Operating Instructions
Weather station

1. 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.

The use of connecting cables other than those approved by Jung is not permitted and can have a negative effect on electrical safety and system functions.

The terminal block for the connection of the combination sensor must be plugged on before the mains voltage is switched on and during operation to prevent the digital input from unintentional contact with live wires. This would endanger the safety of the entire system.As a result, the device and any sensors or analog input module connected may be irreparably damaged.

2. System information

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

Detailed technical knowledge obtained in *instabus* 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.

3. Function

- The weather station serves to collect and to transmit weather data and events. Up to four analog transducers as well as a digital combination sensor (art. no. WS 10KS, WS 10KSDCF for measuring wind intensity, brightness and rain, with or without a DCF77 receiver) can be connected.
- The weather station evaluates both voltage and current signals:
  Voltage signals: 0 ... 1 VDC 0 ... 10 VDC
- Current signals: 0 ... 20 mADC 4 ... 20 mADC
- The current inputs are monitored for wire breakage.
- With the aid of the 4-channel analog input module, part no. 2214REG AM, up to four other analog sensors can be connected and evaluated.

4. Installation

Safety warnings
The use of connecting cables other than those approved by Jung ist not permitted and can have a negative effect on electrical safety and system functions.

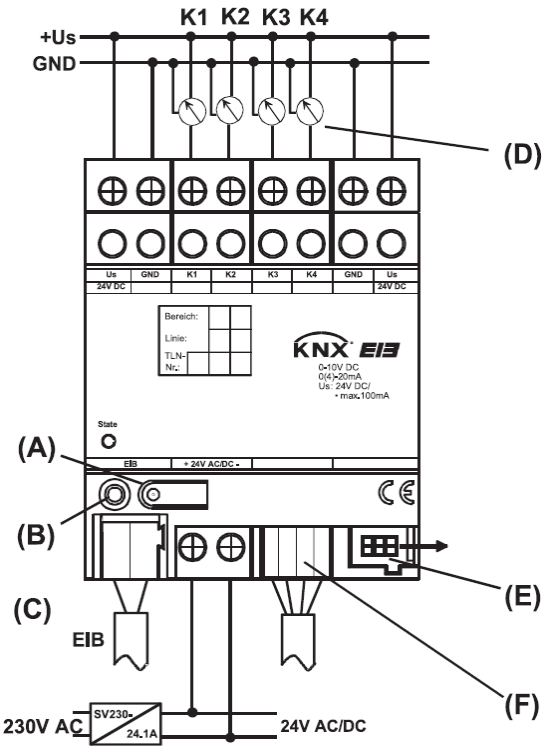
Snap the device onto a 35 x 7.5 top hat rail as per EN 50022.

For operation, the analog input needs an external 24 V source as the power supply module, part no. WSSV10.
The latter can also supply the sensors connected, their heating or an analog input module.

Prior to switching on the voltage, plug on the terminal block for the connection of a combination sensor, even if no such sensor is used.

Safety warnings
The terminal block for the connection of the combination sensor must be plugged on before the mains voltage is switched on and during operation to prevent the digital input from unintentional contact with live wires. This would endanger the safety of the entire system.
As a result, the device and any sensors or analog input module connected may be irreparably damaged.

5. Connection



Wiring diagram

$+U_s$:	power supply of external transducers
GND :	ref. potential for $+U_s$ and inputs K1...K4
K1 ... K4 :	measured-value inputs
EIB :	EIB connecting terminal
24 VAC/DC :	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 module connection
(F) :	connecting terminal, 4-pole, for combination sensor (wind, rain, brightness, twilight)

6. Power supply of sensors connected

- The sensors connected can be supplied via terminals + U_s and GND of the weather station (refer to Fig. ①).
- The total current consumption of all sensors supplied this way must not exceed 100 mA.
- Terminals + U_s and GND are provided in duplicate and internally interconnected.
- In the event of a short-circuit between + U_s and GND, the voltage will be switched off.
- 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.

7. Installing an analog input module

Please observe the following basic rules when installing a combination sensor and an analog input module:

- An analog input module can be connected.
- You can replace an analog input module (if defective) by one of the same type during operation (for this purpose, disconnect the module from the power supply). After replacement, the weather station will reset after approx. 25 s. This will re-initialize all inputs and outputs of the weather station and of the modules connected and reset them to their original state.
- Removing or adding modules without adapting their configuration and subsequent downloading into the weather station is not allowed as this will result in system malfunctioning.

8. Sensors suitable for connection

For any of the following transducers, the software provides preset values. If other sensors are used, the parameters to be set must be determined beforehand.

Type	**Use**	**Art. no.**
Wind, brightness, Twilight, rain	outdoor	WS 10KS
Same, but with DCF77-receiver		WS 10KSDCF
Brightness	outdoor	WS 10H
Twilight	outdoor	WS 10D
Temperature	outdoor	WS 10T
Wind	outdoor	WS 10W
Rain	outdoor	WS 10R

9. Status LED

OFF :	no power supply
Orange/ON :	weather station scanning modules
Orange/slowly blinking :	combination sensor module scan (waiting for assignment of a combination sensor)
Orange/quickly blinking :	analog input module scan
Red/ON :	error: no configuration in controller
Red/slowly blinking :	error: undervoltage at module connection
Red/quickly blinking :	error: wrong parameterization
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. Technical Data

Power supply	
Supply voltage :	24 VAC ± 10 %, 24 VDC +25 % / -10 %
Current consumption :	250 mA max.
EIB voltage :	24 V DC (+6 V / -4 V)
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 pitch / 70 mm
Weight : approx.	150 g
Connections	
Inputs, power supply :	screw terminals
single-wire :	0.5 mm^2 to 4 mm^2
stranded wire (without ferrule) :	0.34 mm^2 to 4 mm^2
stranded wire (with ferrule) :	0.14 mm^2 to 2.5 mm^2
instabus EIB :	connecting and branch terminal
Combination sensor :	4-pole connecting terminal
Analog input module :	6-pole system connector
Sensor inputs	
Number :	4 x analog, 1x digital
Evaluable sensor signals (analog) :	0 … 1 VDC, 0 … 10 VDC, 0 … 20 mA, 4 … 20 mA
Voltage measurement impedance :	approx. 18 k∧
Current measurement impedance :	approx. 100 ∧
External sensor power supply ($+U_s$) :	24 VDC, 100 mA max.
Supply analog input module :	24 VDC, 80 mA max.

Subject to technical modifications.

11. 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

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General equipment

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instabus EIB equipment

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