

21 CO IP Controller 908701

Application program usage

Product family: Controller
 Product type: Controller
 Manufacturer: Siemens

Name: IP Controller N350E
 Order-No.: 5WG1 350-1EB01

Functional description

The IP Controller N350E is a DIN rail mounted device.

It provides these functions:

- Weekly scheduler
 with up to 100 schedule entries for up to 80 channels,
 with up to 8 periods for weekly schedules,
 with astronomical schedule function
 (+/- 2 hours from sun rise / sun set)
- Annual schedule
 with up to 50 schedule entries for up to 80 channels
- 30 Logic gates
- Event programs with a total of up to 200 event command actions
- Event program trigger via schedules, logic functions or up to 30 threshold values
- Configuration of scheduler functions, event programs, and logic functions via IP network
 (protocol used: EIBnet/IP Device Configuration)
- Battery buffered real-time clock
- Display of date and time on LC-display
- Real-time clock setting manually with three push buttons or automatically by a network (Internet) time service
- Time zone selection for automatic time synchronization
- Automatic Daylight Savings Time change-over selectable
- DHCP for automatic IP address assignment
- Communication via IP network with
 - a visualization software
 - ETS3 acting as a configuration interface

Via ETS up to 80 objects can be defined for the device with free data type assignment from this list of data types

- 1 bit (EIS1)
- 1 Byte, unsigned (EIS 14)
- 1 Byte, signed (EIS 14)
- 2 Byte, unsigned (EIS 10)
- 2 Byte, signed (EIS 10)
- 2 Byte, float (EIS 5)
- 4 Byte, unsigned (EIS 11)
- 4 Byte, signed (EIS 11)

- 4 Byte, float (EIS 9)

All defined objects can be used freely by all software modules. Hence, up to 80 objects can be selected from for schedule functions, as input for logic gates, as event triggers, or as output of event programs (scenes).

The device is first configured with ETS

- Configuration of the desired number of communication objects (up to 80 objects) including selection of the object data type of each object
- Assignment of group addresses to the objects
- Configuration of the IP network parameters

When the N350E was configured with ETS an "E" is displayed on the device display. This signals that the schedule, event, and logic functions must be configured via the IP network. The software used for this remote configuration is described after the ETS configuration in this document.

Behavior on bus voltage loss / recovery on the bus line

On bus voltage / auxiliary power recovery, after a download or reset the device performs an initialization run. During this initialization all intermediary and output memory locations are reset to zero.

Event trigger (Event)

For event triggers this means that the conditional test for the conditions equal (first time), greater than (first time), or lower than (first time) is activated, the event trigger condition is evaluated and, if the condition is met, the events are executed once after initialization. This assumes that the parameter "Send read requests to update object values after restart" was set to "Yes".

Logic gates (Logic)

The behavior is dependent on the send condition.

Send condition: only on output change

If the output value of the logic gate is TRUE after initialization then the appropriate outputs are sent to.

If the output value of the logic gate is FALSE after initialization then nothing is sent.

Send condition: on every input event

The initialization is considered an input event under the condition that the parameter "Send read requests to update object values after restart" was set to "Yes" (default setting). Consequently, the outputs are sent directly after the initialization.

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Communication objects

Maximum number of group addresses: 83
 Maximum number of associations: 83

Note

The view of the objects can be arranged individually i.e. this view can vary.

Phys.Adr.		Applikation		
Hr.	Objektname	Funktion	Typ	
01.01.001	21 CO IP Controller 908701			
0	Object 0	1 bit (EIS 1)	1 Bit	
1	Object 1	1 Byte unsigned (EIS 14)	1 Byte	
2	Object 2	1 Byte signed (EIS 14)	1 Byte	
3	Object 3	2 Byte unsigned (EIS 10)	2 Byte	
4	Object 4	2 Byte signed (EIS 10)	2 Byte	
5	Object 5	2 Byte float (EIS 5)	2 Byte	
6	Object 6	4 Byte unsigned (EIS 11)	4 Byte	
7	Object 7	4 Byte signed (EIS 11)	4 Byte	
8	Object 8	4 Byte float (EIS 9)	4 Byte	
9	Object 9	1 bit (EIS 1)	1 Bit	
10	Object 10	1 bit (EIS 1)	1 Bit	
11	Object 11	1 bit (EIS 1)	1 Bit	
12	Object 12	1 bit (EIS 1)	1 Bit	

