

e-LINKS

Building Management Integration



e-LINKS.

INTEGRATION INSTRUCTIONS FOR CONDAIR DUAL 2

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1 Notes for the planning engineer

1.1 Overview

The **e-LINKS** option allows the integration of Condair Dual 2 humidifiers into a **BACnet/IP** or a **LonWorks** network. The e-LINKS option features a serial-interface Gateway which converts the information from the host Modbus protocol to a specified secondary protocol.

The following protocol options are available and must be specified when ordering (ordering form see page 20):

Part Number	Protocols	Part Description
2534291	BACnet/IP	BMS Dual 2 Master set for BACnet /IP
2534292	LonWorks	BMS Dual 2 Master set for LonWorks
2534293		BMS Dual 2 Slave set for successive units

The following read out and settings functions are available:

Functions	Dual 2
Read out of unit status (operating mode, etc.)	X
Read out of service messages	X
Read out of error code	X
Read out of analog (%) and sensor (%rh) demand	X
Read out of unit type	X
Read out actual system request	X
Setting the power limitation	X
Setting the humidity setpoint (%rh / internal controller)	X
Setting the proportional range	X
Setting the integral time	X

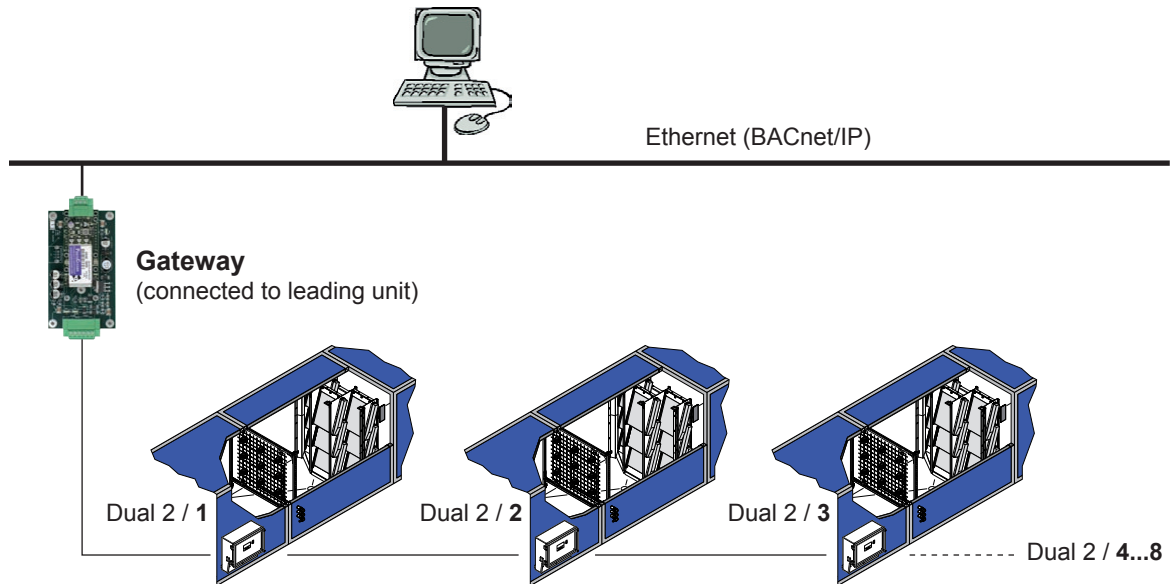
1.2 Network diagrams

It is possible to link up a maximum of 8 units via a single **ProtoCessor Gateway** to a building management system. The ProtoCessor Gateway is connected to the lead unit. All other units (up to a maximum of 8) are daisy-chained via the NetworkLink terminals.

Since each unit can be separately addressed, it is possible to monitor and control each unit individually. Different network configurations may be achieved and are mostly dependant on the type of network present at the site.

