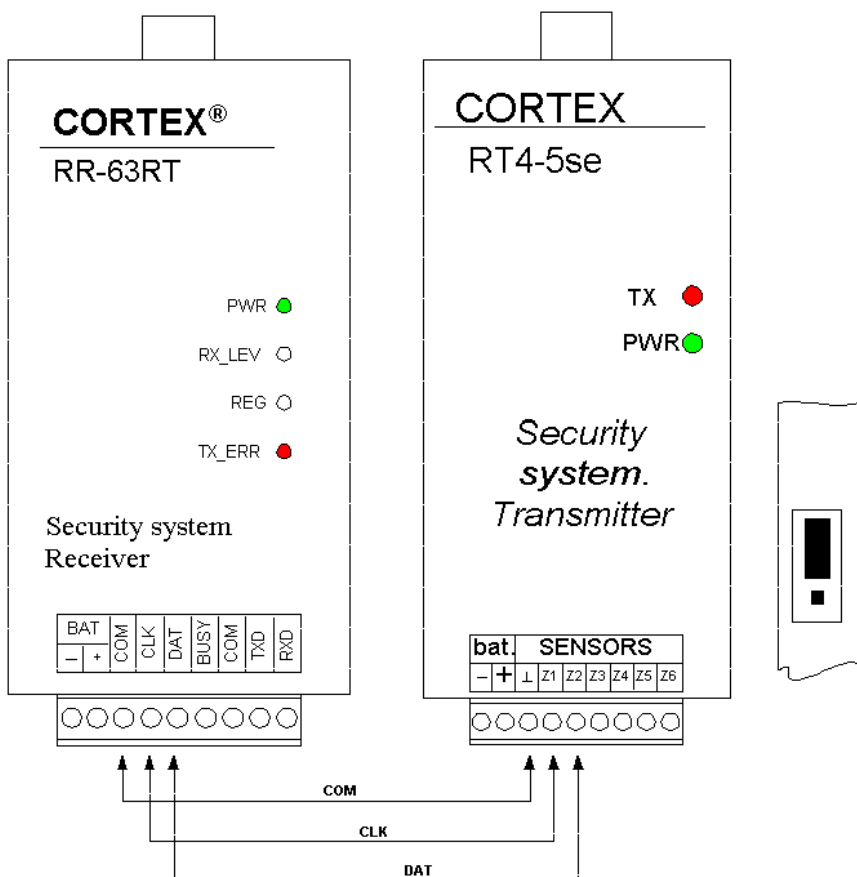
## 2.1 Indication.

1. **PWR** LED (13 in Pic.1)– indicates the presence of the 12-V power supply on relevant receiver terminals;
2. **RX\_LEV** LED (12 in Pic.1)– three-colored received signal level indicator. If the signal level is low, LED at the receiving time will glow red, if signal level is average – yellow, if high - green;
3. **REG** LED (11 in Pic.1)– three-colored registration mode indicator (см. п.3) at the receiving time will glow red, if message had been sent by the unregistered radio panel. Green, if message had been sent by the registered radio panel. Yellow, if it is a test message;
4. **TX\_ERR** LED (10 in Pic.1) – lights up, if at the time of the information interchange with **RT4-5se** transmitter, malfunction takes place. If the next information interchange will be successful, this indicator will turn off.

## 2.2 Wiring RR-63RT to the RT4-5se transmitter

Wiring receiver to the RT4-5se transmitter is shown in Pic. 2. For using it, you need the RT4-5se to work in serial interface mode. You can use not active zones as security loops. You can wire up to eight different devices to the transmitter (for more details see RT4-5se transmitter manual).

Pic. 2



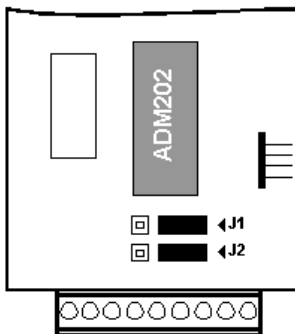
## 2.3 Registration

One of **RS-63RT** system features is registration procedure. This feature allows controlling radio equipment running order.

Registration process takes place automatically at the transmitter's radio panel test signal. After transmitter registered panel address, it begins tracking that address alarm and test signals. If during the specified time test message hadn't been received, receiver forms «**no test**» message (see §Error: Reference source not found p.Error: Reference source not found), also transmitting panel address. In case of long lack of the test or alarm messages from the registered panel, receiver automatically updates register list, deleting that panel address from the list, and forms «**no connection**» (see §Error: Reference source not found p.Error: Reference source not found).

