

HVBI2C16I

16 Channel Alarm Input Expansion Module

HVBI2C16O

16 Channel Alarm Output Module

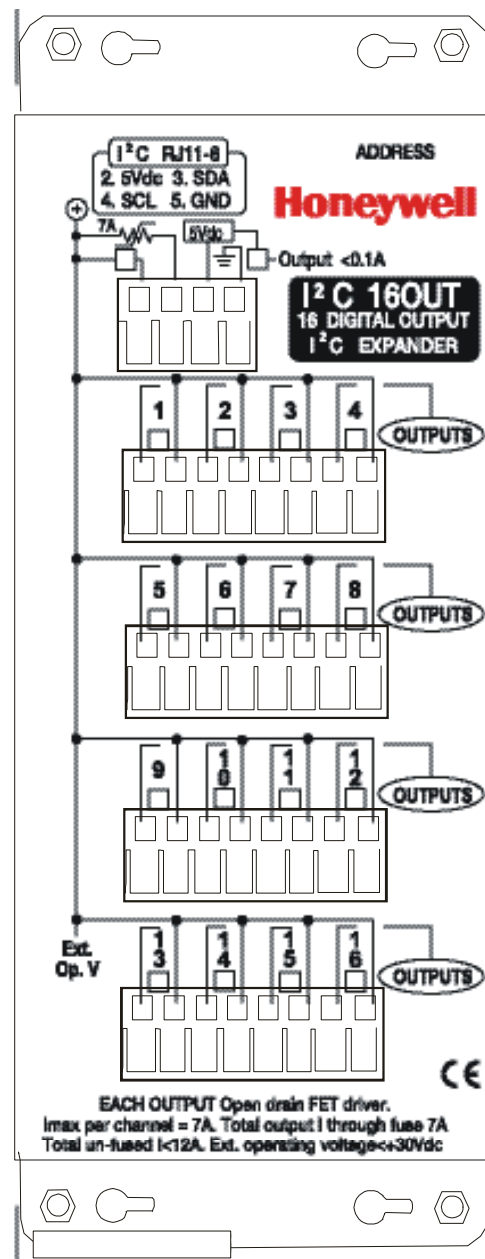
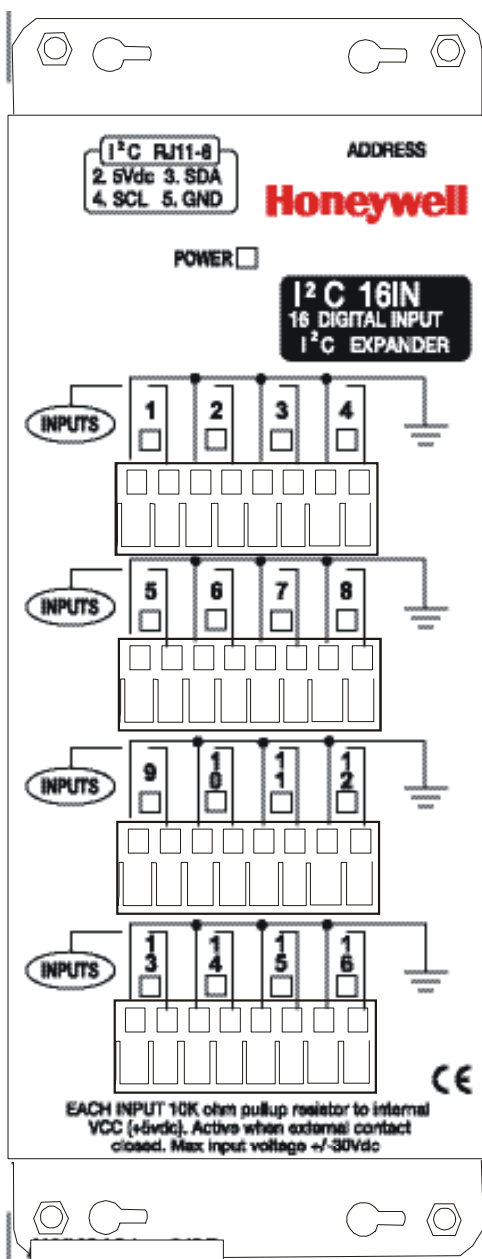
User Manual

