

A microwave (MW) sensor and a dual pyro electric element are used in the COBALT detector construction.

Antimasking function has been added in the COBALT Plus detector. It signals objects moving close in front of the detector, thus preventing any attempts to cover it.

The COBALT Pro employs an MW sensor and a quad pyro element. The detector is also provided with the antimasking function.

CONTACTS:

COM - ground (0V)

12V - supply input (9-16V DC)

NC - alarm relay (NC)

WRN - antimasking relay (only the COBALT Plus and COBALT Pro detectors)

TMP - tamper contact (NC)

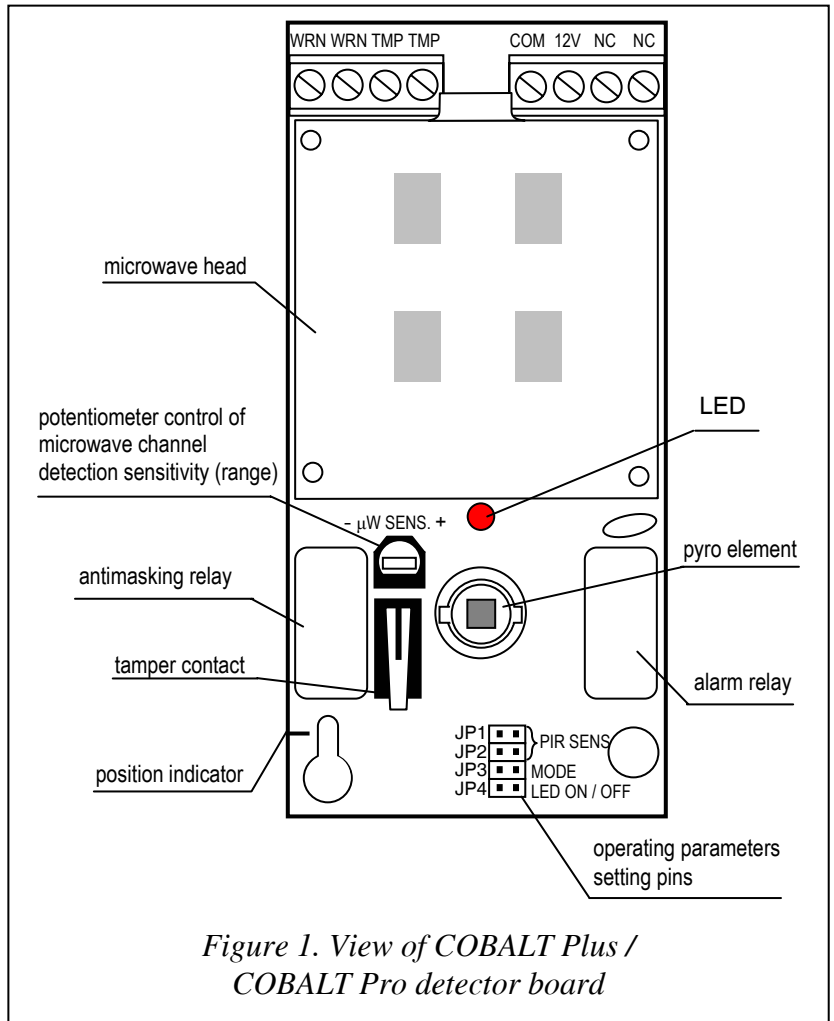


Figure 1. View of COBALT Plus / COBALT Pro detector board

Four pairs of pins are used for setting the detector working parameters (see Table).

The COBALT, COBALT Plus & COBALT Pro dual detectors can operate in two modes: the basic mode or the microwave counting mode (MW).

In the basic mode the detector will only generate an alarm when motion is detected by both sensors. The first system (infrared or MW) which detects a motion will activate a 10-second time interval during which the other sensor must also detect motion for the detector to generate an alarm signal.

If the other sensor fails to confirm the alarm condition within 10 seconds of the motion being detected by the first sensor, the sensor will generate no alarm.

	JP1	JP2	JP3	JP4
Low sensitivity, PIR system	□ □	□ □		
Medium sensitivity, PIR system	□ □	■ ■		
	■ ■	□ □		
High sensitivity, PIR system	■ ■	■ ■		
Basic mode			■ ■	
MW counting mode			□ □	
LED indicator ON				■ ■
LED indicator OFF				□ □

□ □ - pins open

■ ■ - pins shorted

When in the microwave counting mode (MW), the detector will generate an alarm both in the above mentioned case, upon detection of a motion by both systems, as well as after 16 excitations of the microwave sensor, with no violation of the PIR sensor.