## 2.4 Extra features

1. Work with computer. RS-232 interface allows working with both TTL and standard levels.

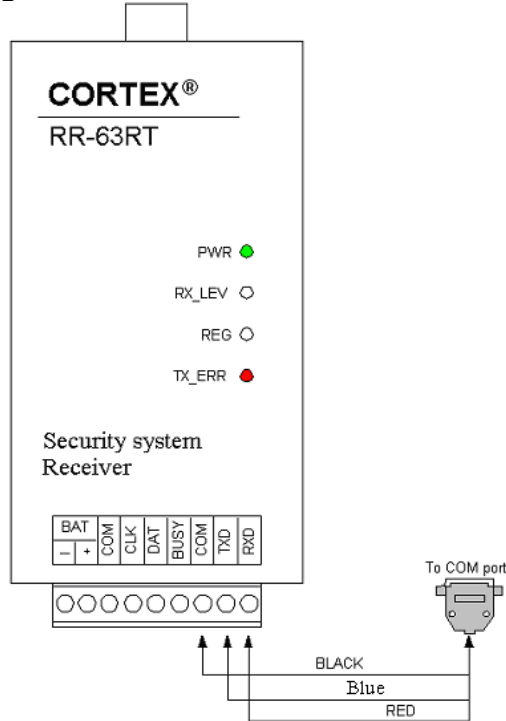


**Pic. 3**

**RR-63RT** hub-receiver has pads for wiring to the computer COM-port (**RR-63RT/U** model). Communication parameters: 9600/8N1, NO FLOWCONTROL.

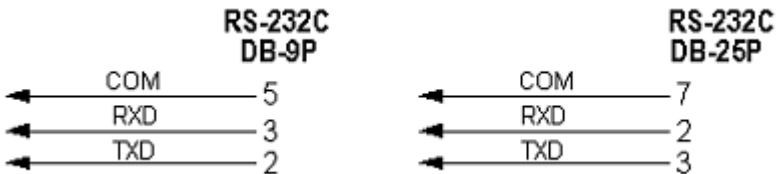
If you want the device to work with computer COM-port, you need to insert chip (available separately) into corresponding socket on the board and configure jumpers (J1 и J2) like shown in Pic. 3.

For wiring to the computer, you need special **TC-232** cable (available separately). Wiring scheme is shown in Pic. 4.



**Pic. 4**

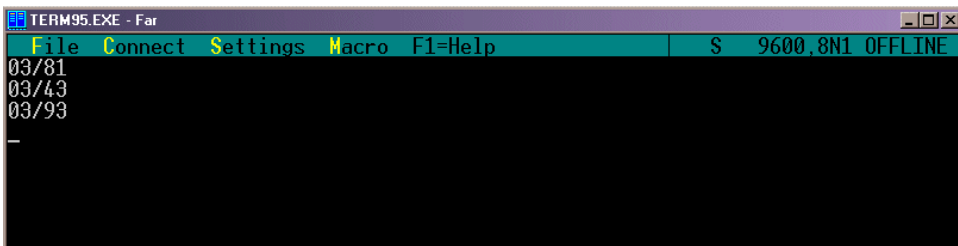
TC-232 cable unsoldering scheme is shown in Pic. 5.



**Pic. 5**

where **DB-9P** – 9-contact joint "mama" **DB-25P** – 25-contact joint "mama".

Information is transmitted to the computer in ASCII code and looks like this:



```
TERM95.EXE - Far
File Connect Settings Macro F1=Help S 9600,8N1 OFFLINE
03/81
03/43
03/93
-
```

**Pic. 6**

Every message begins from new line and consists of two hexadecimal numbers, which are separated by the (/) symbol, where the first number – panel address (Pan\_Acc), the second - event code (Event).

Example: as you can see from Pic. 6. 03 – panel address; 81 – event code, corresponding for power lose. Then, responding (43) and restoration (93) of the panel third zone. Event codes see in §Error: Reference source not found.

## 2. Service messages

RR-63RT receiver can form three service messages:

- “No test” – consists of [panel address] / [FE]
- “No connection” - consists of [panel address] / [FD]
- “panel registration successful” - consists of [panel address] / [FC]

where FE, FD, FC – event codes.

This information can be transmitted both with computer COM-port and by RT4-5se transmitter.

