

Driver Amit DB-Net/IP

Description

- Amit DB-Net/IP protocol implementation
- Automatic import of db.ini and hw.ini files
- Automatic import of aliases.csv files (unpacking WIDs to binary Bacnet objects)
- Reading arrays as individual Bacnet objects
- Optimized array reading
- Mathematical functions
- Ability to define WID as manual sign "outofservice" for other WID/Bacnet point
- Option to select type of Bacnet object for WID
- Description from WID (db.ini) will be automatically imported to Bacnet object
- Unlimited number of Amit devices

Bacnet implementation

DB-Net/IP	Bacnet
Simple variable	AnalogInput
Simple variable	AnalogOutput
Simple variable	AnalogValue
Simple variable	BinaryInput
Simple variable	BinaryOutput
Simple variable	BinaryValue
Array	AnalogInput
Array	AnalogOutput
Array	AnalogValue
Array	BinaryInput
Array	BinaryOutput
Array	BinaryValue
Alias	BinaryInput
Timestamp	AnalogInput
Continuous reading	BinaryValue

Properties:

- objectName
- objectType
- presentValue
- statusFlags
- outOfService
- covIncrement
- priorityArray
- relinquishDefault

DB-Net/IP implementation

Timestamp

Value can be reversed as $[\text{long timeMs} = \text{hodnota} * 1000000]$, time in ms from Unix Epoch e.g. starting 1.1.1970 UTC. Bacnet representation is readonly.

Simple variables

Generated Bacnet objects are read/write enabled.

Arrays

Driver optimize arrays reading. With DB-Net/IP it is possible to read only limited number of array elements in one step.

On export to Bacnet, arrays are split to individual objects and their name contains suffix `_col_row`. Index order is inverse to order of DB-Net protocol. That means if we have array of size $[1 \times 5]$, last Bacnet point will have suffix `_4_0`. Generated Bacnet objects are read/write enabled.

Alias extraction

Variables of type int or long can be automatically extracted to binary aliases on Bacnet. Objects of individual bits are generated as binaryInputs and they are readonly.

Driver settings

 Amit

PLC configuration
Log

IP address	Description	Enabled
10.0.3.19	nove PLC	✔

IP address:

Port:

Station number:

Password:

Local station number:

Point prefix on Bacnet:

Description:

Date/Time point name:

Enabled

Enable reading pause:

Continuous reading point name:

Pool delay [s]:

Disable autorefresh after [s]:

Number of attempts to send telegram:

Timeout[ms]:

DB file (db.ini):

HW file (hw.ini):

Alias file(aliases.csv):

Update reference:

Point name	Type	WID	Form
Akt_casDb	Variable	1,472	long
Alarm_A0	Variable	1,937	long
Alarm_A1	Variable	1,941	long
Alarm_A2	Variable	1,945	long
Alarm_AE0	Variable	1,949	long
Alarm_AE1	Variable	1,950	long
Alarm_AE2	Variable	1,951	long
Alarm_E0	Variable	1,938	long
Alarm_E1	Variable	1,942	long
Alarm_E2	Variable	1,946	long
Alarm_I0	Variable	1,939	long
Alarm_I1	Variable	1,943	long
Alarm_I2	Variable	1,947	long
Alarm_Q0	Variable	1,940	long
Alarm_Q1	Variable	1,944	long
Alarm_Q2	Variable	1,948	long
KotNadTV	Variable	1,752	float
KotNadUK	Variable	1,751	float
TV1Rezim	Variable	1,717	int
TV1IndTr	Variable	1,713	int
V1Krivka	Variable	1,125	float
V1PosuvKr	Variable	1,126	float
TV1ZozHl	Array	1,729	float
V1TvonVyp	Array	1,132	float
TV1Bity2	Variable	1,702	int

Point name:

Type:

WID:

Value type:

Lines number:

Rows number:

Description:

Bacnet object:

Math. function:

Value:

Manual point:

Point for bit 0 [name suffix]:

Point for bit 1 [name suffix]:

Point for bit 2 [name suffix]:

Point for bit 3 [name suffix]:

Point for bit 4 [name suffix]:

Point for bit 5 [name suffix]:

Point for bit 6 [name suffix]:

Point for bit 7 [name suffix]:

Point for bit 8 [name suffix]:

Point for bit 9 [name suffix]:

Point for bit 10 [name suffix]:

Point for bit 11 [name suffix]:

Point for bit 12 [name suffix]:

Point for bit 13 [name suffix]:

Point for bit 14 [name suffix]:

Point for bit 15 [name suffix]:

Point for bit 16 [name suffix]:

Point for bit 17 [name suffix]:

Point for bit 18 [name suffix]:

Point for bit 19 [name suffix]:

Point for bit 20 [name suffix]:

Point for bit 21 [name suffix]:

Point for bit 22 [name suffix]:

Devices editor

On top of the screen is located list of currently configured devices.

IP address	Description	Enabled
10.0.3.19	nove PLC	✔



Button	Description
<input style="width: 30px; height: 30px;" type="button" value="+"/>	Add new device
<input style="width: 30px; height: 30px;" type="button" value="-"/>	Remove selected devices
<input style="width: 30px; height: 30px;" type="button" value="Save"/>	Save configuration. ! Warning! This button saves changes permanently to file. Other buttons on this page are saving changes to configuration in memory. Do not forget to press this button when you are done!

