

BACnet IP Manual

thevios Hub
thevios Sat

thevios®

Revision

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1 General information

This document describes the BACnetIP interface for the theGRID:

- thevios Hub
- thevios Sat (communication via thevios Hub)

Depending on the device type and configuration level, not all measured values and configuration parameters listed in this document are available.

Protocol

The protocol used is the internationally standardised BACnetIP protocol. This enables connection to corresponding remote stations, such as an automation station or a building management system, which support the BACnetIP protocol.

2 Commissioning

2.1 Assembly according to assembly instructions

The installation instructions supplied with the appliance contain illustrations for the following section.

For installation and connection, be sure to follow local regulations, guidelines and standards applicable at the time of installation.



Mounting instructions thevios Hub

<https://www.thermokon.de/direct/files/thevios-hub-mont-de-en-all.pdf>



Mounting instructions thevios Sat

<https://www.thermokon.de/direct/files/thevios-sat-mont-de-en-all.pdf>

2.2 Network communication settings thevios Hub

The configuration of the thevios Hub is carried out via a web interface. Access is via an IP connection.

2.2.1 Network connection via DHCP server

As soon as the thevios Hub is connected to a network whose IP addresses are managed by a DHCP server, it is added to the network and assigned an IP address. The device is then displayed as a participant in the list of connected devices. This can be viewed via the manufacturer-specific router or switch configuration menus.

2.2.2 Network connection without DHCP server (with static IP-address)

For networks without a DHCP server, a configuration IP address can be activated. To communicate with this address, the following settings must be made on the network adapter of the computer used:

IP-address: 169.254.254.5

Subnet mask: 255.255.255.0

A configuration IP address can be activated while the device is in operation. To do this, press the button on the underside of the Thevios Hub until the status LED lights up blue (approx. 10 seconds).

After restarting the thevios Hub, the web interface can be accessed via the following configuration IP address:

http://169.254.254.1/

The network settings for operating the device can be configured in the web interface.

2.2.3 Web User Interface thevios Hub

Access to the web interface of the thevios Hub is password protected.

Default access password:

thevios25

The access password can be changed in the web interface via the 'Change password' tab.
(6-10 characters, letters (upper/lower case), special characters, digit numbers 0-9)

Recommendation: Change the default password on first use to prevent unauthorised access.

2.2.4 thevios Sat address configuration

Before communication between satellites and hub can take place, each thevios Sat must be assigned an address. This requires a micro USB cable (type B) and the free Thermokon uConfig software (version 5.0.0 or higher).



Thermokon uConfig (5.0.0)
www.thermokon.de

1. Connect the power supply
2. Connect the USB cable
3. Start the Thermokon uConfig software
4. Set the addresses
A maximum of 8 satellites can be addressed.
(Address range 1-8)
5. Save the settings
6. To detect the previously connected satellites, perform one of the following steps:
 - a) Set object 60.000 'satellite search' in the thevios Hub to the value 1 via BACnet IP.
 - b) Perform a power on reset of the thevios Hub.
 - c) Web-UI -> device status -> theGRID -> search for satellites + restart device

3 BACnet Object description

3.1 General objects

The following objects are used for the basic settings of the device.

Obj. type	Inst.-Nb	Object name	Present Value ID description
DEV	Device ID	Instance number_thevios BACnetIP	
FIL	0	config.bin <i>Filetransfer</i> for transferring configuration data The configuration and creation of a 'configuration file' is done using the web interface.	

3.2 Device object

Property	Access	Range	Default
Object Identifier (Device ID)	R	0...4194302	MAC-Adress
Object Name	R/W	Max. 32 characters	DeviceID_Model Name Bsp.: "1195011_Thevios BACnet IP"
Object Type	R		Device
Description	R/W	Max. 32 characters	
Location	R/W	Max. 32 characters	
System Status	R		Operational
Vendor Name	R		Thermokon Sensortechnik GmbH
Vendor Identifier	R		396
Model Name	R		Thevios BACnet IP
Protocol Version	R		1
Protocol Revision	R		12
Max. APDU Length	R		1476
Segmentation Support	R		no
APDU Timeout	R		3000 ms
Number APDU Retries	R		3
Max Info Frames	R		1

To keep the amount of data during communication to a minimum, only important parameters necessary for ongoing operation are implemented as objects. Full configuration is carried out via a web interface.

