

manual

PICS und BIBBs PMC2 / DR4000

**Dieses Dokument beschreibt die BACnet PICS und BIBBs
der Produkte PMC2 Automationsstation und
PMC2 Kompaktautomationsstation DR4000
Firmware Version 6.6**



Symbole / Konventionen



Das ist eine Warnung (Gefahr)



Gefahr durch elektrische Spannung (Lebensgefahr oder Körperverletzung)



Das ist ein Hinweis



Das ist ein Verweis auf weiterführende Informationen



Vorsichtsmaßnahmen bei Handhabung elektrostatisch entladungsgefährdeter Bauelemente beachten.

- Mauszeiger:



- Trennzeichen für die nächste Menüebene: | z.B. **Datei** | **Speichern unter..**

- Bedienereingaben, Verzeichnispfade: Courier Standard

- Bildschirm- /Displayanzeigen: **Courier fett**

- Ende des Dokuments: ◆

Sicherheitshinweise



Dieses Handbuch wendet sich an technisch qualifiziertes Fachpersonal, welches ausgebildet ist oder einschlägiges Wissen auf dem Gebiet der Mess-, Steuerungs- und Regeltechnik besitzt und Sicherheitshinweise und Warnungen im Einzelfall richtig interpretieren kann. Bei unqualifizierten Eingriffen in das System/Gerät können Körper- und Sachschäden eintreten. Nur qualifiziertes Personal darf deshalb Eingriffe in das System vornehmen. Die Geräte dürfen nur für die im Handbuch beschriebenen Einsatzfälle und nur in Verbindung mit von Neuberger Gebäudeautomation freigegebenen Fremdgeräten verwendet werden.

Beachten Sie bei Projektierung, Planung und Programmierung, dass unberechtigtes Einschalten eines Antriebes zu Anlagen- oder Personenschäden führen kann.

Werden Mess- und Prüfarbeiten unter Spannungen erforderlich, sind die Festlegungen und die Durchführungsanweisungen der Unfallverhütungsvorschrift der Berufsgenossenschaft BGV A3 (VBG 4) zu beachten, insbesondere § 8 "Zulässige Abweichungen beim Arbeiten an aktiven Teilen", sowie die VDE-Vorschriften. Auf geeignete Werkzeuge und Messgeräte ist besonders zu achten.

Impressum

Technische Änderungen vorbehalten. Copyright © Neuberger Gebäudeautomation GmbH, 91541 Rothenburg o.d.T., DEUTSCHLAND, www.neuberger.net, info@neuberger.net, Technische Änderungen sind vorbehalten. Kopie, Weitergabe an Dritte oder Änderung erfordern unser Einverständnis. Dateiname: HB2333_BACnet-BIBBs_PICS_PMC2_DR4000.docx

Inhalt

	Symbole / Konventionen	2
	Sicherheitshinweise	2
	Impressum	2
1.	BACNET CONFORMANCE CLASS	3
2.	PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (PICS)	4
	2.1. BACnet-Automationsstation PMC2 / DR4000.....	4
3.	ANHANG A: LISTE DER VERFÜGBAREN OBJEKT-EIGENSCHAFTEN	9
4.	ANHANG B: ANGABEN ZU OBJEKT-EIGENSCHAFTEN	17

1. BACNET CONFORMANCE CLASS

Durch Zusammenfassen einzelner BIBBs werden funktionale Eigenschaften der einzelnen BACnet-Geräte beschrieben.

2. PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (PICS)

2.1. BACnet-Automationsstationen PMC2 / DR4000

An dieser Stelle ist die PICS-Liste (BACnet/AS PMC2), wie sie in der BACnet-Norm ASHRAE 135-2012 definiert ist, mit den von Neuberger Gebäudeautomation GmbH realisierten BACnet-Eigenschaften aufgeführt.

