# DECODER DEC16



Installation and programming manual          Vers.1.1

# Technical characteristics

| SIZE | VALUE |
|---|---|
| Power supply | 12 Vac/dc*   +/- 10% |
| Absorption | 0.1 A |
| Max voltage to the control input (A,B,C,D,E) | 6Vdc |
| Max voltage to the decoded outputs (0,1……15) | 32V |
| Max current to the decoded outputs (0,1……15) | 200mA |
| Open collector outputs (a transistor) | |
| Manage up to 16 decoded outputs, expandable to 32 with 2 DEC 16. | |

NOTE:
*In the case of DC observing the polarity marked.

Operation of  DEC 16.
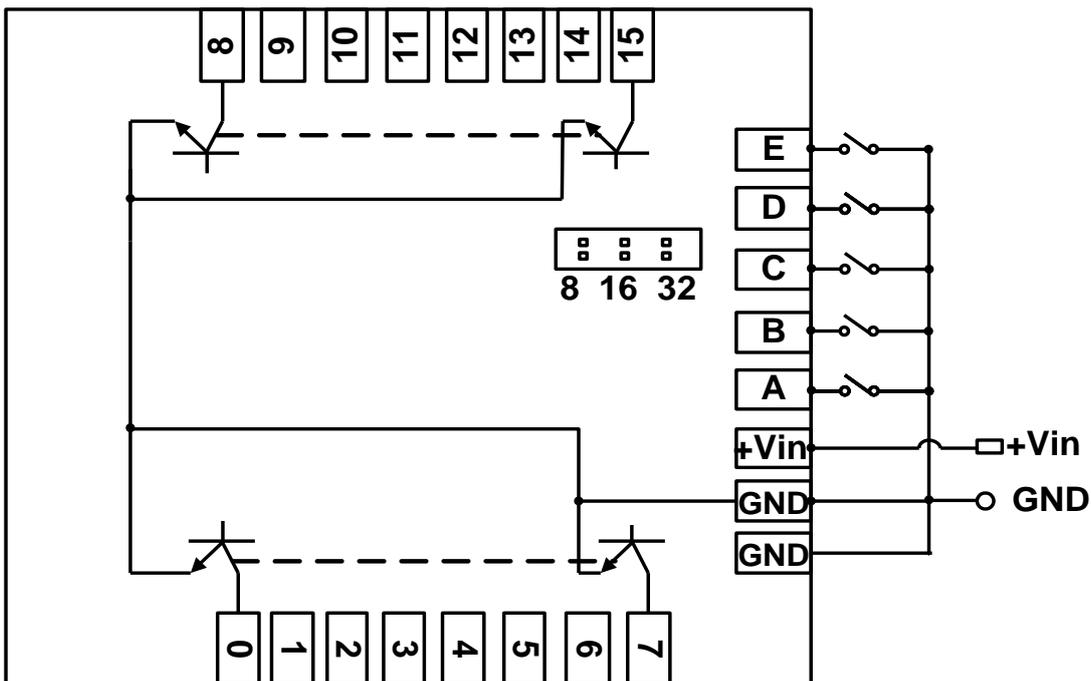
## Tables of connections
## Connector J3

| Terminal | Function | Note |
|----------|----------|------|
| GND,GND | GROUND OF THE BOARD | |
| +Vin | INPUT OF THE POWER SUPPLY | 12Vac/dc +/- 10% |
| A,B,C,D,E | INPUTS OF BINARY CODE | ACTIVE IF CONNECTED TO GND (see applications schemes) |
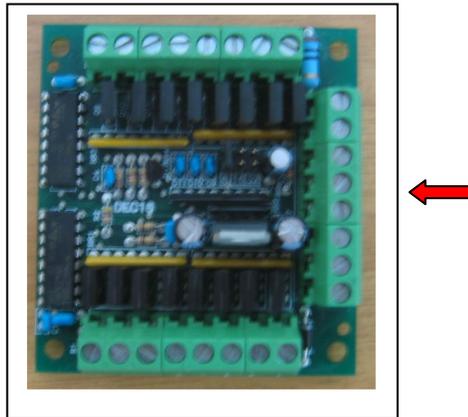


