REAL SMART HOME

REAL SMART HOME GmbH

APPMODULE
WEATHER App
Documentation

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1 INTRODUCTION

Thank you for your trust, and the purchase of the **WEATHER** -app for the BAB **APP**MODULE. With the **WEATHER** -app you obtain professional integration of internet weather with comprehensive weather data into building automation. This documentation will help you get started with the app and aims to improve your setup experience.

REAL SMART HOME GmbH

IMPORTANT INFORMATION ON THE OPERATING INSTRUCTIONS

We reserve the right continually improve the product. This entails the possibility that parts of this documentation might be out-of-date. You will find the latest information at:

www.bab-appmarket.de

This app is an independent product, with no legal ties to OpenWeatherMap®. Neither **BAB** APP MARKET GmbH nor the developer of this app take any claim in the trademarks owned by OpenWeatherMap®.

2 WEATHER – FUNCTIONAL OVERVIEW

WEATHER connects your building control with data from OpenWeatherMap (openweathermap.org) in an intelligent manner. The data allows you to integrate the weather forecast into various algorithms. If, for example, a long dry period is forecast, the watering system can react appropriately and available sun protection systems can be brought into position. If a storm is forecast, the necessary protective measures can be taken automatically. OpenWeatherMap offers codes for a wide range of weather definitions – so-called "Weather condition codes". These codes simplify parameterisation of the system and allow for the clear classification of conditions. Of course current weather information can also easily be shown in the visualisation.

2.1 HIGHTLIGHTS

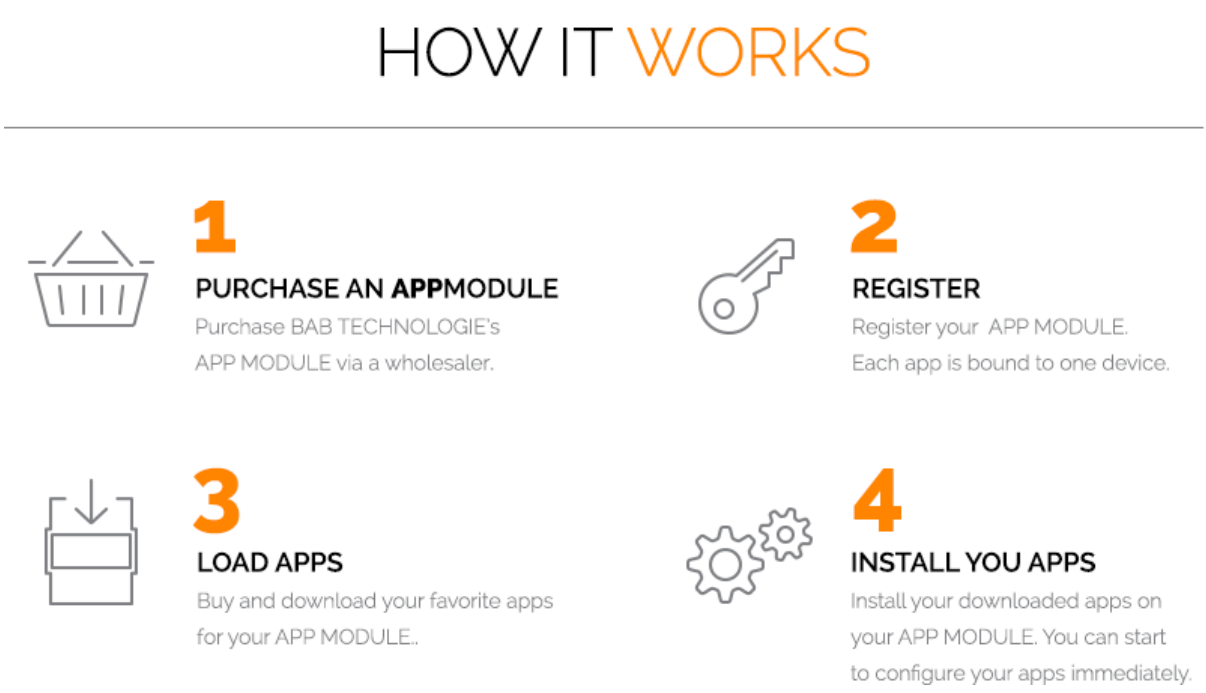
- Current weather for a location per instance
- Multi-lingual
- Various measurement systems
- Automatic or manual "Refresh"
- Current temperature
- Weather description in the preferred language
- Atmospheric pressure
- Humidity
- Visibility
- Wind speed
- Cloud cover

2.2 LIMITATIONS OF THE LITE VERSION

- Only information about the current weather.