NOTE: Remember to set an appropriate sensitivity of microwave channel detection, since the microwaves are capable of penetrating, for example, through gypsum walls, doors, etc., which may cause generation of false alarms.

The LED allows the installer to check the detector for correct functioning and to approximately determine the protected area:

- the LED lights red – alarm,
- the LED lights green – excitation of PIR or MW system.

For 30 seconds after the power is turned on, the detector remains in a starting state, which is signaled by a rapid blinking of the LED, alternately, green and red. Only then the detector enters its operational readiness state.

The detector monitors the supply voltage. If the voltage drops below 9V ($\pm 5\%$) for more than 2 seconds, the detector will signalize a violation state until a voltage of minimum 9V ($\pm 5\%$) is restored.

INSTALLATION

The detector is designed for indoor installation. It can be mounted on the wall, either directly or on the included holder.

Prior to installation of the detector housing, remove the electronics board and brake out adequate openings for screws and cable in the rear panel of the housing.

It is advisable that you exercise particular care to prevent the pyro element from getting dirty or damaged during installation.

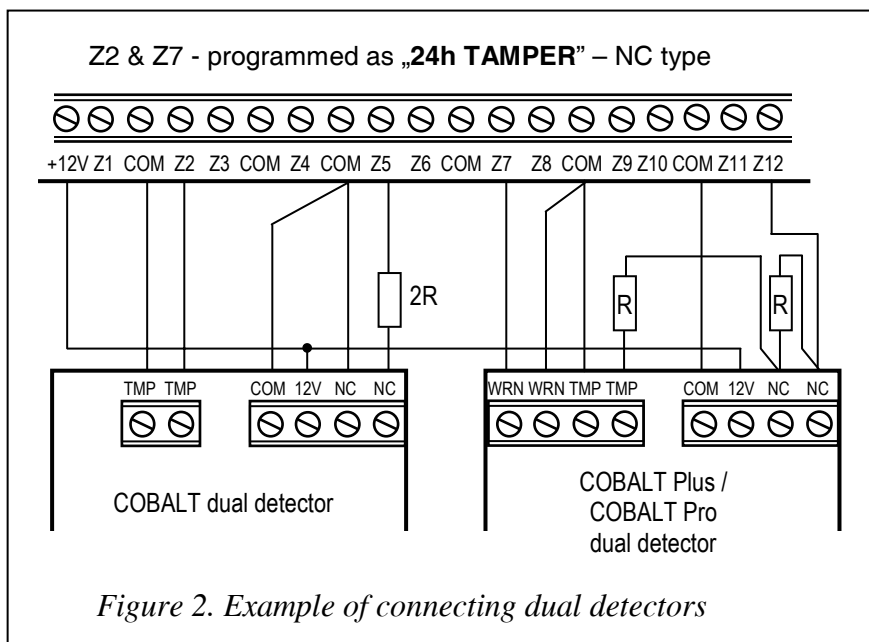


Figure 2 shows typical examples of connecting the detectors in EOL (parameter) configuration and 2EOL (two-parameter) configuration. Resistors should be mounted inside the detector housing.

LENSES

In the detector is mounted a wide angle lens, however, it is possible to replace it by buying another lens with different characteristics (range, number of beams, angle of view). Lenses are available with the following characteristics:

It.	Lens type	Range	Angle of view
1	wide angle	9m	101°
2	extra wide angle	15m	141,2°
3	long range with access zone monitoring	30m	main beam - 3m wide (at the end of range)
4	vertical barrier	22.5m	2.2m wide (at the end of range)

NOTE: *The detector operating range should be selected to match the size of space where the detector will be installed. The size of the space along the main direction of detector positioning is not to be less than 1/3 the nominal range of the detector. Improper selection of the lens may cause excessive sensitivity and trip false alarms.*

TECHNICAL DATA

Supply voltage.....	9V...16V DC
Nominal supply voltage	12V DC
Mean power consumption ($\pm 10\%$)	24mA
Violation signaling time	2s
Range of pyro electric sensor with standard lens	9m
Range of microwave sensor.....	from 3 to 20m
Operating temperature range.....	-10...+50°C
Detectable motion speed	up to 3 m/s
Dimensions of housing	63x136x49mm
Recommended installation height.....	2.1m

*The AQUA series passive infrared detectors comply with the European Union Directive:
EMC 89/336/EEG + 91/236/EEC, 92/31/EEC, 93/68/EEC
The microwave sensor meets requirements of the EN 300-440 European Standard*



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