



VERSIONS

Version	Description
CD 400	Shock detector
CD 400-R	Shock detector with integrated magnetic contact

DESCRIPTION

The CD 400 is a selectively sensing piezoelectric sensor that detects and analyses the vibrations generated by the attempts of an intruder to penetrate the protected area. The highly sophisticated signal processing evaluates the amplitude, frequency and duration of the vibrations generated. The unit can be mounted on any stable surface where an intrusion attempt might occur. However, the following must be taken in to account:

1. The design and construction of the protected surface and its material.
2. The detector location in relation to studs, joints, door/windows hinges etc.
3. Background disturbances that can influence the detector.

COVERAGE

The typical coverage in various materials is shown in the table below. The ranges are only presented as guidelines, practical tests must always be conducted.

Material	Steel/Wood/Glass	Brick/Plaster	Concrete
Range	r = 3 m	r = 2 m	r = 1 m

MOUNTING

1. Loosen the cover screws and remove it.
2. Select a suitable mounting position.
3. Use the bottom part as a template and mark the fixing holes.
4. Use a 2-2.5 mm drill for the self-tapping screws provided.

Note! A clean and even surface under the detector will give the best coverage.

CONNECTION

The detector has 10 screw terminals with wire guard as shown in **Figure 1**. The figure also shows the position of the programming jumpers. A connection and programming diagram is also filled inside the cover.

Note! Open inputs 3 & 4 are interpreted as low.

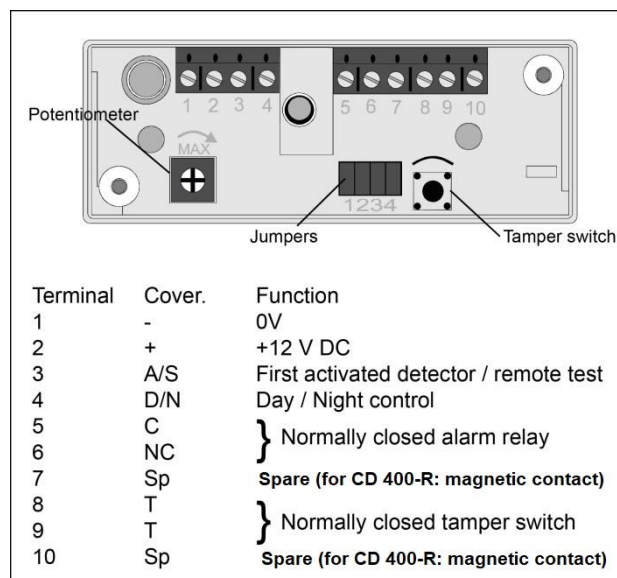


Figure 1. Connections to CD 400

PROGRAMMING JUMPERS

The four jumpers are used to programme the operational modes of the detector. The functions are shown in **Figure 2** and also inside the cover.

S1 and S2 control the number of pulses to activate the alarm relay.

S3 controls the alarm relay according to the following:
A) latched after activation, requiring a remote reset or
B) automatic reset after 2 seconds.

S4 controls the remote control and "DAY/NIGHT" functions. On delivery all 4 jumpers are closed resulting in the following:

S1, 2 - Reacts to a single impact (pulse).

S3 - The alarm relay is automatically reset after 2 seconds.

S4 - LED indicating an alarm activation.

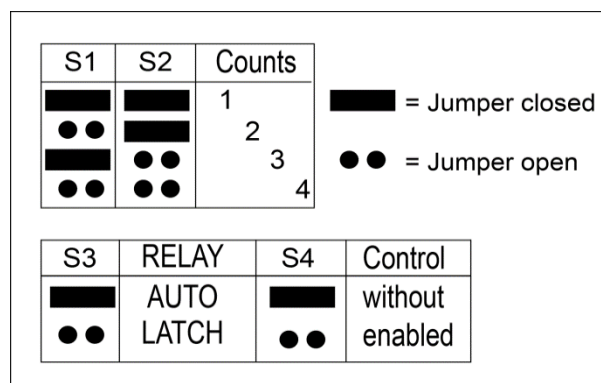


Figure 2. Jumper functions

REMOTE DAY/NIGHT CONTROL

See Figures 3 and 4. Max 15 detectors.

NOTE! Jumper 4 must be open (removed)

Figure **4A** shows DAY/NIGHT control with terminal 4, an additional cable is required.