3 THE INNOVATIVE, MODULAR APP-CONEPT FOR THE BUILDING AUTOMATION

The innovative, modular app concept for building automation. The **APP**MODULE brings the innovative, modular app concept into building automation. You can mix and match any of the diverse applications that are available to ingrate third-party solutions. With these apps from the dedicated **BAB** APP MARKET, the **APP**MODULE becomes a tailor-made integration unit for your building automation.



Manufacturer of the **APP**MODULE
http://bab-tec.de/

Distribution of all apps for the **APP**MODULE
https://www.bab-appmarket.de/de/

App developer
http://www.realsmarthome.de/

3.1 INFORMATION ABOUT THE APPMODULE

Please refer to the separate product documentation of the **APP**MODULE for a detailed product description and setup instructions.

http://www.bab-tec.de/index.php/download_de.html

Product variants:
The **APP**MODULE is available in three variants:

- **APP**MODULE KNX/TP – for stand-alone use on KNX/TP Bus
- **APP**MODULE EnOcean – for stand-alone use in the EnOcean wireless network
- **APP**MODULE Extension – for use in an IP-based KNX installation (KNXnet/IP) or as extension for an EIB**PORT**

4 APP INSTALLATION

Please proceed as follows to install an App.

1. Open the APPMODULE web page: Enter <IP Address of APPMODULE> into your browser's address bar and press Enter. The APPMODULE web interface will appear.

2. Log in with your user credentials. Please refer to the APPMODULE documentation for login details.

3. Click on the menu entry "App Manager"

4. You are now on the page where already installed Apps are listed. The list will be empty if no apps have been installed. Click "Install App" in order to install a new app.

5. Now click on "Select App"; a file selector window will appear. Choose the app »Weather« and click "OK". The Smart Home App "Weather" must first be downloaded from the BAB APP MARKET (www.bab-appmarket.de).

6. After the message "Installation successful" appears, click "OK". You are ready to configure the App.

7. To update an already installed app, click on the App icon in the "App Manager".

8. The detail view of the App appears. Click on "Update App" to select the app package and start the update. The update version must be downloaded from the BAB APP MARKET.

After the message "Installation successful" appears, click "OK". The app has been updated. Your instance configurations will remain unchanged.

Information
To configurate the App please use Google Chrome.

5 APP SETTINGS

WEATHER connects your building control with data from OpenWeatherMap (openweathermap.org) in an intelligent manner. The data allows you to integrate the weather forecast into various algorithms. If, for example, a long dry period is forecast, the watering system can react appropriately and available sun protection systems can be brought into position. If a storm is forecast, the necessary protective measures can be taken automatically. OpenWeatherMap offers codes for a wide range of weather definitions – so-called "Weather condition codes". These codes simplify parameterisation of the system and allow for the clear classification of conditions. Of course current weather information can also easily be shown in the visualisation.

5.1 INSTANCE

Information
The browser-session expires after a period of 60 minutes due to inactivity. Unsaved changes to the configuration will be lost.

As soon as the App is installed, you can create so called “Instance”. An Instance is one of several objects of the same class.

In order to create an instance, click on the following symbol "Create Instance".

The WEATHER App provides for the CONTROL L and Java CONTROL of the EIBPORT icon from openweathermap.org. These can be displayed with the Image element. The image URLs can also be used in other visualization servers if supported. For information on which icons are available from openweathermap.org, see the appendix.

5.1.1 WEATHER

Instance Name:
Choose a name for this new instance.

Comment:
Insert a description what this instance does.

5.1.2 MAIN SETTINGS

API Key:

In order to retrieve weather information from openweathermap.org, you must first register on the website and obtain an api key. Registration is free, and the free api access terms are well-suited for the usage of this app. See for more details:

http://openweathermap.org/api

City:

Insert the name of the city you want to receive weather information about. In case there are several cities with the name, a selection of all cities found will be generated in the dropdown menu right below, with which you are able to select your desired city. These cities can then be distinguished by country ID and/or geographical coordinates.