## 3. Received signal control

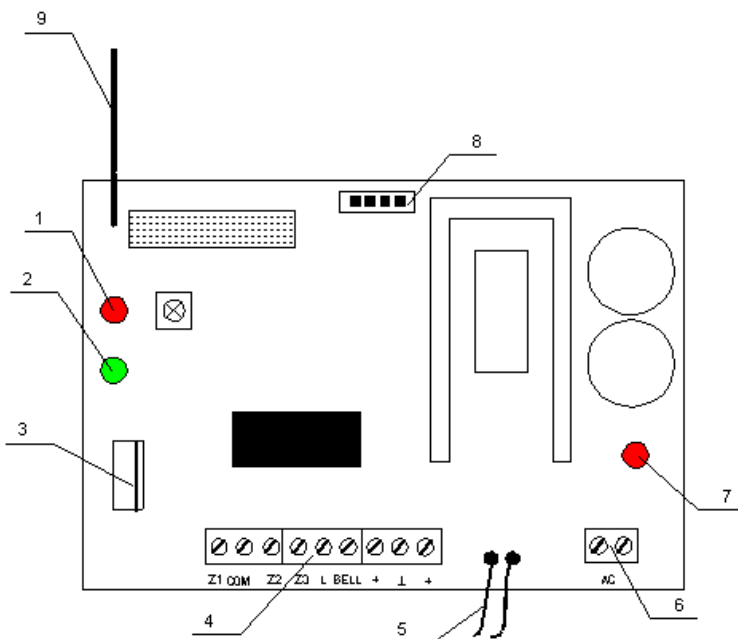
When mounting **RS-63RT** радиосигнализации you can evaluate received signal quality with the help of thee-colored receive level indicator (§2.1). If it glows green or yellow, signal quality is acceptable. If it glows red, then signal is very low, and this can cause information lose.

## 3 CPRC-3D/RT control panel

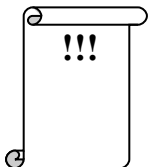
### 3.1 Main regulations

**CPRC-3D/RT** control panel is made for using on secured object. It is 3-zone system with integrated transmitter. Panel control is made by the Dallas Semiconductors or Key-Switch company Touch Memory keys, Proximity reader or keypad. Maximum registered user quantity on one panel is 15. It is possible to wire siren, realizes power supply control, battery control, loop resistance control (EOL).

**Pic. 7**



- 1 – Transmitting indicator
- 2 – panel power supply indicator
- 3 – joint for wiring reading device to the control panel
- 4 – joint for wiring sensors and siren
- 5 – battery wiring lines
- 6 – joint for alternating voltage wiring
- 7 - alternating voltage indicator
- 8 – programming joint
- 9 – transmitter antenna



*Note: this manual is written for CPRC-3D/RT panel, that is controlled by the Dallas Semiconductors DS1990A company Touch Memory keys. All functions are available when using other control devices (Proximity cards or keypad). When using keypad user four-digit code is similar to the Touch Memory key, when using Proximity card – one physical Proximity card. When using Key-Switch user is not identified and object arming and disarming is written for the first user.*

## 3.2 Control panel programming

Control panel programming is made with UniPrg, UniPrg-cable or USP-16K programmer (see Manual).

### Programmable parameters:

1. Zone type
  - 1.1. Delayed: ignored for the Enter and Exit delay and usually used for front door. Exit delay is started when object is armed. During that delay zone can be armed and disarmed without setting off the alarm. On Exit delay completion, zone respond starts Enter delay.
  - 1.2. Instant: ignored for the Exit delay time, but will immediately set alarm off at zone responding, after Exit delay is ended.
  - 1.3. 24Hour: always responds and sets alarm off, not depending on object status.
  - 1.4. Interior: after delayed zone respond it works like Delayed. If there wasn't delayed zone respond it works like Instant.
2. Time after siren activation. Determines siren work time after system zone restoration (Bell\_CT) - from 5s to 20min (with the 5s step).
3. Exit delay time (ExD) - from 0s to 20min (with the 5s step). Exit delay determines time from system arming initialization to proper arming. Exit delay gives an opportunity to mount the device control system in the watch zone without activating alarm at the time of arming the object.
4. Entry delay time (EntD) - from 0s to 20min (with the 5s step). Entry delay determines time, on witch the Delay Zone respond at the object entering are delayed (see Zone types).
5. Zone reaction time (Z\_RT) - from 250ms to 1s (with the 25ms step). Determines time, during that the loop has to be in the alarm condition to cause zone respond. Increasing respond time helps to get rid of

interferences, but appears risk not to track short responses (for example, from magnetic event alerts)

