GRUNER
SWITCH TO INNOVATIONS

Technical data sheet

BACnet PICS



Description

VAV-Compact

Technical data

General Information	Date	25.06.2020
	Vendor Name	Gruner AG
	Vendor ID	1215
	Product Name	VAV-Compact
	Product Model Number	327V...-BN
	Applications Software Version	SW 114.158.9.2020
	Firmware Revision	FW 100.3.9.2020/GR
	BACnet Protocol Revision	15
	Product Description	Volumetric flow / Pressure compact control device
	BACnet Standard Device Profile	BACnet Application Specific Controller (B-ASC)
	Segmentation capability	No
	Data Link Layer Options	MS/TP master
	Device Address Binding	No static device binding supported
	Networking Options	None
	Character Sets Supported	ISO 10646 (UTF-8)
	Gateway Options	None
	Network Security Options	Non-secure device

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Technical data

General Information	Conformation	Listed by BTL
	Write Cycles Persistent Objects	max. 1.000.000
BACnet Interoperability Building Blocks (supported BIBBs)	Data Sharing	ReadProperty-B (DS-RP-B) ReadPropertyMultiple-B (DS-RPM-B) WriteProperty-B (DS-WP-B) COV-B (DS-COV-B)
	Device Management	DynamicDeviceBinding-B (DM-DDB-B) DynamicObjectBinding-B (DM-DOB-B) DeviceCommunicationControl-B (DM-DCC-B)
BACnet MS/TP	Baud rates	9600, 19200, 38400 (Default), 57600, 76800, 115200
	Adress	0...127 (Default: 1)
	Number of nodes	max 128 (1/4 Unit Load)
	Termination	120 Ω (external)
Parameterisation	Tool	WIN-VAV2

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Protocol Implementation Conformance Statement - PICS

Standard Object Types Supported

Object type	Optional properties	Writeable properties
Device	Description Location Active COV Subscriptions Max Master Max Info Frames Profile Name	Object Identifier Object Name Location Description APDU Timeout (1000…60‘000) Number of APDU Retries (0...10) Max Master (1...127) Max Info Frames (1...255)
Analog Input [AI]	Description COV Increment	COV Increment
Analog Output [AO]	Description COV Increment	Present Value COV Increment Relinquish Default
Analog Value [AV]	Description COV Increment	Present Value COV Increment
Binary Input [BI]	Description Active text Inactive Text	
Multi-state Input [MI]	Description State Text	
Multi-state Output [MO]	Description State Text	Present Value Relinquish Default
Multi-state Value [MV]	Description State Text	Present Value

The device does not support the services CreateObject and DeleteObject.
The specified maximum length of writable strings is based on single-byte characters.
- Object name: 32 char
- Location: 64 char
- Description: 64 char

Service processing
The device supports the DeviceCommunicationControl and ReinitializeDevice services. No password is required.
A maximum of 6 active COV subscriptions with a lifetime of 1…28‘800 sec. (8 hours) are supported.

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BACnet Object Description

Object Name	Object Type [Instance]	Description Comment *Status_Flags*	Values	COV Increment	Access
Device	Device [Inst.Nr]		0…4194302 *Default: 1*	–	W
RelSpAnalog	AI[0]	Analog Setpoint in % Shows the Setpoint if actuator is controlled by analog signal (SpSource MV[122] is Analog) *If SpSource MV[122] is Bus then Out_Of_Service is TRUE*	0...100,00	0,01...100,00 *Default: 1*	R
RelPos	AI[4]	Relative Position in %	0...100,00	0,01...100,00 *Default: 1*	R
AbsPos	AI[5]	Absolute Position in degree or mm The unit depends on the device: [°] for actuators with rotary movement [mm] for actuators with linear movement	0...max angle / stroke	0,01...655,35 *Default: 1*	R
RelActual_Value	AI[6]	Relative Actual Value in %	0…100,00	0,01...100.00 *Default: 1*	R
AbsActual_Value	AI[7]	Absolute Actual Value in unit selected Unit in UnitSet MV[201] selected	0...Nom	0...65535 *Default: 1*	R
Sens1Analog	AI[8]	Sensor 1 as analog value in mV / Ohm Current value of sensor 1 in case Sensor1Type MV[107] is Active/hybrid Unit in sensor type MV[107] selected If Sens1Type MV[107] is not Active(2) o SpSource MV[122] is Analog then Out_Of_Service is TRUE	0…65535	1...65535 *Default: 1*	R
RelSpBus	AO[0]	Bus communication Setpoint in % Setpoint for actuator between Min AV[105] and Max AV[106] if controlled via bus or if mode *open loop* to adapted range of rotation *If SpSource MV[122] is Analog then Out_Of_Service is TRUE*	0…100,00 *Default: 0*	0.01...100 *Default: 1*	C
Min	AV[105]	Min Setpoint in %	0...100,00 *Default: 0*	0.01...100 *Default: 1*	W