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1.0 OVERVIEW

Honeywell video and audio systems can sometimes require more digital (in this case digital means on or off) inputs and outputs than those supplied with a standard system. The HVBI2C16I can be used to expand inputs in groups of 16 and the HVBI2C16O can be used to expand outputs in groups of 16. Both units have a 4-way switch, which is used to address the devices giving a logical range of 256 inputs or outputs on one HVBI2C16I or HVBI2C16O loop. There are 4 conductors that are used to interconnect these I²C devices. Two of the lines carry 5 Volts DC and ground. The other two conductors carry the I²C interface. These devices use the PHILIPS™ I²C synchronous serial interface. This interface uses two serial lines – one is a data line and the other a clocking line. For more information on I²C refer to the PHILIPS™ I²C bus compatible devices data book.



Notes:

2.0 INSTALLATION

These devices can be fitted onto any suitable surface using machine or self-tapping screws by means of the 4 keyholes. Note that the device ground is connected to the metal casing. Connecting to a μ C controller such as a PIT or a VideoBloX matrix would be via a RJ11 style telephone connector/cable. This RJ11 cable would be terminated pin to pin with 6 position 4 filled style RJ11 jacks. The maximum length of this cable and any additional looping segments should not exceed 5 Meters (15 feet). Do not connect more than 5 devices on a single loop as the RJ style connections are rated at a maximum current of 1 amp.

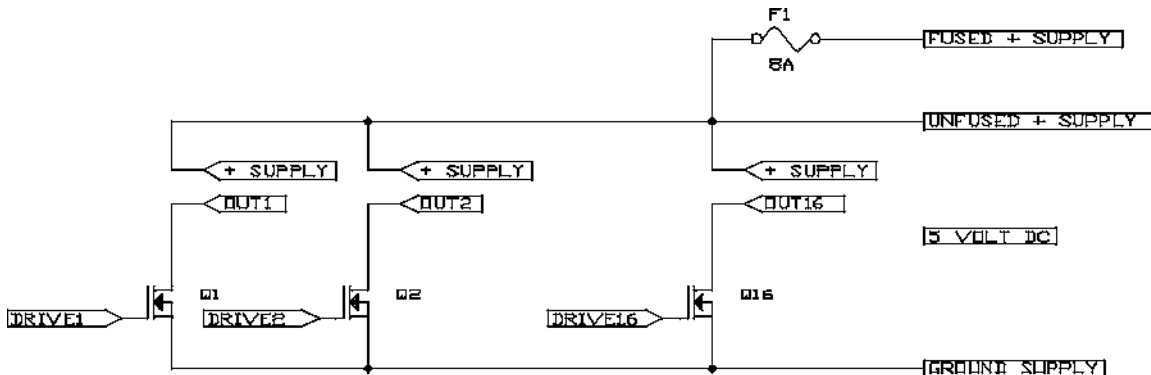
HVBI2C16I

Use the screw plug connector to connect the inputs to the device. Inputs should be ideally potential free. An internal 10K pull-up resistor is used to bias the inputs to 5 volts. Connecting an input to ground will turn on a LED. This LED is buffered, so the LED accurately displays the current input state. Use the LEDs to check your connections, external switches and any devices connected to the device inputs. The device has limited overvoltage protection so care should be taken when using long unshielded/non metal conduited wires (>30 Meters/ 100 feet).

HVBI2C16O

CAUTION - THIS UNIT CAN ONLY SWITCH A DC LOAD.

This output unit uses power FET devices as the switches. The devices are connected as per the following diagram.