6. Allowed alternating voltage absence time (AC\_Abs\_Time) (from 0s to 20min with the 5s step) – determines time, after which panel will transmit alternating voltage supply signal.
7. Number of transmits for one message (Number of EventsPack from 3 to 6) – determines number of transmits, which panel will send for one message.
8. Test transmit period (Test\_Time) (from 5min. to 1200min. with the 5min step) – determines time, after which panel will transmit test message to the alarm receiver. Time is counted from last send informative message.
9. Number of test transmits (Number of TestsPack, from 3 to 6) - determines number of test transmits, which will be send for one session.
10. Control device type (AD\_Device\_Type) – device that is used for panel work mode control. Switch, if the Key-Switch is used; DS1990A – if the keypad, Proximity cards or Dallas Semiconductors Touch Memory keys is used.
11. Lock presence (Lock) – ability to control electronic shutter.
12. Lock holdback time (Lock\_Opt) – from 1s to 100s. Determines time, during that magnetic pawl is in active state.
13. Panel ID code (Pan Acc) – panel identification number. Must be unique within **one system**.

14. Receiver address (RR\_adress) – identification number of the receiver, which receives all the messages.

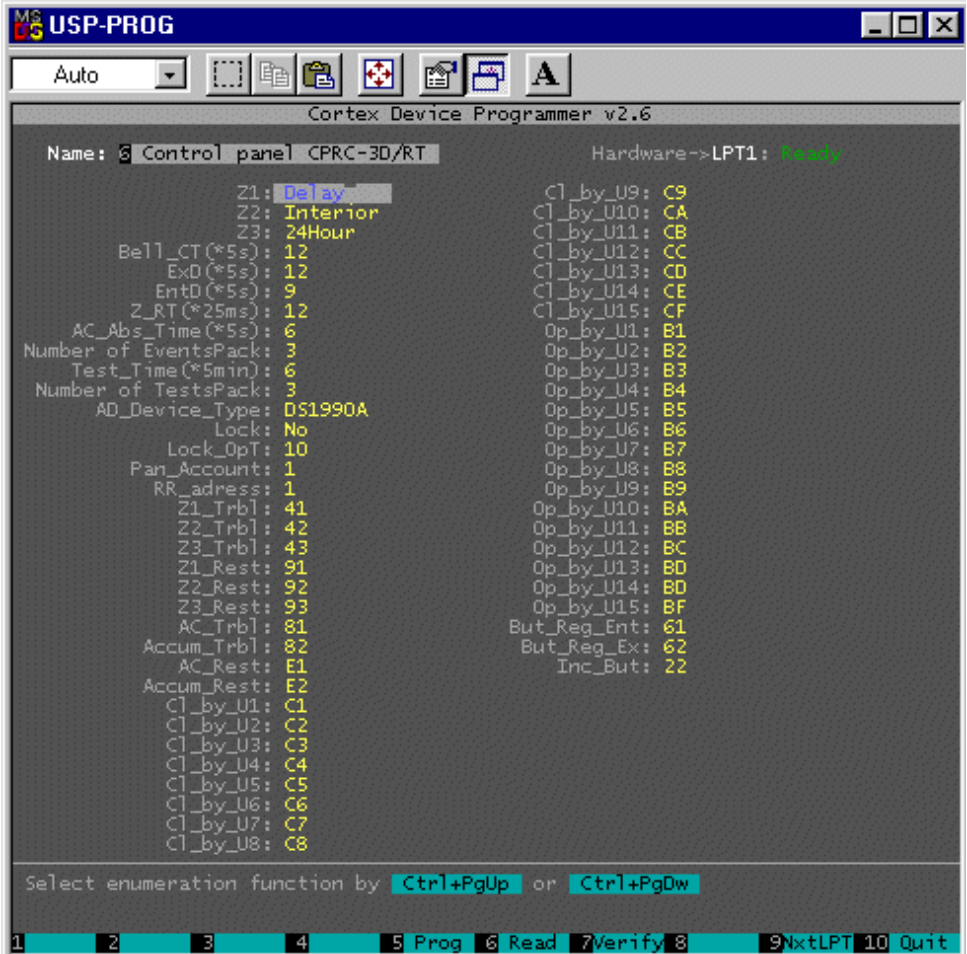
**If parameter has FF value, it means that this parameter won't be transmitted by the panel.**

**Panel programming and information read-out will be available only if programming window ha the following line:**

**Hardware->LPTx: Ready.** LPT-port choice is made by the "F9" key.

Zone type change (Zone1, Zone2, Zone3) is made by "Space", "Ctrl+PgUp" or "Ctrl+PgDw" keys. Entered values range for parameter or event is shown in the explanation line of the programming window. Control panel programming is made after pressing "F5" key.

