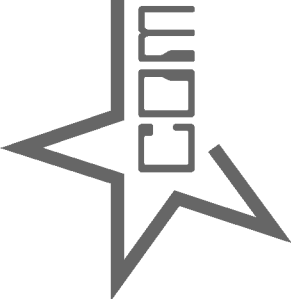


Starcom Incorporated

M2001

CURRENT / RING DETECTOR



Description

General

The M2001 detects dc voltages up to 48v, loop current, ringing, or 0-5vdc logic levels. When an input is detected the M2001 operates an internal relay. The M2001 also provides a release delay and a silent interval holdover.

Operating power

The M2001 requires 24 or 48vdc power to operate. Set switch #5 for the correct operating voltage and connect the operating power to J1 pair 4. The polarity does not matter.

☞ *Set option switch #5 before connecting power to J1.*

Power supply

A 6 watt 24 volt power supply is included with the M2001. If you are using this supply, connect the screw terminals marked 24v- and 24v+ to J1 pair 4.

Relay output

The relay has 2 sets of transfer or form “c” contacts. All of the relay contacts are on J2. For simple applications, a single, normally open contact is also available on J1 pair 3. For many applications, all connections may be made with just one cable for power, input, and output.

Indicators

2 lamps indicate the status of the M2001. A green idle lamp blinks when the M2001 is on and no inputs are present. When the M2001 is active, a yellow output lamp will light, while the green lamp stops blinking and remains on.

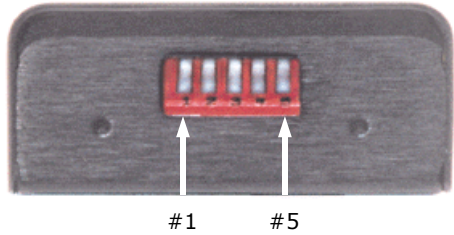
Delay/holdover

The delay/holdover feature allows the M2001 to remain in a continuous active state with ringing, winking, or pulsing inputs. With this feature on, the M2001 remains on until no input is detected for 4.5 seconds. The M2001 will “follow” the input signal when this feature is off.

Option switches

A 5 position dip switch controls the functions of the M2001. The switches are numbered from left to right, 1 to 5.

End view of the M2001 showing the dip switches in the default position.



Option Switch Settings					
INPUT TYPE	SWITCH NUMBER				
	1	2	3	4	5
Ring detect	OFF	OFF	n/a	ON	
Ring detect with silent interval holdover	OFF	OFF	n/a	OFF	
Voltage detect	ON	OFF	n/a	ON	
Voltage detect with release delay	ON	OFF	n/a	OFF	
Current detect	ON	ON	n/a	ON	
Current detect with release delay	ON	ON	n/a	OFF	
Positive logic detect	n/a	n/a	ON	n/a	
Negative logic detect	n/a	n/a	OFF	n/a	
24vdc operating voltage					ON
48vdc operating voltage					OFF
Factory defaults	OFF	OFF	OFF	OFF	OFF

⚡ When setting a switch, open=off=up, and closed=on=down.

- 1- Open to insert a .5uf capacitor for ring detection. Closed for voltage or loop current detection.
- 2- Open to insert a 10k ohm resistor for ring or voltage detection. Closed for loop current detection.
- 3- Open to detect logic levels lower then vref. Closed to detect logic levels higher then vref.
- 4- Open for 4.5sec release delay for voltage detection. Closed for no delay.
- 5- Open for 48vdc power operation. Closed for 24vdc power operation.

Factory defaults

All option switches are factory set to open.

Connections

Two modular jacks, J1 & J2 are located on one end of the M2001. Power, input signals, and a normally open output all connect to J1. A complete set of DPDT contacts are available on J2. Refer to the pin-out tables for wiring.

Operation

Set the M2001 for the operating voltage with switch 5: open for 48vdc, closed for 24vdc. Select the type of input signal you need to detect and set switches 1 thru 4 as required. Refer to the following list or the option switch table on the previous page.

 *Set the option switches before connecting an input to J1.*

Voltage detect

Switch 1 closed, switch 2 open, for 4.5sec release delay set switch 4 open. Connect the input voltage to J1 pair 1.

Ringling detect

Switch 1 open, switch 2 open, for silent interval holdover set switch 4 open. Connect the input to J1 pair 1.

Loop current detect

Switch 1 closed, switch 2 closed, for 4.5sec release delay set switch 4 open. Connect the loop to J1 pair 1.

Logic level detect

To detect negative logic set switch 3 open. Input logic level should be 5vdc in idle state. To detect positive logic set switch 3 closed. Input logic level should be 0vdc in idle state. Connect the inputs to J1 pair 2.

