TECHNICAL DATA

ABB i-bus® KNX

WES/A 4.1.1

Weather Sensor Basic, SM

Device description

The device is a surface mounted (SM) device. The device is designed for wall or mast mounting.

The device can be used as a product in a KNX system.

The device is powered via Weather Unit WZ/S 1.3.1.2 (or subsequent types) and requires no additional auxiliary voltage. The Power supply/Data cable is connected to the pre-assembled connecting cable. After being connected to the Weather Unit and having the bus and supply voltage established, the Weather Sensor will begin transmitting weather data to the Weather Unit after no longer than 10 minutes.

Note
Detailed installation instructions and information on replacing the old Weather Sensor WES/A 3.1 with the Weather Sensor Basic WES/A 4.1.1 → www.abb.com/knx.

Device functions

Weather Sensor Basic WES/A 4.1.1 records – primarily in the private sector – weather data (wind speed, rain, brightness in four compass directions, twilight, temperature), plus date and time (via GPS).

Note
Measured values apply to the mounting location. Differences from other weather services are possible (e.g. due to local turbulence or air accumulation zones).

Note
Weather Sensor Basic WES/A 4.1.1 is compatible with the ABB Weather Units from WZ/S 1.3.1.2.

Note
Weather Unit WZ/S 1.3.1.2 can process only three measured brightness values. Weather Unit WZ/S 1.3.1.2 ignores the measured value from the southern brightness sensor.

Connections

The device has the following connections:

- 1 input for connecting the supply voltage (via the Weather Unit)
- 1 output for output of the measured values

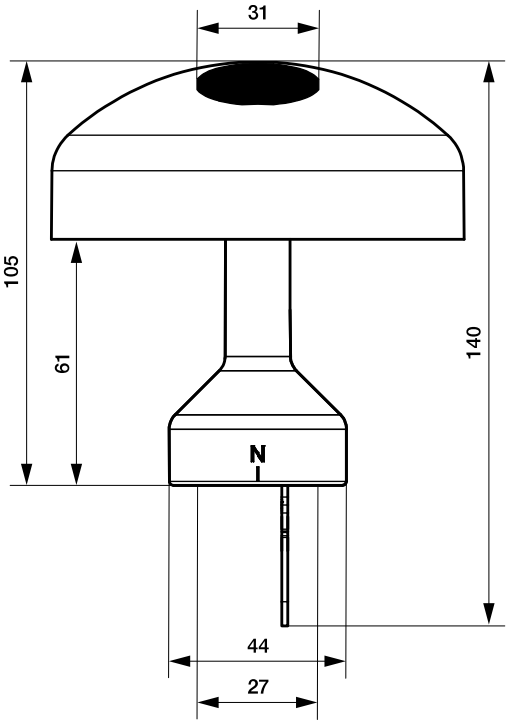
Inputs

Terminal designation	Function
+	Power supply +24 V DC
-	Supply GND

Outputs

Terminal designation	Function
A	DATA +
B	DATA -

Dimension drawing



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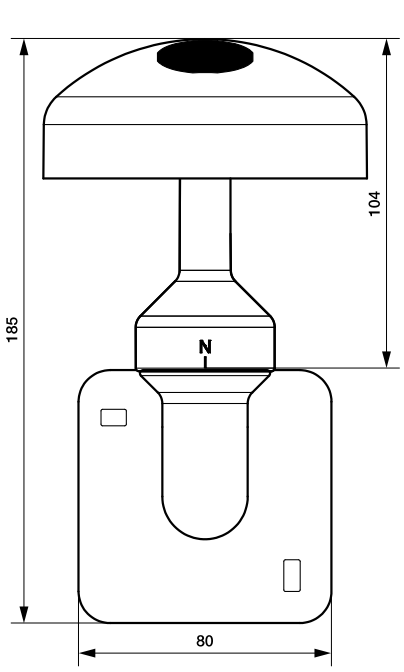

