

Dual Technology Outdoor Detector Rivelatore da Esterno a Doppia Tecnologia Detector Externo de Doble Tecnología Détecteur extérieur à double technologie Detector Externo de Dupla Tecnologia



Installation Instructions - Relay & BUS Modes Istruzioni per l'installazione in modalità Relé e BUS Instrucciones de Instalación - Modos Relé y BUS Guide d'installation - Modes Relais et BUS Instruções de Instalação - Modos Relé & BUS



English

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Relay Mode Installation

Introduction

RISCO Group's Dual Technology Outdoor detector, WatchOUT, is a unique detector with signal processing based on two Passive Infrared (PIR) channels and two Microwave (MW) channels. The detector can operate as a regular relay detector connected to any control panel, or as a BUS accessory when connected to RISCO Group's ProSYS control panel via the RS485 BUS, thus having unique remote control and diagnostic capabilities.

The instructions describe herein, describe the WatchOUT in Relay & BUS mode.

Mounting

Mounting Considerations



Wall Mount Installation

Note:

The installation knockouts numbering are marked on the back plate.

- 1. Open WatchOUT front cover (unlock C1, Figure 1).
- 2. Release internal base (unlock I1, Figure 2).
- 3. Select mounting installation as follows:

Flat Mounting:

Open knockouts on external base (Figure 3).

- B1 B4: Wall mounting knockouts
- T1: Back tamper knockout
- W2 / W3: wires entry knockouts

45° angle Mounting (Left side mounting)

- a. Open knockouts on external base (Figure 3)
 - L1, L2: Left mounting knockouts
 - T3: Left tamper knockout
 - W5 / W6: Wire entry knockouts
- b. Remove tamper spring.
- c. Replace tamper bracket (Item 1) with supplied flat tamper bracket (Item 2). Item 1 Item 2



- d. Insert Tamper lever B onto T5 and T3 and secure screw A (Figure 3).
- Insert external wires through external base W2, W3 (Flat Mounting) or W5, W6 (Left side mounting) (Figure 3).
- 5. Secure external base to the wall.
- 6. Insert external wires and tamper wires through internal base (Figure4).
- 7. Secure internal base to external base (lock 11, Figure2).
- 8. Close the front cover (Lock C1, Figure1) after wiring and setting DIP switches.
- 9. Walk test the detector.



Note:		
For 45° right side installation use the	e equivalent units on the	e external base as follows:
Knockouts Description	Left	Right
Mounting Knockouts	L1, L2	R1, R2
Tamper spring knockouts	T1,T3	T2,T4
Tamper screw anchor	T5	T6
Wiring Knockouts	W5, W6	W7, W8

Figure 5 Changing Back Tamper position Left Side The back tamper is by default secured on the right Tamper side of the internal base (rear view). If you wish to 6 move it to the left side (rear view), do the following **Right Side** (Figure 5): Tamper 1. Remove tamper screw 1 in order to release the 7 tamper from position 7. 2. Ensure tamper spring 2 rests over tamper wire base 4. 3. Ensure plastic tamper bracket 3 rests over both 2 and 4. 4. Secure tamper screw 1 into 3 over position 6.

Notes:

- 1. Verify that you hear a "Click" when attaching the tamper spring to the wall.
- 2. For pole installation, the tamper can be moved to the bottom right-hand side of the internal base.