Language Select:

Select the language you want the information to be displayed in:

- Bulgarian
- English
- French
- German
- Portuguese
- Swedish
- Turkish
- Croatian
- Dutch
- Italian
- Romanian
- Russian
- Spanish
- Ukrainian
- Catalan
- Chinese Traditional
- Chinese Simplified
- Finnish
- Polish

Unit Format Select:

Select the unit format for the display of values such as temperature or wind speed:

- metric
- imperial

Manual Information Update (EIS 1):

Insert the group address of the KNX Device with which to trigger an update of weather information. This Setting is optional.

Automatic Information Update:

Check if you want the weather information to be updated every 30 minutes.

5.1.3 GENERAL DISPLAY ADDRESSES (OPTIONAL)

Country Code Display (EIS 15):

Insert the group address of the display on which the country code will be displayed.

City Display (EIS 15):

Insert the group address of the display on which the city will be displayed.

5.1.4 CURRENT WEATHER ADDRESSES (OPTIONAL)

Temperature Display (EIS 15)

Insert the group address of the display on which the temperature will be displayed.

Temperature Value Output

Insert the group address of the temperature value output.

Temperature Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Weather Description Display (EIS 15)

Insert the group address of the display on which the weather description will be displayed.

Pressure Display (EIS 15)

Insert the group address of the display on which the atmospheric pressure will be displayed.

Pressure Value Output

Insert the group address of the atmospheric pressure value output.

Pressure Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Humidity Display (EIS 15)

Insert the group address of the display on which the humidity will be displayed.

Humidity Value Output (EIS 14)

Insert the group address of the humidity value output.

Visibility Display (EIS 15)

Insert the group address of the display on which the visibility will be displayed.

Wind Speed Display (EIS 15)

Insert the group address of the display on which the wind speed will be displayed.

Wind Speed Value Output

Insert the group address of the wind speed value output.

Wind Speed Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Wind Direction Display (EIS 15)

Insert the group address of the display on which the wind direction will be displayed (in degrees).

Wind Direction Value Output (EIS 10)

Insert the group address of the wind degree value output (0 - 360).

Clouds Display (EIS 15)

Insert the group address of the display on which the amount of clouds will be displayed.

Weather ID (EIS 10)

Insert the group address of the weather ID output.

5.1.5 WEATHER FORECASTS (OPTIONAL)

Forecast List

Up to 50 weather forecasts can be configured and compiled on this list. Click 'Add' for further details concerning configuration parameters of each list component.

Name

Insert the name of the forecast.

Forecast Time

Choose the date (viewed from the present) for which the forecast data will be called.

- Day five, 3:00 a.m.
- Day five, 9:00 a.m.
- Tomorrow, 6:00 a.m.
- Tomorrow, 6:00 p.m.
- Day four, 9:00 a.m.
- Tomorrow, 0:00 p.m.
- Day four, 6:00 a.m.
- Day five, 6:00 p.m.
- Today, 3:00 a.m.
- Tomorrow, 0:00 a.m.
- Tomorrow, 9:00 a.m.
- Today, 3:00 p.m.
- Tomorrow, 9:00 p.m.
- Day after tomorrow, 9:00 p.m.
- Day four, 6:00 p.m.
- Today, 6:00 a.m.
- Today, 9:00 a.m.
- Today, 0:00 p.m.
- Day five, 3:00 p.m.
- Today, 9:00 p.m.
- Day four, 0:00 p.m.
- Day five, 0:00 p.m.
- Day four, 9:00 p.m.
- Day five, 6:00 a.m.
- Today, 6:00 p.m.
- Day after tomorrow, 0:00 p.m.
- Day four, 3:00 p.m.
- Day four, 0:00 a.m.
- Day four, 3:00 a.m.
- Day five, 0:00 a.m.
- Tomorrow, 3:00 p.m.
- Day after tomorrow, 0:00 a.m.
- Day after tomorrow, 3:00 p.m.
- Today, 0:00 a.m.
- Day after tomorrow, 3:00 a.m.
- Day after tomorrow, 6:00 p.m.
- Day five, 9:00 p.m.
- Tomorrow, 3:00 a.m.
- Day after tomorrow, 6:00 a.m.
- Day after tomorrow, 9:00 a.m.

