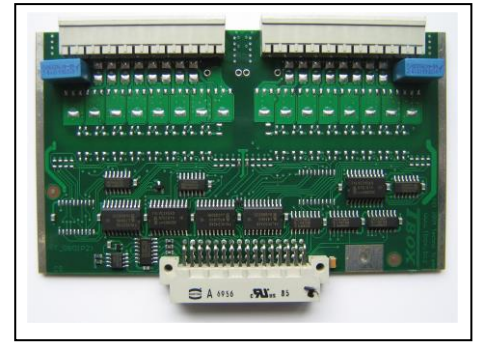


# TBOX MS-16DI

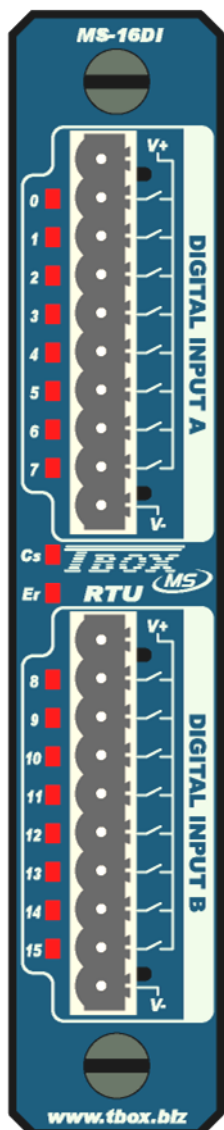
Version 3.06

## TBOX MS-16DI

- 16 x digital Inputs: 2 groups of 8 digital inputs
- Isolation by group of 8 inputs



## Technical Specifications



### General

|               |                                                                                               |
|---------------|-----------------------------------------------------------------------------------------------|
| Consumption   | 40 mA                                                                                         |
| Replacement   | <b>Hot insertable/removable.</b> There is no risk to damage hardware, but a reset is required |
| Compatibility | Concerning voltages, with type 1 and 2 of IEC61131-2                                          |
| Connector     | Screw connector (10x5.08mm)<br>Wire range: 0.14 – 2.5 mm <sup>2</sup> (or max. 12 AWG)        |

### LED

|            |                                                                                                                          |
|------------|--------------------------------------------------------------------------------------------------------------------------|
| Individual | LED corresponding to the activation of each digital input.<br>By software, possibility to disable the LED to save energy |
| Cs         | <b>Card Selection:</b> card corresponding to card declared in TWinSoft.                                                  |
| ER         | <b>Error:</b> card type not corresponding to the one declared in TWinSoft.                                               |

### Isolation

|                           |                                                                                            |
|---------------------------|--------------------------------------------------------------------------------------------|
| Isolation from the Ground | Isolation from the CPU ground and the earth                                                |
| 2 groups isolated         | Isolation by group of 8 inputs: One Common by group of 8 Inputs.                           |
| Level of isolation        | 1500 Vrms<br>- between groups<br>- between Inputs and ground<br>- between Inputs and earth |

### Protection

|                   |                                                                             |
|-------------------|-----------------------------------------------------------------------------|
| Test              | Automatic test of the access of the card by the CPU<br>(see LED 'CS' above) |
| RC filter         | 1592 Hz                                                                     |
| Voltage inversion | Up to 55 VDC                                                                |
| Protection EMC    |                                                                             |

## Voltage at input

---

|                          |        |
|--------------------------|--------|
| Typical                  | 24 VDC |
| Maximum for a LOW level  | 5 VDC  |
| Minimum for a HIGH level | 11 VDC |
| Maximum                  | 60 VDC |

## Current

---

|                      |                                      |
|----------------------|--------------------------------------|
| Maximum at the input | 2.0 mA at 30 VDC<br>4.5 mA at 60 VDC |
| Resistance           | 12 kΩ                                |

## Sampling

---

|                           |                                                                                                                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minimum period LOW – HIGH | Task switching between process cycle has to be taken into account, as well as cycle time itself:<br><u>MS-CPU16</u> : 10 ms. + cycle time.<br><u>MS-CPU32</u> : 4 ms. + cycle time. |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Environment