Terminal Wiring



+,-	12 VDC				
ALARM	N.C relay, 24VDC , 0.1A				
FREE YEL	This terminal is a free pin that can be used to connect wires and EOL resistors				
TAMPER	N.C relay, 24VDC , 0.1A				
FREE	This terminal is a free pin that can be used to connect wires and EOL resistors				
GREEN					
AM	Normally closed AM relay output (24VDC, 0.1A) indicates Anti Masking alarm or				
	any trouble in the detector (Not including dust/dirty lens).				
	Noto:				
	When a vibration detector is installed and DIP8 is defined as Enabled this relay also opens				
	momentarily when vibration event occurs.				
LED	Used to remotely control the LEDs when DIP1 is set to ON.				
ENABLE	Enable: input is +12V OR no terminal connection				
	Disable: Connect the input to 0V				
DUST	N.O. collector max 70 mA. Indicates that the lens is dirty and requires cleaning.				
TEST	Used to perform remote alarm testing to the detector by applying 0 volts to this				
	terminal.				
	Success: Alarm relay is momentary opened.				
	Failure: AM relay is opened				
SET/	This input enables to control Anti-masking and LEDs operation in accordance to				
UNSET	the system status, Set (Arm) / Unset (Disarm).				
	While the system is armed this feature prevents an intruder from gaining				
	knowledge of the detector's status and disables Anti-masking detection.				
	System Status Input Status AM Relay LEDs				
	Set (Arm) 0V Off Off				
	Unset (Disarm) 12V or no connection On* On**				
	* DIP7 IS ON (Anti masking enabled) ** DIP1 is ON (I EDs enabled) and I EDs ENABLE input terminal is enabled				
	(±12)/ OR no terminal connection)				

DIP Switch Settings

ON								
								Factory
1	2	3	4	5	6	7	8	Delault

DIP 1: LEDs operation
On: LEDs Enabled
Off: LEDs Disabled
DID 2 2. Detection Constitution

DIP 2-3. Delectio	n Sensi	ivity
Sensitivity	DIP2	DIP3
Low	Off	Off
Mid	Off	On
Normal	On	Off
(Default)		
Maximum*	On	On
* In maximum sensitivity sway recognition is disabled to achieve maximum sensitivity		

- DIP 4: Alarm condition On: PIR or MW Off: PIR + MW
- DIP 5: Detector's optics On: Barrier / Long range Off: Wide angle
- DIP 6: Red LED /3 LED On: Red LED only
 - Off: 3 LEDs
- DIP 7: Anti masking operation On: Enabled Off: Disabled
- DIP 8: Vibration detection (applicable to versions with Vibration sensor installed) On: Enabled
 - Off: Disabled

Microwave Adjustment

Adjust Microwave coverage area by using the trimmer on the PCB.

Walk test

Two minutes after applying power, walk test the protected area to verify proper operation.

For installations on uneven surfaces slide the PCB inside the internal base to the appropriate setting according to the desired height (1.0m, 1.5m, 2.2m, 2.7m) as printed on the bottom left corner of the PCB or use the standard swivel accessory.

For reducing the detection range, slide the PCB \underline{up} or tilt the swivel $\underline{down}.$



Notes:

1. DIP-Switch 1 should be in ON position to enable LED indications.

Only one LED is active at any one time. For example, in the case of both PIR and MW detection, either the steady YELLOW LED or the steady GREEN LED is displayed (the first to detect), followed by the Alarm RED LED.

Relay Mode / BUS Mode Jumper

J-BUS jumper (located on the PCB between the red and green LEDs) is used to define the detector's mode of operation as follows:





Standard Swivel Installation

The Outdoor detector packaging contains a standard swivel for flexible installation. Please follow the instructions below for mounting the detector with the Standard Swivel:

- 1. Open WatchOUT front cover (Unlock C1, Figure1).
- 2. Release internal base (Unlock I1, Figure 2).
- 3. Open knockouts on external base (Figure 6, Detail B)
 - W1: Wires knockout
 - S1,S2: Knockouts for securing external base to Standard Swivel
 - S3: External base locking screw knockout
- 4. On the swivel accessory remove the required swivel cable wiring knockout S2, S7 or S9 (Figure 6, Detail A).
- 5. Remove back tamper from the internal base (see "Changing Back Tamper Position" paragraph) and connect it to S5 (Figure 6, Detail A) on the Standard Swivel.

Note:

Ensure that you see the engraved UP mark on the upper front face of the swivel.

6. Select the mounting installation type as follows:

Wall Mounting

- a. Insert external cable wiring through knockouts S2, S7 or S9 and extract them (including the tamper wires) through the Swivel Wires Passage (Figure 6, Detail B).
- b. Secure swivel to the wall through holes S1, S3, S6 and S8.

