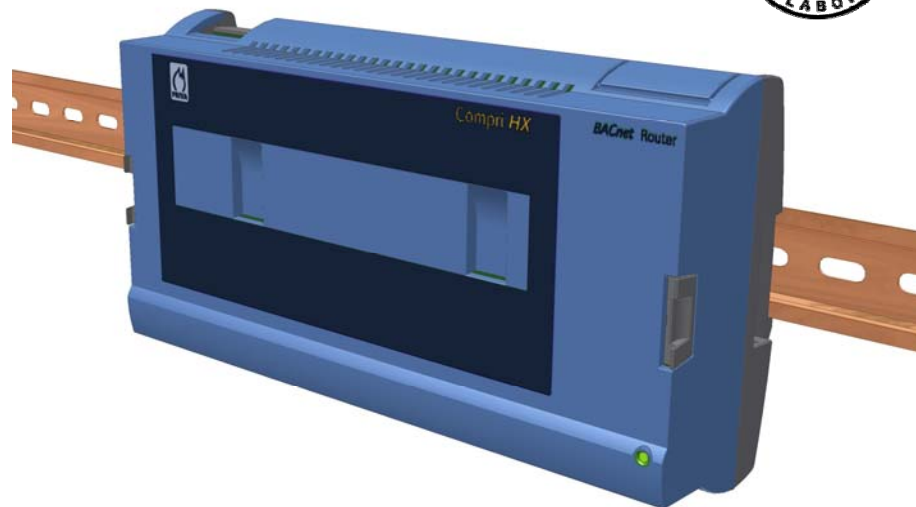




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## BACnet Protocol Implementation Conformance Statement

### TC BACnet Router



Date : 26<sup>th</sup> May 2008 (rev 4)  
Vendor Name : Priva BV (105)  
Product Name : TC BACnet router  
Software Version : 6.1  
BACnet protocol Revision : 135 – 2004  
Date Tested : 6<sup>th</sup> April 2008



## Products

Product	Model Number	Protocol Revision	Software Version
TC BACnet router	HX	135-2004	6.1

Date Tested: 6<sup>th</sup> April 2008

## Vendor Information

### Priva BV

P.O.Box 18  
2678 ZG De Lier  
The Netherlands  
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## Product Description

The TC BACnet Router in combination with other Priva products a building management system is offered that meets all requirements that are stated in BACnet specifications.

Apart from including the TC BACnet router in a new project, it is also easy to change a current Priva Top Control installation in a BACnet installation by adding the router. This is because the control computers act like a native BACnet towards the network through the router, defined as B-BC (BACnet Building Controller) within BACnet. The continuity and compatibility of current installations is therefore guaranteed in this way, without having to install a complete new control network.

When the TC BACnet Router is added to an existing project<sup>1</sup>, the changes are generated automatically by means of TC Select. Therefore no extra engineering is required for data conversion and it offers the guarantee that all objects are also actually present. This work method also means that considerable time can be gained in the engineering process

The TC BACnet Router also includes full router functionality<sup>2</sup>, BACnet/IP and multiple MS/TP networks.

<sup>1,2</sup> The TC BACnet router consists of two different types of devices, each with there own characteristics. Therefore this document states two sets of BIBB's.

## BACnet Standardized Device Profile

Product	Device Profile
All Products	B-AAC



## 1. Router device

### Supported BIBB's

Product	Supported BIBBs	BIBB Name
	DS-RP-B	Data Sharing-ReadProperty-B
	DS-RPM-B	Data Sharing-ReadPropertyMultiple-B
	DS-WP-B	Data Sharing-WriteProperty-B
	DS-WPM-B	Data Sharing-WritePropertyMultiple-B
	DM-DDB-B	Device Management-Dynamic Device Binding-B
	DM-DOB-B	Device Management-Dynamic Object Binding-B
	DM-DCC-B	Device Management-DeviceCommunicationControl-B
	DM-TS-B	Device Management-TimeSynchronisation-B
	DM-UTC-B	Device Management-UTC TimeSynchronisation-B
	DM-RD-B	Device Management-ReinitializeDevice-B
	DM-BR-B	Device Management-Backup And Restore-B
	NM-RC-B	Network Management-Router Configuration-B

