

# CAN Input FAE4 4x Analog Input

Type of Product: DV-CANFAE4-01

## 1 Introduction

Field bus modules FAE4 are analog input modules with four inputs that can be used as temperature or voltage inputs.

The input values are transmitted via the CAN Bus as soon as a value changes.

This module can be combined with one or more output modules of type DV-CANFAA4-01 by connecting them via CAN Bus. The output voltage of the analog output module with the same address will be set according to the input value of this analog input module. No additional control unit is necessary.

Alternatively the CAN Bus modules can act as input extension for computers with CAN Bus. For example a Touchpanel Computer TP1000 can be used to read the input values.

You can use the software libraries from Wilke Technology to shorten the software development time.

## 2 Applications

- Analog value transmission over long distances via CAN Bus
- Temperature control systems
- Temperature Inputs for Data Logging Systems with CAN Bus Interface
- Additional Analog Inputs for TP1000 Touchpanel Computers
- Temperature Inputs for TP1000 Touchpanel Computers
- Additional Inputs for TDR CPU Modules



## 3 Features

- 4 Analog Inputs
- Inputs can be used as Voltage Input
- Inputs can be used as Temperature Input
- Direct connection for PT1000 Sensors
- Direct Connection for Ni1000 Sensors
- Selectable Temperature Range
- CAN 2.0B passive Interface
- 20V...28V Supply Voltage
- 2 Status LEDs
- 8 DIP Switches







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## 5.3.2 Other Identifier bits

The value of bit 10 is always 1 for addressing this module type.

With bit 0 to 3 the message kind is selected. This module differs between 3 message kinds:

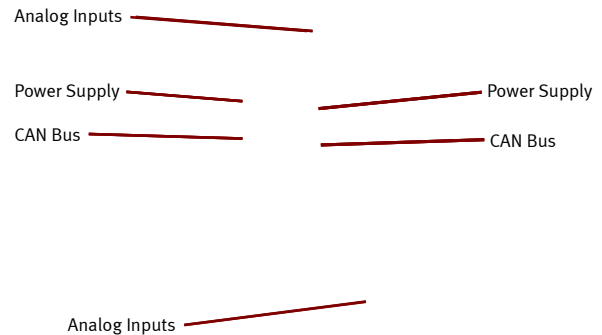
value	message kind
0	process data
1	service data
2	control data
other values	not used

## 5.4 Status LEDs

The green LED lits if the module is powered on. It flashes each time when a message is received correctly.

The module expects to get CAN messages in regular time intervals. If this messages cannot be received correctly then the red error LED will lit.

If module address 0 is selected, or if you use more than one analog input module with the same module address on the bus then the red error LED will flash.



## 6 Connectors

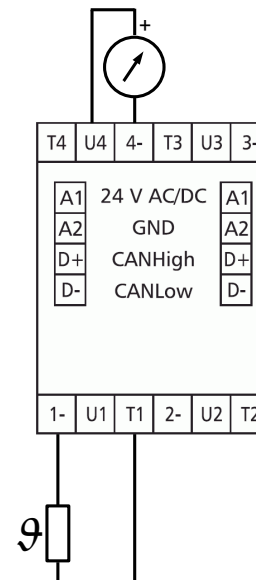
### 6.1 Analog Inputs

The inputs of this module can used as temperature or as voltage input.

Connect the temperature sensor at the TX and the X- terminal to use the input as temperature input.

Connect your voltage signal to the UX terminal of this module to use the input as voltage input.

X: selected channel 1, 2, 3 or 4

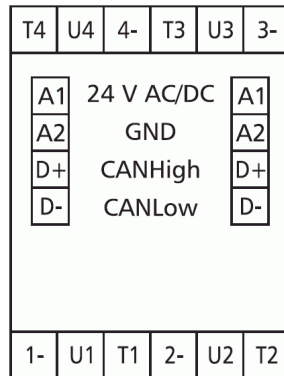


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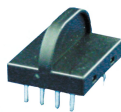
## 6.2 CAN Bus Connection

The CAN Bus is connected to D+ and D- at the front terminal block. Connect the CAN-High signal to D+ and the CAN Low signal to D-.