Obj	Object-name	Function	Type	Flag
0	Object 0	1 bit (EIS 1) 1 Byte unsigned (EIS 14) 1 Byte signed (EIS 14) 2 Byte unsigned (EIS10) 2 Byte signed (EIS 10) 2 Byte float (EIS 5) 4 Byte unsigned (EIS 11) 4 Byte signed (EIS 11) 4 Byte float (EIS 9)	1 Bit	CRWTU
...	Object	1 Bit	CRWTU
79	Object 79	1 bit (EIS 1) 1 Byte unsigned (EIS 14) 1 Byte signed (EIS 14) 2 Byte unsigned (EIS10) 2 Byte signed (EIS 10) 2 Byte float (EIS 5) 4 Byte unsigned (EIS 11) 4 Byte signed (EIS 11) 4 Byte float (EIS 9)	1 Bit	CRWTU

Obj	Object-name	Function	Type	Flag
The function of the objects can be configured. Each object can send or receive and may be used for schedule, event trigger, event schedule and logic functions.				
80	Time	Value (EIS 3)	3 Byte	CRWTU
81	Date	Value (EIS 4)	3 Byte	CRWTU
Via these objects the IP Controller can send the current date and time.				
82	Status	Status	2 Byte	CRWTU
The current device status is sent via the group address assigned to this object. The following status information is coded in a 16 bit mask (Bit1 = lowest bit, Bit 16 = highest bit):				
Bit 1	0	Application not started		
	1	Application started		
Bit 2	0	Programming mode inactive		
	1	Programming mode active		
Bit 3	0	Battery status ok		
	1	Battery status not ok		
Bit 4	0	Device Management inactive. Download via N350E Configurator active.		
	1	Device Management active		
Bit 5	0	Post-processing of schedules inactive		
	1	Post-processing of schedules active		
Bit 6 - Bit 8	0	reserved for future status codes		
	1	reserved for future status codes		
Bit 9 - 16		Active schedule period		

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Parameter

General

Obj 50-59	Obj 60-69	Obj 70-79
General	Details	Time
Obj 0-9	Obj 10-19	Obj 20-29
Obj 30-39	Obj 40-49	
Device name (max. 30 char)		
IP_Controller_N350E		
IP Address assignment		
by DHCP Server		
IP Boot option		
use DHCP always		
Scheduler settings		
via Web / via Tool		
Logic settings		
via Web / via Tool		
Trigger settings		
via Web / via Tool		
Events / Scenes		
via Web / via Tool		

Parameter	Setting
Device name (max. 30 char)	IP_Controller_N350E
With this parameter the device can receive an individual name that simplifies searching the device over the network. Punctuation marks (e.g. ./) and special characters are not allowed.	
IP Address assignment	by DHCP Server manual input
This parameter defines the type of IP address assignment. By default address assignment by a DHCP server is set. The IP address assigned by a DHCP server is used permanently until a device reset or recovery from a power failure. When manual input is selected then two other tabs for manual entry of IP address, subnet mask, and default gateway appear.	
IP Boot option	use DHCP always use fix IP, if DHCP server is not available
This parameter defines if DHCP shall always be used (default) or if the fixed IP address should be used if the IP address cannot be received from a DHCP server.	

IP Configuration

Obj 30-39	Obj 40-49	Obj 50-59	Obj 60-69	Obj 70-79
General	IP Config 1	IP Config 2	Details	Time
Obj 0-9	Obj 10-19	Obj 20-29	Obj 30-39	Obj 40-49
IP Address				
Byte 1				
0				
Byte 2				
0				
Byte 3				
0				
Byte 4				
0				
IP Subnet mask				
Byte 1				
0				
Byte 2				
0				
Byte 3				
0				
Byte 4				
0				

Parameter	Setting
IP Address Byte 1, Byte 2, Byte 3, Byte 4	0.0.0.0
The IP address is set here when manual input is selected as IP address assignment. The default value for the IP address is 0.0.0.0. This default setting must be replaced by a valid IP address. The four bytes of the IP address are set individually, where the value range for each byte is 0...255.	
IP Subnet mask Byte 1, Byte 2, Byte 3, Byte 4	0.0.0.0
The IP sub net mask is entered here when manual input is selected as IP address assignment. The default value for the IP subnet mask is 0.0.0.0. This default setting must be replaced by a valid IP subnet mask. Valid subnet masks are e.g. 255.255.255.0 or 255.255.240.0. The four bytes of the IP address are set individually, where the value range for each byte is 0...255.	
IP Standard Gateway Byte 1, Byte 2, Byte 3, Byte 4	0.0.0.0
The IP address of the standard gateway is set here when manual input is selected as IP address assignment. The default value is 0.0.0.0. This default setting must be replaced by a valid IP address. The four bytes of the IP address are set individually, where the value range for each byte is 0...255. The standard gateway facilitates sending IP datagrams that are addressed to computers outside of the local network. If the device is configured without standard gateway settings then the default (invalid) address (0.0.0.0) must be used.	

