

Datasheet I/O Module

INO-288-D-01

Grenton I/O Module allows you to control up to 8 outputs (max.360VA) and 8 digital inputs.



1. Parameters - DOUT

| Characteristics: | |
|-----------------------|--|
| Value | Returns 1 for output set at On and 0 for output set at Off state |
| DistributedLogicGroup | Distributed Logic group - broadcast group for distributed logic |
| Methods: | |
| SetValue | Sets output state to 1 or 0 |
| Switch | Changes the output value from 0 to 1 or from 1 to 0. The first parameter is the time of change: 0 - switches output to continuous mode, number - switches output for a time specified by a parameter (in milliseconds) |
| SwitchOn | Sets output value to 1 |
| SwitchOff | Sets output value to 0 |
| Events: | |
| OnValueChanged | Occurs when a change in the state takes place (regardless of the value) |
| OnSwitchOn | Occurs when On(1) is set at output |
| OnSwitchOff | Occurs when Off(0) is set at output |

2. Parameters - DIN

| Characteristics: | |
|-----------------------|---|
| Inertion | Inertion |
| HoldDelay | Time in milliseconds after which, when pressing and holding a button, the OnHold event occurs |
| HoldInterval | Cyclical interval in milliseconds after which, when pressing and holding a button, the OnHold event occurs |
| Value | Returns input state as 0 or 1 |
| DistributedLogicGroup | Distributed Logic group - broadcast group for distributed logic |
| StatisticState | Load measurement type: Off - turned off, Continuous - load measurement for the whole device's period operation, Pulse - load measurement counted at the moment of a high state appearing on the input |
| Load | The measured value multiplier. For StatisticState: Continuous - load measurement value in the unit of time, Pulse - load measurement value for the single impulse (e.g. 1kw) |
| Methods: | |
| SetInertion | Minimum interval in milliseconds which has to pass between presses of a button so that it is interpreted as a new pressing activity |
| SetHoldDelay | Sets HoldDelay value |
| SetHoldInterval | Sets HoldInterval value |
| Events: | |
| OnValueChanged | Occurs when a change in the input state takes place (regardless of the value) |
| OnSwitchOn | Occurs when the high state is set at input |
| OnSwitchOff | Occurs when the low state is set at input |
| OnShortPress | Occurs after pressing the button for 500 - 2000ms |
| OnLongPress | Occurs after pressing the button for at least 2000ms |
| OnHold | Occurs for the first time after HoldDelay time and then cyclically every HoldInterval value |
| OnClick | Occurs after pressing the button for less than 500 ms |

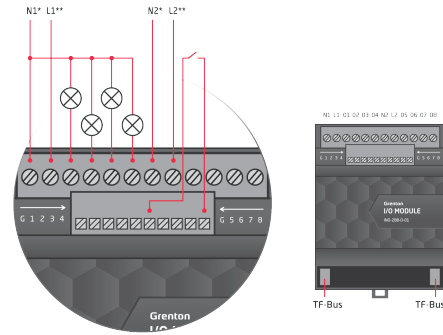
3. Parameters - PowerSupplyVoltage

| Characteristics: | |
|------------------|---|
| Value | Current output value taking into account the scalar |
| Value % | Current percentage input value of the maximum value (MaxValue characteristic) |
| Sensitivity | Minimum change of input state when the OnValueChanged, OnValueLower or OnValueRise event is generated |
| MinValue | Minimum value of the Value characteristic after exceeding which the OnOutOfRange event is generated |
| MaxValue | Maximum value of the Value characteristic after exceeding which the OnOutOfRange event is generated |
| Methods: | |
| SetSensitivity | Sets input sensitivity value |
| SetMinValue | Sets MinValue |
| SetMaxValue | Sets MaxValue |
| Events: | |
| OnValueChanged | Event resulting from changing input state |
| OnValueLower | Event occurs when a value lower than the value from the last reading appears at input |
| OnValueRise | Event occurs when a value higher than the value from the last reading appears at input |
| OnOutOfRange | Event resulting from exceeding the permissible range (MinValue : MaxValue) |
| OnInRange | Event occurs when value returns to MinValue/MaxValue range |

