

# 220012 TCP/IP Relay Controller User Manual

000054 SIRC



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# 1. Introduction

## 1.1. Product summary

A device that allows reading 3 digital inputs and controlling 2 relays through TCP/IP communication. Extendable with 8 relay modules.

## 2. Technical specification

### 2.1. Mechanical

#### Mounting

Can be mounted on 35 mm DIN rail with DEGSON ELECTRONICS DM72-100-14-100A(H) enclosure.

Image 1

#### PCBA dimensions

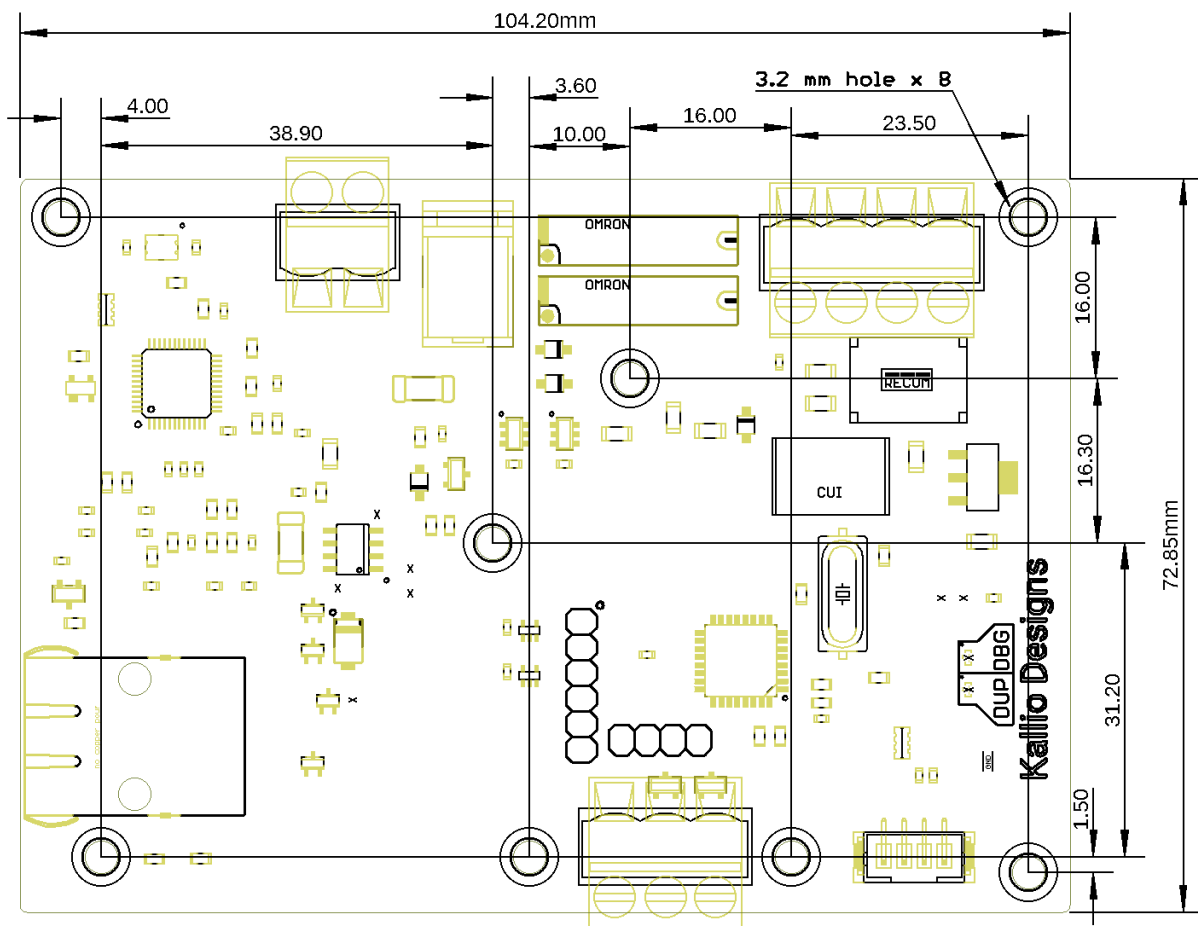


Image 2

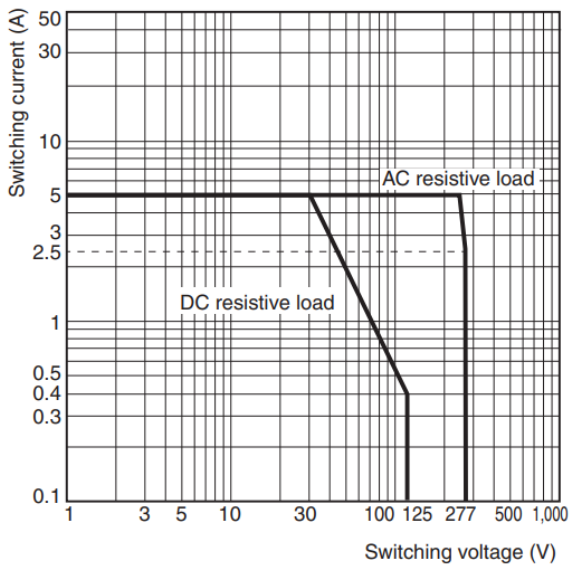
## 3. Electrical characteristics

Description	Conditions	Min	Typical	Max	Unit
<b>Power supply</b>					
Supply voltage		17		30	V
Operating power			1	10	W
Idle current draw (24 V)	Relays not powered		42		mA
<b>Operating conditions</b>					
Operating temperature	Non-condensing	0		60	°C
<b>Communications</b>					
Poll interval		1			s
<b>Digital Input</b>					
Voltage		0		30	V
Input impedance		1			MOhm
Pulse low threshold			10.5		V
Pulse high threshold			13		V
<b>Relay</b>					
Voltage DC resistive load	<a href="#">See Graph 1</a>			30	V
Current DC resistive load	<a href="#">See Graph 1</a>			5	A
Voltage AC resistive load	<a href="#">See Graph 1</a>			250	V <sub>RMS</sub>
Current AC resistive load	<a href="#">See Graph 1</a>			5	A
Voltage DC inductive load	<a href="#">See Graph 1</a>			30	V
Current DC inductive load	<a href="#">See Graph 1</a>			2	A
Voltage AC inductive load	<a href="#">See Graph 1</a>			250	V <sub>RMS</sub>
Current AC inductive load	<a href="#">See Graph 1</a>			2	A