Temperature Display (EIS 15)

Insert the group address of the display on which the temperature will be displayed.

Temperature Value Output

Insert the group address of the temperature value output.

Temperature Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Minimum Temperature Display (EIS 15)

Insert the group address of the display on which the minimum temperature will be displayed.

Minimum Temperature Value Output

Insert the group address of the minimum temperature value output.

Minimum Temperature Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Maximum Temperature Display (EIS 15)

Insert the group address of the display on which the maximum temperature will be displayed.

Maximum Temperature Value Output

Insert the group address of the maximum temperature value output.

Maximum Temperature Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Pressure Display (EIS 15)

Insert the group address of the display on which the atmospheric pressure will be displayed.

Pressure Value Output

Insert the group address of the atmospheric pressure value output.

Pressure Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Sea Level Pressure Display (EIS 15)

Insert the group address of the display on which the atmospheric pressure on sea level will be displayed.

Sea Level Pressure Value Output

Insert the group address of the atmospheric pressure on sea level value output.

Sea Level Pressure Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Ground Level Pressure Display (EIS 15)

Insert the group address of the display on which the atmospheric pressure on ground level will be displayed.

Ground Level Pressure Value Output

Insert the group address of the atmospheric pressure on ground level value output.

Ground Level Pressure Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Humidity Display (EIS 15)

Insert the group address of the display on which the humidity will be displayed.

Humidity Value Output (EIS 14)

Insert the group address of the humidity value output.

Weather Description Display (EIS 15)

Insert the group address of the display on which the weather description will be displayed.

Cloudiness Display (EIS 15)

Insert the group address of the display on which the cloudiness will be displayed.

Cloudiness Value Output (EIS 14)

Insert the group address of the cloudiness value output.

Wind Speed Display (EIS 15)

Insert the group address of the display on which the wind speed will be displayed.

Wind Speed Value Output

Insert the group address of the wind speed value output.

Wind Speed Value Data Type

The data type for this floating point value
- EIS 9: 4 Byte Floating Point
- EIS 5: 2 Byte Floating Point

Wind Direction Display (EIS 15)

Insert the group address of the display on which the wind direction will be displayed (in degrees).

Wind Direction Value Output (EIS 10)

Insert the group address of the wind direction value output (in degrees).

Rain Volume Display (EIS 15)

Insert the group address of the display on which the rain volume for the last three hours will be displayed.

Rain Volume Value Output

Insert the group address of the rain volume (for the last three hours) value output.

Rain Volume Value Data Type

The data type for this floating point value
- EIS 9: 4 Byte Floating Point
- EIS 5: 2 Byte Floating Point

Snow Volume Display (EIS 15)

Insert the group address of the display on which the snow volume for the last three hours will be displayed.

Snow Volume Value Output

Insert the group address of the snow volume (for the last three hours) value output.

Snow Volume Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Weather ID (EIS 10)

Insert the group address of the weather ID output.

5.1.6 DYNAMIC WEATHER FORECAST ADDRESSES (OPTIONAL)

Get Forecast (x hours)

A telegram on this group address with initiates a forecast call. The sent value is interpreted as hours, and determines for how many hours in the future the forecast data will be. Openweathermap provides forecasts for 3 hour segments. Values such as 3, 9, 12, i.e. multiples of three are thus sensible. Other values will be rounded to the next forecast.

Temperature Display (EIS 15)

Insert the group address of the display on which the temperature will be displayed.

Temperature Value Output

Insert the group address of the temperature value output.

Temperature Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Minimum Temperature Display (EIS 15)

Insert the group address of the display on which the minimum temperature will be displayed.

Minimum Temperature Value Output

Insert the group address of the minimum temperature value output.

Minimum Temperature Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Maximum Temperature Display (EIS 15)

Insert the group address of the display on which the maximum temperature will be displayed.

Maximum Temperature Value Output

Insert the group address of the maximum temperature value output.

Maximum Temperature Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Pressure Display (EIS 15)

Insert the group address of the display on which the atmospheric pressure will be displayed.

Pressure Value Output

Insert the group address of the atmospheric pressure value output.

Pressure Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Sea Level Pressure Display (EIS 15)

Insert the group address of the display on which the atmospheric pressure on sea level will be displayed.

