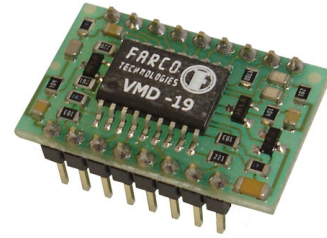


VMD-19 Technical Specifications

Video Motion Detector Module

Version 1.3



Features

- Analyses video signal to detect motion
- Sensitivity to size and movement is adjustable
- Automatically adjusts to the scene light level
- Automatically adjusts to camera signal quality
- Surface mount module minimises space requirement
- Eliminates the effects of video noise to minimise false alarms
- Compatible with NTSC, PAL, EIA, CCIR and SECAM video standards
- Video loss detection and motion output
- 50mW Low power consumption
- Once motion is detected, an output signal becomes active momentarily
- Minimum circuit configuration requires just 1 external crystal
- Designed for CCTV security equipment, cameras and VCR designs
- Very easy to integrate with existing designs

Description

VMD-19 module is an 18 pin, standard 0.6" wide IC board. It can be directly connected to a composite video and detect motion of objects within the video signal.

VMD-19 integrates out video noise and therefore has excellent noise immunity. This minimises the probability of false motion detection.

VMD-19 automatically adjusts to the video signal level. It can be used with cameras producing signal levels as low as 0.5Vpp to as much as 2Vpp (nominal signal level for composite video is 1Vpp).

VMD-19 is intended to be used primarily under controlled lighting conditions and for indoor use, however it includes a special algorithm which minimises false alarms when used in outdoor variable lighting conditions.

VMD-19 includes sophisticated state of the art image processing algorithm which minimises false alarms due to slow changes in ambient light such as cloud movements or fast changes such as lightening or flying birds.

VMD-19 is designed to be more sensitive to human movement than animals and other objects.

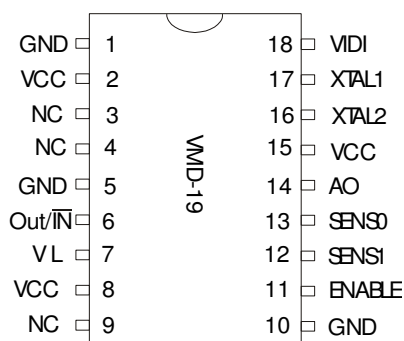
The sensitivity of the VMD-19 to detect an alarm condition due to changes in the video signal is adjustable.

Once there is a change in the video signal which exceeds the sensitivity setting, the "Alarm Out" (AO) pin of the VMD-19 becomes active momentarily.

VMD-19 detects the loss of the video signal and activates the "Video Loss" (VL) pin, while the video signal is missing.

VMD-19

Pin Configuration



Electrical Specification

Parameter	min	max	unit
Supply voltage	4.75	5.25	V
Current*	8	10	mA
Video Input	0.5	2	Vpp
Operating Temp.	0	75	°C
Input Low Voltage	GND	0.2Vcc	V
Input High Voltage	0.8Vcc	Vcc	V
Output Low Voltage	-	0.6	V
Output High Voltage	Vcc-0.7	-	V
XTAL1,2	20	20	Mhz

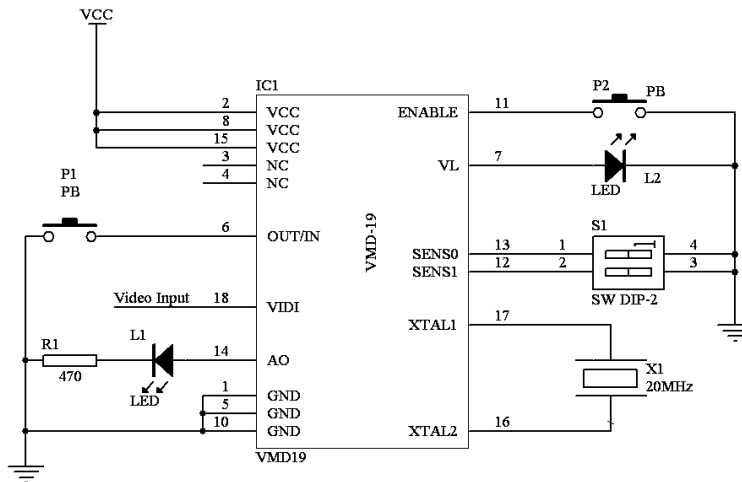
Pin Description (Relates to the board not the IC)

Pin	Symbol	I/O	Function
1, 5, 10	GND	-	Ground
2, 8, 15	VCC	-	VCC, 5VDC \pm 250mv
3, 4	NC	-	Not Connected. Do not use these pins.
9	NC	-	Is not fitted on board
6	Out /IN	I	When at VCC, use outdoor algorithm, GND use indoor
7	VL	O	Video Loss signal output. VCC when video signal is not present at the VIDI pin, otherwise at GND level.
11	ENABLE	I	Enable pin. Connect to VCC to enable operation.
12	SENS1*	I	Sensitivity setting bit1. Includes internal pull up resistor.
13	SENS0*	I	Sensitivity setting bit0. Includes internal pull up resistor.
14	AO	O	Alarm output. Normally at GND level. When motion is detected goes to VCC.
16	XTAL1	I	Crystal connection(20MHz). Includes 27pF internal capacitor load.
17	XTAL2	O	Crystal connection(20MHz). Includes 27pF internal capacitor load.
18	VIDI	I	Video input NTSC, PAL, EIA, CCIR and SECAM video standards. All coupling circuitry included. Just connect a composite video signal directly to this pin.

NOTES:

- * Sensitivity is set between 0 (least sensitive) and 3 (most sensitive). To set to 0, connect both pins to GND. If not connected externally, it will default to 3 (most sensitive).

Application Example



NOTES:

- The only necessary part is the 20 MHz crystal. Includes 27pf internal capacitor loads
- Video input format any of NTSC, PAL, EIA, CCIR and SECAM
- P1- When pressed use indoor algorithm. Normally outdoor algorithm
- P2- When pressed operation disabled. Normally enabled
- L1- On when motion is detected. Normally off
- L2- On when video signal is not present at the video input. Includes internal current limiting resistor.
- S1- Least sensitive when both switches are on. Most sensitivity when both switches set to off position. No switch defaults to most sensitivity.