

Beyond™ DT Wired Outdoor Detector Installation Instructions



Model: RK350DT

EN

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Description

The Beyond™ DT has been designed to provide enhanced 24-hour outdoor protection, with Active IR Anti-mask capabilities. Integrated Dual Technology (DT) combines two K-band microwave channels with two PIR sensors for better catch performance and pet immunity, minimizing false alarms. The Beyond™ DT can also be installed on the RISCO Bus saving time and money.

Features include

- PIR coverage: 12m, 90°
- Two channel K band - MW detection (**Sway Recognition**)
- Pet friendly (pet immunity)
- Two correlated PIR Sensors
- Light sensor for reducing false alarms due to sunlight
- Active IR Anti mask
- Mounting at 2.2m with optional swivel bracket
- Designed for outdoor installation, UV resistant, IP 54
- Cover and wall tamperers
- Optional Swivel Bracket (Model: RA350S)

Installation

Step 1: Preliminary Considerations

Select the mounting location for best coverage of the area that is to be protected (see Coverage Patterns). Pay attention to the following:

- Install the device at a height of 2.2m (7 ft 2 in). Any lower installation will reduce the detection range accordingly.
- For pet immunity, the height of an animal is up to 35 cm (1ft 1 in) when the device is installed at 2.2 m (7ft 2 in). Any lower installation will reduce the pet immunity accordingly.
- Install the device in a location where the detector's field of view is clear of any static obstacles.
- Mount the device so that walking traffic cuts across the beam pattern.
- Do not install the device close to any moving objects.
- Do not install more than one DT detector within a 1m radius.

Step 2: Mounting the Detector on Wall Bracket

1. Unscrew the fastening screw and remove the detector from the mounting bracket (see Figure 1).
2. Open the 5 knockout holes of the wall bracket, and use as a template for mounting (see Figure 2).
3. Insert external wiring through the cable channel on the back of the wall bracket (see Figure 2).
4. Secure the wall bracket to the wall (see Figure 3).
5. Connect the Terminal Block to the detector (see Figure 4).
6. Connect the terminal wiring (see Step 5a).
7. Set the DIP switch settings (see Step 5b).
8. Mount the detector to the wall bracket (see Figure 5).
9. Perform a walk test (see Step 7).
10. Insert and fasten the screw to lock the detector (see Figure 5).

Step 3: Coverage

PIR Coverage

Mounting height [m]	Distance [m]
1.8	10
2.2 (optimal)	12

Note For pet immunity, install the detector at the optimal height of 2.2 meters.

PIR Coverage - Using Swivel

Note The table below is relevant when using the Swivel/Solar Swivel Bracket (Model: RA350S).

Mounting height [m]	Swivel Angle [°]	Distance [m]
1.8	0	10
	5	7
	10	5
2.2 (optimal)	0	12
	5	8
	10	6
2.5 – 2.7	0	N/A
	5	10
	10	7

NA = Avoid such installation

Step 4: Setting Detector Mode

Standalone Mode

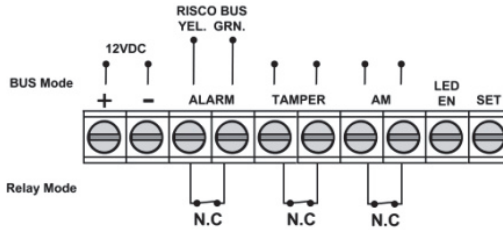
1. DIP SW 6 is OFF
2. Terminal wiring as in Step 5a

RISCO BUS Mode

1. DIP SW 6 is ON
2. Wiring:
 - a) + - terminal – Detector 12 VDC, - GND
 - b) Connecting YEL / GRN – Detector BUS
 - c) Continue to step 6

Step 5a: Connecting the Terminal Wiring (Standalone Mode)

Connect the terminal wiring according to the following:



Terminal	Description									
+ -	+12 VDC, - GND									
ALARM YEL GRN	N.C alarm relay YEL / GRN (RISCO BUS) NOTE: As defined by DIP SW 6									
TAMPER +-	N.C tamper switch									
AM +-	N.C anti mask alarm relay									
LED ENABLE	Used to remotely control the LEDs when DIP1 is set to ON Enable: input is +12V OR no terminal connection Disable: Connect the input to 0V This feature prevents an intruder from gaining knowledge of the detector's status and disables anti-mask detection.									
SET / UNSET	This input enables controlling anti-masking operation in accordance to the system status, Set (Arm) / Unset (Disarm). <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>System Status</th> <th>Input Status</th> <th>AM Relay</th> </tr> </thead> <tbody> <tr> <td>Set (Arm)</td> <td>0V</td> <td>Off</td> </tr> <tr> <td>Unset (Disarm)</td> <td>12V or no connection</td> <td>On*</td> </tr> </tbody> </table> <p>* DIP SW 4 is ON (Anti mask enabled)</p>	System Status	Input Status	AM Relay	Set (Arm)	0V	Off	Unset (Disarm)	12V or no connection	On*
System Status	Input Status	AM Relay								
Set (Arm)	0V	Off								
Unset (Disarm)	12V or no connection	On*								

NOTE: Make sure that jumper J5 is installed to bypass the Swivel Tamper.