Sea Level Pressure Value Output

Insert the group address of the atmospheric pressure on sea level value output.

Sea Level Pressure Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Ground Level Pressure Display (EIS 15)

Insert the group address of the display on which the atmospheric pressure on ground level will be displayed.

Ground Level Pressure Value Output

Insert the group address of the atmospheric pressure on ground level value output.

Ground Level Pressure Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Humidity Display (EIS 15)

Insert the group address of the display on which the humidity will be displayed.

Humidity Value Output (EIS 14)

Insert the group address of the humidity value output.

Weather Description Display (EIS 15)

Insert the group address of the display on which the weather description will be displayed.

Cloudiness Display (EIS 15)

Insert the group address of the display on which the cloudiness will be displayed.

Cloudiness Value Output (EIS 14)

Insert the group address of the cloudiness value output.

Wind Speed Display (EIS 15)

Insert the group address of the display on which the wind speed will be displayed.

Wind Speed Value Output

Insert the group address of the wind speed value output.

Wind Speed Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Wind Direction Display (EIS 15)

Insert the group address of the display on which the wind direction will be displayed (in degrees).

Wind Direction Value Output (EIS 10)

Insert the group address of the wind direction value output (in degrees).

Rain Volume Display (EIS 15)

Insert the group address of the display on which the rain volume for the last three hours will be displayed.

Rain Volume Value Output

Insert the group address of the rain volume (for the last three hours) value output.

Rain Volume Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Snow Volume Display (EIS 15)

Insert the group address of the display on which the snow volume for the last three hours will be displayed.

Snow Volume Value Output

Insert the group address of the snow volume (for the last three hours) value output.

Snow Volume Value Data Type

The data type for this floating point value
- EIS 5: 2 Byte Floating Point
- EIS 9: 4 Byte Floating Point

Weather ID (EIS 10)

Insert the group address of the weather ID output.

6 ATTACHMENT

Function	EIS type	DPT	typical function	typical values	data	identifier
PriorityPosi-tion	EIS1	DPT 1*	Wind alarm	1=high and inhibit	1 Bit	1-bit
Switch	EIS1	DPT 1*	Light switching	0=Off; 1=On	1 Bit	1-bit
DimControl	EIS2	DPT 3*	Dimming	0=Off; 1=On xxxx=relative dimming 0-255=absolute dimming	1Bit 4Bit 8Bit	3-bit controlled
Time	EIS3	DPT 10*	Time	Hhh:mm:ss	3 Byte	Time
Date	EIS4	DPT 11*	Date	dd:mm:yyyy	3 Byte	Date
Value	EIS5	DPT 9*	Value	[-671088.64 ... 670760.96]	1Byte	2-byte float value
DimValue	EIS6	DPT 5*	Percent	0-100%	1Byte	8-bit unsigned value
DriveBlade Value	EIS6	DPT 5*	Position value	0-100%; 0-255	1Byte	8-bit unsigned value
DriveShutter Value	EIS6	DPT 5*	Position value	0-100%; 0-255	1Byte	8-bit unsigned value
Position	EIS6	DPT 5*	Control value Heating	0-100%; 0-255	1Byte	8-bit unsigned value
DriveMove	EIS7	DPT 1*	Move shutter	0=up 1=down	1Bit	1-bit
DriveStep	EIS7	DPT 1*	Adjusting the slat blind	0=up; 1= down; 0 or 1 during movement=stop	1Bit	1-bit
PriorityCont-rol	EIS8	DPT 2*	Priority	0,1 switch; 3=forced off; 4=forced on	2Bit	1-bit controlled
FloatValue	EIS9	DPT 14*	IEEE	Floating-point value	4 Byte	4-byte float value
Counter 16bit	EIS10	DPT 7*	Counter 16 bit	0 - 65.535	2Byte	2-byte unsigned value
Counter 16bit	EIS10	DPT 8*	Counter 16 bit with sign	-32.768 - 32.767	2Byte	2-byte signed value
Counter 32bit	EIS11	DPT 12*	Counter 32 bit	0 - 4.294.967.295	4Byte	4-byte unsigned value
Counter 32bit	EIS11	DPT 13*	Counter 32 bit with sign	0 - 4.294.967.295	4Byte	4-byte signed value
Access Control	EIS12	DPT 15*	Access control	Card number	4Byte	Entrance access
Char	EIS13	DPT 4*	ASCII characters	Character	1Byte	Character
Counter 8bit	EIS14	DPT 5*	Value	0 - 255	1Byte	8-bit unsigned value
Counter 8bit	EIS14	DPT 6*	Value with sign	-128 - 127	1Byte	8-bit signed value
String	EIS15	DPT 16*	String	max. 14 characters	14 Byte	Character string