## Connectors J1,J2

| Terminal | Function | Note |
|----------|----------|------|
| 0,1,2…14,15 | OUTPUTS OF THE DECODING | Open collector outputs active at GND, maximum current 200mA per channel. |
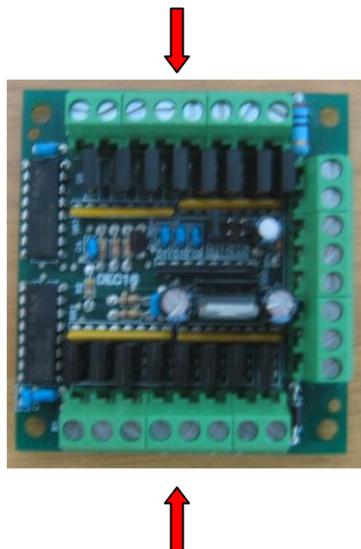
## Settings

| Command | Function | NOTE |
|---|---|---|
| Jumper 8-16-32 | It is used to correctly set according to the amount of decoding to generate. | See notes of use. |



## Use and programming

The card DEC16 is provided with a jumper with 3 positions:

**Position 8:** can be connected only inputs A, B and C in order to generate the 8 corresponding decodings, the inputs D and E are ignored:

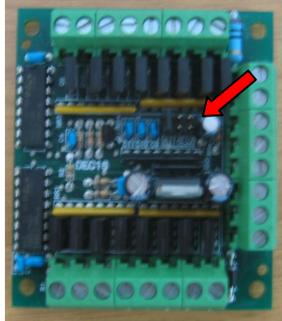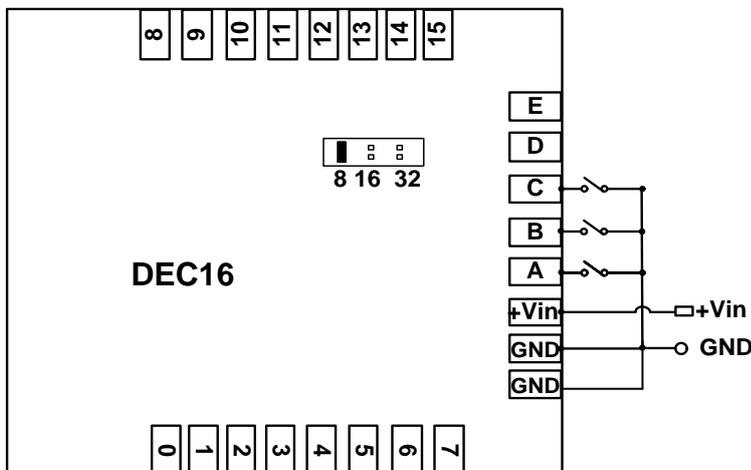| Jumper in position 8 | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| gnd | gnd | gnd | x | x | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | gnd | gnd | x | x | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | nc | gnd | x | x | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | nc | gnd | x | x | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | gnd | nc | x | x | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | gnd | nc | x | x | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | nc | nc | x | x | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | nc | nc | x | x | Off | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off |



NOTE:
With the jumper in position 8 can manage up to 8 decoded outputs with only inputs A, B and C.

