Datasheet Relay 4HP

REL-304-D-01

The Grenton Relay 4HP (High Power) module enables switching of 4 different high power devices (e.g. light, electric heating, electrical sockets). The module is equipped with the energy consumption measurement bridge to allow power measurement of the connected device / receiver.

1. Parameters - DOUT

Features:	
Value	Returns 1 for output set at On and 0 for output set at Off state
VoltageType	Load voltage type: 0 - AC, 1 - DC
VoltageValue	Load voltage value
Power	Returns power in watts
Overload	The power value beyond which the OnOverload event is generated
DistributedLogicGroup	Distributed Logic group - broadcast group for distributed logic
StatisticState	Enables measurement reporting to the statistics module: Off - turned off, Continuous - load measurement for the whole device's period operation, Real - measurement of the load during the entire operating period using actual power measurement
Load	The measured value multiplier. For StatisticState: Continuous - load measurement value in the unit of time
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
SetOverload	Sets the power value beyond which the OnOverload event is generated
Events:	
OnValueChange	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
OnOverload	The event is raised when the power consumed by the receiver exceeds the Overload value

2. Parameters - PowerSupplyVoltage

Features:	
Value	Current power supply voltage value
Value %	Current percentage input value of the maximum value (MaxValue characteristic)
Sensitivity	Minimum change of input state when the OnValueChange, 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:	
OnValueChange	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

3. Technical Data

Device power supply	$24V_{dc}$
Maximum power consumption	1,7W
Maximum device current	70mA (for $24V_{dc}$)
Rated load voltage	$230V_{ac}$ or $24V_{dc}$
Maximum load current per channel:	
AC1	16A / $250V_{ac}$
AC15 (e.g., electromagnet)	1,5A / $240V_{ac}$
DC1	16A / $24V_{dc}$
DC13 (e.g., electromagnet)	0,22A / $120V_{dc}$
Maximum load power per channel:	
AC3 (single-phase motor)	750W / $240V_{ac}$
Minimum breaking capacity	1W
Maximum output current inrush per channel (20ms)	80A
Relay type	NO, inrush
Max. wire cross section	$2,5mm^2$
Weight	169g
Size [DIN]	4
Fixing	Electrical box, rail DIN-3 / TH 35 / TS 35
Dimensions (H/W/D)	90/72/58mm
Operating temperature range	0 to +45°C

4. Wiring Diagram

N	'Neutral' signal (for AC only)
IN1	first channel input
OUT1	first channel output
IN2	second channel input
OUT2	second channel output
IN3	third channel input
OUT3	third channel output
IN4	fourth channel input
OUT4	fourth channel output

- For optimal relay switching with $230V_{ac}$ loads, it is necessary to connect both the 'N' signal and the first circuit power supply 'IN1'.
- In the case of $230V_{ac}$ supply, the entire device should be connected to a single phase for optimal switching of all relays.

5. Device Status

	Off - no power supply
	On continuously for 2s - module startup
	On continuously - module in bootloader mode
	Short flash every 2s - correct module operation
	Short flash every 1s - no address (run CLU Discovery)
	Fast flashing every 100ms - no TF-bus connection
	Two short flashes every 2s - voltage too low
	Short flash - change of module input or output state

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 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.com.

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 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) 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

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