Swivel Conduit Mounting (using Conduit Metal Swivel Adaptor - CSMA, Figure 6, Detail A)



Note:

The CSMA is required when wall external wiring is used and protection pipe is required. The CSMA should be ordered separately - P/N RA300SC0000A.

- a. Choose the direction upon which to mount the CSMA according to the required diameter: 16mm (0.63 inches) or 21mm (0.83 inches).
- b. Insert conduit to the CSMA.
- c. Secure CSMA to the wall through points (M1, M4).
- d. Insert external cables and tamper wires from the conduit through the swivel wires passage of the swivel (Figure 6, Detail A).
- e. Secure swivel to the wall through holes S1, S3, S6 and S8.

Note:

The Tamper spring S5 (Figure 7) should make contact with the wall through the tamper spring holes M2 or M3 on the CSMA. Make sure to hear the tamper "Click" when connecting to the wall.

- 7. Insert tamper wires and external cable wiring from Standard Swivel through knockout W1 on the external base (Figure 6, Detail B).
- 8. Connect the external base to the swivel using the dedicated snaps (Figure 7).





Do not open or close the Swivel Assy Screw since it is used for connecting the swivel parts only.

- 9. Secure external base to swivel with two screws fastened to knockouts S1 and S2 (Figure 7).
- 10. Insert the supplied angle locking screw from the external base through the angle locking screw knockout S3 on the external base to the standard swivel (Figure 7).
- 11. Tilt and Rotate the Standard Swivel to the desired position. Once the Standard Swivel is in the desired position, secure the angle locking screw.
- 12. Line up the internal base onto the external base. Insert all wiring cables through the internal base.
- 13. Secure internal base to external base (Lock I1, Figure 2).
- 14. To readjust the Standard Swivel when the PCB is installed (Figure 7):
 - a. Bend down the black foam located below the RED LED on the PCB (enough to reach the Swivel locking screw).
 - b. Use a Philips screwdriver to release the locking screw (see Figure 8).
 - c. Tilt and/or Rotate the Standard Swivel to the desired position.
 - d. Secure the angle locking screw.

Note:

When marks on the two movable parts are aligned (Figure 8), the Standard Swivel is in 0° vertical /horizontal position. Each click from this position represents shifting of 5° in vertical / horizontal position.

15. Close the front cover (Lock C1, Figure 1) and walk test the detector.

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The screw has to pass through External Base and locked to the swivel.



Replacing Lenses

- 1. Unlock the six screws that hold the lens holding sleeve from the back of the front cover.
- 2. To release the protective sleeve, gently push the lens from the external side of the front cover.
- 3. Disconnect the lens from the sleeve by gently pushing the lens clips that secure it to the sleeve.
- 4. Replace the lens. Place the 4 clips of the lens into the matching holes on the sleeve.
- 5. Insert the protective sleeve back into place on the front cover. Pay attention to place the sleeve over the sealing rubber.
- 6. Secure the 6 holding screws back to their place.





Note:

The detector's Pet Immunity (height of an animal, no weight limitation), is up to 70 cm (2'4"), when installing the detector at 2.2m (7'2"). If the installation is bellow the height mentioned above, the Pet Immunity decreases accordingly; every 10 cm (4") decrease in installation height leads to 10 cm (4") decrease in pet imunity.



English

Technical Specification

Electrical	
Current consumption (Relay Mode)	45mA at 12 VDC (Stand by)
	70mA at 12 VDC (MAX with LED ON)
Current consumption (BUS Mode)	30mA at 12 VDC (Stand by),
	55mA at 12 VDC (MAX with LED ON)
Voltage requirements	9 -16 VDC
Alarm contacts	24 VDC, 0.1A
AM contacts	24 VDC, 0.1A
Dust output	Open collector 70mA max
Physical	
Size:	220 x 115 x 123mm (8.7 x 4.5 x 4.85 in.)
LxWxD	
Weight	0.632 Kg (1.4lb)
Environmental	
RF immunity	(30MHz to 2GHz): 40V/m
Operating/Storage temperature	-30°C to 60°C (-22°F to 140°F)

Ordering Information

Standard Units

Part Number	Description
RK315DT0000A	WatchOUT DT 10.525GHz + Swivel
RK315DT00UKA	WatchOUT DT 10.587GHz + Swivel
RK315DT00FRA	WatchOUT DT 9.9GHz + Swivel
RK315DT00FRA	WatchOUT DT 9.9GHz + Swivel

Note:

Each of the detectors contains a standard swivel and 3 replacement lenses (P/N engraved on the Lens) 1.7m low installation pet (RL300F), long-range (RL300R) and barrier lens (RL300B).