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Details

Obj 50-59		Obj 60-69		Obj 70-79	
General	Details	Time	Obj 0-9	Obj 10-19	Obj 20-29
Send read requests to update object values after restart		Yes			
Communication Timeout		20 sec			
DHCP timeout		1 min			
Update rate for timeserver		1 hour			

Parameter	Setting
Send read request to update object values after reset	Yes No
This parameter defines if object values are updated via a read request after a reset.	
Communication Timeout	1, 5, 10, 15, 20, 30 seconds, 1 minute
This parameter determines the length of the period a return message should arrive back at the N350E from an IP communication partner. If this answer does not arrive within the communication timeout the original message is repeated once and after another repeat the communication connection is disconnected and the message is discarded.	
DHCP Timeout	5 sec 30 sec 1 min 2 min
This parameter determines how long the N350E shall wait for an answer from a DHCP server. This time is especially important if the N350E is set to use a manually set IP address after this period has expired.	
Update rate for time server	1 minute 2 minutes 5 minutes 10 minutes 30 minutes 1 hour 2 hours 4 hours 8 hours 12 hours 24 hours
This parameter determines how often the N350E shall request time from a time server to synchronized its real time clock.	

Time

Obj 50-59		Obj 60-69		Obj 70-79	
General	Details	Time	Obj 0-9	Obj 10-19	Obj 20-29
IP Address of time server					
Byte 1		0			
Byte 2		0			
Byte 3		0			
Byte 4		0			
Time zone		[GMT+01:00] Berlin, Paris, Rome, Mid. Europe			
Daylight saving time automatic		active			
Interval for cyclical sending		30 minutes			

Parameter	Setting
IP address time server Byte 1, Byte 2, Byte 3, Byte 4	0.0.0.0
The real time clock of the N350E can be automatically synchronized by an IP time server sending a time signal according to RFC 868. The IP address of the time server is set here. The default value for the IP address is 0.0.0.0 . This value must be replaced by a valid IP address for the IP time synchronization to work. The four bytes of the IP address are set individually, where the value range for each byte is 0...255. A list of public time servers can be found at http://ntp.isc.org/bin/view/Servers/StratumOneTimeServers . IP address of the PTB time service: 192.53.103.108	
Time zone	(GMT-12:00) Eniwetok, Kwajalein ... (GMT-6:00) Central (USA, Kanada) ... (GMT+1:00) Berlin, Paris, Rom, Mitteleuropa ... (GMT+12:00) Fiji, Kamtschatka, Marshall-I.
Based on the parameter „ Time zone “ the local time is calculated from the Universal Time Code (UTC) received from the time server.	
Daylight saving time automatic	inactive active
If the parameter „ Daylight saving time automatic “ is set to active the time clock automatically switches to daylight savings time and back on the appropriate days. These days are dependent on the selected time zone.	

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Parameter	Setting
Interval for cyclical sending	1 minute
	2 minutes
	5 minutes
	10 minutes
	30 minutes
	1 hour
	2 hours
	4 hours
	8 hours
	12 hours
	24 hours

This parameter determines the interval for the N350E to send date and time to the bus.

Objects (0 – 79)

Obj 30-39	Obj 40-49	Obj 50-59	Obj 60-69	Obj 70-79
General	IP Config 1	IP Config 2	Details	Time
			Obj 0-9	Obj 10-19
				Obj 20-29
Data type of object nr. 0			1 bit (EIS 1)	
Data type of object nr. 1			1 Byte unsigned (EIS 14)	
Data type of object nr. 2			1 Byte signed (EIS 14)	
Data type of object nr. 3			2 Byte unsigned (EIS 10)	
Data type of object nr. 4			2 Byte signed (EIS 10)	
Data type of object nr. 5			2 Byte float (EIS 5)	
Data type of object nr. 6			4 Byte unsigned (EIS 11)	
Data type of object nr. 7			4 Byte signed (EIS 11)	
Data type of object nr. 8			4 Byte float (EIS 9)	
Data type of object nr. 9			1 bit (EIS 1)	

Parameter	Setting
Data type of object nr. n	1 Bit (EIS 1)
	1 Byte unsigned (EIS 14)
	1 Byte signed (EIS 14)
	2 Byte unsigned (EIS10)
	2 Byte signed (EIS 10)
	2 Byte float (EIS 5)
	4 Byte unsigned (EIS 11)
	4 Byte signed (EIS 11)
	4 Byte float (EIS 9)

These parameters individually determine the data type of each object n (n = 0...79). The preset value is **1 Bit (EIS 1)**.