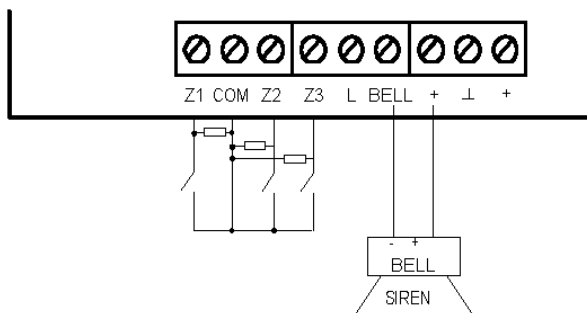
Control panel information read-out is made after pressing "F6" key.



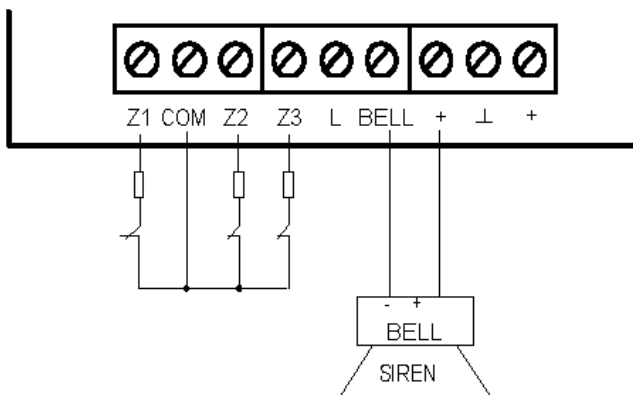
**Note.** For more useful program using, it is recommended to use 43-line window size.

### 3.3 Sensor and siren wiring

Sensor and siren wiring is made through the contact pad. Ways of wiring are shown in the Pic. 8 and Pic. 9.



**Pic. 8**

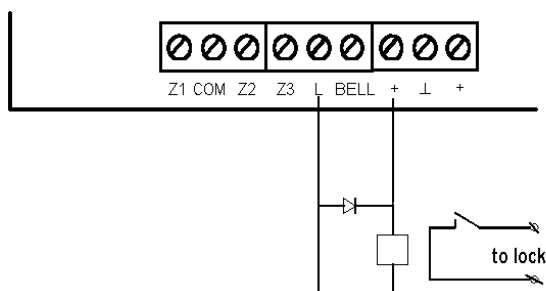


**Pic. 9**

Recommended loop resistance when wiring sensors condition should be 3,3÷3,6 kΩ.

### 3.4 Electronic shutter wiring

Panel provides electronic shutter wiring. It's wiring to the panel is shown in Pic. 10.



Pic. 10

### 3.5 Touch memory keys registration

There could be a “master”-key included in the control panel kit. To register your “master”-key, do the following: clasp “master”-key to one of two reading devices (for approximately 1s.), the indication diode will be blinking for 2s.

**For every control panel, the Touch Memory key that was clasped to it's reading device first becomes the “Master”-key.**

Touch Memory key registration is made the following way:

1. Clasp “master”-key to one of two reading devices (for approximately 1s.) – device switches to the Touch Memory key registration mode (indicator LED changes color to orange, previous user Touch Memory key list is deleted).

2. One after another (with approximately 5s break) clasp to the reading device all user Touch Memory keys (for approximately 1s) – user list foundation (After every Touch Memory key touch with the reading device the indication diode will be blinking). Maximum Touch Memory key quantity in every partition is **15**.

3. Clasp “master”-key to the reading device (for approximately 1s.) – exit of the Touch Memory key registration mode (indicator LED changes color from orange to any other).