EIB/KNX devices exchange fixed prescribed data formats with each other. These are defined in types.
The old designations of the types are EIS (EIB Interworking Standard)
The new designations are DPT (Data Point Type)

ICON LIST

Day icon	**Night icon**	**Description**
 01d.png	 01n.png	clear sky
 02d.png	 02n.png	few clouds
03d.png	03n.png	scattered clouds
 04d.png	 04n.png	broken clouds

 09d.png	 09n.png	shower rain
 10d.png	 10n.png	rain
 11d.png	 11n.png	thunderstorm
 13d.png	 13n.png	snow
 50d.png	 50n.png	mist

WEATHER CONDITION CODES

GROUP 2XX: THUNDERSTORM

ID	Main	Description	Icon
200	Thunderstorm	thunderstorm with light rain	11d
201	Thunderstorm	thunderstorm with rain	11d
202	Thunderstorm	thunderstorm with heavy rain	11d
210	Thunderstorm	light thunderstorm	11d
211	Thunderstorm	thunderstorm	11d
212	Thunderstorm	heavy thunderstorm	11d
221	Thunderstorm	ragged thunderstorm	11d
230	Thunderstorm	thunderstorm with light drizzle	11d
231	Thunderstorm	thunderstorm with drizzle	11d
232	Thunderstorm	thunderstorm with heavy drizzle	11d

Group 3xx: Drizzle

ID	Main	Description	Icon
300	Drizzle	light intensity drizzle	09d
301	Drizzle	drizzle	09d
302	Drizzle	heavy intensity drizzle	09d
310	Drizzle	light intensity drizzle rain	09d
311	Drizzle	drizzle rain	09d
312	Drizzle	heavy intensity drizzle rain	09d
313	Drizzle	shower rain and drizzle	09d
314	Drizzle	heavy shower rain and drizzle	09d
321	Drizzle	shower drizzle	09d

Group 5xx: Rain

ID	Main	Description	Icon
500	Rain	light rain	10d
501	Rain	moderate rain	10d
502	Rain	heavy intensity rain	10d
503	Rain	very heavy rain	10d
504	Rain	extreme rain	10d
511	Rain	freezing rain	13d
520	Rain	light intensity shower rain	09d
521	Rain	shower rain	09d
522	Rain	heavy intensity shower rain	09d
531	Rain	ragged shower rain	09d

Group 6xx: Snow

ID	Main	Description	Icon
600	Snow	light snow	❄ 13d
601	Snow	Snow	❄ 13d
602	Snow	Heavy snow	❄ 13d
611	Snow	Sleet	❄ 13d
612	Snow	Light shower sleet	❄ 13d
613	Snow	Shower sleet	❄ 13d
615	Snow	Light rain and snow	❄ 13d
616	Snow	Rain and snow	❄ 13d
620	Snow	Light shower snow	❄ 13d
621	Snow	Shower snow	❄ 13d
622	Snow	Heavy shower snow	❄ 13d

Group 7xx: Atmosphere

ID	Main	Description	Icon
701	Mist	mist	50d
711	Smoke	Smoke	50d
721	Haze	Haze	50d
731	Dust	sand/ dust whirls	50d
741	Fog	fog	50d
751	Sand	sand	50d
761	Dust	dust	50d
762	Ash	volcanic ash	50d

771	Squall	squalls	 50d
781	Tornado	tornado	 50d

Group 800: Clear

ID	Main	Description	Icon
800	Clear	clear sky	 01d  01n

Group 80x: Clouds

ID	Main	Description	Icon
801	Clouds	few clouds: 11-25%	02d 02n
802	Clouds	scattered clouds: 25-50%	03d 03n

803	Clouds	broken clouds: 51-84%	04d 04n
804	Clouds	overcast clouds: 85-100%	04d 04n

Source: openweathermap-org