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Configuration Software

The configuration software runs on Windows 2000 and Windows XP. It is used to configure the N350E functions for event and time schedules and logic via a network connection.

The software is based on a Web server to enable configuration from a computer on the LAN or Intranet by using an already installed browser (Internet Explorer 5.5 or later). This browser shall be set to use Sun JVM (1.5.0). By default the configuration software uses port address 32000, the use of which must be enabled in the network. If this port address is blocked contact your network administrator.

The N350E is shipped with a credit card sized CD-ROM that contains the setup for the configuration software. You must have administrator rights to install the software on the machine. Start the setup program "Start.exe" unless it has already been started automatically from the CD-ROM.

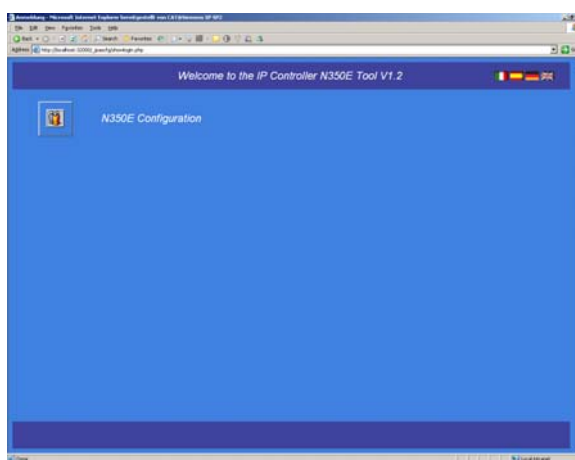


Click on the N350E icon.



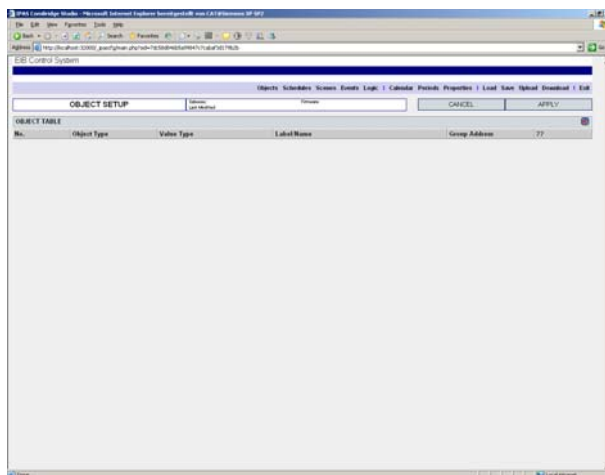
Install the N350E Configurator software by clicking on bullet 1.

The setup software automatically establishes a link to Internet Explorer under Start→ Programs→ ComBridge Studio→ N350E Configurator V1.2. When you select this link the N350E Configurator Software starts with this screen.



Select your language by clicking on the respective flag (Italian, Spanish, German, English).

Then click on the icon for N350E Configuration.



You are now in the configuration menu for the N350E.

In the menu bar you will find these menu items: Objects Schedules Scenes Events Logic | Calendar Periods Properties | Load Save Upload Download | Exit

Configuring an N350E for the first time takes these steps:

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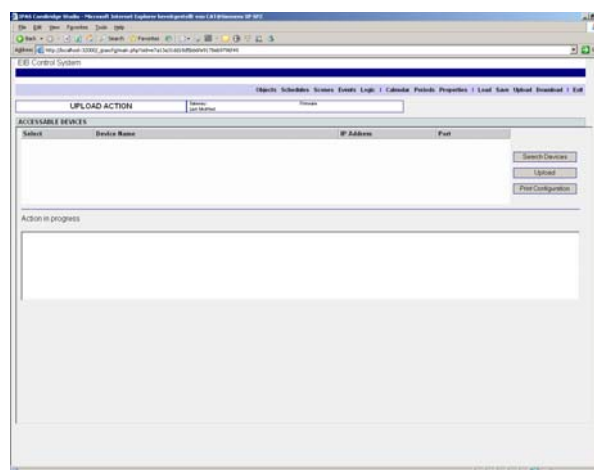
- Upload the settings of the N350E (Upload)
- Enter the object label (Objects)
- Enter the schedules (Schedules)
- Enter the event programs or scenes (Scenes)
- Enter the event triggers (Events)
- Enter the logic functions (Logic)
- Enter exception day programs (Calendar)
- Enter periods (Periods)
- Secure the data entries on the local hard drive (Save)
- Load the settings into the N350E (Download)