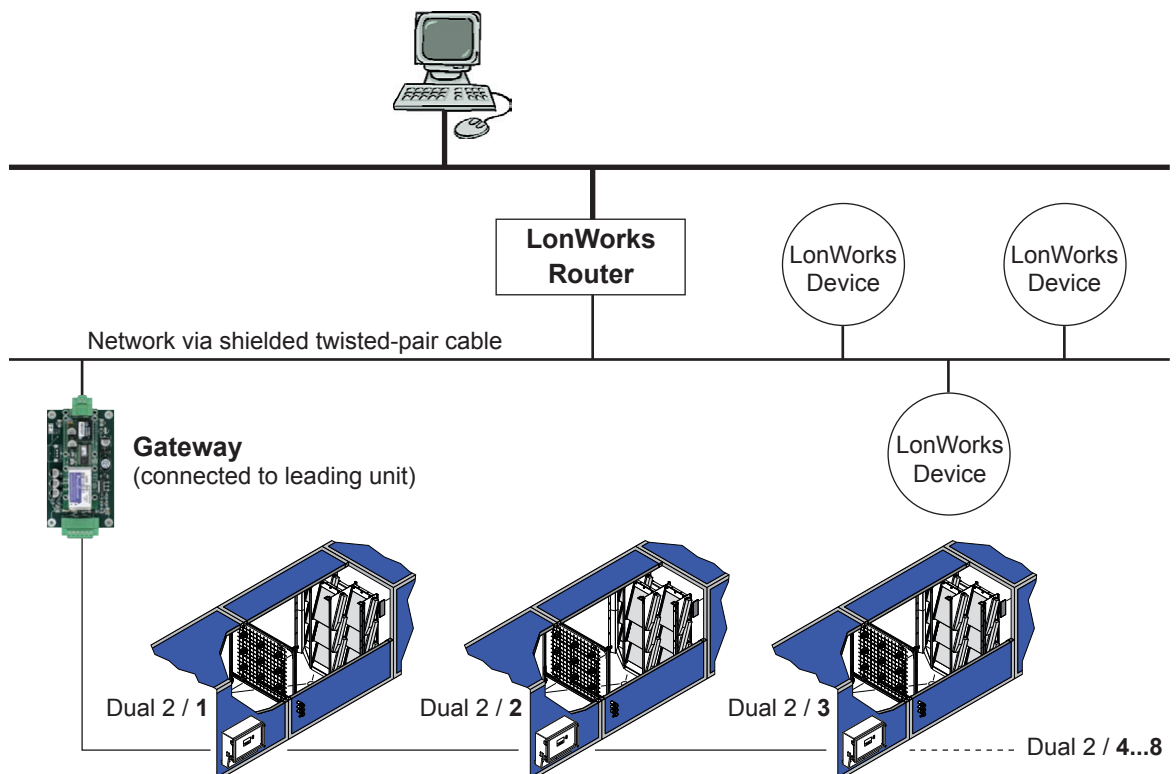
1.2.1 BACnet/IP network

The diagram below shows the connection of a series of Dual 2 units to an Ethernet network. This is only possible for BACnet and is essentially referred to as a BACnet/IP configuration. Please see chapter 2.1 for additional details.

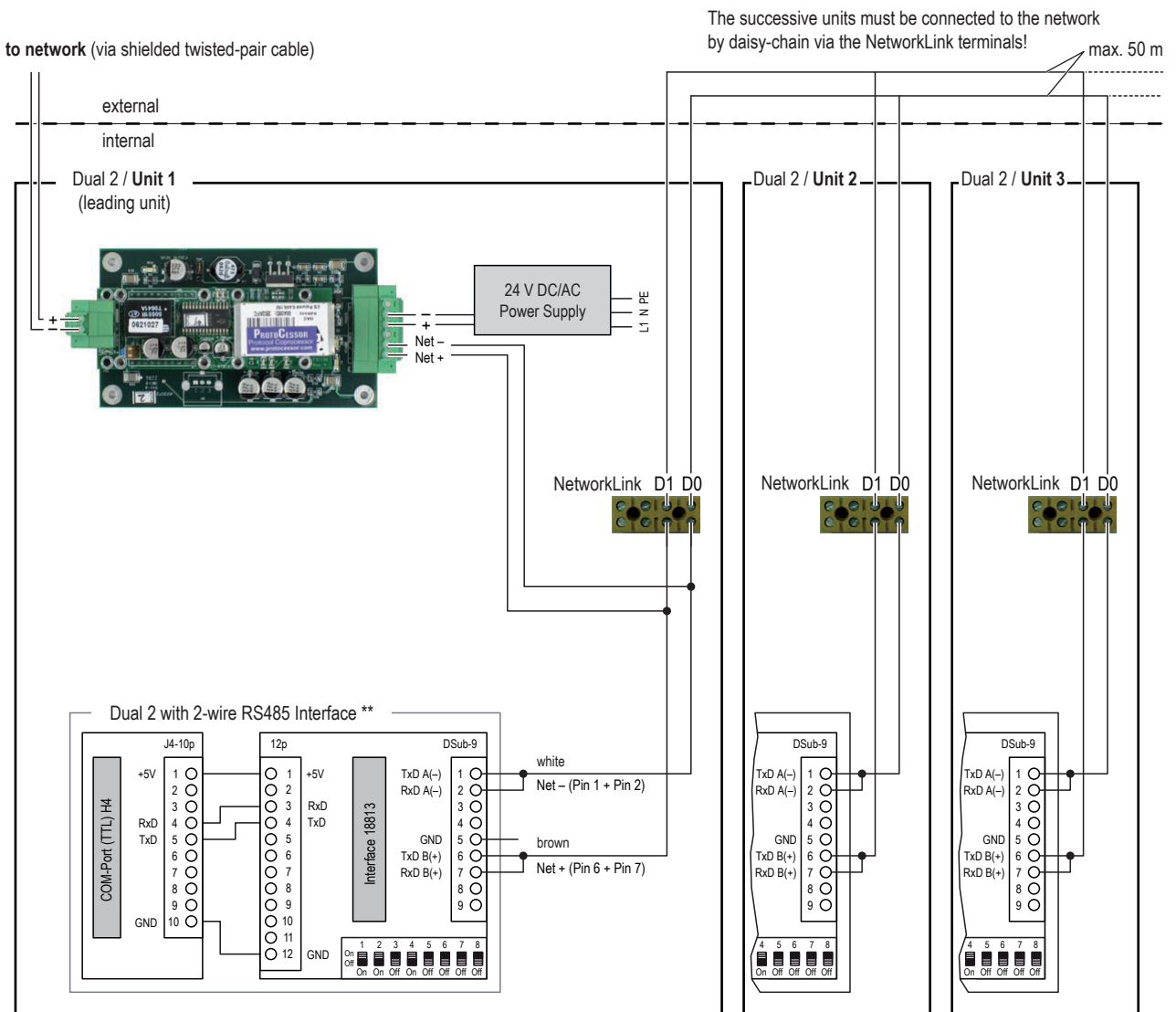


1.2.2 LonWorks network

This diagram below shows the connection of a series of Dual 2 units to a LonWorks network via a shielded, twisted-pair cable. Please see chapter 2.2 for additional details.



2.2 Wiring diagram for LonWorks



** RS485 interface: details see documentation SAP Nr. 1105280
 "Serial interface RS232 / RS485 Dual 2, with software V8.10"
 Note: **software version V8.10 (or higher)** must be installed on the control unit to operate the RS interface

3 Configuration

3.1 Configuring the Condair Dual 2 control unit

Each Condair Dual 2 unit must have a **unique Modbus address**. The Modbus address can be assigned in the **setup level of the Dual 2 control unit**.