Step 5b: Setting DIP Switch Settings (Standalone Mode)

Set the DIP switch settings according to the table, below:

DIP SW	Description	Def.	Def. Status			
1*	LEDs: ON: Enable / OFF: Disable	ON	LEDs ON			
2*	Sensitivity (PIR)	Low	ON			
3*		Mid.		Norm.	Max.	
		OFF	ON	ON	Normal	
		OFF	ON	OFF	OFF	
4*	Anti Masking: ON: Enable / OFF: Disable	ON	Enable			
5*	High Sensitivity (Anti Mask): ON: High / OFF: Low	OFF	Low			
6	Mode: ON: BUS / OFF: Relay (see Defining BUS ID)	OFF	Relay			
Relay mode	DIP SW 7	DIP SW 8	DIP SW 9	DIP SW 10		
Normal	OFF	OFF	OFF	OFF		
DEOL	ON	ON	OFF	OFF		
TEOL	ON	ON	ON	ON		

NOTES:

1. For DEOL DIP switches 7 and 8 should both be ON.
2. For TEOL DIP switch 7-10 should be ON.



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

Step 6a: Defining the BUS ID (BUS Mode)

Use DIP switches 1 to 5 to define the BUS ID of each detector. Define the BUS ID settings according to the table below.

Set DIP switch setting 6 according to the following data:

6	Mode: ON: BUS / OFF: Relay (see Defining BUS ID)	ON	BUS
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ID	1	2	3	4	5	ID	1	2	3	4	5
01	OFF	OFF	OFF	OFF	OFF	17	OFF	OFF	OFF	OFF	ON
02	ON	OFF	OFF	OFF	OFF	18	ON	OFF	OFF	OFF	ON
03	OFF	ON	OFF	OFF	OFF	19	OFF	ON	OFF	OFF	ON
04	ON	ON	OFF	OFF	OFF	20	ON	ON	OFF	OFF	ON
05	OFF	OFF	ON	OFF	OFF	21	OFF	OFF	ON	OFF	ON
06	ON	OFF	ON	OFF	OFF	22	ON	OFF	ON	OFF	ON
07	OFF	ON	ON	OFF	OFF	23	OFF	ON	ON	OFF	ON
08	ON	ON	ON	OFF	OFF	24	ON	ON	ON	OFF	ON
09	OFF	OFF	OFF	ON	OFF	25	OFF	OFF	OFF	ON	ON
10	ON	OFF	OFF	ON	OFF	26	ON	OFF	OFF	ON	ON
11	OFF	ON	OFF	ON	OFF	27	OFF	ON	OFF	ON	ON
12	ON	ON	OFF	ON	OFF	28	ON	ON	OFF	ON	ON
13	OFF	OFF	ON	ON	OFF	29	OFF	OFF	ON	ON	ON
14	ON	OFF	ON	ON	OFF	30	ON	OFF	ON	ON	ON
15	OFF	ON	ON	ON	OFF	31	OFF	ON	ON	ON	ON
16	ON	ON	ON	ON	OFF	32	ON	ON	ON	ON	ON

NOTE: This step is only relevant for detectors that are connected to the RISCO BUS.

Step 6b: Defining System Settings (BUS Mode)

LightSYS / ProSYS Plus – Add the BUS detector

1. Select Installer menu: [7] Install > [1] BUS Device > [1] Automatic. The system automatically searches for the detectors BUS ID and assigns a zone (according to the defined DIP switch settings).
2. Scroll to the defined zone with type ODT50 and click OK to confirm.

Configure the BUS detector parameters:

Select Installer menu: [2] Zones > [1] Parameters > [2] By Category > [7] Advanced [4] BUS Zone Parameters (see LightSYS / ProSYS Plus Installation Manual).

NOTE: For LightSYS Version 5.20 and above.

Step 7: Performing a Walk Test

The detector cover should be closed during the walk test. Apply power and wait at least two minutes for the detector to stabilize. Upon detection the detector transmits a signal and the LEDs light-up. Walk through the entire protected area and observe the LEDs to confirm full coverage (see LED Status).

Manually initiate a walk test:

Select User Menu: Maintenance > Walk Test > Select Full Walk Test or Quick Walk Test. The detector remains in walk test mode until any key on the panel is pressed.

LED Status

LED	State	Description
YELLOW	Blink ON	Indicates start of PIR detection analysis
	Steady ON	Indicates PIR detection
	Flashing	Indicates Active IR AM (Anti mask) detection
GREEN	Steady ON	Indicates MW detection
RED	Steady ON	Indicates ALARM
	Flashing	Indicates malfunctioned communication with the RISCO system (BUS Mode only)
All LEDs	Flashing (One after another)	Unit initialization on power up

NOTE: DIP-SW 1 should be in ON position to enable LED indications.