### 3.6 Arming the object

Before arming the **CPRC-3D/RT** panel close all secured doors, windows and stop mowing in the motion sensor's sensibility range. If one or more zones are active than the indication diode will be put off. Control panel can be armed only if indication diode is glowing green, i.e. when no zones are active, and control panel is ready to be armed. Arming the object is made by a short touch (for approximately 1s.) one of the user Touch Memory keys with the reading device. As a result, the exit delay is started, at that time you can leave the object without setting the alarm off. Exit delay is followed by the indication diode red blinking. After exit delay end, control panel will be armed (indication diode is glowing red) and the report will be send to the alarm receiver. If at the exit delay time another Touch Memory key clasp with the reading device is made, then the object will return to the "Disarmed" stance without sending report to the alarm receiver (indication diode color will be green if no zones are active, and put off if one or more zones are active).

If in the "Disarmed" stance the 24Hour zone is responding, you can turn the siren off by short (approximately 1s.) user Touch Memory key clasp to the reading device.

If using both control panel and electronic shutter, then object arming is made the following way: the first touch to the reading device opens the lock, the second – arms the object, no zones should be active, and the second touch should be made before the lock is shut.

### 3.7 Disarming the object

At the object intruding, the "Delay" zone sensor is responding first. At the time of it's responding, the enter delay is started (delay is followed by the indication diode fast red blinking). You should disarm the object (make a short (approximately 1s.) Touch Memory key touch with the reading device) before the entry delay time will pass, in that case the disarming report will be send to the alarm receiver (indication diode color will be green if no zones are active, and put off if one or more zones are active). In other case it will be an alarm message about zone respond.

If using both, control panel and electronic shutter, disarming the partition and shutter opening takes place after the first key touch with the reading device.



3.2/15	Number of EventsPack _____	3	→
3.2/15	Test_Time (*5min) _____	6	→ Test message interval
3.2/15	Number of TestsPack _____	3	→ Number of test message transmissions

Chapter/page.	Parameter	Value	Default value	Parameter description
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3.2/15	AD_Device_Type _____		DS1990A	→ Panel control device
3.2/15	Lock: _____		No	→ Lock presence
3.2/15	Lock_Opt: _____		10	→ Electronic shutter hold time
3.2/15	Pan_Acc: _____		1	→ Panel address
3.2/16	RR_address _____		1	→ Receiver address
	Zone1_Trbl: _____		41	} Zone 1-3 alarm code
	Zone2_Trbl: _____		42	
	Zone3_Trbl: _____		43	
	Zone1_Rest: _____		91	} Zone 1-3 restore code
	Zone2_Rest: _____		92	
	Zone3_Rest: _____		93	
	AC_Trbl: _____		81	→ Alternating voltage failure.
	Accum_Trbl: _____		82	→ Battery voltage is lower critical
	AC_Rest: _____		E1	→ Alternating voltage recovery
	Accum_Rest: _____		E2	→ Battery recovery
	Cl_by_U1: _____		C1	} Armed by the user 1-15
	Cl_by_U2: _____		C2	
	Cl_by_U3: _____		C3	
	Cl_by_U4: _____		C4	
	Cl_by_U5: _____		C5	
	Cl_by_U6: _____		C6	
	Cl_by_U7: _____		C7	
	Cl_by_U8: _____		C8	

Cl\_by\_U9: \_\_\_\_\_ C9  
Cl\_by\_U10: \_\_\_\_\_ CA  
Cl\_by\_U11: \_\_\_\_\_ CB  
Cl\_by\_U12: \_\_\_\_\_ CC  
Cl\_by\_U13: \_\_\_\_\_ CD  
Cl\_by\_U14: \_\_\_\_\_ CE  
Cl\_by\_U15: \_\_\_\_\_ CF

Chapter/page.	Parameter	Value	Default value	Parameter description
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Op_by_U1:	_____	B1	}	Disarmed by the user 1-15
Op_by_U2:	_____	B2		
Op_by_U3:	_____	B3		
Op_by_U4:	_____	B4		
Op_by_U5:	_____	B5		
Op_by_U6:	_____	B6		
Op_by_U7:	_____	B7		
Op_by_U8:	_____	B8		
Op_by_U9:	_____	B9		
Op_by_U10:	_____	BA		
Op_by_U11:	_____	BB		
Op_by_U12:	_____	BC		
Op_by_U13:	_____	BD		
Op_by_U14:	_____	BE		
Op_by_U15:	_____	BF		
But_Reg_Ent:	_____	61	→	Enter the Touch Memory key register mode
But_Reg_Ex:	_____	62	→	Exit the Touch Memory key register mode
Inc_But:	_____	22	→	Alarm when using not registered key