### Standard Object Types Supported

Product	Object Type	Creatable	Deletable
	Device	No	No
	File	No	No

## 2. Building Controller

### Supported BIBB's

Product	Supported BIBBs	BIBB Name
	DS-RP-A	Data Sharing-ReadProperty-A
	DS-RP-B	Data Sharing-ReadProperty-B
	DS-RPM-B	Data Sharing-ReadPropertyMultiple-B
	DS-WP-A	Data Sharing-WriteProperty-A
	DS-WP-B	Data Sharing-WriteProperty-B
	DS-WPM-B	Data Sharing-WritePropertyMultiple-B
	DS-COV-B	Data Sharing-COV-B
	AE-N-I-B	Alarm and Event-Notification Internal-B
	AE-ACK-B	Alarm and Event-ACK-B
	AE-INFO-B	Alarm and Event-Information-B
	AE-ASUM-B	Alarm and Event-Alarm Summary-B
	AE-ESUM-B	Alarm and Event-Enrollment Summary-B



Product	Supported BIBBs	BIBB Name
	SCHEM-I-B	Schedule-Internal-B
	SCHEM-E-B	Schedule-External-B
	T-VMT-I-B	Trending-Viewing and Modify Trends Internal-B
	T-VMT-E-B	Trending-Viewing and Modify Trends External-B
	T-ATR-B	Trending-Automated Trend Retrieval-B
	DM-DDB-A	Device Management-Dynamic Device Binding-A
	DM-DDB-B	Device Management-Dynamic Device Binding-B
	DM-DOB-B	Device Management-Dynamic Object Binding-B
	DM-DCC-B	Device Management-DeviceCommunicationControl-B
	DM-TS-B	Device Management-TimeSynchronisation-B
	DM-UTC-B	Device Management-UTC TimeSynchronisation-B
	DM-RD-B	Device Management-ReinitializeDevice-B
	DM-LM-B	Device Management-List Manipulation-B
	DM-OCD-B	Device Management-Object Creation en Deletion-B
	NM-CE-A	Network Management-Connection

### Standard Object Types Supported

Product	Object Type	Creatable	Deletable
All Products	Accumulator	No	No
	Analog Input	No	No
	Analog Value	No	No
	Binary Input	No	No
	Binary Output	No	No
	Binary Value	No	No
	Calendar	Yes	Yes
	Device	No	No
	Event Enrolment	No	No
	File	No	No
	Loop	No	No
	Multi-state Output	No	No
	Multi-state Value	No	No
	Notification	No	No
	Schedule	Yes	Yes
	Trend	Yes	Yes



### Data Link Layer Options

Product	Data Link	Options
All Products	MS/TP Master	9600, 19200, 38400, 76800
	BACnet/IP	

### Segmentation Capability

Product	Segmentation Type	Supported	Window Size (MS/TP product limited to 1)
All Products	Able to transmit segmented messages	Yes	1
	Able to receive segmented messages	Yes	1

### Device Address Binding

Product	Static Binding Supported
All Products	No

### Character Sets

Product	Character Sets supported
All Products	ANSI X3.4
	ISO 8859-1



## Supported Properties per Object

### Accumulator Object

Properties	Optional/ required	Read / Write
Object Identifier	R	R
Object Name	R	R
Object Type	R	R
Present Value	R	R/W
Description	O	R
Status Flags	R	R
Event State	R	R
Out of Service	R	R/W
Scale	R	R
Units	R	R
Prescale	O	R
Max Pres Value	R	R

### Analog Input object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R
Object_Name	R	R
Object_Type	R	R
Present_Value	R	R/W <sup>1</sup>
Description	O	R
Status Flags	R	R
Event State	R	R
Reliability	O	R
Out_of_Service	R	R/W
Units	R	R
COV_Increment	O	R/W

<sup>1</sup> Writeable if out-of-service is TRUE



### Analog Value object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R
Object_Name	R	R
Object_Type	R	R
Present_Value	R	R/W <sup>1</sup>
Description	O	R
Status Flags	R	R
Event State	R	R
Out_of_Service	R	R/W
Units	R	R
Priority array	R	R <sup>2</sup>
Relinquish Default	R	R
COV_Increment	O	R/W