Modbus address 1

Access the setup level of each control unit (see Condair Dual 2 "Installation and Operating Instructions") and set the desired Modbus address. **Important: make sure the Modbus address for each unit is unique!**

The Modbus parameters of the Condair Dual 2 can not be adjusted and are set to the following values:

- 4800 baud
- 1 start bit
- 8 data bits
- no parity
- 1 stop bit

3.2 Gateway configuration

The **protocol configuration is made at the factory**, prior to final testing. The baud rates are adjusted to the following values:

Protocol	Baud rate
BACnet/IP	10BaseT
LonWorks	34.8 Kbps

For BACnet/IP application, an IP address must be assigned to the gateway in order to access it. The IP address can be assigned at the factory or we can provide a software tool (RUIINET) to assign the IP address on site. The RUIINET field server utility can also be downloaded from:

http://www.protoconnector.com/tech_support/utilities.html

To configure the IP address using the RUIINET field server utility proceed as follows:

1. Connect the ProtoCessor gateway **to a PC using an Ethernet cross-over cable** or **directly to the network using a straight cable**.
2. The default IP address of the ProtoCessor Gateway is set to 10.232.72.172, Subnet Mask is 255.255.0.0.
Make sure your PC is in the same IP network as the ProtoCessor Gateway; otherwise assign a static IP address to your PC on the 10.232.72.0 network.
3. Power up the ProtoCessor Gateway.
4. Double click the field RUIINET field server utility. You should see the IP Address of the ProtoCessor module. This means that the ProtoCessor is now running.
Note: the start up procedure of the ProtoCessor takes about 2 minutes, so you have to wait that time till you can see the IP Address of the ProtoCessor module.

```

G:\Entwicklung\Building Management Systeme\ProtocessorUtilities\ruiinet.exe
RUIINET - Discovering FieldServers on the local network

FieldServers discovered on the network
1  Walter Meier BMS GS      BACnet v1.00c   10.232.72.181
2  Walter Meier BMS CP3    BACnet v1.00b   10.232.72.182
3  Walter Meier BMS Dual2  BACnet v1.00a   10.232.72.183
4  Walter Meier BMS MK5    BACnet v1.00b   10.232.72.184

<n/nn> Select a FieldServer to connect to <PgDn> Next Page <PgUp> Prev Page
Specify <I>P Address <C>lear Recent FieldServers List <R>efresh list <Q>uit

```

5. Select the Field Server which IP address you want to change (e.g. select 3).

```

G:\Entwicklung\Building Management Systeme\ProtocessorUtilities\ruiinet.exe
Main Menu

Walter Meier BMS Dual2 BACnet v1.00a

B - FieldServer Information
O - Connection Overview
N - Node Overview
M - Map Descriptor Overview
A - Data Array Overview

E - System Errors
F - Driver Messages

D - Download Configuration to FieldServer
U - Upload Configuration from FieldServer

I - Change IP Address
K - Change UI Display Mode
! - Restart FieldServer

Keys: Type Appropriate Key for Selection
<Q>uit <=> Next <+> Prev <Ctrl+> Last <Ctrl+> First <n> Goto

```

6. Press «I» to change the IP address.

```

G:\Entwicklung\Building Management Systeme\ProtocessorUtilities\ruiinet.exe
Edit IP Address Settings

1 - NI IP Address          10.232.72.183
2 - NI Netmask            255.255.0.0
3 - NI Gateway 1         10.232.1.1
4 - NI DHCP Client State  DISABLED
5 - NI DHCP Server State  DISABLED

Keys: Type Appropriate Key for Selection <ESC>

```

7. Press «1», then change the IP address and confirm the entry with «Enter». Then, press «Esc» to return to the previous display. There, press «!», in order to restart the FieldServer.

4 Communication tables

4.1 Modbus data register table

The following table shows the modbus data registers and their corresponding gateway variables.
Note: the “_x” in the gateway variable name indicates the Modbus address of the corresponding Condair Dual 2 unit.

Refer to Documentation “1105280 – Serial Interface RS232/RS485 Dual 2, with software V8.10” for further details regarding Modbus applications.

Name	Description	Register	Variable name on Gateway
Read max. humidification capacity	0 – 999 kg	40134 (133)	nvoMaxHumOut_x
Read actual fault reason	0 = no fault 1 = fault	00001 (0)	nvoFaultStatus_x
Read unit status	0 = standby 1 = humidifying	00003 (2)	nvoHumStatus_x
Read service status	0 = no service required 1 = service required	00002 (1)	nvoServiceSta_x
Read pump status	0 = off 1 = on	00005 (4)	nvoPump_x
Read outlet valve (Y5)	0 = off 1 = on	00033 (32)	nvoDrainValY5_x
Read spray valve (Y6)	0 = off 1 = on	00034 (33)	nvoDrainValY6_x
Read spray valve (Y7)	0 = off 1 = on	00035 (34)	nvoDrainValY7_x
Read spray valve (Y8)	0 = off 1 = on	00036 (35)	nvoDrainValY8_x
Read capacity demand	0 - 100%	30001 (0)	nvoRHorDemand_x
Read actual humidification capacity	0 - 3000kg/h	30003 (2)	nvoActCapHum_x
Read actual conductance permeate	0 - 999 μ S	30002 (1)	nvoActPermCond_x
Read status external safety chain	0 = open (not ok) 1 = closed (ok)	10002 (1)	nvoExtSChSta_x
Read minimal pressure permeate	0 = not ok 1 = ok	10003 (2)	nvoPermMinPres_x
Read maximum pressure permeate	0 = not ok 1 = ok	10004 (3)	nvoPermMaxPres_x
Read temperature permeate	0 = not ok 1 = ok	10005 (4)	nvoPermTemp_x

