

## Operating Instructions 4-channel analog input



### 1. System information

This device is a product of the KNX/EIB system and complies with KNX directives.

Detailed technical knowledge obtained in KNX/EIB training courses is a prerequisite to proper understanding.

The functionality of this device depends upon the software.

Detailed information on loadable software and attainable functionality as well as the software itself can be obtained from the manufacturer's product database.

Planning, installation and commissioning of the unit is effected by means of KNX-certified software.

An updated version of the product database and the technical descriptions are available in the Internet at [www.jung.de](http://www.jung.de)

### 2. Safety instructions

**Attention:**

**Electrical equipment must be installed and fitted by qualified electricians only and in strict observance of the relevant accident prevention regulations.**

**Failure to observe any of the installation instructions may result in fire and other hazards.**

**$U_s$  and GND must not be interconnected with the corresponding terminals of another device.**

**Connected sensors must not be supplied with power from a connected analog input module (Risk of irreparable damage!).**



### 3. Function

- The analog input processes measuring data from analog sensors. Up to four freely programmable analog transducers can be connected to the input.
- The analog input evaluates both voltage and current signals:  
Voltage signals: 0 ... 1 V DC                      0 ... 10 V DC  
Current signals: 0 ... 20 mA DC                    4 ... 20 mA DC
- The current inputs 4 ... 20 mA can be monitored for wire breakage (parameter setting).
- With the aid of the 4-channel analog input module, Art. no. 2214 REG AM, up to four other analog sensors can be connected and evaluated.

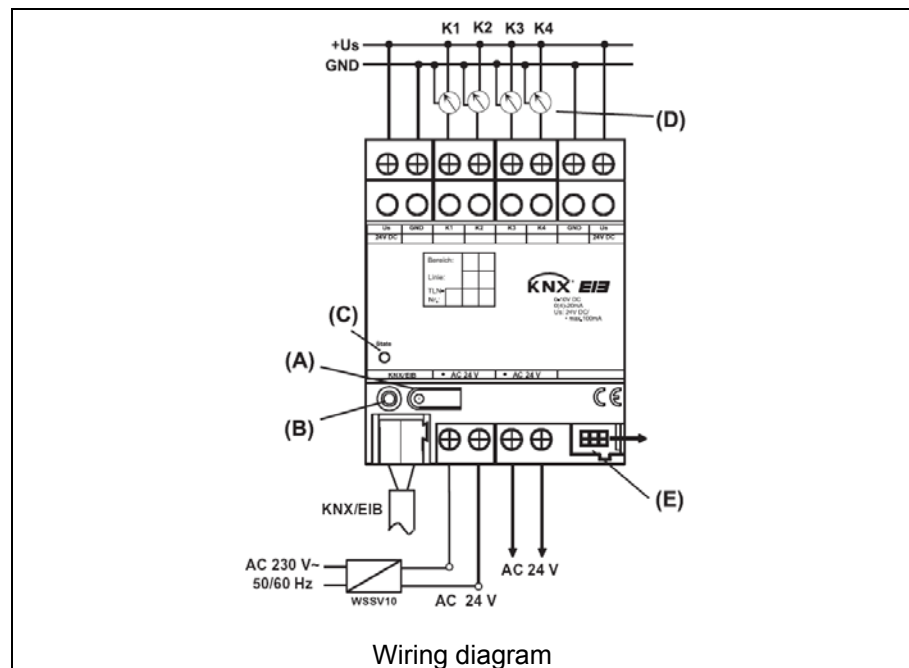
### 4. Installation

The device is snap-fastened on a 35 x 7.5 mm rail as per EN 50022.

**An analog input module must be connected to the analog input by means of the 6-pole system connector only (supplied with the analog input module).**

For operation, the 4-channel analog input needs an external 24 V power source Art. no. WSSV10.

### 5. Connection



- +Us: power supply of external transducers
- GND : ref. potential for +Us and inputs K1 ... K4
- K1 ... K4 : measured-value inputs

- KNX/EIB : KNX/EIB connecting terminal  
AC 24 V : external power supply voltage  
(A) : programming key  
(B) : programming LED  
(C) : status LED, three-colour (red, orange, green)  
(D) : transducer  
(E) : system connector, 6-pole, for the connection of an analog input module

## 6. Power supply of connected sensors

- The connected sensors can be supplied from terminals +U<sub>s</sub> and GND of the analog input module (see fig. ①). These terminals are provided in duplicate and internally interconnected.
- The total current consumption of all sensors supplied this way must not exceed 100 mA.
- In the event of overload or short-circuit between + U<sub>s</sub> and GND, the power will be switched off. After removal of the fault, the power is switched on again automatically.
- Sensors connected can also be supplied externally (e. g. if their current consumption exceeds 100 mA). In such case, they must be connected between terminals K1... K4 and GND.