Table 1

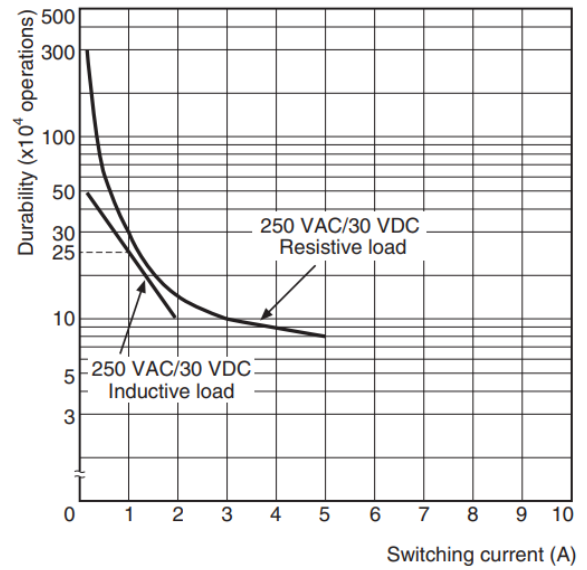
### 3.1. Graphs

● **G6DN-1A, G6DN-1A-L**



Graph 1

● **G6DN-1A**



## 3.2. Circuit

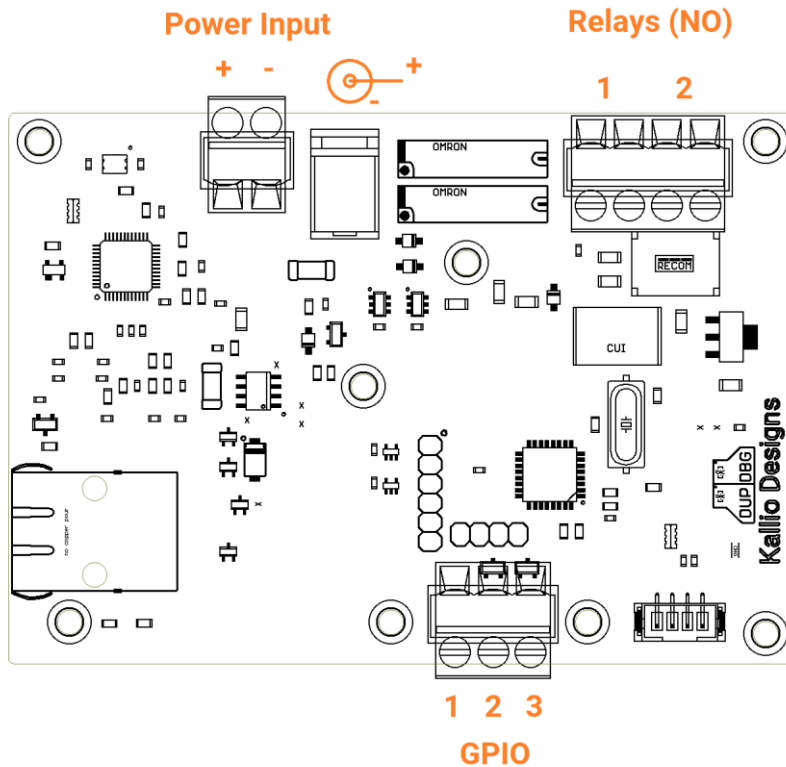


Image 3

### 3.2.1. Digital inputs

Can be read via TCP/IP communication.

### 3.2.2. Relay

Monostable relay, will return to relaxed position on power down. Stays in relaxed position after boot up on power failures.

### 3.2.3. Power input

Standard Phoenix Contact screw connector and can be switched for a screwless clamp connector.

## 4. Communication protocol

### 4.1. IP Address

Initial IP address can be changed by navigating to the IP with a web browser or programmatically.

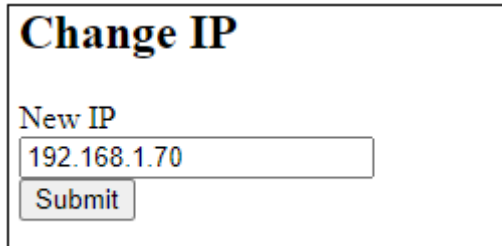


Image 4

### 4.2. Protocol

Standard HTTP protocol is used to transfer messages. GET requests return metadata for browsers, while POST requests only transfer the raw measurement value. Commands are sent to the IP of the device to port 80 or 8085. Both ports behave the same and are provided for compatibility.

Measurement	Command
<b>Communications</b>	
Change IP	SET_IP_[000...255]_[000...255]_[000...255]_[000...255]
<b>GPIO</b>	
Read pin state	GPIO_IN_[00..03]
<b>Internal Relays</b>	
Set state	RELAY_INT_CH_[RELAY NO:00...03]_[STATE:1/0]
<b>External Relay Modules</b>	
Set state	RELAY_EXT_[MODULE CODE:00...07]_CH[RELAY NO:00...16]_[STATE:1/0]

Table 2

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## 4.3. Examples

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### 4.3.1. Read digital in

cURL is shipped with most Linux, Windows and iOS distributions. Enter the following rows to the command line.

```
curl http://192.168.1.195/GPIO_IN_1
```

*Code block 1*

Will give a response when the input is 0 volts:

```
0
```

*Code block 2*

Or browse to the address [http://192.168.1.70/GPIO\\_IN\\_1](http://192.168.1.70/GPIO_IN_1) for the response.

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### 4.3.2. Set Relay

Set internal relay 0 to active state.

```
curl http://192.168.1.195/RELAY_INT_CH0_1
```

*Code block 3*

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### 4.3.3. Changing the IP

Change IP to 192.168.2.50.

```
curl http://192.168.1.195/ SET_IP_192_168_2_50
```

*Code block 4*

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## 5. Revision History

**1.0:** Initial - 14.1.2022