BACnet Protocol Implementation Conformance Statement

Date:	26.04.2016
Vendor Name:	Neuberger Gebäudeautomation GmbH
Product Name:	PMC
Product Model Number:	PMC2 / DR4000
Applications Software Version:	2
Firmware Revision:	V6.6
BACnet Protocol Version	1
BACnet Revision:	135-2012
Protocol revision	12
Product Description:	Automationsstation PMC2 Kompakt- Automationsstation DR4000

BACnet Standardized Device Profile (Annex L):

- BACnet Operator Workstation (B-OWS)
- BACnet Building Controller (B-BC)
- BACnet Advanced Application Controller (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS)
- BACnet Smart Actuator (B-SA)

Protocol Implementation Conformance Statement (PICS)

BACnet-Automationsstationen PMC2 / DR4000

List of all BACnet Interoperability Building Blocks Supported:

PMC BACnet Building Controller		
	supported service	
Data Sharing	Read-Property	DS-RP-A,B
	Read-Property-Multiple	DS-RPM-A,B
	Write-Property	DS-WP-A,B
	Write-Property-Multiple	DS-WPM-A,B
	Data Sharing-COV	DS-COV-A,B
	Data Sharing-COV -Property	DS-COVP-B
Alarm & Event Management	Alarm and Event-Notification Internal-B	AE-N-I-B
	Alarm and Event-Notification External-B	AE-N-E-B
	Acknowledge Alarm	AE-ACK-B
	Get Event Information	AE-INFO-B
	Get Alarm Summary	AE-ASUM-B
	Get Enrollment Summary	AE-ESUM-B
Scheduling	Schedule internal	SCHED-I-B
	Schedule external	SCHED-E-B
Trending	Viewing and Modifying internal	T-VMT-I-B
	Viewing and Modifying external	T-VMT-E-B
	Automated Trend Retrieval	T-ATR-B
Device & Network Management	Dynamic Device Binding	DM-DDB-A,B
	Device Object Binding	DM-DOB-B
	Device Communication Control	DM-DCC-B
	Time Synchronization	DM-TS-B or DM-UTC-B
	List Manipulation	DM-LM-B
	Reinitialize Device	DM-RD-B
	Backup and Restore	DM-BR-B
	Object Creation and Deletion	DM-OCD-B

Protocol Implementation Conformance Statement (PICS)

BACnet-Automationsstationen PMC2 / DR4000

BACnet Standard Object Types:

Object	Supported	Support dynamic Object Creation and Deletion
analog-input	x	o
analog-output	x	o
analog-value	x	o
binary-input	x	o
binary-output	x	o
binary-value	x	o
calendar	x	x
device	x	o
file	x	o
loop	x	o
multi-state-input	x	o
multi-state-output	x	o
multi-state-value	x	o
notification-class	x	x
schedule	x	x
event enrollment	x	x
trend-log	x	x

x = supported
o = not supported

Im Anhang A sind die verfügbaren Eigenschaften der einzelnen Objekte aufgelistet.

Protocol Implementation Conformance Statement (PICS)

BACnet-Automationsstationen PMC2 / DR4000

BACnet Standard Services:

BACnet Standard Services	Initiation	Execution
Acknowledge Alarm	o	x
ConfirmedCOVNotification	x	x
ConfirmedEventNotification	x	o
GetAlarmSummary	o	x
GetEnrollmentSummary	o	x
GetEventInformation	o	x
SubscribeCOV	x	x
SubscribeCOVProperty	o	x
AtomicReadFile	o	x
AtomicWriteFile	o	x
AddListElement	o	x
RemoveListElement	o	x
CreateObject	o	x
DeleteObject	o	x
ReadProperty	x	x
ReadPropertyMultiple	x	x
ReadRange	o	x
WriteProperty	x	x
WritePropertyMultiple	x	x
DeviceCommunicationControl	o	x
ReinitializeDevice	o	x
I-Am	x	x
I-Have	x	x
UnconfirmedCOVNotification	x	x
UnconfirmedEventNotification	x	o
TimeSynchronization	o	x
UTC-TimeSynchronization	o	x
Who-Has	o	x
Who-Is	x	x

x = supported

o = not supported

Protocol Implementation Conformance Statement (PICS)

BACnet-Automationsstationen PMC2 / DR4000

Segmentation Capability:

- Segmented requests supported Window Size
- Segmented responses supported Window Size

Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ASTM 878.1, 2.5 Mb. ARCNET (Clause 8)
- ASTM 878.1, RS-485 ARCNET (Clause 8), baud rate(s) _____
- MS/TP master (Clause 9), baud rate(s): _____
- MS/TP slave (Clause 9), baud rate(s): _____
- Point-To-Point, EIA 232 (Clause 10), baud rate(s): _____
- Point-To-Point, modem, (Clause 10), baud rate(s): _____
- LonTalk, (Clause 11), medium: _____
- Other: _____

Device Address Binding:

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) Yes No

Networking Options:

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
- Annex H, BACnet Tunneling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)
Does the BBMD support registrations by Foreign Devices? Yes No

Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

- ISO 10646 (UTF-8)