Name	Description	Register	Variable name on Gateway
Read actual fault reason	00 =ok (no fault) 01 =CPU 02 =internal safety chain interrupted 03 =analog input out of preset range 04 =spare 05 =conductance limit exceeded (>100μS) 06 =conductance out of admissible range of tolerance 07 =spare 08 =spare 09 =spare 10 =alarm 10 appears for more than 1 week 11 =alarm 11 appears for more than 1 week 12 =change of Ag electrode necessary since more than 1 week 13 =sensor 14 =filter polluted -> must be changed 15 =waterpressure not correct	40136 (135)	nvoActFaultRea_x
Read actual alarm reason	04 = permeate conductance limit 07 = minimal pressure permeate 08 = maximal pressure permeate 09 = temperature permeate 10 = Ag ionization current 11 = testmode Ag ionization	40137 (136)	nvoActWarnRea_x
Read operating hours low	indicates the number of hours the humidifier has been in operation 0-999h	40131 (130)	nvoOperatHours_x
Read operating hours high	indicates the number of hours the humidifier has been in operation (multiplied by 1000)	40130 (129)	
Read hours to next maintenance	0 - 9999h equivalent to 100% demand	40132 (131)	nvoHoursToServ_x
Read rest capacity Ag electrode	0 - 500 (50.0Ah)	40133 (132)	nvoRemCapSilv_x
Write controller set point	10 - 95%rh	40272 (271)	nvoSetPointHum_x
Read controller set point			nviSetPointHum_x
Write controller proportional band	4 - 100%	40273 (272)	nvoProportBand_x
Read controller proportional band			nviProportBand_x
Write controller integral time	0 - 255 minutes	40274 (273)	nvoIntegraTime_x
Read controller integral time			nviIntegraTime_x
Write capacity limit	10 - 100%	40275 (274)	nvoCapaciLimit_x
Read capacity limit			nviCapaciLimit_x

Registers 00001 to 40137: read with modbus function 03

Registers 40272 to 40275: read with modbus function 03 and write with modbus function 06

4.2 Conversion tables gateway variables

The following tables show the ProtoCessor gateway variables and their BACnet/IP and LonWorks equivalents.

Note: the number at the end of the gateway variables (e.g. “_1”) indicate the unit number (Modbus number) of the corresponding Condair Dual 2. If there is only one Dual 2 humidifier, all variable names will end in “_1”. If two units are networked together, the second unit’s variable names will end in “_2”. For three networked units,... “_3” and so on.

Dual 2 / Unit 1

ProtoCessor Gateway Variable Name	BACnet		LonWorks			
	Type	Instance	SNVT	SNVT #	NV Index	Element
nvoMaxHumOut_1	AV	01	SNVT_count	8	1	1
nvoRHorDemand_1	AV	02	SNVT_count	8	2	1
nvoActCapHum_1	AV	03	SNVT_count	8	3	1
nvoActPermCond_1	AV	04	SNVT_count	8	4	1
nvoActFaultRea_1	AV	05	SNVT_count	8	5	1
nvoActWarnRea_1	AV	06	SNVT_count	8	6	1
nvoOperatHours_1	AV	07	SNVT_time_hour	124	7	1
nvoHoursToServ_1	AV	08	SNVT_time_hour	124	8	1
nvoRemCapSilv_1	AV	09	SNVT_count	8	9	1
nvoCapaciLimit_1	AV	10	SNVT_count	8	10	1
nvoSetPointHum_1	AV	11	SNVT_count	8	11	1
nvoProportBand_1	AV	12	SNVT_count	8	12	1
nvoIntegraTime_1	AV	13	SNVT_count	8	13	1
nviCapaciLimit_1	AV	14	SNVT_count	8	14	1
nviSetPointHum_1	AV	15	SNVT_count	8	15	1
nviProportBand_1	AV	16	SNVT_count	8	16	1
nviIntegraTime_1	AV	17	SNVT_count	8	17	1
nvoFaultStatus_1	BV	01	SNVT_switch	95	51	1
nvoHumStatus_1	BV	02	SNVT_switch	95	52	1
nvoServcieSta_1	BV	03	SNVT_switch	95	53	1
nvoPump_1	BV	04	SNVT_switch	95	54	1
nvoDrainValY5_1	BV	05	SNVT_switch	95	55	1
nvoDrainValY6_1	BV	06	SNVT_switch	95	56	1
nvoDrainValY7_1	BV	07	SNVT_switch	95	57	1
nvoDrainValY8_1	BV	08	SNVT_switch	95	58	1
nvoExtSchSta_1	BV	09	SNVT_switch	95	59	1
nvoPermMinPres_1	BV	10	SNVT_switch	95	60	1
nvoPermMaxPres_1	BV	11	SNVT_switch	95	61	1
nvoPermTemp_1	BV	12	SNVT_switch	95	62	1

Dual 2 / Unit 2

ProtoCessor Gateway	BACnet		LonWorks			
	Variable Name	Type	Instance	SNVT	SNVT #	NV Index
nvoMaxHumOut_2	AV	51	SNVT_count	8	101	1
nvoRHorDemand_2	AV	52	SNVT_count	8	102	1
nvoActCapHum_2	AV	53	SNVT_count	8	103	1
nvoActPermCond_2	AV	54	SNVT_count	8	104	1
nvoActFaultRea_2	AV	55	SNVT_count	8	105	1
nvoActWarnRea_2	AV	56	SNVT_count	8	106	1
nvoOperatHours_2	AV	57	SNVT_time_hour	124	107	1
nvoHoursToServ_2	AV	58	SNVT_time_hour	124	108	1
nvoRemCapSilv_2	AV	59	SNVT_count	8	109	1
nvoCapaciLimit_2	AV	60	SNVT_count	8	110	1
nvoSetPointHum_2	AV	61	SNVT_count	8	111	1
nvoProportBand_2	AV	62	SNVT_count	8	112	1
nvoIntegraTime_2	AV	63	SNVT_count	8	113	1
nviCapaciLimit_2	AV	64	SNVT_count	8	114	1
nviSetPointHum_2	AV	65	SNVT_count	8	115	1
nviProportBand_2	AV	66	SNVT_count	8	116	1
nviIntegraTime_2	AV	67	SNVT_count	8	117	1
nvoFaultStatus_2	BV	51	SNVT_switch	95	151	1
nvoHumStatus_2	BV	52	SNVT_switch	95	152	1
nvoServcieSta_2	BV	53	SNVT_switch	95	153	1
nvoPump_2	BV	54	SNVT_switch	95	154	1
nvoDrainValY5_2	BV	55	SNVT_switch	95	155	1
nvoDrainValY6_2	BV	56	SNVT_switch	95	156	1
nvoDrainValY7_2	BV	57	SNVT_switch	95	157	1
nvoDrainValY8_2	BV	58	SNVT_switch	95	158	1
nvoExtSChSta_2	BV	59	SNVT_switch	95	159	1
nvoPermMinPres_2	BV	60	SNVT_switch	95	160	1
nvoPermMaxPres_2	BV	61	SNVT_switch	95	161	1
nvoPermTemp_2	BV	62	SNVT_switch	95	162	1