Button	Description
	Undo
	Restart driver and apply saved settings

Device editor





IP address	<input type="text" value="10.0.3.19"/>
Port	<input type="text" value="59"/>
Station number	<input type="text" value="1"/>
Password	<input type="text" value="0"/>
Local station number	<input type="text" value="30"/>
Point prefix on Bacnet	<input type="text" value="MI253_"/>
Description	<input type="text" value="nove PLC"/>
DateTime point name	<input type="text" value="x_date_time_x"/>
	<input checked="" type="checkbox"/> Enabled
Enable reading pause	<input type="text" value="Yes"/> <input type="button" value="v"/>
Continuous reading point name	<input type="text" value="x_continuous_read_x"/>
Pool delay [s]	<input type="text" value="180"/>
Disable autorefresh after [s]	<input type="text" value="180"/>
Number of attempts to send telegram	<input type="text" value="3"/>
Timeout[ms]	<input type="text" value="500"/>
DB file (db.ini)	<input type="button" value="Upload"/>
HW file (hw.ini)	<input type="button" value="Upload"/>
Alias file(aliases.csv)	<input type="button" value="Upload"/>
Update reference	<input type="text" value="Point name"/> <input type="button" value="v"/>





IP address	IP address of Amit device
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Port	UDP port of Amit device
Station number	Number of DB-Net station
Password	Password to DB-Net
Local station number	Number of Local DB-Net station
Bacnet points prefix	Prefix used for Bacnet points name
Description	Users description
Timestamp point name	Name of timestamp point in Bacnet
Enabled	Start driver and export points to Bacnet
Enable delay between point readings	Enables delay between individual readings of points
Continuous reading point name	Name of Bacnet point used for enabling continuous reading
Delay between poolings [s]	Duration of delay between individual readings of points in seconds
Cancelation of continuous reading after [s]	Continuous reading will be disabled after specified time has elapsed.
Number of telegram sending retries	Maximum number of attempts to send telegram when error occurs.
Timeout[ms]	Waiting duration for reply fomr Amit
DB file (db.ini)	Uploads file DB.ini
HW file (hw.ini)	Uploads file HW.ini
Alias file (aliases.csv)	Uploads file aliases.csv
Update reference	On DB.ini reload updates point parameters with given name or with WID.
	Save changes
	Undo






Points list editor



Point name	Type	WID	Format
Akt_casDb	Variable	1,472	long
Alarm_A0	Variable	1,937	long
Alarm_A1	Variable	1,941	long
Alarm_A2	Variable	1,945	long








Button	Description
	Add point
	Remove selected points
	Save changes
	Undo

Point settings

Point name	<input type="text" value="Alarm_A0"/>
Type	<input type="text" value="Variable"/> 
WID	<input type="text" value="1,937"/>
Value type	<input type="text" value="long"/> 
Lines number	<input type="text" value="0"/>
Rows number	<input type="text" value="0"/>
Description	<input type="text" value="Alarm - aktivita"/>
Bacnet object	<input type="text" value="Analog value"/> 
Math. function	<input type="text" value="Off"/> 
Value	<input type="text" value="0"/>
Manual point	<input type="text" value="None"/> 

Point name	Name of point in Bacnet
Type	Variable/Array
WID	WID number
Value type	int/long/float
Lines number	Number of array lines
Rows number	Number of array rows
Description	Bacnet property description
Bacnet object	Type of Bacnet object
Mat. function	Type of mathematical function
Value	Input value of mathematical function
Manual point	Assigned point aut/man, as Bacnet property outOfService
	Save changes
	Undo

Editor aliasov

Point for bit 0 [name suffix]

havaria

Point for bit 1 [name suffix]

vysoka_t_kotle

Point for bit 2 [name suffix]

min_tlak_v_systeme

Point for bit 3 [name suffix]

max_tlak_v_systeme

Point for bit 4 [name suffix]

zaplavenie

Point for bit 5 [name suffix]

plyn_2_stupen

Point for bit 6 [name suffix]

max_t_tuv

Point for bit 7 [name suffix]

max_t_priestor

Point for bit 8 [name suffix]

Point for bit 9 [name suffix]

CO_2_stupen_RDS

Point for bit 10 [name suffix]

CO_2_stupen_kotolna

Point for bit 11 [name suffix]

Imported alias names. Alias names are readonly. Name of Bacnet points is generated as `mainPoint_alias`

LOG

 Amit

Here are displayed read and write errors of DB-Net/IP communication.

PLC configuration [Log](#)

Log

```
23:34:26-10.0.3.19:59-DI0-Error read
23:34:26-10.0.3.19:59-DI0-Error read
23:34:26-10.0.3.19:59-DI0-Read timeout
23:34:26-10.0.3.19:59-DI0-Read timeout END
23:34:29-10.0.3.19:59-DO2-Read timeout
23:34:29-10.0.3.19:59-DO2-Read timeout
23:34:30-10.0.3.19:59-DO2-Read timeout
23:34:30-10.0.3.19:59-DO2-Read timeout END
```

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