The positive connection from the power supply should be connected to the fused supply line if the power supply does not have some form of current limiting. This connection position is indicated by the line on the 4-way plug that has a fuse symbol (Pin1 of the 4 way plug – left to right).

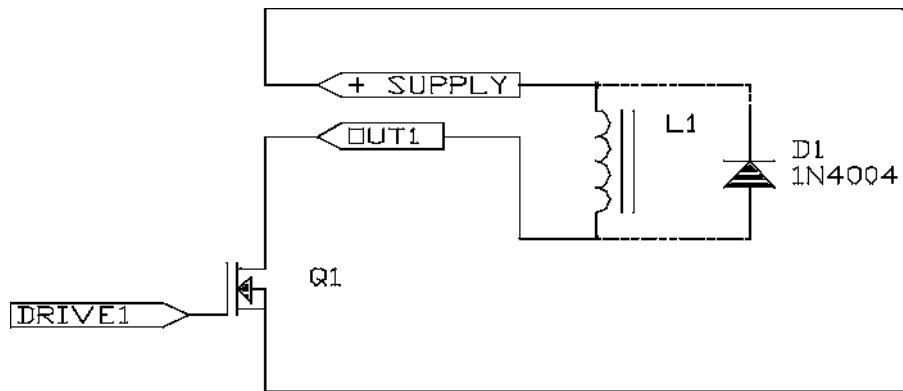
If the power supply has some form of current limiting, then the positive connection can be made to the unfused supply line. This connection position is indicated by the line connected to the + symbol with a circle around it (Pin2 - 4 way plug left to right). The 5 Vdc pin (Pin3 – 4- way plug left to right) is the 5 volt supply for the unit. This 5 Vdc connection can be used for powering low power devices Such as LEDs. The 5 Vdc pin would be connected to the fused supply pin (Pin 1 connected to Pin3 4-way plug). DO NOT DRAW MORE THAN 100mA from the 5Vdc pin and make sure that any current used from this 5 Volt source is budgeted for in the system design.

2.0 INSTALLATION, CONTINUED

HVBI2C160, Continued

Connect the ground connection to the ground of the power supply. This is the last connection on the 4-way plug and is shown with a ground symbol.

Connect the loads to the output and the supply common. Switching inductive loads such as relays or solenoids with long leads (> 1Meter 3 foot) can be problematic. Use a catch diode on the inductive device to snub the back EMF as per the diagram.



3.0 SWITCH SETTINGS

All 3 devices have a 4-position DIP switch used to set the device address as per the following table.

| Address | S4 | S3 | S2 | S1 |
|----------------------|----------|----------|----------|----------|
| Switch Legend | 4 | 3 | 2 | 1 |
| 0 | Off | Off | Off | Off |
| 1 | Off | Off | Off | On |
| 2 | Off | Off | On | Off |
| 3 | Off | Off | On | On |
| 4 | Off | On | Off | Off |
| 5 | Off | On | Off | On |
| 6 | Off | On | On | Off |
| ... | | | | |
| 15 | On | On | On | On |

4.0 SPECIFICATIONS

| | |
|--------------------|---|
| Power Requirements | 5 Volts DC . HVBI2C16I all LEDs off : 7mA all LEDs on: 60mA HVBI2C16O all LEDs off: 7mA all LEDs on: 63mA |
| Mechanical | Dimensions: 73(W) 192 (H) X 50 (D) mm Weight: +/-400g Finish: Brushed stainless steel |
| Environmental | Operating Temperature: 0 to +70 °C Commercial Devices Operating Temperature: -40 to +85 °C Industrial Devices Storage Temperature: -50 to +125 °C Humidity: 0 to 95% RH (non-condensing) |
| HVBI2C16O | Maximum total current flowing through ground/supply pins 10A Maximum current flowing through 1 output 8A Maximum off state voltage 50 Vdc |
| HVBI2C16I | Maximum input voltage 100 volts +/- AC/DC for 1ms Maximum input voltage continuous +/- 30V AC/DC |

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