3.3 Sensor values thevios Hub

The desired unit system (SI - IMP) can be configured via a web interface. The listed measured values can be read out using the following objects:

Obj. Type	Inst.-Nb	Object Name	Description	Value/ Range
BI	100	Occupancy	0: No Movement 1: Movement detected	0..1
AI	101	Temperature	Value in [°C °F]	
AI	102	Temperature IR	Value in [°C °F]	
AI	103	Relative Humidity	Value in [%]	
AI	104	Absolute Humidity	Value in [g/m³ gr/ft³]	
AI	105	Enthalpy	Value in [kJ/kg BTU/lb]	
AI	106	Dewpoint	Value in [°C °F]	
AI	107	CO2	Value in [ppm]	
AI	108	VOC	Value in [%]	
AI	109	CO2 VOC Mix	Value in [%]	
AI	110	Light Intensity	Value in [lux]	
AI	111	Temperature MIX	Mix value from Object 101 and 102 Value in [°C °F]	
AI	112	PM1 (Particulate matter < 1 µg/m³)	Particle size up to 1 µg/m³ Value in [ug/m³]	
AI	113	PM2 (Particulate matter < 2,5 µg/m³)	Particle size up to 2,5 µg/m³ Value in [ug/m³]	
AI	114	PM3 (Particulate matter < 4 µg/m³)	Particle size up to 4 µg/m³ Value in [ug/m³]	
AI	115	PM4 (Particulate matter < 10 µg/m³)	Particle size up to 10 µg/m³ Value in [ug/m³]	

3.4 Sensor values thevios Sat (satellites)

The sensor values of the satellites connected to the thevios Hub are read out via the following objects:

3.4.1 Sensor values Satellite 1

Obj. Type	Inst.-Nb	Object name	Description	Value/ Range
BI	200	Occupancy SAT1	0: No Movement 1: Movement detected	0..1
AI	201	Temperature SAT1	Value in [°C °F]	
AI	202	Temperature IR SAT1	Value in [°C °F]	
AI	203	Relative Humidity SAT1	Value in [%]	
AI	204	Absolute Humidity SAT1	Value in [g/m³ gr/ft³]	
AI	205	Enthalpy SAT1	Value in [kJ/kg BTU/lb]	
AI	206	Dewpoint SAT1	Value in [°C °F]	
AI	210	Light Intensity SAT1	Value in [lux]	
AI	211	Temperature MIX SAT1	Value in [°C °F]	

3.4.2 Sensor values Satellite 2

Obj. Type	Inst.-Nb	Object Name	Description	Value/ Range
BI	300	Occupancy SAT2	0: No movement 1: Movement detected	0..1
AI	301	Temperature SAT2	Value in [°C °F]	
AI	302	Temperature IR SAT2	Value in [°C °F]	
AI	303	Relative Humidity SAT2	Value in [%]	
AI	304	Absolute Humidity SAT2	Value in [g/m³ gr/ft³]	
AI	305	Enthalpy SAT2	Value in [kJ/kg BTU/lb]	
AI	306	Dew Point SAT2	Value in [°C °F]	
AI	310	Light Intensity SAT2	Value in [lux]	
AI	311	Temperature MIX SAT2	Value in [°C °F]	

3.4.3 Sensor values Satellite 3

Obj. Type	Inst.-Nb	Object Name	Description	Value/ Range
BI	400	Occupancy SAT3	0: No movement 1: Movement detected	0..1
AI	401	Temperature SAT3	Value in [°C °F]	
AI	402	Temperature IR SAT3	Value in [°C °F]	
AI	403	Relative Humidity SAT3	Value in [%]	
AI	404	Absolute Humidity SAT3	Value in [g/m³ gr/ft³]	
AI	405	Enthalpy SAT3	Value in [kJ/kg BTU/lb]	
AI	406	Dew Point SAT3	Value in [°C °F]	
AI	410	Light Intensity SAT3	Value in [lux]	
AI	411	Temperature MIX SAT3	Value in [°C °F]	