**Position 16:** are encoded inputs A, B, C, D if the E input is to GND:

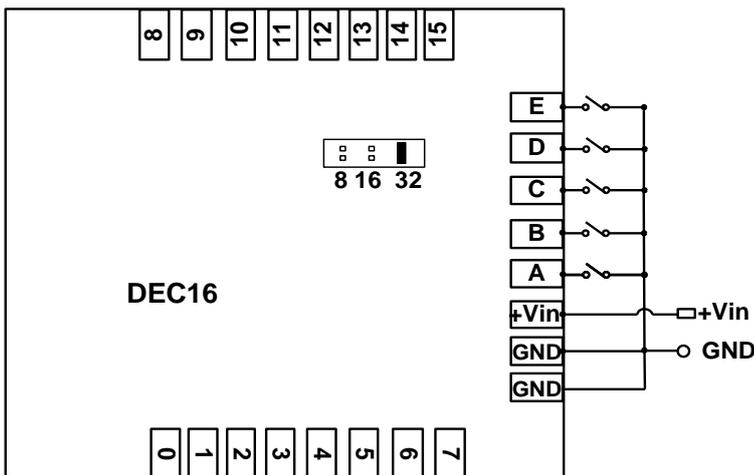| Jumper in position 16 | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| gnd | gnd | gnd | gnd | gnd | On | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | gnd | gnd | gnd | gnd | Off | On | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | nc | gnd | gnd | gnd | Off | Off | On | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | nc | gnd | gnd | gnd | Off | Off | Off | On | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | gnd | nc | gnd | gnd | Off | Off | Off | Off | On | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | gnd | nc | gnd | gnd | Off | Off | Off | Off | Off | On | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | nc | nc | gnd | gnd | Off | Off | Off | Off | Off | Off | On | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | nc | nc | gnd | gnd | Off | Off | Off | Off | Off | Off | Off | On | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | gnd | gnd | nc | gnd | Off | Off | Off | Off | Off | Off | Off | Off | On | Off | Off | Off | Off | Off | Off | Off |
| nc | gnd | gnd | nc | gnd | Off | Off | Off | Off | Off | Off | Off | Off | Off | On | Off | Off | Off | Off | Off | Off |
| gnd | nc | gnd | nc | gnd | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | On | Off | Off | Off | Off | Off |
| nc | nc | gnd | nc | gnd | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | On | Off | Off | Off | Off |
| gnd | gnd | nc | nc | gnd | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | On | Off | Off | Off |
| nc | gnd | nc | nc | gnd | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | On | Off | Off |
| gnd | nc | nc | nc | gnd | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | On | Off |
| nc | nc | nc | nc | gnd | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | On |
| X | X | X | X | nc | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |



DEC16

8 16 32

E
D
C
B
A
+Vin — +Vin
GND — GND
GND
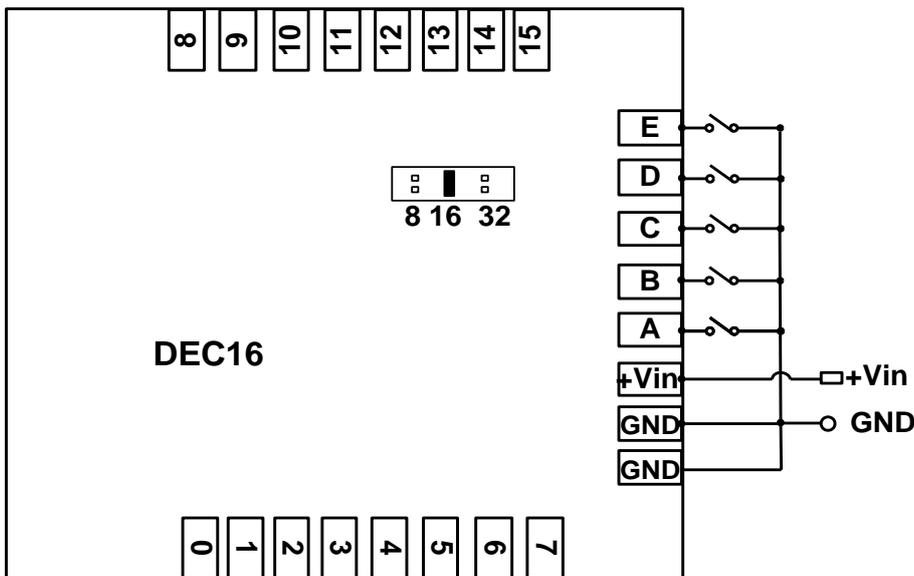
NOTA:
With the jumper in position 16 can manage up to 16 decoded outputs with A, B, C and D inputs.

