Technical Data 2CDC504093D0201

ABB i-bus® KNX
Weather Sensor, SM
WES/A 3.1, 2CDG120046R0011

Product description

The Weather Sensor WES/A 3.1 detects – primarily in the residential sector – wind speed, rain, brightness in three directions, twilight, temperature and the date and time using the GPS signal.

The WES/A 3.1 is matched to the Weather Unit from ABB.

An additional heating transformer is not required.

ABB i-bus® KNX
Weather Sensor, SM
WES/A 3.1, 2CDG120046R0011

Technical data

Supply	Voltage	24 V DC ± 2 V
	Current	200 mA
	Power	0.38 W, when heating switched off 4.15 W, when heating switched on
Connections	Electrical supply	1 (0 V potential)
	Electrical supply	2 (24 V potential)
	Serial data communication	A (RS 485)
	Serial data communication	B (RS 485)
Connection terminals	RS 485	Bus connection terminal, 2x (yellow/white) 0.8 mm Ø, single core
	Supply	Terminal, 2-pin, screwless Wire end diameter 0.4…1.5 mm^2
Cable length	Between the Weather Unit and Weather Sensor	100 m
Cable length / cable cross-section	P-YCYM or J-Y(ST)Y	2 x 2 x 0.8
Temperature range	Power	-25 °C…+60 °C
	Transport	-25 °C…+70 °C
	Storage	-25 °C…+60 °C
Ambient conditions	Atmospheric pressure	Atmosphere up to 2,000 m
Mounting	Wall fastening	
Installation position	Horizontal	
Dimensions	L x W x H	227 x 121 x 108 mm
Housing/color	Plastic, transparent	
	2 cable entries	
Protection type	IP 44	To DIN EN 60 529
Protection class	III	To DIN EN 61 140
Isolation category	Overvoltage category	III to EN 60 664-1
	Pollution degree	3 to DIN EN 60 664-1
Fire classification		V-2
CE mark	In accordance with the EMC guideline and low voltage guideline	

ABB i-bus® KNX
Weather Sensor, SM
WES/A 3.1, 2CDG120046R0011

Sensors	3 x brightness sensors (center, left, right)	
	1 x wind sensor	
	1 x temperature sensor	
	1 x rain sensor	
	1 x GPS receiver	
Brightness sensors / twilight	Total measurement range (max. measurement range)	0… 100,000 Lux (130,000 Lux)
	Accuracy	± 25 %
	Measurement range Resolution	0…100 Lux 1 Lux
	Measurement range Resolution	100…10,000 Lux 10 Lux
	Measurement range Resolution	10,000…100,000 Lux 100 Lux
Daylight	Day => Night Night => Day	Under 10 Lux is night Over 10 Lux is day
Wind sensor	Total measurement range (max. measurement range)	0…24 m/s (0…30 m/s)
	Accuracy	2.5…15 m/s ± 20 % 15…24 m/s ± 30 %
	Resolution	0.5 m/s
	Jump response	5 s at 5…15 m/s
Temperature sensor	Total measurement range	-25…+60 °C
	Accuracy	At least ± 2 °C
	Resolution	0.1 °C
Rain sensor	Power consumption at 24 V	3.77 W, heating 100 % (max.) At 10 °C, no rain and a heating power of 3 W, the rain sensor will dry within 5 min. The heating power is adjusted automatically between 0 % (off) and 100 % (max.). The heating is switched on when the Weather Sensor is started.
	Function	Rain/no rain
Radio receiver	GPS Acquisition mode: Current / power Tracking mode: Current / power Chipset Frequency Communication	Date and time 45 mA / 81 mW, at 1.8 V 35 mA / 63 mW, at 1.8 V SIRFstarIV 1575.42 MHz ± 1.023 MHz Galileo satellites

ABB i-bus® KNX
Weather Sensor, SM
WES/A 3.1, 2CDG120046R0011

Note

For a detailed description of the application see *"Weather Unit WZ/S 1.3.1.2, Weather Sensor WES/A 3.1"* product manual. It is available free-of-charge at *www.abb.com/knx*.

ETS and the current version of the device application are required for programming.

The current version of the application is available on the Internet for download at *www.abb.com/knx*. After import into ETS, it appears in the *Catalogs* window under *Manufacturers/ABB/Input/ Weather Unit*.

The device does not support the locking function of a KNX device in ETS. If you use a *BCU code* to inhibit access to all the project devices, it has no effect on this device. Data can still be read and programmed.

Note

Facade control is not possible with the Weather Unit WZ/S 1.3.1.2. Please use the Weather Station WS/S for this. The WES/A sensor combined with the Weather Unit is suitable for small to medium-sized buildings. The facade structure, wind conditions and local influences should also be considered with these buildings.