3.4.4 Sensor values Satellite 4

Obj. Type	Inst.-Nb	Object Name	Description	Value/ Range
BI	500	Occupancy SAT4	0: No movement 1: Movement detected	0..1
AI	501	Temperature SAT4	Value in [°C °F]	
AI	502	Temperature IR SAT4	Value in [°C °F]	
AI	503	Relative Humidity SAT4	Value in [%]	
AI	504	Absolute Humidity SAT4	Value in [g/m³ gr/ft³]	
AI	505	Enthalpy SAT4	Value in [kJ/kg BTU/lb]	
AI	506	Dew Point SAT4	Value in [°C °F]	
AI	510	Light Intensity SAT4	Value in [lux]	
AI	511	Temperature MIX SAT4	Value in [°C °F]	

3.4.5 Sensor values Satellite 5

Obj. Type	Inst.-Nb	Object Name	Description	Value/ Range
BI	600	Occupancy SAT5	0: No movement 1: Movement detected	0..1
AI	601	Temperature SAT5	Value in [°C °F]	
AI	602	Temperature IR SAT5	Value in [°C °F]	
AI	603	Relative Humidity SAT5	Value in [%]	
AI	604	Absolute Humidity SAT5	Value in [g/m³ gr/ft³]	
AI	605	Enthalpy SAT5	Value in [kJ/kg BTU/lb]	
AI	606	Dew Point SAT5	Value in [°C °F]	
AI	610	Light Intensity SAT5	Value in [lux]	
AI	611	Temperature MIX SAT5	Value in [°C °F]	

3.4.6 Sensor values Satellite 6

Obj. Type	Inst.-Nb	Object Name	Description	Value/ Range
BI	700	Occupancy SAT6	0: No movement 1: Movement detected	0..1
AI	701	Temperature SAT6	Value in [°C °F]	
AI	702	Temperature IR SAT6	Value in [°C °F]	
AI	703	Relative Humidity SAT6	Value in [%]	
AI	704	Absolute Humidity SAT6	Value in [g/m³ gr/ft³]	
AI	705	Enthalpy SAT6	Value in [kJ/kg BTU/lb]	
AI	706	Dew Point SAT6	Value in [°C °F]	
AI	710	Light Intensity SAT6	Value in [lux]	
AI	711	Temperature MIX SAT6	Value in [°C °F]	

3.4.7 Sensor values Satellite 7

Obj. Type	Inst.-Nb	Object Name	Description	Value/ Range
BI	800	Occupancy SAT7	0: No movement 1: Movement detected	0..1
AI	801	Temperature SAT7	Value in [°C °F]	
AI	802	Temperature IR SAT7	Value in [°C °F]	
AI	803	Relative Humidity SAT7	Value in [%]	
AI	804	Absolute Humidity SAT7	Value in [g/m³ gr/ft³]	
AI	805	Enthalpy SAT7	Value in [kJ/kg BTU/lb]	
AI	806	Dew Point SAT7	Value in [°C °F]	
AI	810	Light Intensity SAT7	Value in [lux]	
AI	811	Temperature MIX SAT7	Value in [°C °F]	

3.4.8 Sensor values Satellite 8

Obj. Type	Inst.-Nb	Object Name	Description	Value/ Range
BI	900	Occupancy SAT8	0: No movement 1: Movement detected	0..1
AI	901	Temperature SAT8	Value in [°C °F]	
AI	902	Temperature IR SAT8	Value in [°C °F]	
AI	903	Relative Humidity SAT8	Value in [%]	
AI	904	Absolute Humidity SAT8	Value in [g/m³ gr/ft³]	
AI	905	Enthalpy SAT8	Value in [kJ/kg BTU/lb]	
AI	906	Dew Point SAT8	Value in [°C °F]	
AI	910	Light Intensity SAT8	Value in [lux]	
AI	911	Temperature MIX SAT8	Value in [°C °F]	

3.5 Offset values thevios Hub

The offset values are configured via the web interface and are used to compensate for environmental conditions and external influences such as draughts.