When you have already configured an N350E you can make changes to the settings without connecting to the N350E first. Take these steps:

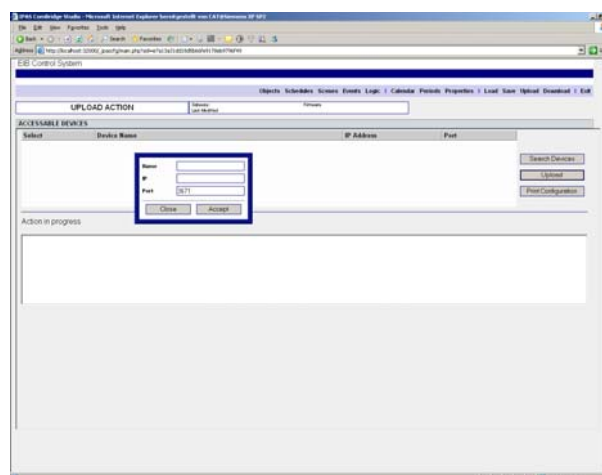
- Load the saved settings of the N350E from the local hard drive (Load)
- Change the object labels (Objects)
- Change the schedules (Schedules)
- Change the event programs or scenes (Scenes)
- Change the event triggers (Events)
- Change the logic functions (Logic)
- Change the exception day programs (Calendar)
- Change the periods (Periods)
- Save the settings to the local hard drive (Save)
- Load the settings into the N350E (Download)

Uploading the N350E Configuration (Upload)

Click on the menu point Upload to open this window.



When you click on "Search Devices" the N350E Configuration Software looks for all N350E devices on the network and presents a list of those found. Choose an IP Controller from the list and click on "Upload" to start reading the current settings of this N350E. When no device was selected from the list or no devices were found a window pops up where you have to enter the IP address of the IP Controller to upload from.



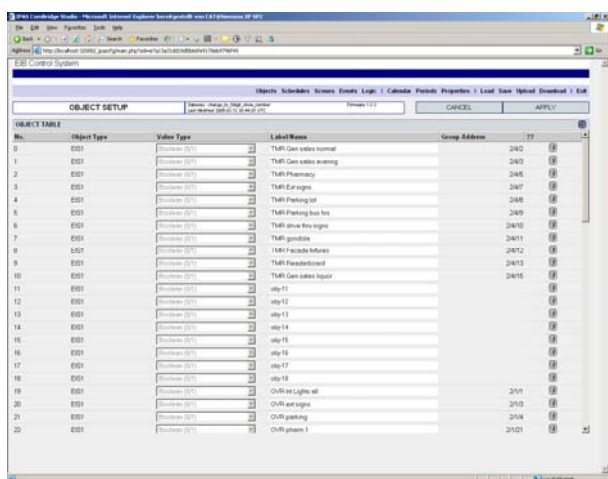
Depending on the network characteristics the upload may take between one second to two minutes.

After a successful Upload click on Objects.

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Enter the object labels (Objects)

Clicking on Objects opens a window with a list of all objects of an N350E.



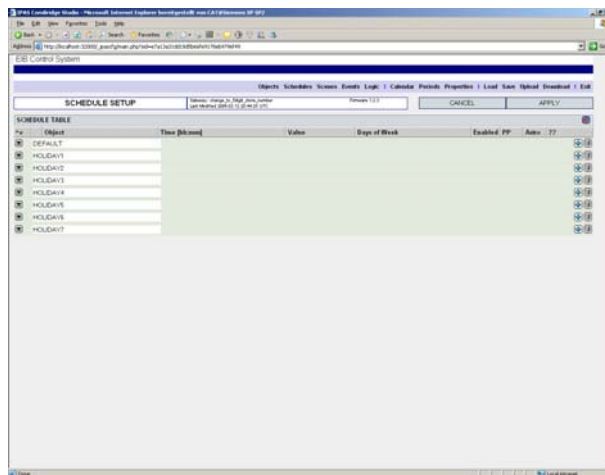
This list shows the object number (0...79), the data point type as set with ETS, the value range, the name, and the group address assigned with ETS. The labels of the objects are changeable to assign a meaningful label to the object.

Changes only apply after the APPLY button has been pressed.