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Max	AV[106]	Max Setpoint in %	0...100,00 *Default: 100*	0.01...100 *Default: 1*	W
Mid	AV[118]	Mid Setpoint in %	0...100,00 *Default: 100*	0.01...100 *Default: 1*	W
AbsNom_value	AV[233]	Nominal Value in unit selected Value in unit selected in MV[201]	0…65535	0.01...100 *Default: 1*	R
BusFailWatchdog	AV[109]	Timeout for Bus Watchdog in s 0 = watchdog deactivated Timeout is active at power on, until first RelSpBus AO[0] or Override MO[1] is written. The watchdog is retriggered with every successful write of set point or override. Relinguish_Default becomes valid if Bus Watchdog is active If SpSource MV[122] is Analog bus watchdog is inactive	0...65535 *Default: 120*	0...65’535 *Default: 1*	W
SummaryStatus	BI[0]	Summary Status Summary of all Status (MI[104], MI[109])	Inactive_Text: OK Active_Text: Not OK		R
Sens1Switch	BI[8]	Sensor 1 as Switch Indicates value on sensor 1 in case Sensor1Type MV[107] is Switch If Sens1Type MV[107] is not Switch or SpSource MV[122] is Analog then Out_Of_Service is TRUE	Inactive_Text: Inactive Active_Text: Active		R
InternalActivity	MI[2]	Internal Activity Internal test running Adaption is running	1: None 2: Test 3: Adaption		R
StatusActuator	MI[104]	Status Actuator Program Memory fault Supply Voltage to low Actuator cannot move: Mechanical overload e.g. blocked actuator etc. Mechanical travel increased: The actuator has been moved outside the adapted working range	1: OK 2: EEPROM Error 3: Under voltage 4: Actuator cannot move 5: Mechanical travel increased		R
StatusDevice	MI[109]	Status Device Bus Watchdog trigged – Timeout expired	1: OK 2: Bus Watchdog triggered		R

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Override	MO[1]	Override Control Override the setpoint (RelSpBus AO[0] or analog signal) with defined values	1: None 2: Open 3: Close 4: Min 5: Max 6: Mid 7: Fast Open 8: Fast Close 9: Stop *Default: None(1)*		C
Command	MV[2]	Initiate Function After command is sent, value returns to None. Initiation of actuator functions for service and test. Performs a power up sequence	1: None 2: Adaption 3: Test 4: Reset *Default: None(1)*		W
Sens1Type	MV[107]	Sensor 1 Type *If SpSource MV[122] is Analog then Out_Of_Service is TRUE*	1: None 2: Active / Hybrid 3: Passive 1K 4: – 5: Switch *Default: None(1)*		W
SpSource	MV[122]	Setpoint Source *If Analog then actuator is controlled by analog signal 0/2...10 V on wire 3.* *If Bus then setpoint via bus* RelSpBus *AO[0]*	1: Analog 2: Bus *Default: Bus(2)*		W
ControlMode	MV[123]	Control Mode Open Loop Closed Loop *(VAV or Pressure Control depend on Unit MV[201])*	1: Open Loop 2: Closed Loop *Default: Closed Loop(2)*		W
UnitSel	MV[201]	Unit Selection The selected unit is valid for AI[7] and AV[233]	1: l/s 2: m³/h 3: Pa 4: WC 5: cfm *Default: m3/h(2)*		W

Access: R = Read, W = Write, C = Commandable with priority array

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