Obj. Type	Inst.-Nb	Object Name	Unit	Range
AV	3111	Temperature Offset	[°C °F]	-15..+15
AV	3211	Temperature IR Offset	[°C °F]	-15..+15
AV	3311	Relative Humidity Offset	[%]	-5..+5
AV	3711	CO2 Offset	[ppm]	-150..+150
AV	3811	VOC Offset	[%]	-15..+15
AV	4111	Partikel 1 ug/m ³ Offset	[µm/m ³]	-100..+100
AV	4211	Partikel 2,5 ug/m ³ Offset	[µm/m ³]	-100..+100
AV	4411	Partikel 4 ug/m ³ Offset	[µm/m ³]	-100..+100
AV	4511	Partikel 10 ug/m ³ Offset	[µm/m ³]	-100..+100

3.6 Offset values thevios Satellites

The offset values of the satellites connected to the thevios Hub are configured via the following objects:

3.6.1 Offset values Satellite 1

Obj. Type	Inst.-Nb	Object Name	Unit	Range
AV	4911	Temperature Offset SAT1	[°C °F]	-15..+15
AV	5011	Temperature IR Offset SAT1	[°C °F]	-15..+15
AV	5111	Relative Humidity Offset SAT1	[%]	-5..+5
AV	5311	Enthalpy Offset SAT1		
AV	5411	Dewpoint Offset SAT1		
AV	5811	Light Intensity Offset SAT1		

3.6.2 Offset values Satellite 2

Obj. Type	Inst.-Nb	Object Name	Default
AV	6311	Temperature Offset SAT2	0
AV	6411	Temperature IR Offset SAT2	0
AV	6511	Relative Humidity Offset SAT2	0
AV	6711	Enthalpy Offset SAT2	0
AV	6811	Dewpoint Offset SAT2	0
AV	7211	Light Intensity Offset SAT2	0

3.6.3 Offset values Satellite 3

Obj. Type	Inst.-Nb	Object Name	Default
AV	7711	Temperature Offset SAT3	0
AV	7811	Temperature IR Offset SAT3	0
AV	7911	Relative Humidity Offset SAT3	0
AV	8111	Enthalpy Offset SAT3	0
AV	8211	Dewpoint Offset SAT3	0
AV	8611	Light Intensity Offset SAT3	0

3.6.4 Offset values Satellite 4

Obj. Type	Inst.-Nb	Object Name	Default
AV	9111	Temperature Offset SAT4	0
AV	9211	Temperature IR Offset SAT4	0
AV	9311	Relative Humidity Offset SAT4	0
AV	9511	Enthalpy Offset SAT4	0
AV	9611	Dewpoint Offset SAT4	0
AV	10011	Light Intensity Offset SAT4	0

3.6.5 Offset value Satellite 5

Obj. Type	Inst.-Nb	Object Name	Default
AV	10511	Temperature Offset SAT5	0
AV	10611	Temperature IR Offset SAT5	0
AV	10711	Relative Humidity Offset SAT5	0
AV	10911	Enthalpy Offset SAT5	0
AV	11011	Dewpoint Offset SAT5	0
AV	11411	Light Intensity Offset SAT5	0

3.6.6 Offset value Satellite 6

Obj. Type	Inst.-Nb	Object Name	Default
AV	11911	Temperature Offset SAT6	0
AV	12011	Temperature IR Offset SAT6	0
AV	12111	Relative Humidity Offset SAT6	0
AV	12311	Enthalpy Offset SAT6	0
AV	12411	Dewpoint Offset SAT6	0
AV	12811	Light Intensity Offset SAT6	0

3.6.7 Offset values Satellite 7

Obj. Type	Inst.-Nb	Object Name	Default
AV	13311	Temperature Offset SAT7	0
AV	13411	Temperature IR Offset SAT7	0
AV	13511	Relative Humidity Offset SAT7	0
AV	13711	Enthalpy Offset SAT7	0
AV	13811	Dewpoint Offset SAT7	0
AV	14211	Light Intensity Offset SAT7	0

3.6.8 Offset values Satellite 8

Obj. Type	Inst.-Nb	Object Name	Default
AV	14711	Temperature Offset SAT8	0
AV	14811	Temperature IR Offset SAT8	0
AV	14911	Relative Humidity Offset SAT8	0
AV	15111	Enthalpy Offset SAT8	0
AV	15211	Dewpoint Offset SAT8	0
AV	15611	Light Intensity Offset SAT8	0

3.7 Correction value thevios Hub

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	3030	Occupancy Sensitivity	Adjusting the sensitivity of the PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	3031	Occupancy Follow-up time	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	3032	Occupancy Mode	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	4023	Light Intensity Factor	Factor value for adaptation to local conditions	0...10000
AV	4323	Temperature Mix Ratio	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100
AV	3923	CO2 VOC Mix Ratio	For calculating the CO2 VOC mix value from CO2 and VOC values. Example: Value: 30 configured for the temperature mix of 30% CO2 sensor value + 70% VOC sensor value	0..100