Note

Backward compatibility of the devices

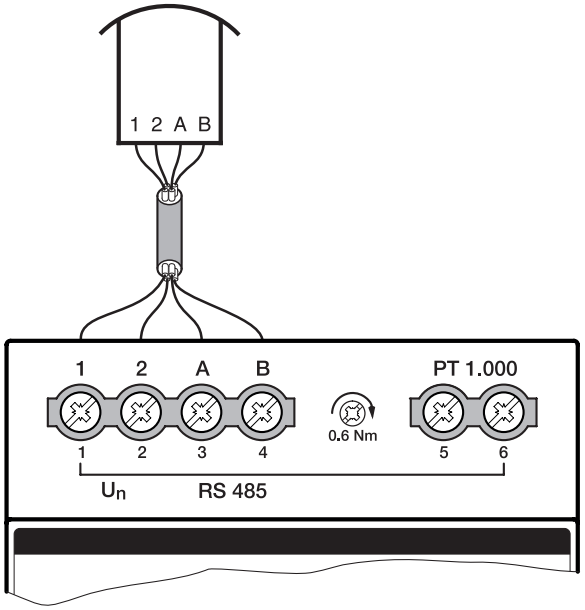
The MDRC devices and sensors are backward compatible and can be interchanged, although the following restrictions must be taken into account:

For WES/A 3.1 in combination with the WZ/S 1.1:

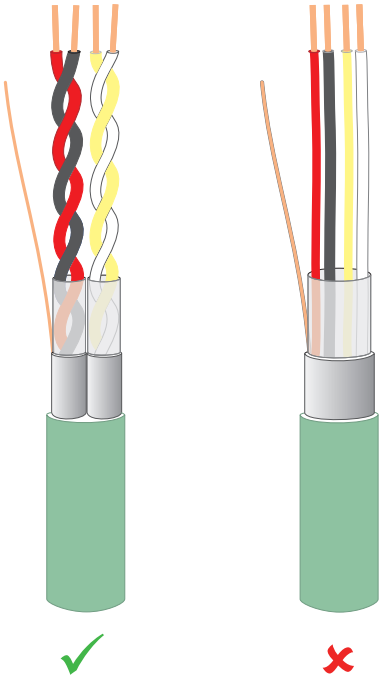
The Weather Unit does not detect that the wind sensor is faulty.

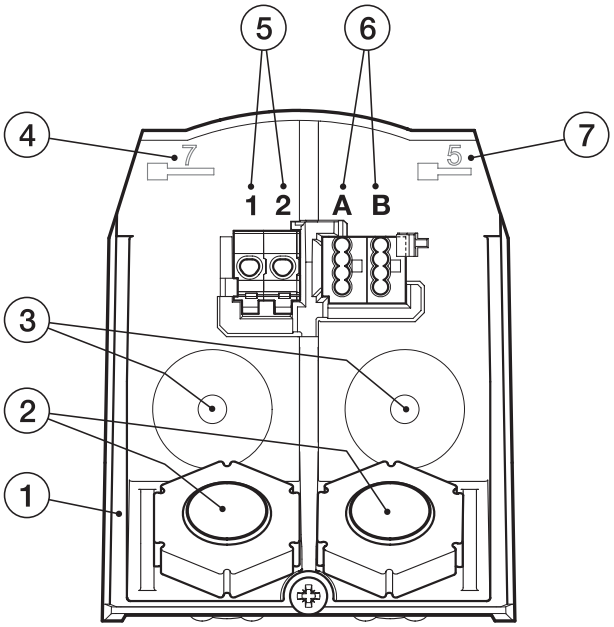
ABB i-bus® KNX
Weather Sensor, SM
WES/A 3.1, 2CDG120046R0011

Connection diagram



2CDC072029F0013





2CDC072028F0013

1 Wall socket
2 Cable entry
3 Fixing
4 Wire stripping length for left terminal
5 Electrical supply
6 Data communication
7 Wire stripping length for right terminal

ABB i-bus® KNX
Weather Sensor, SM
WES/A 3.1, 2CDG120046R0011

Dimension drawing

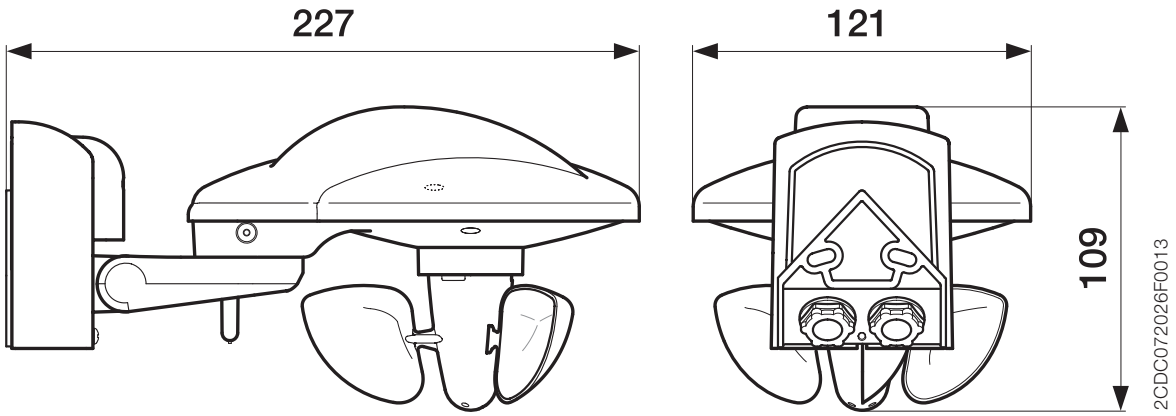


ABB i-bus® KNX
Weather Sensor, SM
WES/A 3.1, 2CDG120046R0011

Notes

Contact

ABB STOTZ-KONTAKT GmbH
Eppelheimer Straße 82
69123 Heidelberg, Germany
Telefon: +49 (0)6221 701 607
Telefax: +49 (0)6221 701 724
E-Mail: knx.marketing@de.abb.com

Further information and local contacts:
www.abb.com/knx

Note:
We reserve the right to make technical changes or modify the contents of this document without prior notice.
The agreed properties are definitive for any orders placed. ABB AG shall not be liable for any consequences arising from errors or incomplete information in this document.

Publication number 2CDC504093D0201 (04/2015)

Power and productivity
for a better world™