Dual 2 / Unit 3

ProtoCessor Gateway	BACnet		LonWorks			
	Variable Name	Type	Instance	SNVT	SNVT #	NV Index
nvoMaxHumOut_3	AV	101	SNVT_count	8	201	1
nvoRHorDemand_3	AV	102	SNVT_count	8	202	1
nvoActCapHum_3	AV	103	SNVT_count	8	203	1
nvoActPermCond_3	AV	104	SNVT_count	8	204	1
nvoActFaultRea_3	AV	105	SNVT_count	8	205	1
nvoActWarnRea_3	AV	106	SNVT_count	8	206	1
nvoOperatHours_3	AV	107	SNVT_time_hour	124	207	1
nvoHoursToServ_3	AV	108	SNVT_time_hour	124	208	1
nvoRemCapSilv_3	AV	109	SNVT_count	8	209	1
nvoCapaciLimit_3	AV	110	SNVT_count	8	210	1
nvoSetPointHum_3	AV	111	SNVT_count	8	211	1
nvoProportBand_3	AV	112	SNVT_count	8	212	1
nvoIntegraTime_3	AV	113	SNVT_count	8	213	1
nviCapaciLimit_3	AV	114	SNVT_count	8	214	1
nviSetPointHum_3	AV	115	SNVT_count	8	215	1
nviProportBand_3	AV	116	SNVT_count	8	216	1
nviIntegraTime_3	AV	117	SNVT_count	8	217	1
nvoFaultStatus_3	BV	101	SNVT_switch	95	251	1
nvoHumStatus_3	BV	102	SNVT_switch	95	252	1
nvoServcieSta_3	BV	103	SNVT_switch	95	253	1
nvoPump_3	BV	104	SNVT_switch	95	254	1
nvoDrainValY5_3	BV	105	SNVT_switch	95	255	1
nvoDrainValY6_3	BV	106	SNVT_switch	95	256	1
nvoDrainValY7_3	BV	107	SNVT_switch	95	257	1
nvoDrainValY8_3	BV	108	SNVT_switch	95	258	1
nvoExtSChSta_3	BV	109	SNVT_switch	95	259	1
nvoPermMinPres_3	BV	110	SNVT_switch	95	260	1
nvoPermMaxPres_3	BV	111	SNVT_switch	95	261	1
nvoPermTemp_3	BV	112	SNVT_switch	95	262	1

Dual 2 / Unit 4

ProtoCessor Gateway	BACnet		LonWorks			
	Variable Name	Type	Instance	SNVT	SNVT #	NV Index
nvoMaxHumOut_4	AV	151	SNVT_count	8	301	1
nvoRHorDemand_4	AV	152	SNVT_count	8	302	1
nvoActCapHum_4	AV	153	SNVT_count	8	303	1
nvoActPermCond_4	AV	154	SNVT_count	8	304	1
nvoActFaultRea_4	AV	155	SNVT_count	8	305	1
nvoActWarnRea_4	AV	156	SNVT_count	8	306	1
nvoOperatHours_4	AV	157	SNVT_time_hour	124	307	1
nvoHoursToServ_4	AV	158	SNVT_time_hour	124	308	1
nvoRemCapSilv_4	AV	159	SNVT_count	8	309	1
nvoCapaciLimit_4	AV	160	SNVT_count	8	310	1
nvoSetPointHum_4	AV	161	SNVT_count	8	311	1
nvoProportBand_4	AV	162	SNVT_count	8	312	1
nvoIntegraTime_4	AV	163	SNVT_count	8	313	1
nviCapaciLimit_4	AV	164	SNVT_count	8	314	1
nviSetPointHum_4	AV	165	SNVT_count	8	315	1
nviProportBand_4	AV	166	SNVT_count	8	316	1
nviIntegraTime_4	AV	167	SNVT_count	8	317	1
nvoFaultStatus_4	BV	151	SNVT_switch	95	351	1
nvoHumStatus_4	BV	152	SNVT_switch	95	352	1
nvoServcieSta_4	BV	153	SNVT_switch	95	353	1
nvoPump_4	BV	154	SNVT_switch	95	354	1
nvoDrainValY5_4	BV	155	SNVT_switch	95	355	1
nvoDrainValY6_4	BV	156	SNVT_switch	95	356	1
nvoDrainValY7_4	BV	157	SNVT_switch	95	357	1
nvoDrainValY8_4	BV	158	SNVT_switch	95	358	1
nvoExtSChSta_4	BV	159	SNVT_switch	95	359	1
nvoPermMinPres_4	BV	160	SNVT_switch	95	360	1
nvoPermMaxPres_4	BV	161	SNVT_switch	95	361	1
nvoPermTemp_4	BV	162	SNVT_switch	95	362	1