<sup>1</sup> Writeable if out-of-service is TRUE or object is commandable

<sup>2</sup> Available if object is commandable

### Binary Input object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R
Object_Name	R	R
Object_Type	R	R
Present_Value	R	R/W <sup>1</sup>
Description	O	R
Status Flags	R	R
Event State	R	R
Out_of_Service	R	R/W
Polarity	R	R
Inactive Text	O	R
Active Text	O	R
Time Delay	O <sup>2</sup>	R
Notification Class	O <sup>2</sup>	R
Alarm Value	O <sup>2</sup>	R
Event Enable	O <sup>2</sup>	R



Properties	Optional/ required	Read / Write
Acked Transitions	O <sup>2</sup>	R
Notify Types	O <sup>2</sup>	R
Event Time Stamps	O <sup>2</sup>	R

<sup>1</sup> Writeable if out-of-service is TRUE

<sup>2</sup> Available if object has a notification class

### Binary Output object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R
Object_Name	R	R
Object_Type	R	R
Present_Value	R	R/W <sup>1</sup>
Description	O	R
Status Flags	R	R
Event State	R	R
Out_of_Service	R	R/W
Polarity	O	R
Inactive Text	O	R
Active Text	O	R
Priority Array	R	R
Relinquish Default	R	R

<sup>1</sup> Writeable if out-of-service is TRUE

### Binary Value Object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R
Object_Name	R	R
Object_Type	R	R
Present_Value	R	R/W <sup>1</sup>
Description	O	R
Status Flags	R	R
Event State	R	R
Out_of_Service	R	R/W



Properties	Optional/ required	Read / Write
Inactive Text	O	R
Active Text	O	R
Priority Array	R	R <sup>2</sup>
Relinquish Default	R	R
Time Delay	O <sup>3</sup>	R
Notification Class	O <sup>3</sup>	R
Alarm Value	O <sup>3</sup>	R
Event Enable	O <sup>3</sup>	R
Acked Transitions	O <sup>3</sup>	R
Notify Types	O <sup>3</sup>	R
Event Time Stamps	O <sup>3</sup>	R

<sup>1</sup> Writeable if out-of-service is TRUE or object is commandable

<sup>2</sup> Available if object is commandable

<sup>3</sup> Available if object has a notification class

### Calendar object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R/W <sup>1</sup>
Object_Name	R	R/W <sup>1</sup>
Object_Type	R	R
Present_Value	R	R
Description	O	R/W <sup>2</sup>
Date List	R	R/W

<sup>1</sup> Settable at creation of object

<sup>2</sup> Only if object is dynamically created

### Device object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R
Object_Name	R	R
Object_Type	R	R
System Status	R	R
Vendor Name	R	R
Vendor Identifier	R	R



Properties	Optional/ required	Read / Write
Model Name	R	R
Firmware revision	R	R
Application Software Version	R	R
Description	O	R
Protocol Version	R	R
Protocol Revision	R	R
Protocol Services Supported	R	R
Protocol Object Types Supported	R	R
Object List	R	R
Max APDU Length Accepted	R	R
Segmentation Supported	R	R
Max Segment Accepted	O	R
Local Time	O	R
Local Date	O	R
UTC Offset	O	R
Daylight Savings Status	O	R
APDU Segment Timeout	O	R
APDU Timeout	R	R
Number of APDU Retries	R	R
Device Address Binding	R	R/W
Database Revision	R	R
Configuration Files	O	R
Last Restore Time	O	R
Backup Failure Timeout	O	R
Active COV Subscriptions	O	R

### Event Enrollment Object

Properties	Optional/ required	Read / Write
Object Identifier	R	R
Object Name	R	R
Object Type	R	R



Properties	Optional/ required	Read / Write
Description	O	R
Event Type	R	R
Notify Type	R	R
Event Parameters	R	R
Object Property Reference	R	R
Event State	R	R
Event Enable	R	R
Acked Transitions	R	R
Notification Class	R	R
Event Time Stamps	R	R

### File Object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R
Object_Name	R	R
Object_Type	R	R
Description	O	R
File Type	R	R
File Size	R	R
Modification Date	R	R
Archive	R	R/W
Read Only	R	R
File Access Method	R	R