### Attention!

**U<sub>s</sub> and GND must not be interconnected with the corresponding terminals of another device.**

**Connected sensors must not be supplied with power from a connected analog input module (Risk of irreparable damage!).**

## 7. Installation of an analog input module

Please observe the following basic rules when installing an analog input module:

- One analog input module max. can be connected to the device.
- Replacement of an analog input module (e.g. in case of defect) by one of the same type can be effected during operation of the system (for this purpose, disconnect the module from the power supply). After replacement, the 4-channel analog input will reset after abt. 25 s. All inputs and outputs of the 4-channel analog input and the modules connected are then re-initialized an reset to their original state.
- Removing or adding modules without adapting their project configuration and subsequent downloading into the 4-channel analog input is not allowed as this will result in malfunctioning of the system.

## 8. Commissioning

After switching on the device for the first time, the analog input starts a module scan (status LED: „Orange / on“). As a new device comes by default without configuration, the status LED shows then „Red / flashing fast“.

A connected analog input module shows that it is ready for operation by setting its own status LED to „Flashing fast“.

After downloading a project configuration into the analog input, the status LED shows „Green / on“; the module switches its own status LED off.

## 9. Status LED

OFF :	no power supply
Orange/ON :	module scan via analog input
Orange/quickly blinking :	analog input module scan
Red/slowly blinking :	error: undervoltage at module connection / short-circuit $U_s$
Red/quickly blinking :	error: no project configuration / false parameters
Green/slowly blinking :	address assignment, module scan completed, configuration OK
Green/quickly blinking :	parameter download into modules
Green/ON :	module scan completed, everything OK
Slowly blinking = 1/s; quickly blinking = 2/s	

## 10. Sensors suitable for connection

The parameters to be set for connected sensors must be determined beforehand.

Type	Use	Order no.
Brightness	outdoor	WS 10H
Twilight	outdoor	WS 10D
Temperature	outdoor	WS 10T
Wind	outdoor	WS 10W
Rain	outdoor	WS 10R

## 11. Technical Data

Power supply	
Supply voltage :	AC 24 V $\pm$ 10 %
Current consumption :	250 mA max.
KNX/EIB voltage :	21 - 32 V DC
KNX/EIB power consumption :	150 mW typ.
Ambient temperature :	-5 °C ... +45 °C
Storage/transport temp. :	-25 °C ... +70 °C
Humidity	
Ambient/storage/transport :	93 % r.h. max., no condensation
Protective system :	IP 20 as per EN 60529
Installation width :	4 modules / 72 mm

Weight : approx.	150 g
Connections	
Inputs, power supply :	screw terminals
single-wire :	0.5 mm <sup>2</sup> to 4 mm <sup>2</sup>
stranded wire (without ferrule) :	0.34 mm <sup>2</sup> to 4 mm <sup>2</sup>
stranded wire (with ferrule) :	0.14 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
KNX/EIB :	connecting and branch terminal
Extension module :	6-pole system connector
Sensor inputs	
Number :	4x analog
Evaluable sensor signals :	0 ... 1 V DC, 0 ... 10 V DC, 0 ... 20 mA, 4 ... 20 mA
Voltage measurement impedance :	approx. 18 k $\Omega$
Current measurement impedance :	approx. 100 $\Omega$
External sensor power supply (+U <sub>s</sub> ) :	24 V DC, 100 mA max.
Extension module connection :	24 V DC, 80 mA max.

**Subject to technical modifications.**

## 12. Acceptance of guarantee

Our products are under guarantee within the scope of the statutory provisions.

**Please return the unit postage paid to our central service department giving a brief description of the fault:**

### **ALBRECHT JUNG GMBH & CO. KG**

#### **Service-Center**

Kupferstr. 17-19

D-44532 Lünen

Service-Line: +49 (0) 23 55 . 80 65 51

Telefax: +49 (0) 23 55 . 80 61 89

E-Mail: mail.vki@jung.de

#### **General equipment**

Service-Line: +49 (0) 23 55 . 80 65 55

Telefax: +49 (0) 23 55 . 80 62 55


E-Mail: mail.vkm@jung.de

#### **KNX/EIB equipment**

Service-Line: +49 (0) 23 55 . 80 65 56

Telefax: +49 (0) 23 55 . 80 62 55

E-Mail: mail.vkm@jung.de

 The CE-Sign is a free trade sign addressed exclusively to the authorities and does not include any warranty of any properties.