3.8 Correction values thevios GRID Sat

3.8.1 Correction values Satellite 1

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	4830	Occupancy Sensitivity SAT1	Setting the sensitivity of the SATx PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	4831	Occupancy Follow-up time SAT1	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	4832	Occupancy Mode SAT1	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	5823	Light Intensity Factor SAT1	Factor value for adaptation to local conditions	0..10000
AV	6123	Temperature MIX Ratio SAT1	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100

3.8.2 Correction values Satellite 2

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	6230	Occupancy Sensitivity SAT2	Setting the sensitivity of the SATx PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	6231	Occupancy Follow-up time SAT2	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	6232	Occupancy Mode SAT2	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	7223	Light Intensity Factor SAT2	Factor value for adaptation to local conditions	0..10000
AV	7523	Temperature MIX Ratio SAT2	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100

3.8.3 Correction values Satellite 3

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	7630	Occupancy Sensitivity SAT3	Setting the sensitivity of the SATx PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	7631	Occupancy Follow-up time SAT3	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	7632	Occupancy Mode SAT3	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	8623	Light Intensity Factor SAT3	Factor value for adaptation to local conditions	0..10000
AV	8923	Temperatur MIX Ratio SAT3	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100

3.8.4 Correction values Satellite 4

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	9030	Occupancy Sensitivity SAT4	Setting the sensitivity of the SATx PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	9031	Occupancy Follow-up time SAT4	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	9032	Occupancy Mode SAT4	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	10023	Light Intensity Factor SAT4	Factor value for adaptation to local conditions	0..10000
AV	10323	Temperatur MIX Ratio SAT4	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100

3.8.5 Correction values Satellite 5

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	10430	Occupancy Sensitivity SAT5	Setting the sensitivity of the SATx PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	10431	Occupancy Follow-up time SAT5	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	10432	Occupancy Mode SAT5	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	11423	Light Intensity Factor SAT5	Factor value for adaptation to local conditions	0..10000
AV	11723	Temperatur MIX Ratio SAT5	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100

3.8.6 Correction values Satellite 6

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	11830	Occupancy Sensitivity SAT6	Setting the sensitivity of the SATx PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	11831	Occupancy Follow-up time SAT6	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	11832	Occupancy Mode SAT6	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	12823	Light Intensity Factor SAT6	Factor value for adaptation to local conditions	0..10000
AV	13123	Temperatur MIX Ratio SAT6	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100

3.8.7 Correction values Satellite 7

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	13230	Occupancy Sensitivity SAT7	Setting the sensitivity of the SATx PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	13231	Occupancy Follow-up time SAT7	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	13232	Occupancy Mode SAT7	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	14223	Light Intensity Factor SAT7	Factor value for adaptation to local conditions	0..10000
AV	14523	Temperatur MIX Ratio SAT7	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100

3.8.8 Correction values Satellite 8

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AV	14630	Occupancy Sensitivity SAT8	Setting the sensitivity of the SATx PIR motion detector 60 = medium 30 = high 15 = very high	0..255
AV	14631	Occupancy Follow-up time SAT8	Time until the counter is reset from 1 to 0 after a movement; if further movements occur within the configured period, the counter remains at 1.	[sec]
AV	14632	Occupancy Mode SAT8	LED lighting behaviour 1 LED permanently off 2 LED on/off 3 LED walk test	1..3
AV	15623	Light Intensity Factor SAT8	Factor value for adaptation to local conditions	0..10000
AV	15923	Temperatur MIX Ratio SAT8	For calculating the temperature mix value from room temperature and infrared sensor. Example: Value: 30 configured the temperature mix from 30% room temperature sensor + 70% IR sensor	0..100

3.9 LED Configuration thevios Hub

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
MV	16000	LED-Ring Mode	1: Off 2: Traffic Light Function (TLF) 3: Individual (BMS Mode) 4: Status indicator	1..4
MV	16004	LED-Color <i>Only active for configured object 16000: Individual (BMS mode)</i>	1: off 2: yellow 3: green 4: cyan 5: blue 6: white 7: red 8: orange 9: magenta	1..9
MV	16011	LED Aktive State	GLT LED control option Status storage via web interface 1= no active state 2= state 1 3= state 2 4= state 3 5= state 4	1..5