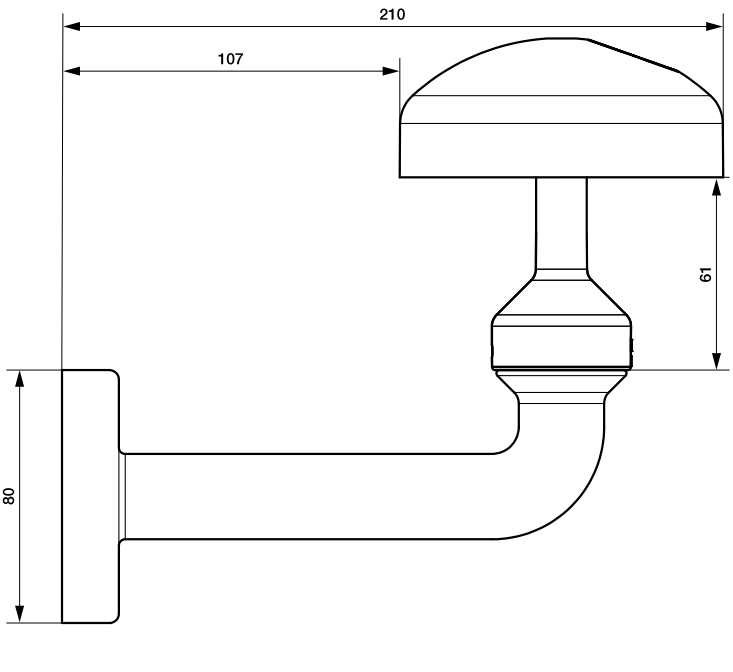

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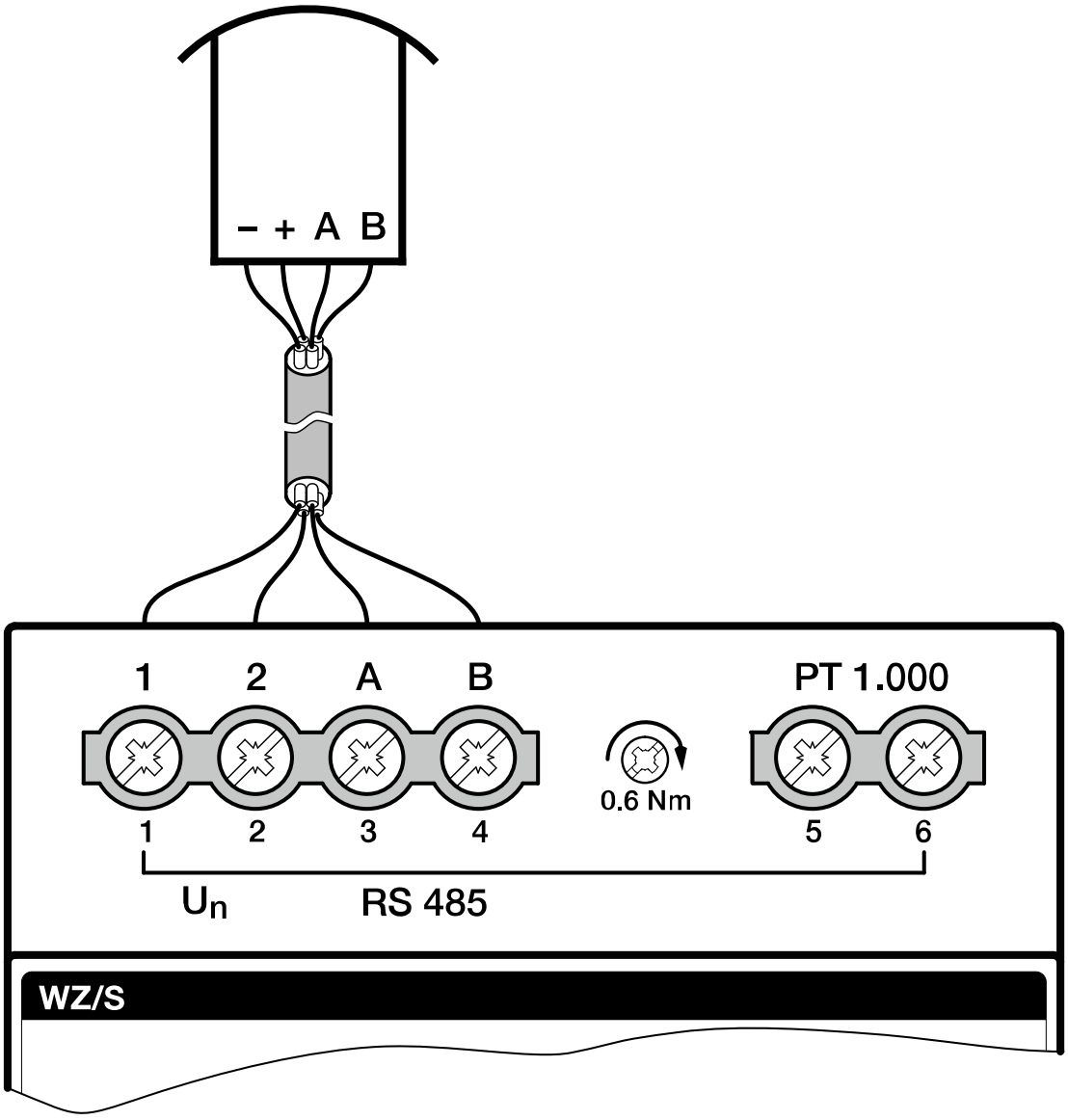
Connection diagram