Self-Test

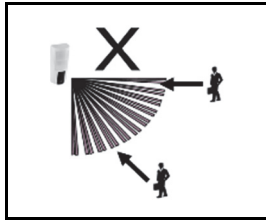
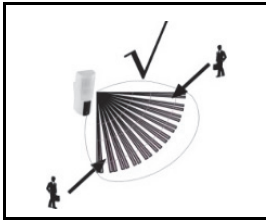
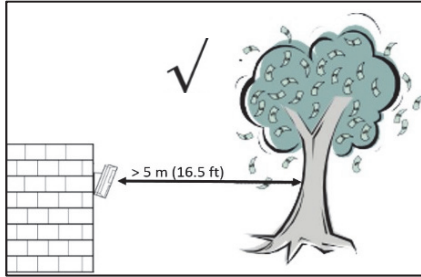
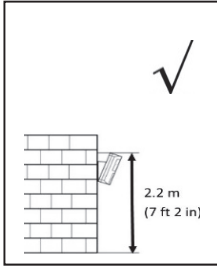
Every hour the detector performs an internal self-test for both PIR and MW channels. A fault detected in the self-test will be indicated by a momentary open anti-mask relay (in relay mode) or by a corresponding message in the panel (in BUS mode).

Specifications

Electrical	
Current consumption:	30mA at 12 VDC (Stand by) 42mA at 12 VDC (MAX with LED ON)
Power output and Frequency	16dBm, 24.05GHz
Voltage requirements	9 -16 VDC
Alarm contacts	24 VDC, 0.1A
AM contacts	24 VDC, 0.1A
Tamper contacts	24 VDC, 0.1A
Physical	
Size (LxWxD):	176 x 89 x 107 mm (7 x 3.5 x 4.2 in)

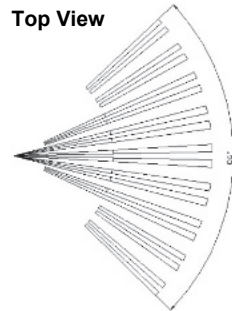
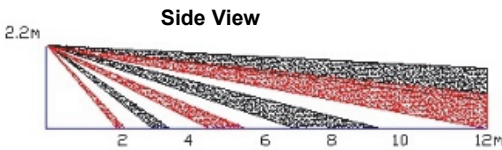
Weight:	0.532 Kg
Environmental	
RF Immunity:	According to EN50130-4
Operating Temperature:	-30°C to 60°C (90% humidity)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F) (90% humidity)

Preliminary Considerations



NOTE: Avoid installation facing moving cars / road at a distance of up to 30m.

PIR Coverage Pattern: 12m, 90°



Termination Resistance

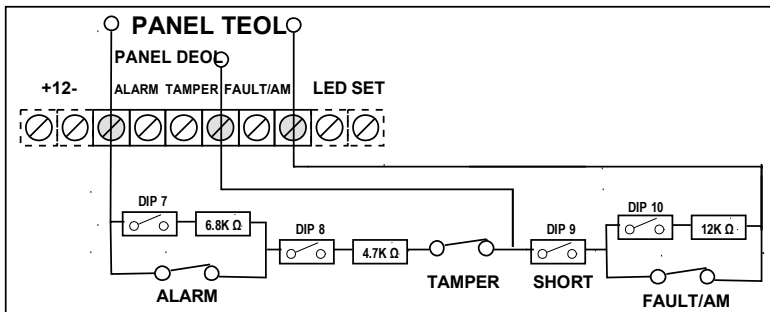


Figure 1

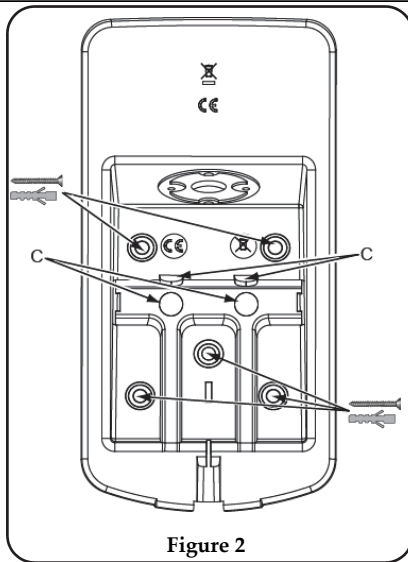


Figure 2

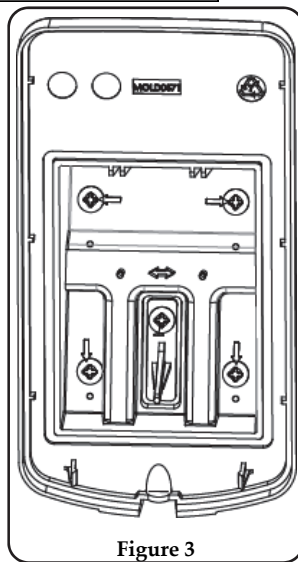


Figure 3



Figure 4



Figure 5

Ordering Information

RK350DT0000A	Beyond DT, K Band Detector
RA350S00000A	180° Swivel for Beyond DT

RED Compliance Statement

Hereby, RISCO Group declares that this equipment is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. For the CE Declaration of Conformity please refer to our website: www.riscogroup.com

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