DAY = 0 V (open), LED indications active.

NIGHT = +12 V, no LED indications.

When changing from DAY to NIGHT, alarm memory is reset.

When the system is turned off, i.e. switched from NIGHT to DAY, the LED lights up if the detector has been in alarm mode. No other indications are displayed when activated whether day or night time.

4B shows DAY/NIGHT control via terminal 4 with a second control cable between detectors.

First / follow-up alarm storage is obtained by connecting the terminals 3 to each other.

First alarm indicator - LED flashes

Follow-up alarm indicator - LED lights up

4C shows DAY/NIGHT control via terminal 4 with a second

Control cable together with first/follow-up alarm storage via terminal 3 and TEST function.

First alarm indicator - LED flashes

Follow-up alarm indicator - LED lights up

Test with controller at terminal 3:

0 V (open) - no test and no indications

+12 V - TEST with LED indications.

OPERATING MODES				
	Control		Memory Function test	LED
	Day/ Night	Test		
a 	Night	Off	Memory empty	
b 	Day	Off	Alarm in memory alarm/first to activate	
c 		On	Walk test (2 sec.)	
d 	D ↓ N	On or Off	The memory and relay are reset	
 Extinguished  Flashing  Alight				

Figure 3. Remote control functions

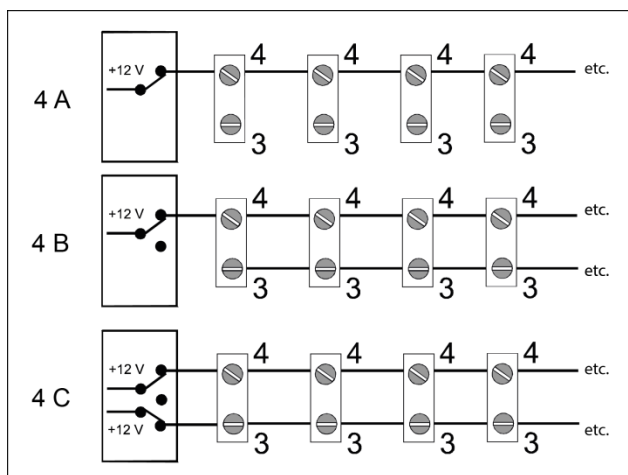


Figure 4. Remote controls

ADJUSTMENT AND SETTING-UP

Adjusting and setting is quite simple. Check that jumper 4 is closed. The LED will then indicate an activation and the alarm relay will reset two seconds after activation. If programmed for multiple pulses each registered impact will be shown by a short flash, the alarm will result in a longer flash.

1. With jumper 4 closed turn the potentiometer clockwise to the max. position.
2. Tap lightly close to the detector and check that each tap is indicated and that the alarm relay is working properly after the set number of pulses.
3. Turn the potentiometer anti-clockwise to the min. position.
4. Use the test tool CT 400 at the most distant point to be protected and gradually increase the sensitivity until the LED indicates a received pulse.
5. Now make all connections permanent. Check that the activation and tamper alarm are received at the control panel.

CD 400-R

CD 400-R has a built-in magnetic contact. To obtain the correct breaking / closing distances, it must be positioned so that the arrows on the magnetic housing point towards the side of the CD 400-R where the terminals are mounted. The reed contact is connected to the screw terminals 7 & 10 and these are closed when the magnet is nearby, see distance in technical data below.

TECHNICAL DATA

Supply voltage (norm 12V DC)	8-15 V DC
Max ripple	2 Vpp (at 12 V)
Current consumption (quiescent)	7mA
Current consumption (alarm)	11 mA
Alarm output	Relay, NC, 33 ohm in series
Max. load	25V / 100mA
Alarm duration	2 seconds
Low voltage level protection	<8V
Alarm indication	LED
Tamper (opening) protection	25V / 100mA
Micro switch, max.	
Control voltage for TEST	LOW<3V, HIGH>6V
Control voltage for Day/Night	LOW<3V, HIGH>6V
Sensitivity adjustment	Potentiometer
Environmental conditions	
Temperature (storage/functional)	-20 - +50°C
Humidity	max. 95% RH
Housing	IP40 IEC
MC parameters (CD 400-R only)	
Distance – Wood	37mm +/- 5mm
Distance – Steel	17mm +/- 8mm
Dimensions (LxWxH)	91 x 31 x 23 mm
Weight	40 g.