3. ANHANG A: LISTE DER VERFÜGBAREN OBJEKT-EIGENSCHAFTEN

Object	Available Property	Writable
analog-input	object-identifier	
	object-name	
	object-type	
	present-value	
	description	W
	device-type	
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	units	
	min-pres-value	
	max-pres-value	
	resolution	
	COV-increment	W
	time-delay	W
	notification-class	W
	high-limit	W
	low-limit	W
	deadband	W
	limit-enable	W
	event-enable	W
	acked-transitions	
notify-type	W	
event-time-stamps		
Update interval		

Object	Available Property	Writable
analog-output	object-identifier	
	object-name	
	object-type	
	present-value	W
	description	W
	device-type	
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	units	
	min-pres-value	
	max-pres-value	
	resolution	
	priority-array	
	relinquish-default	
	COV-increment	W
	time-delay	W
	notification-class	W
	high-limit	W
	low-limit	W
	deadband	W
	limit-enable	W
event-enable	W	
acked-transitions		
notify-type	W	
event-time-stamps		

Anhang A: Liste der verfügbaren Objekt-Eigenschaften BACnet-Automationsstationen PMC2 / DR4000

Object	Available Property	Writable
analog-value	object-identifier	
	object-name	
	object-type	
	present-value	W
	description	W
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	units	
	priority-array	
	relinquish-default	
	COV-increment	W
	time-delay	W
	notification-class	W
	high-limit	W
	low-limit	W
	deadband	W
	limit-enable	W
	event-enable	W
acked-transitions		
notify-type	W	
event-time-stamps		

Object	Available Property	Writable
binary-input	object-identifier	
	object-name	
	object-type	
	present-value	
	description	W
	device-type	
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	polarity	
	inactive-text	
	active-text	
	elapsed-active-time	W
	time-of-active-time-reset	
	change-of-state-time	
	change-of_state-count	W
	time-of-state-count-reset	
	time-delay	W
	notification-class	W
	alarm-value	
	event-enable	W
	acked-transitions	
	notify-type	W
	event-time-stamps	

Anhang A: Liste der verfügbaren Objekt-Eigenschaften BACnet-Automationsstationen PMC2 / DR4000

Object	Available Property	Writable
binary-output	object-identifier	
	object-name	
	object-type	
	present-value	W
	description	W
	device-type	
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	polarity	
	elapsed-active-time	W
	time-of-active-time-reset	
	change-of-state-time	
	change-of_state-count	W
	time-of-state-count-reset	
	minimum-off-time	
	minimum-on-time	
	inactive-text	
	active-text	
	priority-array	
	relinquish-default	
	time-delay	W
	notification-class	W
	feedback-value	
	event-enable	W
	acked-transitions	
notify-type	W	
event-time-stamps		

Object	Available Property	Writable
binary-value	object-identifier	
	object-name	
	object-type	
	present-value	W
	description	W
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	inactive-text	
	active-text	
	priority-array	
	elapsed-active-time	
	time-of-active-time-reset	W
	change-of-state-time	
	change-of_state-count	W
	time-of-state-count-reset	
	minimum-off-time	
	minimum-on-time	
	relinquish-default	
	time-delay	W
	notification-class	W
	alarm-value	
	event-enable	W
	acked-transitions	
	notify-type	W
	event-time-stamps	

Anhang A: Liste der verfügbaren Objekt-Eigenschaften BACnet-Automationsstationen PMC2 / DR4000

Object	Available Property	Writable
calendar	object-identifier	
	object-name	
	object-type	
	description	W
	present-value	
	date-list	W

Object	Available Property	Writable
device	object-identifier	
	object-name	W
	object-type	
	system-status	
	vendor-name	
	vendor-identifier	
	model-name	
	firmware-revision	
	application-software-version	
	location	
	description	W
	protocol-version	
	protocol-revision	
	protocol-services-supported	
	protocol-object-types-supported	
	object-list	
	max-APDU-length-accepted	
	segmentation-supported	
	max-segments-accepted	
	local-time	
	local-date	
	utc-offset	
	daylight-savings-status	
	apdu-segment-timeout	
	apdu-timeout	
	number-of-APDU-retries	
	device-address-binding	
	database-revision	
	configuration-files	
	last-restore-time	
	backup-failure-timeout	W
	active-cov-subscriptions	
restart-notification-recipients	W	

Anhang A: Liste der verfügbaren Objekt-Eigenschaften BACnet-Automationsstationen PMC2 / DR4000