**Position 32:** are decoded inputs A, B, C, D if the E input is free (not to GND)

| Jumper in position 32 | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| gnd | gnd | gnd | gnd | nc | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | gnd | gnd | gnd | nc | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | nc | gnd | gnd | nc | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | nc | gnd | gnd | nc | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | gnd | nc | gnd | nc | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | gnd | nc | gnd | nc | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | nc | nc | gnd | nc | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off | Off |
| nc | nc | nc | gnd | nc | Off | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off | Off |
| gnd | gnd | gnd | nc | nc | Off | Off | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off | Off |
| nc | gnd | gnd | nc | nc | Off | Off | Off | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off | Off |
| gnd | nc | gnd | nc | nc | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off | Off |
| nc | nc | gnd | nc | nc | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off | Off |
| gnd | gnd | nc | nc | nc | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | **On** | Off | Off | Off |
| nc | gnd | nc | nc | nc | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | **On** | Off | Off |
| gnd | nc | nc | nc | nc | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | **On** | Off |
| nc | nc | nc | nc | nc | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | **On** |
| X | X | X | X | gnd | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off | Off |



DEC16

8 16 32

E
D
C
B
A
+Vin — +Vin
GND — GND
GND

NOTA:
With the jumper in position 16 can manage up to 16 decoded outputs with A, B, C and D inputs.

## OPTIONS 32 STOPS

If you need to manage more than sixteen outputs (up to a maximum of 32), then we need two DEC16;
The first with the jumper in position 16, and the second at 32.
The input E of both devices must link them together so that when the input E is connected to GND works the first DEC16 (0 to 15). Consequently if the input E is left free (not to GND) operates the second DEC16 (16 to 31)
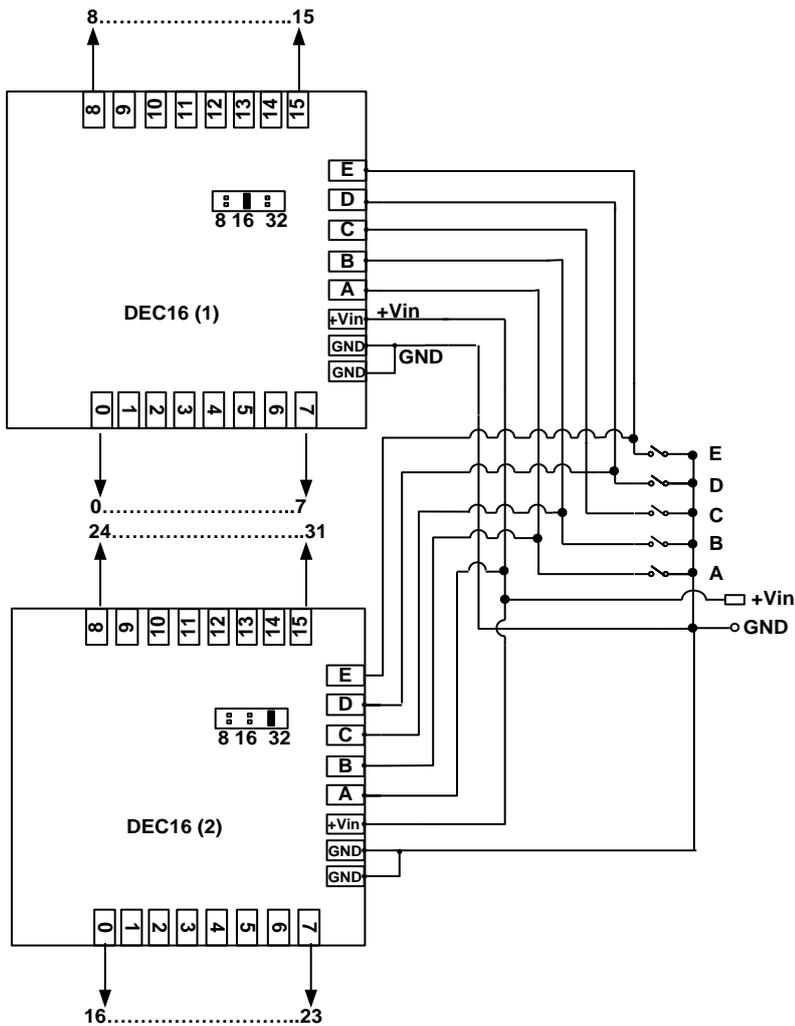
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