3.9.1 Traffic Light Function thevios Hub

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
BV	16002	TLF Day Night Mode	0: Day Mode = 100% Brightness 1: Night Mode = 25% Brightness	0..1

3.9.2 LED Configuration thevios Satellites

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
MV	16100	LED SAT1	1: off 2: red 3: green 4: yellow 5: blue 6: pink 7: cyan 8: white	1..8
MV	16101	LED SAT2	see Sat1 (16100)	
MV	16102	LED SAT3	see Sat1 (16100)	
MV	16103	LED SAT4	see Sat1 (16100)	
MV	16104	LED SAT5	see Sat1 (16100)	
MV	16105	LED SAT6	see Sat1 (16100)	
MV	16106	LED SAT7	see Sat1 (16100)	
MV	16107	LED SAT8	see Sat1 (16100)	

3.10 Additional Objects thevios Hub

Obj. Type	Inst.-Nb	Object Name	Description	Value Range
AI	118	Sensor ID	For technical identification of device sensors (bit-coded)	
AV	119	Sensor Error	Error code in case of malfunction Contact Thermokon Support. (0 = no error)	
AV	120	Satellit ID (<i>thevios Hub only</i>)	For technical identification of the connected satellites (bit-coded)	
BV	1180	Device restart	Register for querying whether the device has been restarted. After querying, the register is reset. 0: No restart 1: Restart	0..1
BV	1237	Save to EEPROM	0: Default value 1: Save	0..1
AV	2104	Maintenance interval	0: Off 6: 6 months 12: 12 months 24: 24 months	0..48
AV	2105	Calibration interval	0: Off 6: 6 months 12: 12 months 24: 24 months	0..48
BV	17005	BUS Communication error	Check communication interface	
MV	60000	Satellite Search (<i>thevios Hub only</i>)	0: Search not active 1: Search active* Object is reset after search is completed	0..1

3.11 Additional Objects thevios Sat

Obj. Type	Inst.-Nr	Object Name	Description	Werte
BV	220	Communication error SAT1	Error code - Check communication interface to hub	
BV	320	Communication error SAT2	Error code – malfunction	
BV	420	Communication error SAT3	Error code – malfunction	
BV	520	Communication error SAT4	Error code – malfunction	
BV	620	Communication error SAT5	Error code – malfunction	
BV	720	Communication error SAT6	Error code – malfunction	
BV	820	Communication error SAT7	Error code – malfunction	
BV	920	Communication error SAT8	Error code – malfunction	

4 BACnet PICS

BACnet Protocol Implementation Conformance Statement

Date:	01.10.2025
Vendor Name:	Thermokon Sensortechnik GmbH (Vendor ID: 396)
Product Names:	thevios Hub
Firmware Revision:	1.3.0
Application Software Version:	1.3.0
BACnet Protocol Revision:	1.12
Product Description:	Sensor device with BACnet IP interface.
BACnet Standardized Device Profile:	BACnet Smart Sensor (B-SS)

5 BACnet BIBBs

Supported BIBBS	BIBB Name
DS-RP-B	Data Sharing, Read Property, B
DS-RPM-B	Data Sharing, Read Property Multiple, B
DS-WP-B	Data Sharing, Write Property, B
DM-DOB-B	Device Management, Dynamic Object Binding, B
DM-DCC-B	Device Management, Device Communication Control, B
DM-DDB-B	Device Management, Dynamic Device Binding, B

BACnet Standard Application Services Supported:

ReadProperty
ReadPropertyMultiple
WriteProperty
DeviceCommunicationControl
WhoHas
Whols

Standard Object Types Supported:

Object-Type	Dynamically Creatable Deleteable	Optional Properties supported	Writable Properties
Analog Input	☐	COV Increment	COV Increment
Binary Input	☐	COV Increment	COV Increment Present Value
Analog Value	☐	Description	Present Value
Binary Value	☐	Description	Present Value
Multistate Value	☐	Description	Present Value
Device	☐	Description	Description - Location - Object Name

Device Address Binding:

Is static device binding supported?

Yes

☐

No

☒

Character Sets Supported:

UTF-8

Special Functionality:

Maximum APDU size in octets: 1476

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