Accessories Kits

Part Number	Description	Weight
RA300B00000A	WatchOUT Barrier Swivel Kit	0.1 Kg (0.23 lb)
RA300P00000A	WatchOUT Pole Adaptor Kit	0.25 Kg (0.55 lb)
RA300C00000A	WatchOUT Conduit Adaptor Kit	0.6 Kg (1.27 lb)
RA300HS0000A	WatchOUT Demo Housing	
RA300SC0000A	WatchOUT Swivel Metal Conduit Adaptor	1Kg (2.2 lb)

Camera Option

Part Number	Description
RA300VC0001A	WatchOUT Camera Cover Adaptor 1
RA300VC017NA	NTSC Narrow Camera For WatchOUT
RA300VC053NA	NTSC Wide Camera For WatchOUT
RA300VC053PA	WatchOUT PAL Wide Camera kit
RA300VC017PA	WatchOUT PAL Narrow Camera kit
RA300VPS100A	WatchOUT 220V PAL Camera Power supply
RA300VPS200A	WatchOUT 120V Camera Power supply

BUS Mode Installation

Introduction

The information in this section relates to WatchOUT DT installation in BUS Mode only. Up to 32 BUS detectors can be installed on the ProSYS RS485 BUS, saving cabling time and enabling remote control and diagnostics.

Terminal Wiring

+,-	Used for the connection of 12VDC power supply. Connect the (+) terminal to the AUX RED and the (–) terminal to the COM BLK of the ProSYS terminals
YELLOW	Used for data communication with the ProSYS. Connect to the terminal to the BUS YEL of the ProSYS
GREEN	Used for data communication with the ProSYS. Connect to the terminal to the BUS GRN of the ProSYS
TAMPER	Used for the wiring for tamper detection, see below
LED ENABLE	Used for the wiring for tamper detection, see below
Note:	hat are not mentioned in the table choice are unused

All terminals that are not mentioned in the table above are unused.



DIP Switch Settings

DIP Switch Number	Description
1 - 5	Used to set the detector ID number. Set the ID number in the same way as for any other ProSYS accessory (Refer to the ProSYS installation instruction manual)
6 - 8	Not used

WatchOUT ID: DIP Switches 1 - 5

חו	1	2	3	4	5
	1	4	5	4	5
01	OFF	OFF	OFF	OFF	OFF
02	ON	OFF	OFF	OFF	OFF
03	OFF	ON	OFF	OFF	OFF
04	ON	ON	OFF	OFF	OFF
05	OFF	OFF	ON	OFF	OFF
06	ON	OFF	ON	OFF	OFF
07	OFF	ON	ON	OFF	OFF
08	ON	ON	ON	OFF	OFF
09	OFF	OFF	OFF	ON	OFF
10	ON	OFF	OFF	ON	OFF
11	OFF	ON	OFF	ON	OFF
12	ON	ON	OFF	ON	OFF
13	OFF	OFF	ON	ON	OFF
14	ON	OFF	ON	ON	OFF
15	OFF	ON	ON	ON	OFF
16	ON	ON	ON	ON	OFF

ID	1	2	3	4	5
17	OFF	OFF	OFF	OFF	ON
18	ON	OFF	OFF	OFF	ON
19	OFF	ON	OFF	OFF	ON
20	ON	ON	OFF	OFF	ON
21	OFF	OFF	ON	OFF	ON
22	ON	OFF	ON	OFF	ON
23	OFF	ON	ON	OFF	ON
24	ON	ON	ON	OFF	ON
25	OFF	OFF	OFF	ON	ON
26	ON	OFF	OFF	ON	ON
27	OFF	ON	OFF	ON	ON
28	ON	ON	OFF	ON	ON
29	OFF	OFF	ON	ON	ON
30	ON	OFF	ON	ON	ON
31	OFF	ON	ON	ON	ON
32	ON	ON	ON	ON	ON

ProSYS Programming

The following section describes the additional software programming options, added to the ProSYS software, that concern the settings of the WatcOUT DT as a BUS detector. Up to 32 BUS detectors can be added to the system (16 in ProSYS 16) and each of them comes at the expense of a zone in the system.