4. Technical data

| | |
|--|--|
| Device power supply | 24 V _{dc} |
| Maximum power consumption | 1.8 W (200 mw/ch) |
| Maximum device current | 75 mA (for 24V _{dc}) |
| Rated load voltage | 230 V _{ac} or 24 V _{dc} |
| Rated circuit load (4 channels) AC1: | 6 A / 230 V _{ac} |
| Rated load current per channel: | |
| AC1 | 1.5 A / 230 V _{ac} |
| AC15 | 0.4 A / 230 V _{ac} |
| DC1 | 1.5 A / 24 V _{dc} |
| DC13 | 0.22 A / 24 V _{dc} |
| Maximum breaking capacity AC1 | 360 VA |
| Relay type | NO, inrush |
| Maximum wire cross section for outputs | 2,5mm ² |
| Maximum wire cross section for inputs | 1,5mm ² |
| Weight | 170 g |
| Size (DIN) | 4 |
| Fixing | electrical box, rail DIN-3 / TH 35 / TS 35 |
| Dimensions (H/W/D) | 58/71/90 mm |
| Operating temperature range | 0 to +45 °C |

5. Wiring diagram



| | |
|------|-------------------------------------|
| G | ground signal for digital inputs |
| 1-4 | digital inputs 1-4 |
| G | ground signal for digital inputs |
| 5-8 | digital inputs 5-8 |
| N1* | 'Neutral' signal for first circuit |
| L1** | 'Line' signal for first circuit |
| O1 | first channel in circuit 1 |
| O2 | second channel in circuit 1 |
| O3 | third channel in circuit 1 |
| O4 | fourth channel in circuit 1 |
| N2* | 'Neutral' signal for second circuit |
| L2** | 'Line' signal for second circuit |
| O5 | fifth channel in circuit 2 |
| O6 | sixth channel in circuit 2 |
| O7 | seventh channel in circuit 2 |
| O8 | eight channel in circuit 2 |

Relay outputs:

- Outputs are divided into two independent circuits. Each circuit has own 'N', 'L' and 4 outputs (channels).
- 'N' i 'L' signals are necessary for 230 V_{ac} loads for switch condition optimization.
- For loads up to 24 V_{dc} switching signal has to be connected to 'L'. 'N' is not necessary in this case.

- 'L' signal supply 4 channels in each circuit.
- For capacitive loads it is recommended to use one receiver for one output.
- For capacitive loads it is recommended to set a minimum 1500ms time interval between successive switches of the same output.

6. Warnings and cautionary statements



ATTENTION !

- Before proceeding with the assembly, read the installation schematics and full instructions available at www.grenton.com. Failure to follow the guidelines contained in the instructions and other requirements of due care valid as a result of the nature of the equipment (device) may be dangerous to life / health, damage the device or installation to which it is connected, damage other property or violate other applicable



DANGER !

- Danger to life caused by electric current!
- The components of the installation (individual devices) are designed to work in a home electrical installation or directly in its

regulations. The manufacturer of the device, Grenton Sp. z o.o. does not bear any responsibility for the damage (property and non-property related) resulting from the assembly and / or use of the equipment not in accordance with the instructions and / or due diligence in handling the equipment (device).

- Device power supply, permissible load or other characteristic parameters have to be in accordance with the device specification, described in particular in the "Technical data" section.
- The product is not intended for children and animals.
- If you have technical questions or comments about the device operation, contact Grenton Technical Support.
- Answers to frequently asked questions can be found at: www.support.grenton.pl

vicinity. Incorrect connection or use may cause a fire or electric shock.

- All work related to the installation of the device, in particular works involving interference in the electrical installation, may be performed only by a person with appropriate qualifications or licences.
- When installing the device, make sure that the power supply voltage is disconnected from the circuit in which the device is connected or near which the assembly takes place.

7. CE marking

The manufacturer declares that the device is in full compliance with the requirements of EU legislation that includes the directives of a new approach appropriate for this equipment. In particular, Grenton Sp. z o.o. declares that the device fulfills the requirements on safety, specified by law, and that it conforms to

the national regulations that implement the appropriate directives: The Directive on the electromagnetic compatibility (EMC - 2014/30/UE), the Low Voltage Directive (LVD 2014/35/UE) and the Directive on the limitation of the use of specific substances in electrical and electronic equipment (RoHS II - 2011/65/UE).



8. Warranty

Warranty available at: www.grenton.com/warranty

9. Manufacturer contact details

Grenton Sp. z o.o.
ul. Na Wierzychowinach 3
30-222 Kraków, Polska (PL)
www.grenton.com