CANCEL discards all changes since the last APPLY. The N350E Configurator checks if changes have been applied when the window is left. If not, this can be done then or all changes are discarded.

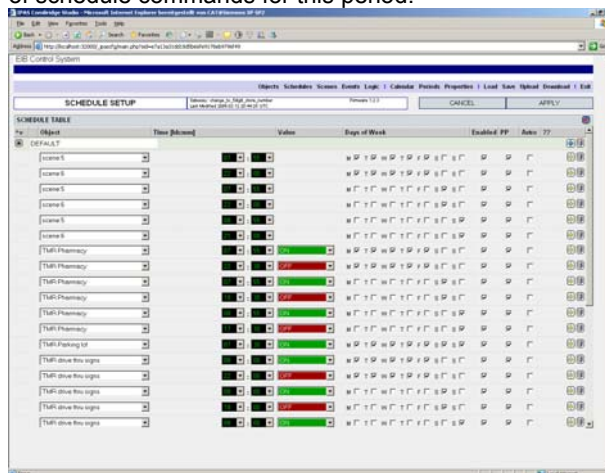
Enter the schedules (Schedules)

Click on the menu point Schedules to enter schedules.



A list with eight (8) periods (Default, Holiday1, Holiday2, ...) appears. Each of these periods may contain a weekly schedule. If no periods have been entered in the main menu point Periods then only the schedule entries in the Default period are executed. The name of a period may be changed by the user by clicking on the name field and changing the name there.

Click on the button left of the period name to open a list of schedule commands for this period.




The list of schedule commands shows the name of the object the schedule command applies to. Alternatively, a scene can be selected instead of an object name to be started at the desired time. Set the schedule time, the value to be sent and the week days the schedule command shall be executed. Each schedule command can

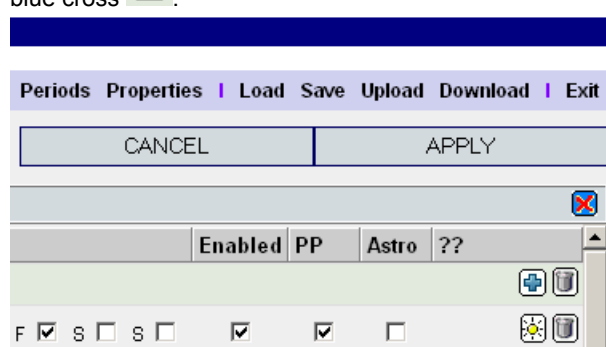
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be activated (enable) or deactivated (enable). By default schedule commands are post-processed (post-processing). Post-processing can be disabled individually for each schedule command.

Each schedule command can be executed relative to sun rise or sun set (Astro). Sun rise and sun set are determined by entering longitude and latitude of the building under the main menu point **Properties**.

New schedule commands are added by clicking on the

blue cross .



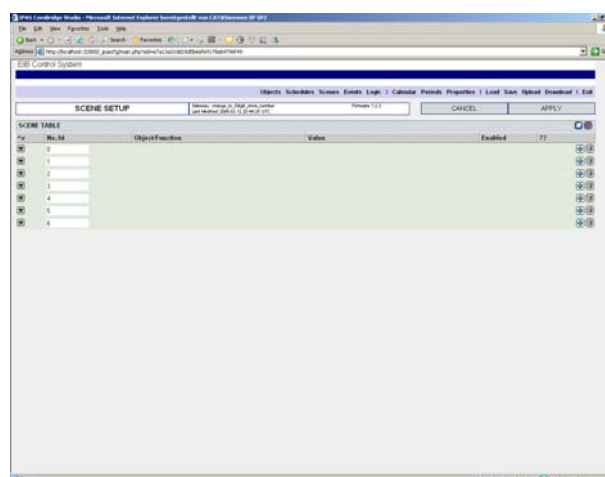
Changes only apply after the APPLY button has been pressed.

CANCEL discards all changes since the last APPLY. The N350E Configurator checks if changes have been applied when the window is left. If not, this can be done then or all changes are discarded.