Dual 2 / Unit 5

ProtoCessor Gateway	BACnet		LonWorks			
	Variable Name	Type	Instance	SNVT	SNVT #	NV Index
nvoMaxHumOut_5	AV	201	SNVT_count	8	401	1
nvoRHorDemand_5	AV	202	SNVT_count	8	402	1
nvoActCapHum_5	AV	203	SNVT_count	8	403	1
nvoActPermCond_5	AV	204	SNVT_count	8	404	1
nvoActFaultRea_5	AV	205	SNVT_count	8	405	1
nvoActWarnRea_5	AV	206	SNVT_count	8	406	1
nvoOperatHours_5	AV	207	SNVT_time_hour	124	407	1
nvoHoursToServ_5	AV	208	SNVT_time_hour	124	408	1
nvoRemCapSilv_5	AV	209	SNVT_count	8	409	1
nvoCapaciLimit_5	AV	210	SNVT_count	8	410	1
nvoSetPointHum_5	AV	211	SNVT_count	8	411	1
nvoProportBand_5	AV	212	SNVT_count	8	412	1
nvoIntegraTime_5	AV	213	SNVT_count	8	413	1
nviCapaciLimit_5	AV	214	SNVT_count	8	414	1
nviSetPointHum_5	AV	215	SNVT_count	8	415	1
nviProportBand_5	AV	216	SNVT_count	8	416	1
nviIntegraTime_5	AV	217	SNVT_count	8	417	1
nvoFaultStatus_5	BV	201	SNVT_switch	95	451	1
nvoHumStatus_5	BV	202	SNVT_switch	95	452	1
nvoServcieSta_5	BV	203	SNVT_switch	95	453	1
nvoPump_5	BV	204	SNVT_switch	95	454	1
nvoDrainValY5_5	BV	205	SNVT_switch	95	455	1
nvoDrainValY6_5	BV	206	SNVT_switch	95	456	1
nvoDrainValY7_5	BV	207	SNVT_switch	95	457	1
nvoDrainValY8_5	BV	208	SNVT_switch	95	458	1
nvoExtSChSta_5	BV	209	SNVT_switch	95	459	1
nvoPermMinPres_5	BV	210	SNVT_switch	95	460	1
nvoPermMaxPres_5	BV	211	SNVT_switch	95	461	1
nvoPermTemp_5	BV	212	SNVT_switch	95	462	1

Dual 2 / Unit 6

ProtoCessor Gateway	BACnet		LonWorks			
	Variable Name	Type	Instance	SNVT	SNVT #	NV Index
nvoMaxHumOut_6	AV	251	SNVT_count	8	501	1
nvoRHorDemand_6	AV	252	SNVT_count	8	502	1
nvoActCapHum_6	AV	253	SNVT_count	8	503	1
nvoActPermCond_6	AV	254	SNVT_count	8	504	1
nvoActFaultRea_6	AV	255	SNVT_count	8	505	1
nvoActWarnRea_6	AV	256	SNVT_count	8	506	1
nvoOperatHours_6	AV	257	SNVT_time_hour	124	507	1
nvoHoursToServ_6	AV	258	SNVT_time_hour	124	508	1
nvoRemCapSilv_6	AV	259	SNVT_count	8	509	1
nvoCapaciLimit_6	AV	260	SNVT_count	8	510	1
nvoSetPointHum_6	AV	261	SNVT_count	8	511	1
nvoProportBand_6	AV	262	SNVT_count	8	512	1
nvoIntegraTime_6	AV	263	SNVT_count	8	513	1
nviCapaciLimit_6	AV	264	SNVT_count	8	514	1
nviSetPointHum_6	AV	265	SNVT_count	8	515	1
nviProportBand_6	AV	266	SNVT_count	8	516	1
nviIntegraTime_6	AV	267	SNVT_count	8	517	1
nvoFaultStatus_6	BV	251	SNVT_switch	95	551	1
nvoHumStatus_6	BV	252	SNVT_switch	95	552	1
nvoServcieSta_6	BV	253	SNVT_switch	95	553	1
nvoPump_6	BV	254	SNVT_switch	95	554	1
nvoDrainValY5_6	BV	255	SNVT_switch	95	555	1
nvoDrainValY6_6	BV	256	SNVT_switch	95	556	1
nvoDrainValY7_6	BV	257	SNVT_switch	95	557	1
nvoDrainValY8_6	BV	258	SNVT_switch	95	558	1
nvoExtSChSta_6	BV	259	SNVT_switch	95	559	1
nvoPermMinPres_6	BV	260	SNVT_switch	95	560	1
nvoPermMaxPres_6	BV	261	SNVT_switch	95	561	1
nvoPermTemp_6	BV	262	SNVT_switch	95	562	1

Dual 2 / Unit 7

ProtoCessor Gateway	BACnet		LonWorks			
	Variable Name	Type	Instance	SNVT	SNVT #	NV Index
nvoMaxHumOut_7	AV	301	SNVT_count	8	601	1
nvoRHorDemand_7	AV	302	SNVT_count	8	602	1
nvoActCapHum_7	AV	303	SNVT_count	8	603	1
nvoActPermCond_7	AV	304	SNVT_count	8	604	1
nvoActFaultRea_7	AV	305	SNVT_count	8	605	1
nvoActWarnRea_7	AV	306	SNVT_count	8	606	1
nvoOperatHours_7	AV	307	SNVT_time_hour	124	607	1
nvoHoursToServ_7	AV	308	SNVT_time_hour	124	608	1
nvoRemCapSilv_7	AV	309	SNVT_count	8	609	1
nvoCapaciLimit_7	AV	310	SNVT_count	8	610	1
nvoSetPointHum_7	AV	311	SNVT_count	8	611	1
nvoProportBand_7	AV	312	SNVT_count	8	612	1
nvoIntegraTime_7	AV	313	SNVT_count	8	613	1
nviCapaciLimit_7	AV	314	SNVT_count	8	614	1
nviSetPointHum_7	AV	315	SNVT_count	8	615	1
nviProportBand_7	AV	316	SNVT_count	8	616	1
nviIntegraTime_7	AV	317	SNVT_count	8	617	1
nvoFaultStatus_7	BV	301	SNVT_switch	95	651	1
nvoHumStatus_7	BV	303	SNVT_switch	95	652	1
nvoServcieSta_7	BV	302	SNVT_switch	95	653	1
nvoPump_7	BV	304	SNVT_switch	95	654	1
nvoDrainValY5_7	BV	305	SNVT_switch	95	655	1
nvoDrainValY6_7	BV	306	SNVT_switch	95	656	1
nvoDrainValY7_7	BV	307	SNVT_switch	95	657	1
nvoDrainValY8_7	BV	308	SNVT_switch	95	658	1
nvoExtSChSta_7	BV	309	SNVT_switch	95	659	1
nvoPermMinPres_7	BV	310	SNVT_switch	95	660	1
nvoPermMaxPres_7	BV	311	SNVT_switch	95	661	1
nvoPermTemp_7	BV	312	SNVT_switch	95	662	1