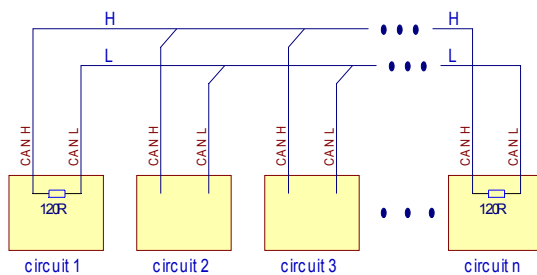
The terminal block at the left side is looped through to the terminal block of the right side.

The Terminal block can be exchanged with a bridge element to connect a second module that is placed next to this module.



bridge element

We recommend to use a bus cable with a characteristic wave impedance of 120Ω.



**Note:** The line should be terminated at both ends in its characteristic impedance. Stub lengths off the main line should be kept as short as possible.

You have to connect GND to each module if a separate power supply is used!

## 6.3 Power Supply

Connect the +pole of the power supply to A1 and the -pole to A2.

The terminal block at the left side is looped through to the terminal block of the right side.

The Terminal block can be exchanged with a bridge element to connect a second module that is placed next to this module.

## 7 Technical Specification

### 7.1 Absolute maximum Ratings

beyond which permanent damage may occur

Power Supply Voltage <b>V+</b>	28V AC/DC
Input Voltage at Analog Inputs	11V
operation temperature range	-5°C...+55°C
storage temperature range	-20°C...+70°C

### 7.2 Electrical Specifications

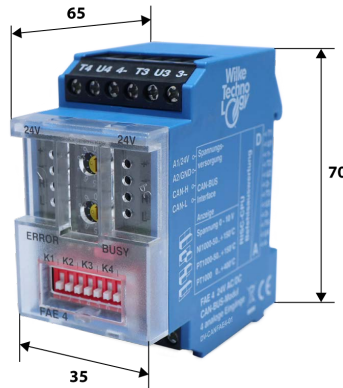
Power Supply Voltage	20V...28V AC/DC
<b>current consumption</b> at AC supply at DC supply	67mA 24mA
<b>Temperature</b> <b>Range</b> Ni1000 PT1000 PT1000 <b>Resolution</b> Ni1000 and PT1000 at -50°C...+150°C range Ni1000 and PT1000 at -50°C...+150°C range	-50°C...+150°C -50°C...+150°C 0°C...+400°C
<b>CAN Bus</b> standard supported baud rates  Maximum CAN Bus length at 20k bits/s required bus termination at both ends max. nodes	2.0B passive  20k bits/s, 50k bits/s 125k bits/s 500k bits/s  2500m 120Ω 112
<b>Terminal Blocks</b> supply and CAN Bus digital inputs	1.5mm <sup>2</sup> 2.5mm <sup>2</sup>

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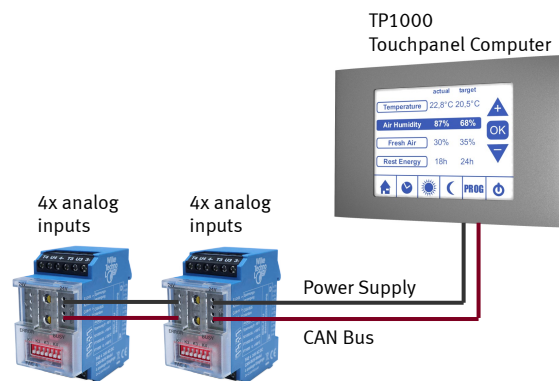
## 7.3 Mechanical Specifications

dimensions W x H x L	35mm x 70mm x 65mm
weight	84g
housing	IP40
terminal blocks	IP20



## 8 Application example

Touchpanel Computer TP1000 uses FAE4 as analog inputs



Touchpanel Software?

download software libraries at [www.wilke.de](http://www.wilke.de) or ask our support team: [support@wilke.de](mailto:support@wilke.de)

## 9 Document History

Document Version	Description
V001	first version