



Fan-Control-2

Hardware-Description

2023 März

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Introduction



1. Introduction

1.1. Foreword

Congratulations on purchasing a high quality DEDITEC product!

Our products are developed by our engineers according to today's required quality standards. We pay attention already during the development to flexible expandability and long availability.

We develop modular!

Due to a modular development we shorten the development time and - what of course benefits the customer - we sell at a fair price!

We ensure a long delivery availability!

If used semiconductors are no longer available, we can react faster. With us mostly only modules have to be redesigned and not the whole product. This increases the delivery availability.

1.2. Customer satisfaction

A satisfied customer is our first priority!

If something is not to your satisfaction, just contact us by phone or mail.

We will take care of it!

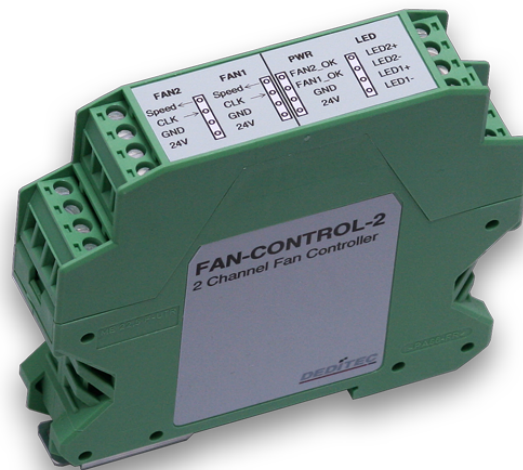
1.3. Customer response

The best products grow with our customers. We are always grateful for any suggestions or proposals.

1.4. Brief description

This device is suitable for monitoring the speed of two DC fans. The tachometer signal of the fans is monitored and evaluated. If a minimum speed is not reached, e.g. due to dirt or motor standstill, an externally evaluable signal is output. In addition, the fan status can be signaled via an LED output.

The module also generates a motor speed voltage. This can be switched from 1V.... 8V with a potentiometer and is used to set the maximum speed of both fans.



Hardware description



2. Hardware description

2.1. Technical data

Electrical data:

Supply voltage: 12V-30V DC (with reverse polarity protection)

Environment:

Operating temperature: +10°C..+50°C..+50°C

Humidity: 90 %

Condensation: Not allowed

Mechanics:

Dimensions in mm (LxWxH): 92mm x 100mm x 23mm

Fastening: Top-hat rail TS 35 x 7,5 mm

Potentiometer: For setting the max. fan speed.
1V - 8V Output

I/Os:

Inputs: 2 * Speedometer signal PWM (CLK)

Outputs: 2 x Fan output (Vout, GND)

2 x Speed voltage 1V to 8V

2 x LED output for fan status:

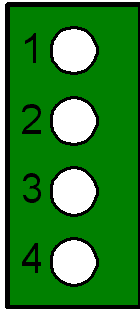
max. 5mA (LED+/-)

Special features:

Software adaptations optionally possible

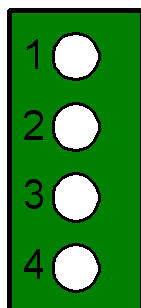
2.2. Pin assignment

2.2.1. Pin assignment connector FAN1/FAN2



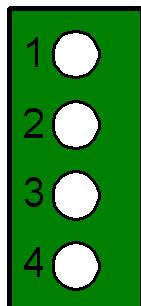
Pin	Meaning
1	Speed_Out (1V-8V)
2	TACHO
3	GND (output for fan)
4	Vout (output for fan)

2.2.2. Pin assignment connector PWR



Pin	Meaning
1	FAN2_OK (Vin / 0V)
2	FAN1_OK (Vin / 0V)
3	GND (input from power supply)
4	Vin (input from power supply)

2.2.3. Pin assignment connector LED



Pin	Meaning
1	LED2+ (Connection of an LED
2	LED2- without series resistor)
3	LED1+ (Connection of an LED
4	LED1- without series resistor)

2.3. Configuration of the device

To be able to configure the device on the hardware side, the housing must first be opened. For this purpose, open the two latching lugs on the front with a screwdriver and pull out the rear part of the housing.

Setting the working resistance for the fan

Depending on the type of fan to be controlled, a corresponding working resistor is required between the operating voltage and the signal voltage.

The working resistor of this device can be set between 1K, 2K2, 4K7 and 10K0hm. -> Plug in the corresponding jumper next to the resistor.

For more information, refer to the fan's data sheet.

Setting the fan speed

The speed of the fans is set by means of the potentiometer. Voltage ranges between 1V and 8V are possible and can be set at the measuring point "VOUT-FAN".

can be measured again. The speed is identical for both fan outputs and cannot be set separately.

2.4. LED outputs (connection via plug-in connector LED)

One LED output is available for each fan. The resistors are already included in the device. A direct connection facilitates commissioning.

The two LED outputs indicate the status of the fans. See table.

LED	LED flashes	LED lights up permanently
LED1	Status FAN1 = OK (Fan speed 1 is OK)	FAN1 error Fan speed 1 too low
LED2	Status FAN2 = OK (Fan speed 2 is OK)	FAN2 error Fan speed 2 too low

2.5. Switching outputs FAN1_OK and FAN2_OK at connector PWR

The PWR side signals the status of the fan outputs.

	OK state	non-OK state
FAN1_OK	= Vin	0V
FAN2_OK	= Vin	0V

Appendix



3. Appendix

3.1. Contact / Support

If you have any questions about the product or need assistance with commissioning, you can reach us at the following numbers:

Support Software

Tel. +49 (0) 22 32 / 50 40 8 – 20

Support Hardware

Tel. +49 (0) 22 32 / 50 40 8 – 30

Support via E-mail

support@deditec.de

3.2. Environment and disposal

You can return the defective or obsolete product to us at the end of its service life. As a manufacturer and distributor of electronic assemblies, we will take care of the proper disposal for you in accordance with the applicable legal regulations. For this purpose, it is best to use our return form on the homepage:

[Return form](#)

3.3. Revisionen

Rev 3.00

Rev 2.01

Rev 2.00

DEDITEC Design Update

Additions to chapter 2.3, Configuration of the device

First DEDITEC Instruction