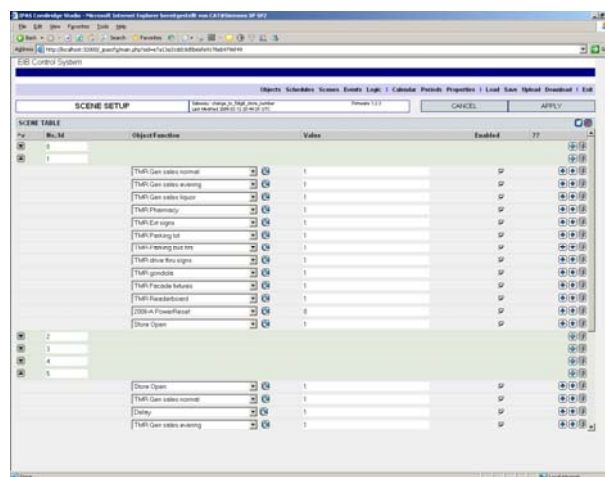
Enter event programs or scenes (Scenes)

Click on the menu point Scenes to enter event programs or scenes.

A list of event programs appears.



By clicking on the symbol in the first column the details of the event program are presented.



Each event program command is presented with the name of the object, the value to be sent via that object and whether it is enabled (enable) or disabled (enable).

Each event program command of an event program (scene) can be deleted by clicking on the trash can. The sequence of commands can be changed with the up or down arrows. A new event program command can be inserted by clicking on the symbol next to the trash can symbol.

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A new event program (scene) can be added by clicking on the yellow box below the APPLY button.

A number between 0 and 200 must be assigned to the event program where already used numbers cannot be assigned again.

An event program consists of event program commands that relate to an object or are a delay. When a new event program command is inserted by clicking on the blue

cross  the first object in the object list shows by default.

By clicking on the symbol  the command is switched to a delay. The delay can be set as any value between 1 and 64000 seconds.

For communication objects a value fitting the object type to be sent to the bus can be entered in the field after the object label.

Note:

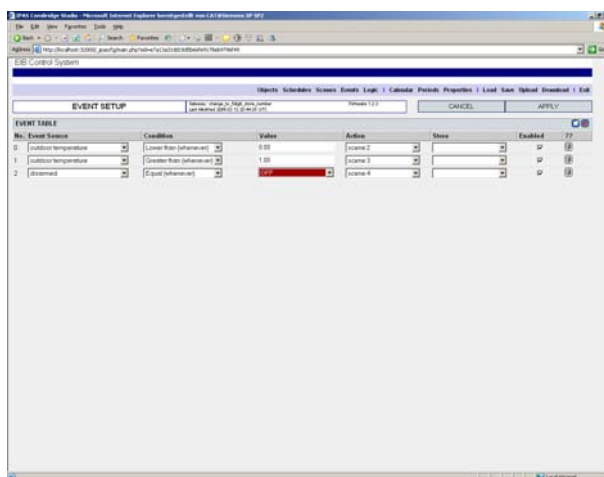
For objects of type 2-Byte or 4-Byte, the value to be sent with the event program command can be a non-integer number. Non-integer numbers have to be entered with a decimal point (e.g. 12.3).

Changes only apply after the APPLY button has been pressed.

CANCEL discards all changes since the last APPLY. The N350E Configurator checks if changes have been applied when the window is left. If not, this can be done then or all changes are discarded.

Enter the event triggers (Events)

The menu point Events allows for definition of event triggers to start already defined event programs or to set internal variables.



Each event trigger is listed with a consecutive number, the source of the event trigger, the event condition, the event threshold, the action (i.e. the selected event program number) and enable-state of the event trigger.

New event triggers are added by clicking on the yellow box below the APPLY button. Click on the trash can to delete the event trigger.

The source of an event trigger can be chosen from a list of the 80 communication objects.

The current value of the event trigger source is compared with the threshold value. If the comparison is positive the event program is started and/or an internal variable is set.

The event condition can be selected from this list:

- any value (i.e. when a telegram is received)
- equal (whenever)
- lower than (whenever)
- greater than (whenever)
- equal (first time)
- lower than (first time)
- greater than (first time)

When the event condition "whenever" is selected the event program is triggered any time the condition is met. When the event condition "first time" is selected the event program is only triggered when the condition is met for the first time. If subsequently the condition is met

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again the event program is not triggered again unless in the mean time a telegram was received and the condition was not met. Then the condition is met again for the first time and thus triggered.

The condition value is dependent on the data type of the event trigger object. For analog value objects the event trigger can be an analog value.