Object	Available Property	Writable
event enrollment	object-identifier	
	object-name	
	object-type	
	description	W
	event-type	
	notification-class	W
	event parameters	W
	object-property-reference	W
	event-state	
	event-enable	W
	acked-transitions	
	notify-type	W
	event-time-stamps	

Object	Available Property	Writable
file	object-identifier	
	object-name	
	object-type	
	archive	W
	description	W
	file-access-method	
	file-size	W
	file-type	
	modification-date	
	read-only	

Anhang A: Liste der verfügbaren Objekt-Eigenschaften BACnet-Automationsstationen PMC2 / DR4000

Object	Available Property	Writable
loop	object-identifier	
	object-name	
	object-type	
	present-value	
	description	W
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	update-interval	
	output-units	
	manipulated-variable-reference	
	controlled-variable-reference	
	controlled-variable-value	
	controlled-variable-units	
	setpoint-reference	
	Setpoint	
	action	
	proportional-constant	W
	proportional-constant-units	
	integral-constant	W
	integral-constant-units	
	derivative-constant	W
	derivative-constant-units	
	bias	W
	deadband	W
	maximum-output	W
	minimum-output	W
	priority-for-writing	
	COV-increment	W
	time-delay	W
	notification-class	W
error-limit	W	
event-enable	W	
acked-transitions		
notify-type		
event-time-stamps		

Object	Available Property	Writable
multi-state-input	object-identifier	
	object-name	
	object-type	
	present-value	
	description	W
	device-type	
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	number-of-states	W
	state-text	W
	time-delay	W
	notification-class	W
	alarm-values	
	fault-values	
	event-enable	W
	acked-transitions	
	notify-type	W
	event-time-stamps	

Anhang A: Liste der verfügbaren Objekt-Eigenschaften BACnet-Automationsstationen PMC2 / DR4000

Object	Available Property	Writable
multi-state-output	object-identifier	
	object-name	
	object-type	
	present-value	W
	description	W
	device-type	
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	number-of-states	W
	state-text	W
	priority-array	
	relinquish-default	
	time-delay	W
	notification-class	W
	feedback-value	
	event-enable	W
	acked-transitions	
	notify-type	W
event-time-stamps		

Object	Available Property	Writable
multi-state-value	object-identifier	
	object-name	
	object-type	
	present-value	W
	description	W
	status-flags	
	event-state	
	reliability	
	out-of-service	W
	number-of-states	W
	state-text	W
	priority-array	
	relinquish-default	
	time-delay	W
	notification-class	W
	alarm-values	
	fault-values	
	event-enable	W
	acked-transitions	
	notify-type	W
event-time-stamps		

Object	Available Property	Writable
notification-class	object-identifier	
	object-name	
	object-type	
	description	W
	notification-class	
	priority	
	ack-required	
	recipient-list	W

Anhang A: Liste der verfügbaren Objekt-Eigenschaften BACnet-Automationsstationen PMC2 / DR4000

Object	Available Property	Writable
schedule	object-identifier	
	object-name	
	object-type	
	present-value	
	description	W
	effective-period	W
	weekly-schedule	W
	exception-schedule	W
	schedule-default	
	list-of-object-property-references	
	priority-for-writing	
	status-flags	
	reliability	
	out-of-service	W

Object	Available Property	Writable
trend-log	object-identifier	
	object-name	
	object-type	
	description	W
	enable	W
	start-time	W
	stop-time	W
	log-device-object-property	W
	log-interval	W
	COV-resubscription-interval	W
	client-COV-Increment	W
	stop-when-full	W
	buffer-size	W
	log-buffer	
	record-count	W
	total-record-count	
	notification-threshold	W
	records-since-notification	
	last-notify-record	
	event-state	
	notification-class	W
	reliability	
	event-enable	W
	status-flags	
	acked-transitions	
	notify-type	W
	event-time-stamps	
	logging-type	W

4. ANHANG B: ANGABEN ZU OBJEKT-EIGENSCHAFTEN

Vorgaben	
Object-Name	40 Zeichen
Description	80 Zeichen
Calendar Object	mind. 10 Datumeinträge in Date- List je Instanz
Schedule Object	64 Instanzen
	mind. 12 Schaltzeiten im Weekly Schedule
	mind. 6 Datumeinträge oder Kalender-Verweise (Kombination möglich) im Exception_Schedule
	mind. 6 Schaltzeiten je Datum-Eintrag oder Kalender-Verweis im Exception Schedule

