

## #04-3, M1S: Three isolated inputs, common (+)



**Function:** Three optically isolated inputs with common (+). Inputs are fully isolated from system ground.

**Form factor:** [M1S](#)

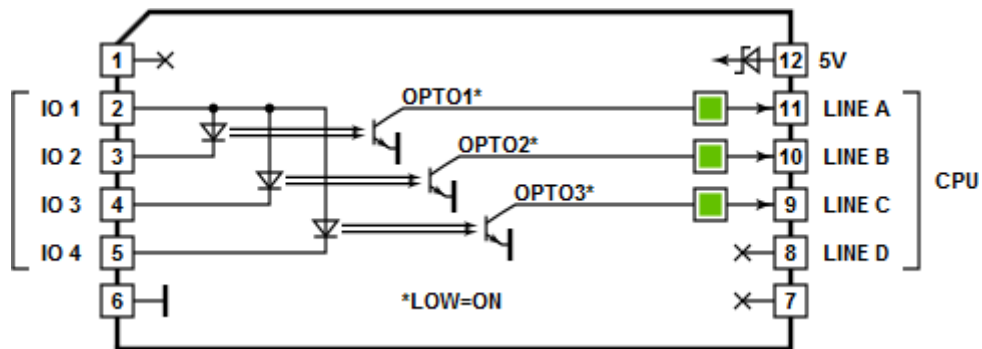
**Category:** Input module

**Special needs:** ---

**Power requirements:** 5V/[TBD](#)mA

**Mates with:** [#19](#), [#20](#), [#21](#)

**See also:** [#04-1](#), [#04-2](#), [#04-4](#)



### Details

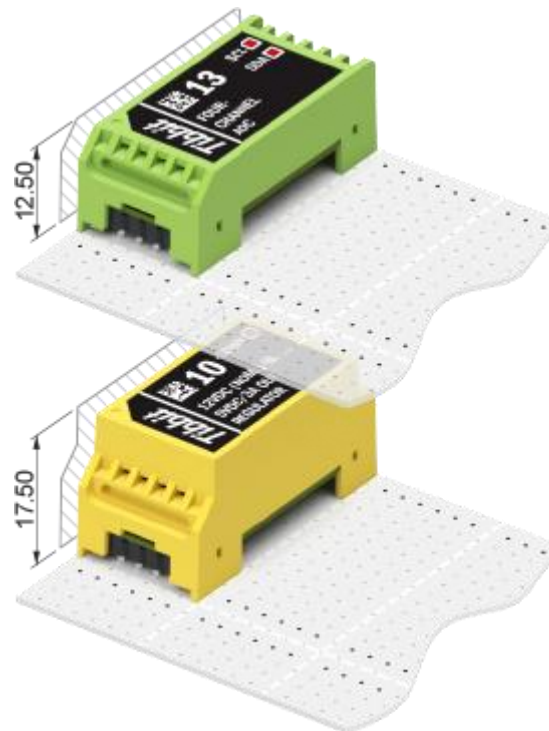
These inputs activate at about [TBDV](#). They are rated for the maximum input voltage of [TBDV](#).

Combine this Tibbit with terminal block devices -- [#20](#) (nine terminal blocks) or [#21](#) (four terminal blocks).

## LEDs

There are three green LEDs which are connected to three control lines. LEDs light up for the LOW state of control lines (i.e. when current passes through the diodes of the opto-couples).

## Footprint and Color Coding



M1 Tibbits are single-width modules occupying one ["M" socket on the standard tile](#). Their footprint is roughly 7 x 14 "squares" (one "square" is 2.54 x 2.54 mm).

M1 devices have four I/O lines for interfacing with the outside world. We found four to be the magic number. it's just right for a wide variety of I/O functions.

M1s can be short (M1S) or tall (M1T). Most M1 devices fit into "short" 12.5mm shells, selected few are 17.5mm "tall".

Each M1 module's color will tell you if it is an...



Input  
module



Output  
module



Input/  
Output



Power  
supply

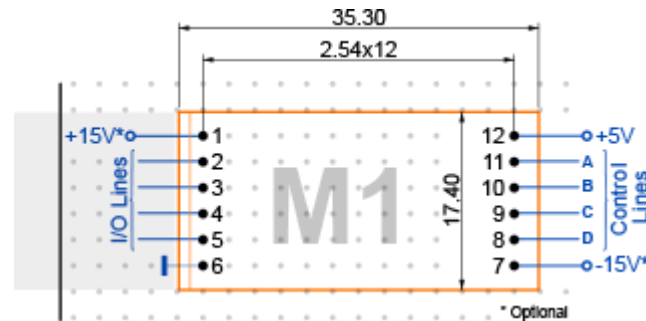


Blank  
module

M1 Tibbits can incorporate up to [four status LEDs](#).

## I/O pins

M1 modules have 2 rows of 6 pins:



**Pins 8-11** are control lines A-D. They are for interfacing to our [embedded modules](#) or other microcontrollers. On [Tibbo Project PCBs](#) these pins are connected to the main processor.

**Pins 2-5** are I/O lines facing the outside world. On Tibbo Project PCBs they go to Tibbit [connector sockets](#) (i.e. connect to [C1](#) and [C2](#) devices).

**Pins 6 and 12** are the GROUND and +5V power pins. Most Tibbit Modules consume (take) 5V power. There are also power supply Tibbits that generate 5V power from a variety of sources. Those *output* 5V through pin 12. As an example of power Tibbits see Tibbits [#10](#) and [#23](#).

**Pins 1 and 7** are for the additional +15V and -15V voltages. These are optional and only needed by few Tibbits. A special power supply Tibbit [#12](#) generates +/-15V from the main 5V power.