It is recommend reading and fully understanding the ProSYS Installation and User Manuals, before programming the WatchOUT

Notes:

The WatchOUT is compatible with the ProSYS software Version 4.xx and above.

The WatchOUT can be programmed via the U/D Software from UD Version 1.8 and above. For maximum operation stability, it is best NOT to exceed a total of 300 meters (1000 feet) of wiring when connecting the WatchOUT to the BUS.

Adding / Deleting the WatchOUT DT

The WatchOUT is part of a new accessory category, BUS zones. Therefore, Adding/Deleting the WatchOUT is identical to any other accessory with the following exception: *Each BUS Zone Detector should be assigned to a Regular Zone.*

Any BUS detector can be assigned to a physical wired zone or to a virtual zone. **Physical zone:** Any zone on the ProSYS PCB (zones 1-8) or on a wired zone expander (ZE08, ZE16).

Virtual zone: Any zone on a BUS zone expander defined as BZ08 or BZ16.

Notes:

Virtual BUS zones are cost effective. They enable to expand your system zones without adding physical zone expanders.

The virtual BUS zone expander can be used only for BUS zone detectors.

To add a BUS zone expander select type BZ08 or BZ16 when adding a zone expander (Quick key [7][1][2]).

1. To Add / Delete the WatchOUT DT

- 1. From the installer menu enter the Add/Delete menu: Quick Key [7][1][9][5] for BUS Zones detectors.
- 2. Use the Status / represent the BUS Zone ID number for which you want to assign (or delete) a detector.

Note:

Make sure that the detector's physical ID number is identical to the ID number you select during programming.

- Place the cursor on the TYPE field and use the Stay / key to select ODT15 for the WatchOUT DT detector.
- 4. Press $(\underline{\mathbf{p}}_{isarm})$ / $(\#/\mathbf{b})$ to confirm.
- 5. Repeat the process for the other BUS detectors.

2. Assigning the WatchOUT DT to a Zone

- 1. From the main installer menu enter Zones: One by One option (Quick key [2][1])
- 2. Select the zone number that you want to assign the BUS detector.

Note:

If you defined a BUS Zone Expander, select a zone number from the virtual zones (defined by the BUS zone expander).

- 3. Define Partitions, Groups, Zone Type and Zone Sound.
- In the Termination category select [5] BUS Zone followed by (1/6). The following display appears:



- 5. Select the BUS zone number to assign to the programmed zone. The type field will be updated automatically when selecting the zone.
- Press (1/4/6). The loop response category is not applicable to a BUS zone and the following display appears:



7. Press $(\underline{\mu}, \underline{\mu}, \underline{\mu})$, assign label and press $(\underline{\mu}, \underline{\mu})$.

3. Configuring the WatchOUT DT Parameters

1. To access the WatchOUT settings option press [2][0][3] from the main installer menu. The following display appears:



2. Select the zone that the BUS zone was assigned to and press (#/b). You can now program the WatchOUT parameters as follows:

Zones Miscellaneous: BUS Zone

Quick Keys	Parameter		Default	
[2][0][3][zzz]	LEDS		3 LEDS	
[1]	Defines the LEDS operation mode.			
[2][0][3][zzz]	Off			
[1][1]	Disables the LEDS operation.			
[2][0][3][zzz]	Red Only			
[1][2]	Only the Red led will operate. This option is highly recommended to avoid the			
	possibility that the intruder will "Learn" the detector behavior.			
[2][0][3][zzz]	3 LEDS			
[1][3]	All 3 LEDs will op	erate.		
[2][0][3][zzz]	PIR Sensitivity		Normal	
[2]	Defines the sensitivity of the detector(MW + PIR)			
[2][0][3][zzz]	Sensitivity Option	ons		
[2][1][4]	1) Low	3) Normal		
	2) Medium	4) High		
[2][0][3][zzz]	MW Range		Trimmer	
[3]	Defines the micro	wave channel range. The maxim	ium is 23m.	