### Loop Object

Properties	Optional/ required	Read / Write
Object_Identifier	R	R
Object_Name	R	R
Object_Type	R	R
Present_Value	R	R/W <sup>1</sup>
Description	O	R



Properties	Optional/ required	Read / Write
Status Flags	R	R
Event State	R	R
Out_of_Service	R	R/W
Output Units	R	R
Manipulated Variable Reference	R	R
Controlled Variable Reference	R	R
Controlled Variable Value	R	R
Controlled Variable Units	R	R
Setpoint Reference	R	R
Setpoint	R	R
Action	R	R/W
Proportional Constant	O	R/W
Proportional Constant Units	O	R
Derivative Constant	O	R/W
Derivative Constant Units	O	R
Bias	O	R/W
Maximum Output	O	R/W
Minimum Output	O	R/W
Priority for Writing	R	R/W
COV Increment	O	R/W

<sup>1</sup> Writeable if out-of-service is TRUE

### Multi-State Output object

Properties	Optional/ required	Read / Write
Object Identifier	R	R
Object Name	R	R
Object Type	R	R
Present Value	R	R/W
Description	O	R
Status Flags	R	R
Event State	R	R



Properties	Optional/ required	Read / Write
Out of Service	R	R/W
Number of States	R	R
State Text	O	R
Priority Array	R	R
Relinquish Default	R	R

### Multi-State Value object

Properties	Optional/ required	Read / Write
Object Identifier	R	R
Object Name	R	R
Object Type	R	R
Present Value	R	R/W <sup>1</sup>
Description	O	R
Status Flags	R	R
Event State	R	R
Out of Service	R	R/W
Number of States	R	R
State Text	O	R
Priority Array	O	R <sup>2</sup>
Relinquish Default	O	R

<sup>1</sup> Writeable if out-of-service is TRUE or object is commandable

<sup>2</sup> Available if object is commandable

### Notification class object

Properties	Optional/ required	Read / Write
Object Identifier	R	R
Object Name	R	R
Object Type	R	R
Description	O	R
Notification Class	R	R
Priority	R	R/W
Ack Required	R	R



Properties	Optional/ required	Read / Write
Recipient List	R	R/W

### Schedule object

Properties	Optional/ required	Read / Write
Object Identifier	R	R/W <sup>2</sup>
Object Name	R	R/W <sup>2</sup>
Object Type	R	R
Present Value	R	R/W <sup>1</sup>
Description	O	R/W <sup>3</sup>
Effective Period	R	R/W
Weekly Schedule	O	R/W
Exception Schedule	O	R <sup>4</sup>
Schedule Default	R	R/W
List Of Object Property References	R	R/W
Priority for Writing	R	R/W
Status Flags	R	R
Out Of Service	R	R/W
Reliability	R	R

<sup>1</sup> Writeable if out-of-service is TRUE

<sup>2</sup> Settable at creation of object

<sup>3</sup> Only if object is dynamically created

<sup>4</sup> Reference to calendarobject

### Trend Log object

Properties	Optional/ required	Read / Write
Object Identifier	R	R/W <sup>1</sup>
Object Name	R	R/W <sup>1</sup>
Object Type	R	R
Description	O	R/W <sup>2</sup>
Log Enable	R	R/W
Log Device Object Property	O	R/W <sup>2</sup>
Log Interval	O	R/W <sup>2</sup>
Stop When Full	R	R



Properties	Optional/ required	Read / Write
Buffer Size	R	R/W <sup>1</sup>
Log Buffer	R	R
Record Count	R	R/W
Total Record Count	R	R
Notification Threshold	O	R/W <sup>2</sup>
Records Since Notification	O	R <sup>2</sup>
Last Notify Record	O	R <sup>2</sup>
Events State	R	R
Notification Class	O	R/W <sup>2</sup>
Event_Enable	O	R/W <sup>2</sup>
Acked Transitions	O	R <sup>2</sup>
Notify Types	O	R <sup>2</sup>
Event Time Stamps	O	R <sup>2</sup>

<sup>1</sup> Settable at creation of object

<sup>2</sup> Only if object is dynamically created