Mounting

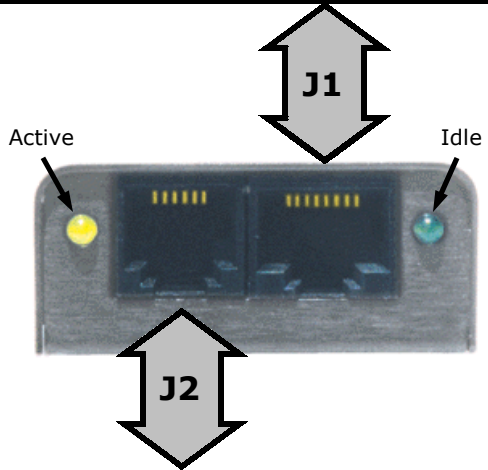
The M2001 has 2 keyholes for mounting. The keyhole accepts a #4 screw. Locate the 2 screws 2.2" apart, or use the template on page 7 to locate the mounting screws.

J1 PIN-OUT

J1 PIN NUMBER	TYPE	PAIR	TYPICAL 103 OR 104 BLOCK #
1	0-5VDC LOGIC	PAIR 2	3
2	LOGIC COMMON	PAIR 2	4
3*	NORMALLY OPEN 2	PAIR 3	5
4	TIP (+)	PAIR 1	2
5	RING (-)	PAIR 1	1
6*	COMMON 2	PAIR 3	6
7	OPERATING POWER	PAIR 4	7
8	OPERATING POWER	PAIR 4	8

*These contacts are common to J2 pair 2.

Location of jacks and indicators on the M2001



J2 PIN-OUT

J2 PIN NUMBER	RELAY CONTACT	PAIR	TYPICAL 103 OR 101 BLOCK #
1	NORMALLY CLOSED #1	PAIR 3	4
2*	COMMON #2	PAIR 2	5
3	COMMON #1	PAIR 1	2
4	NORMALLY OPEN #1	PAIR 1	1
5*	NORMALLY OPEN #2	PAIR 2	6
6	NORMALLY CLOSED #2	PAIR 3	7

*These contacts are common to J1 pair 3.

Specifications

M2001

General

Size3.0"L x 1.7"W x .75"H
Weight1.5oz
Operating voltage24 or 48vdc
Power consumption10ma idle / 20ma operated
Detect delay40ms
Release/holdover delay4.5sec
Vref (for logic detect)2.5vdc

Inputs

J1 pair 1
Voltage detect mode2.5vdc minimum, 48vdc maximum
Ringing detect mode96vac typical, 20 to 30hz
Current detect mode80mA maximum
J1 pair 2
Logic detect mode0 to 5vdc maximum
J1 pair 4
Operating voltage24 or 48vdc @20ma

Jacks

J1modular, RJ48C
J2modular, RJ25C

Output data

Rated load0.5a @ 125vac, 1a @ 30vdc
Carry current1a
Maximum operating voltage125vac, 110vdc
Maximum operating current1 amp
Maximum switching capacity62.5va, 33w

PS24.25 SUPPLY

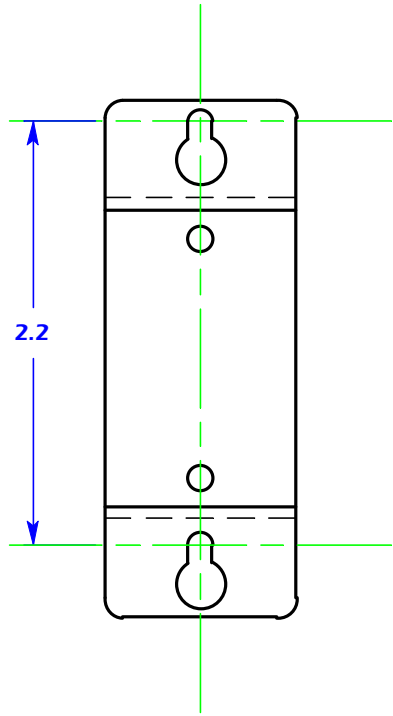
General

Typeregulated, wall plug
Size2.95"L x 2.72"W x 1.93"H
Weight12oz
Operating voltage102-129vac, 60hz, .15a

Output

Voltage24vdc
Current0.25a maximum

Mounting template





Starcom Incorporated

3303 North Dixie Highway
Boca Raton, FL. 33431

phone: (561) 392-7001 ★ fax: (561) 392-7003 ★ email: info@starcom-inc.com ★ internet: www.starcom-inc.com