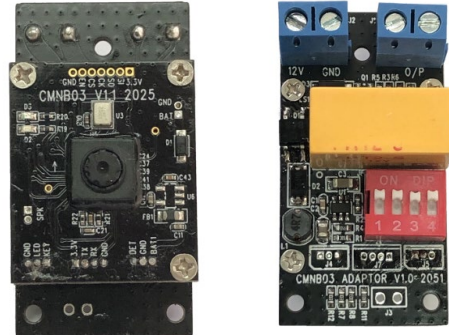


Description

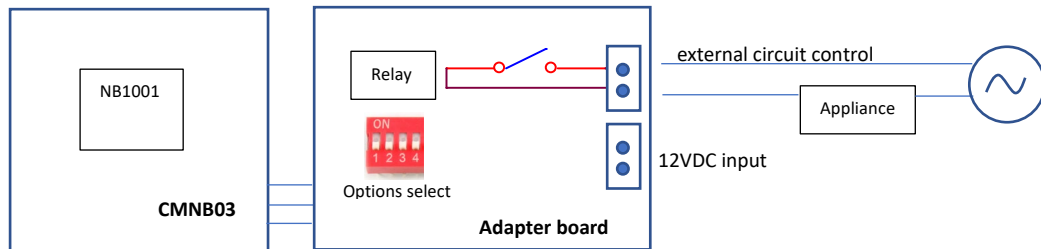
CMNB03-03 is a member of AI modules which has built in relay to control external electric device when motion detected.

Features:

- Small in size: 48×25mm, easy to install
- Built in relay to control external power circuit up to 125VA
- Off time selectable from 2 min to 15min
- Sensitivity selectable
- Terminal block for easy wiring
- 12V operation
- Power polarity protection



Block diagram



Operation

1. Select options of delay off timer as well as the sensitivity
2. Apply 12VDC to the module, wire thru terminal block J
3. Connect external power control circuit
4. Place the module at the place where is good to monitor the interested area
5. Turn on the power, when there is a motion detected in the interested area, relay will switch on the external device.
6. When there is no motion detect during the preset off timer, relay will cut off the external power.
7. There are 2 option modes.
 - a. Auto mode: relay turns on off external circuit following motion detect, whenever module is powered,
 - b. Manual mode: at first time power on the module, relay will cut off the external circuit after no motion detect and reach delay timer. It will be retriggered within 1 minute if motion detected but remain off after that, until turn off and repower the module. This is good for lighting control, when people enter the room, turn on the light manually, after leaving, it will turn off the light automatically.

Option setting

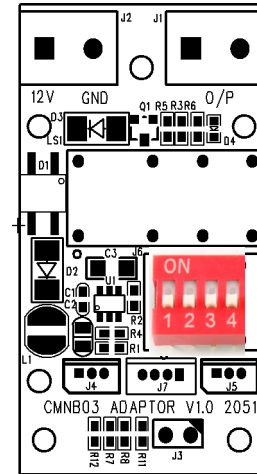
Switch		On	Off
1	Mode	Manual	Auto
2,3	Delay timer	See below table	
4	Sensitivity	High	Low

Delay Timer setting

Delay time(min)	SW 2	SW 3
15	On	On
10	On	Off
5	Off	On
2	Off	Off

Board layout and connector

J1	External power switch
J2	Power input 12VDC
J3	NC (reserved)



Electrical characteristics

Parameter	Condition	Min	Typ	Max	Unit
Operation voltage		9	12	18	V
Operation current	Standby		50		mA
	Relay on		75		mA
Relay spec	Contact resistance			100	mΩ
	Switching voltage			250	VAC
	Switching power			60	W

Application Note

This module use image sensor for motion detect and therefore good image of target area is important for accurate detection. Below are some hints for playing.

- Viewing angle of lens is 75deg, detection distance is up to 3 meters. Too far distance make the moving object too small to detect.
- Strong backlight or too dark environment is not suggested for this module.
- Rapid light change is also not good for detection
- Suggest to place the module at the corner under ceiling if it uses for monitoring activity inside a room. Tune the angle and direction to get the best performance.
- Since this module is used to detect motion, the module itself should be fixed firmly on its place, otherwise, vibration of the module will cause false trigger.

Application examples

- Lighting system control
- Ceiling fan control
- Security alarm for restricted area

Board dimension

Note: this CMNB03_03 consists of 2 boards, CMNB03 and adapter board. Two boards are stacked and fixed by 3 screws and nuts. Adapter board has 3 mounting holes for users to fix the module somewhere. The picture on the right shows the mounting hole dimension.