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WES/A terminal	Conductor color	WZ/S terminal
A (DATA +)	Red	A
B (DATA -)	Black	B
- (GND)	White	1
+ (24 V)	Yellow	2

2D code

A 2D code is depicted on the packaging and on the bottom of the device. These codes are used for unique identification of the device and include the following information:

- Link to the product page
- Order code
- Device serial number

The 2D codes can be read using any mobile device with an appropriate 2D code reader.

By scanning the 2D codes with the ABB Product Scanner, you can open additional digital services.

General technical data

Device	Dimensions	105 × 102 × 102 mm (H x W x D)
	Weight	0.16 kg
	Mounting position	Horizontal
	Design	Surface mounting
	Degree of protection	IP 44
	Protection class	II
	Overvoltage category	III
	Overload protection	Yes
	Reverse voltage protection	Yes
	Short-circuit proof	Yes
	Pollution degree	2
	Mean service life (depending on installation type and location)	> 5 years
Mounting	Mounting type	Wall or mast mounting
	Mast inner diameter	≥ 21 mm
	Mast outer diameter	≤ 27 mm
Cable length	Between Weather Sensor and Weather Unit, one way	≤ 100 m
Materials	Housing	Polycarbonate
	Housing color	Translucent white
Material note	Fire classification	Flammability V-0
Electronics	Rated voltage	24 V DC +10 % / −30 %
	Cable type, pre-assembled connecting cable	H05V-K, 4 × 0.5 mm²
Connections	Connection type, Weather Sensor	Plug-in terminal
	Atmospheric pressure	≥ 80 kPa (corresponds to air pressure at 2,000 m above sea level)
Certificates and declarations	CE declaration of conformity	→ 9AKK108464A0588
	UKCA declaration of conformity	→ 9AKK108464A0589
Ambient condition	Operation	−30 … +70 °C
	Transport	−25 … +70 °C
	Storage	−25 … +70 °C
	Humidity	Non-condensing

Weather sensors

Temperature	Type	PT 1000
	Number of temperature sensors	1
	Temperature measuring range	−30 … +50 °C
	Resolution	0.1°C
	Accuracy	± 1 °C with laminar incident flow and wind speed > 2 m/s
Brightness	Type	Silicon sensor
	Number of brightness sensors	4 (0°, 90°, 180°, 270°)
	Brightness measuring range	0 … 100 klx
	Resolution	10 lx (0 … 1 klx); 50 lx (1 k … 2 klx); 100 lx (2 k … 20 klx); 500 lx (≥ 20 klx)
	Accuracy	± 200 lx at < 2 klx; ± 10 % at ≥ 2 klx
	Spectral range	475 … 650 nm
Twilight	Type	Silicon sensor
	Number of twilight sensors	1
	Twilight measuring range	0 … 1 klx
	Resolution	1 lx
	Accuracy	± 20 lx at < 100 lx; ± 20 % at ≥ 100 lx
Daylight	Day	≥ 10 lx
	Night	< 10 lx
Wind speed	Type	Thermal anemometer
	Number of wind sensors	1
	Wind speed measuring range	0 … 35 m/s
	Resolution	0.1 m/s
	Accuracy	± 5 % (± 1 m/s), RMS over 360°
Precipitation	Type	Ceramic, capacitance measurement
	Number of precipitation sensors	1
	Precipitation measuring range	1/0 (precipitation Yes/No)
	Heating power, dry sensor, condensation protection	0.1 W
	Heating power, wet sensor, drying phase	1.1 W
GPS	GPS type	Galileo
	Real Time Clock (RTC)	Yes, used in the µC

Ordering details

Description	MB	Type	Order no.	Packaging unit [pcs.]	Weight (incl. packaging) [kg]
Accessories: Wall mounting	-	WB/Z 1.1.1	2CDG120088R0011	1	0.191
Weather Sensor Basic, SM	-	WES/A 4.1.1	2CDG120091R0011	1	0.298

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

Additional information and regional points of contact:
www.abb.de/knx
www.abb.com/knx

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