---

|                               |                                              |
|-------------------------------|----------------------------------------------|
| Temperature storage           | -40°C to 85°C                                |
| Temperature working (ambient) | <b>Industrial Temperature:</b> -40°C to 70°C |
| Humidity                      | 15 to 95 % without condensation              |
| Altitude                      | Max. 5000 m                                  |

## Dimensions

---

|                   |                                                                                  |
|-------------------|----------------------------------------------------------------------------------|
| Without connector | Height x Depth x Width: <b>150 x 83 x 29 mm</b><br>(5.906 x 3.27 x 1.142 inches) |
| Weight            | 254 g                                                                            |

## Approvals

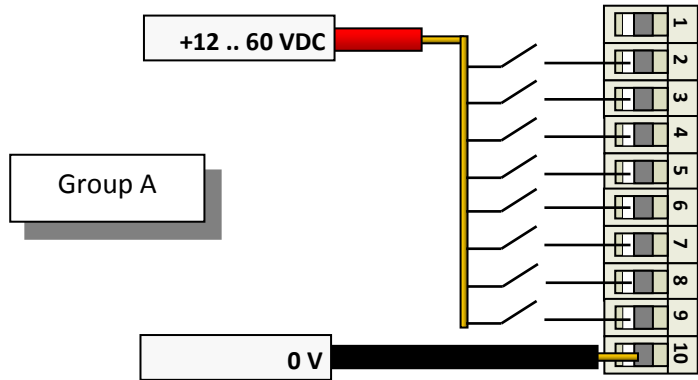
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CE, UL, CSA, C-Tick

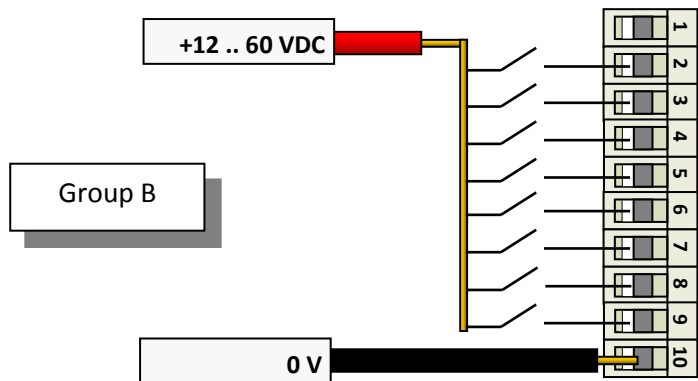
# Cabling Schematic

Connector: Screw connector

Pin Out:

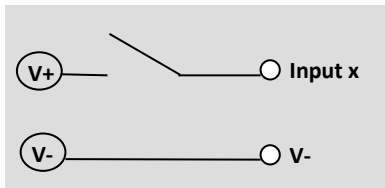


- |    |         |
|----|---------|
| 1  | NC      |
| 2  | Input 0 |
| 3  | Input 1 |
| 4  | Input 2 |
| 5  | Input 3 |
| 6  | Input 4 |
| 7  | Input 5 |
| 8  | Input 6 |
| 9  | Input 7 |
| 10 | V-      |

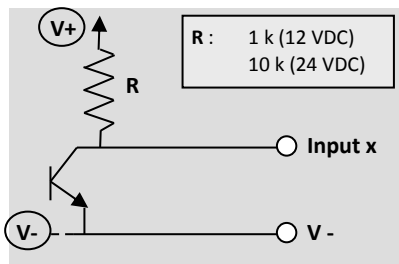


- |    |          |
|----|----------|
| 1  | NC       |
| 2  | Input 8  |
| 3  | Input 9  |
| 4  | Input 10 |
| 5  | Input 11 |
| 6  | Input 12 |
| 7  | Input 13 |
| 8  | Input 14 |
| 9  | Input 15 |
| 10 | V-       |

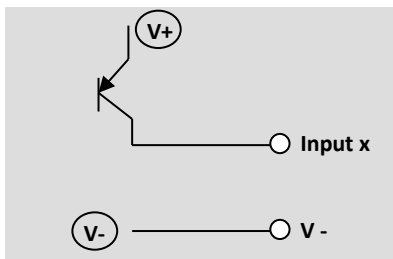
## Cabling to Dry contact



## Cabling to NPN transistor



## Cabling to PNP transistor (or OPTO)



## Cabling to Voltage sensor