Dual 2 / Unit 8

ProtoCessor Gateway	BACnet		LonWorks			
	Variable Name	Type	Instance	SNVT	SNVT #	NV Index
nvoMaxHumOut_8	AV	351	SNVT_count	8	701	1
nvoRHorDemand_8	AV	352	SNVT_count	8	702	1
nvoActCapHum_8	AV	353	SNVT_count	8	703	1
nvoActPermCond_8	AV	354	SNVT_count	8	704	1
nvoActFaultRea_8	AV	355	SNVT_count	8	705	1
nvoActWarnRea_8	AV	356	SNVT_count	8	706	1
nvoOperatHours_8	AV	357	SNVT_time_hour	124	707	1
nvoHoursToServ_8	AV	358	SNVT_time_hour	124	708	1
nvoRemCapSilv_8	AV	359	SNVT_count	8	709	1
nvoCapaciLimit_8	AV	360	SNVT_count	8	710	1
nvoSetPointHum_8	AV	361	SNVT_count	8	711	1
nvoProportBand_8	AV	362	SNVT_count	8	712	1
nvoIntegraTime_8	AV	363	SNVT_count	8	713	1
nviCapaciLimit_8	AV	364	SNVT_count	8	714	1
nviSetPointHum_8	AV	365	SNVT_count	8	715	1
nviProportBand_8	AV	366	SNVT_count	8	716	1
nviIntegraTime_8	AV	367	SNVT_count	8	717	1
nvoFaultStatus_8	BV	351	SNVT_switch	95	751	1
nvoHumStatus_8	BV	352	SNVT_switch	95	752	1
nvoServcieSta_8	BV	353	SNVT_switch	95	753	1
nvoPump_8	BV	354	SNVT_switch	95	754	1
nvoDrainValY5_8	BV	355	SNVT_switch	95	755	1
nvoDrainValY6_8	BV	356	SNVT_switch	95	756	1
nvoDrainValY7_8	BV	357	SNVT_switch	95	757	1
nvoDrainValY8_8	BV	358	SNVT_switch	95	758	1
nvoExtSChSta_8	BV	359	SNVT_switch	95	759	1
nvoPermMinPres_8	BV	360	SNVT_switch	95	760	1
nvoPermMaxPres_8	BV	361	SNVT_switch	95	761	1
nvoPermTemp_8	BV	362	SNVT_switch	95	762	1



Attention: Date:
Company: Fax #:
From: Page: of
Subject: e-LINKS Information

FOR YOUR INFORMATION RESPONSE REQUESTED

MESSAGE:

Distributor / Agent P.O. Number: Sales Order Number:

Desired e-LINKS Option:

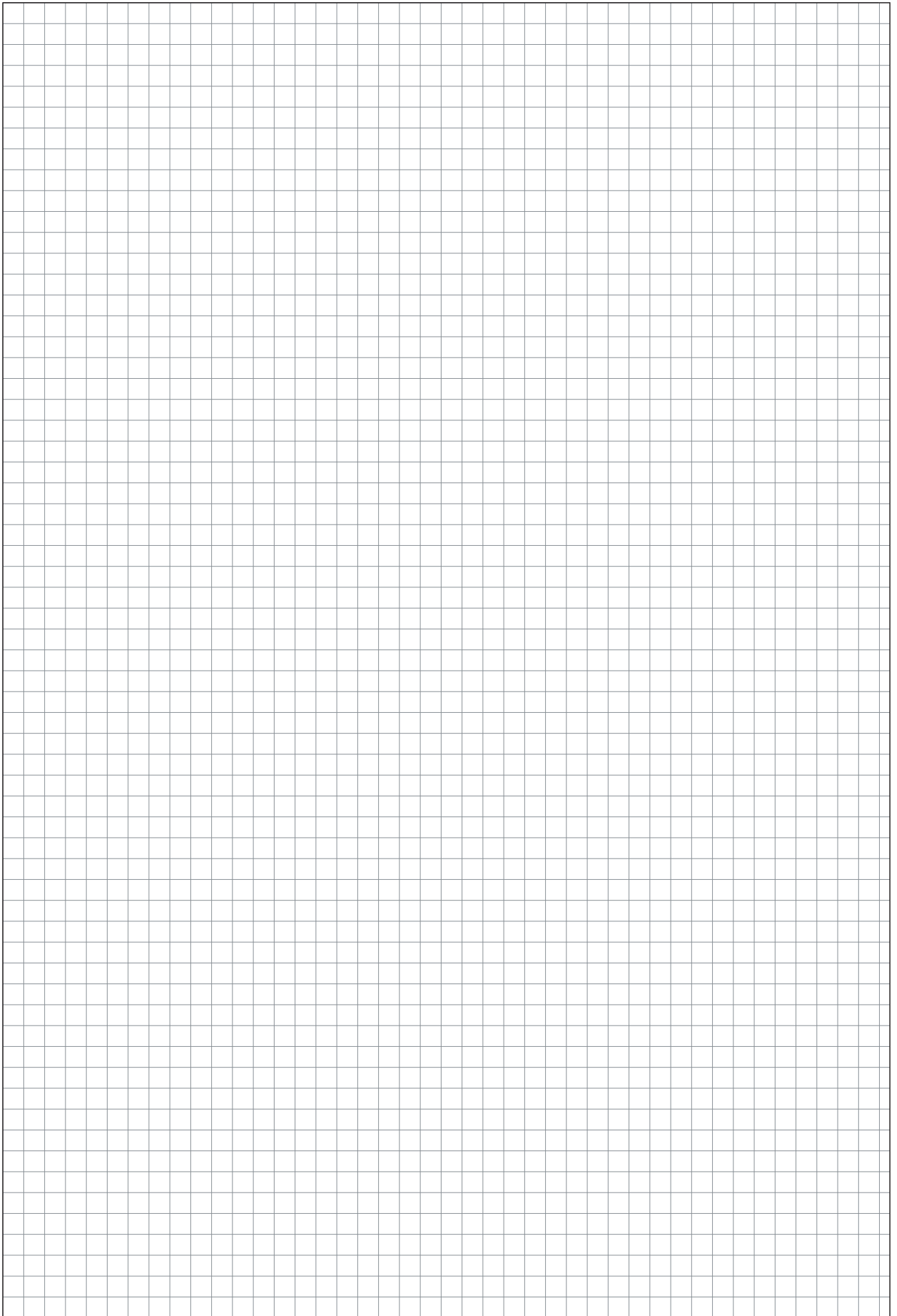
- BACnet/IP
- LonWorks
- Modbus

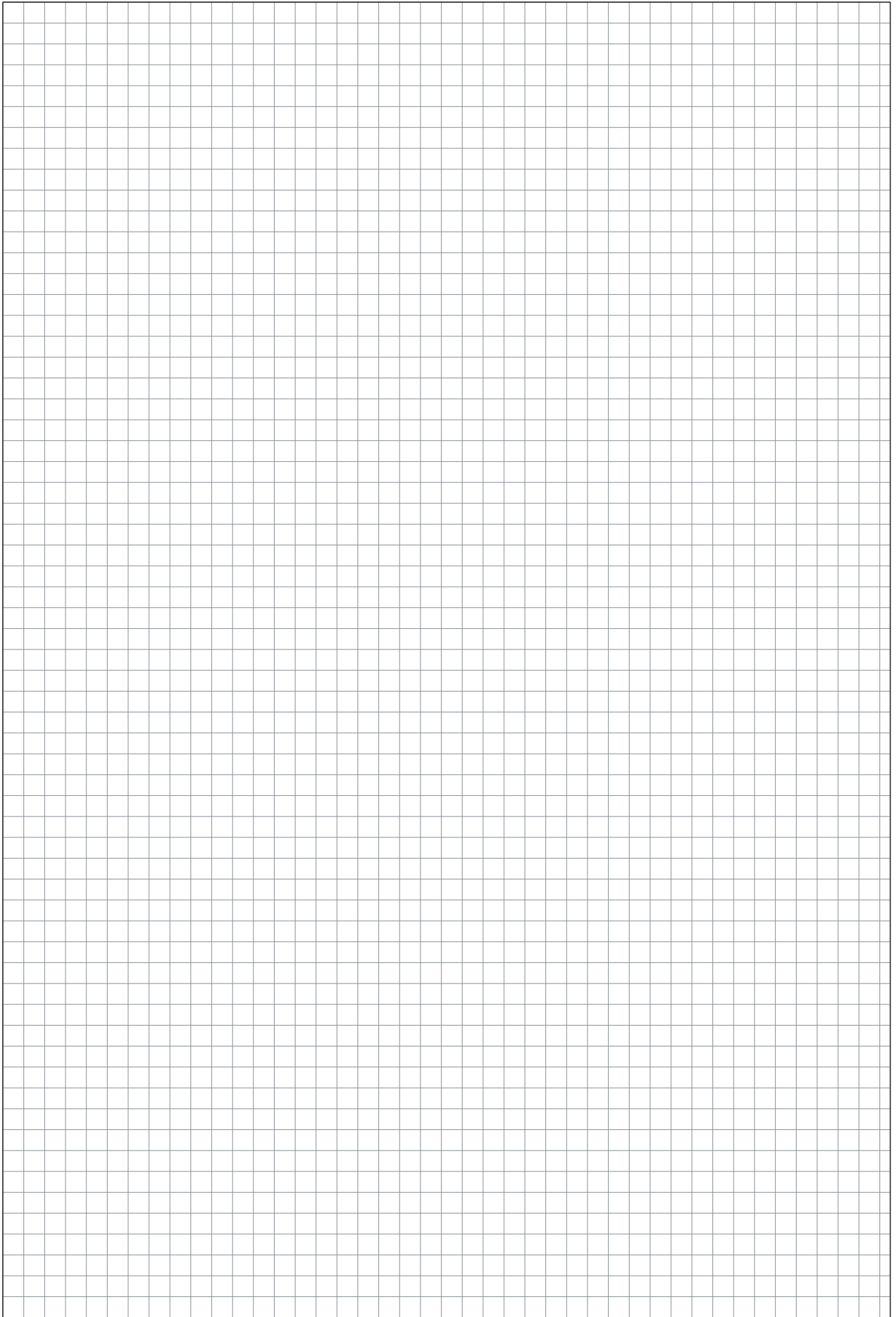
Settings for BACnet/IP only:

Default Gateway Address/Name:
BACnet Node ID (Device Instance):
Network Number:
Subnet Mask:
Module IP Address:

Humidifier Ordering:

Humidifier Model/Size	Desired unit order
	Unit 1 (leading unit)
	Unit 2
	Unit 3
	Unit 4
	Unit 5
	Unit 6
	Unit 7
	Unit 8







CONSULTING, SALES AND SERVICE:

Solutions for Indoor Climate



Reg.No. 40002-2

Manufacturer:

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