Quick Keys	Parameter			Default	
[2][0][3][zzz]	MW Range opt	ions			
[3][1][7]	1) Minimum	3) 40%	5) 80%	7) Trimmer (MW is defined	
	2) 20%	4) 60%	6) Maximum	by the trimmer setting on	
				the PCB)	
[2][0][3][zzz]	Alarm Logic PIR and Microwave				
[4]	Determine the detector's logic of defining an alarm.				
[2][0][3][zzz]	PIR and Microwave				
[4][4]	Alarm is activated when both PIR and MW channels detect an alarm				
[4][1]	(AND Logic)				
[2][0][3][zzz]	PIR or Microwa	ive			
[4][2]	An alarm is activated when either PIR or MW channels detect an alarm (OR				
r •11-1	Logic)				
[2][0][3][zzz]	Lens Type			Wide Angle	
[5]	Defines the actual Lens of the detector				
[2][0][3][zzz]	Lens Type Opt	Lens Type Options			
[5][1][2]	1) Wide Angle 2) Barrier / Long Range				
[2][0][3][zzz]	Anti-Mask			Enable	
[6]	Defines the ope	ration of Anti N	lasking detection		
[2][0][3][zzz]	Anti-Mask Options				
[6][1][2]	1) Disable 2) Enable (Default)				
[2][0][3][zzz] [7]	Arm/Disarm			No	
	Defines the operation of the LEDs anti masking detections while the detector				
	is armed				
[2][0][3][zzz]	No				
[7][4]	AM (Anti masking) is enabled				
[,][,]	LEDs behave according to the LEDs parameter definition				
[2][0][3][zzz]	Yes				
[7][2]	AM (anti maskin	ig) is disabled			
	LEDs are disabl	ed			

System Parameters

System: System Control

Quick Keys	Parameter	Default:
[1][2][36]	AM=Tamper	No
	Used to determine the operation of Anti Masking of Yes: Anti mask violation will activate tamper alarm No: Anti mask violation will be regarded as trouble	detection 1. 9 event.
[1][2][37]	VBR=Tamper	No
	Used to determine the operation of the vibration d versions with Vibration sensor installed) Yes: Vibration detection will activate tamper alarm No: Vibration detection will be regarded as trouble	etection (applicable to n. e event.

Diagnostics

The ProSYS enables you to test parameters that reflect the operation of the detector.

- 1. From the main user menu press * [4] to access the Maintenance menu.
- 2. Enter the Installer code (or sub-installer) and press (#/6).
- 3. Press [9] [1] to for the BUS Zones diagnostic menu.
- 4. Enter the digit of the zone that you want to test and then press (#/b). The system will perform the diagnostics test and a list of test parameters will appear, as indicated in the table below.
- 5. Use the keys Status / Pyposs / Sto view the diagnostics test results.

User Menu: 4) Maintenance \rightarrow 9) Diagnostic \rightarrow 1) BUS Zone

Quick Keys	Parameter
[4][9][1][zzz]	Detector Input Voltage: Display the input voltage of the detector.
	PIR 1 Level: PIR channel 1 DC level. Range 0.1v - 4v
	PIR 1 Noise Level: PIR channel 1 AC level. Range 0VAC (No noise) - 4VA
	PIR 2 Level: PIR channel 2 DC level. Range 0.1v - 4v
	PIR 2 Noise Level: PIR channel 2 AC level. Range 0VAC (No noise) - 4VA
	MW 1 Level: MW channel 1 DC level Range 0.1v - 4v
	MW 1 Noise Level: MW channel 1 AC level (0VAC (No noise) - 4VAC)
	MW 2 Level: MW channel 2 DC level Range 0.1v - 4v
	MW 2 Noise Level: MW channel 2 AC level (0VAC (No noise) - 4VAC