Note:

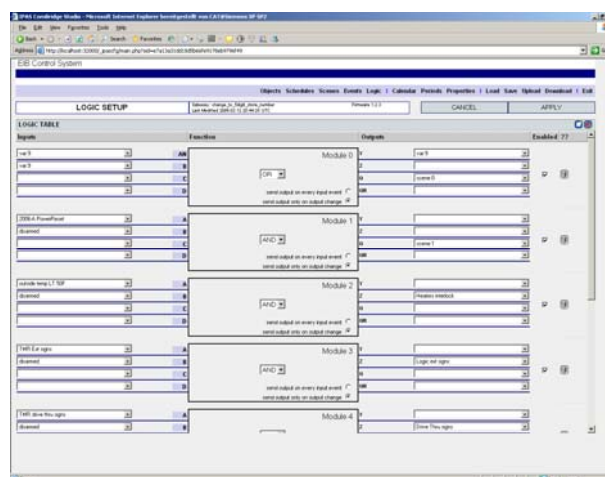
For objects of type 2-Byte or 4-Byte, the value to be sent with the event program command can be a non-integer number. Non-integer numbers have to be entered with a decimal point (e.g. 12.3).

An already defined event program (scene) can be entered as action. The event program is started immediately after the condition has been met. Also, an internal value can be set. This internal variable may be used in a logic function.

Changes only apply after the APPLY button has been pressed.
CANCEL discards all changes since the last APPLY.
The N350E Configurator checks if changes have been applied when the window is left. If not, this can be done then or all changes are discarded.

Enter the logic functions (Logic)

The N350E supports AND and OR gates. The current configuration is presented with a click on Logic.



The logic gates can have up to four inputs. Input values can be the values of objects or internal variables. Each input can be inverted by clicking on the input. The display changes from e.g. A to AN. Another click reverts the input inversion again.

Each logic gate has four outputs Q, QN, Y, and Z. When the output value is true then the event program assigned to Q is executed. When the output value is false then the event program assigned to QN is executed. Via the output Y the result of the gate can be forwarded as an internal variable. Output Z can be used to directly send the output value to the bus via an object.

Select for each logic gate if the output value should be sent with each received telegram or only when the output value changes.

New logic gates are added by clicking on the yellow box below the APPLY button. Click on the trash can to delete the logic gate.

Changes only apply after the APPLY button has been pressed.
CANCEL discards all changes since the last APPLY.
The N350E Configurator checks if changes have been applied when the window is left. If not, this can be done then or all changes are discarded.

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Examples:

The following examples explain how the logic functions are processed. This is the assumed configuration:

- All 4 inputs are assigned to objects
- The logic function is AND
- The internal variable 1 is used as temporary output variable
- Object no. 1 is used as output object
- If the output value of the logic gate is TRUE (=1) then scene 2 is executed
- If the output value of the logic gate is FALSE (=0) then scene 3 is executed

Example A:

The send condition is set to „Send output only on output change“.

State at t=T0		output value	
A=0	AND / OR	Y=variable 1	0
B=1	Sendebedingung:	Z=Object 1	0
C=1	a) on change of output value	Q=Scene 2	-
D=1	b) when an input event occurs	QN=Scene 3	X

The logic AND result of the input values is FALSE (=0). Therefore variable no. 1 as well as object no.1 are set to 0 and sent out. At the same time scene 3 (logic gate output QN) is started.

State at t=T1		Ausgangswert	
A=1	AND / OR	Y=Variable 1	1
B=1	Send condition:	Z=Object 1	1
C=1	a) on change of output value	Q=Scene 2	X
D=1	b) when an input event occurs	QN=Scene 3	-

A telegram with the value 1 is received at input A. The logic AND result changes to TRUE (=1). The variable no. 1 as well as object no.1 are set to 1 and sent out. At the same time scene 2 (logic gate output Q) is started.

State at t=T2		Ausgangswert	
A=1	AND / OR	Y=Variable 1	1
B=1	Send condition:	Z=Object 1	1
C=1	a) on change of output value	Q=Scene 2	X
D=1	b) when an input event occurs	QN=Scene 3	-

A telegram with value 1 is received on input B. The logic AND result is TRUE (=1). Because the output state does not change compared to the previous output state the values are not sent again and the scene is not started again.

Example B:

The send condition is set to „send output on every input event“.

State at t=T0		Ausgangswert	
A=0	AND / OR	Y=Variable 1	0
B=1	Send condition:	Z=Object 1	0
C=1	a) on change of output value	Q=Scene 2	-
D=1	b) when an input event occurs	QN=Scene 3	X

The logic AND result of the input values is FALSE (=0). Therefore variable no. 1 as well as object no.1 are set to 0 and sent out. At the same time scene 3 (logic gate output QN) is started.

State at t=T1		Ausgangswert	
A=1	AND / OR	Y=Variable 1	1
B=1	Send condition:	Z=Object 1	1
C=1	a) on change of output value	Q=Scene 2	X
D=1	b) when an input event occurs	QN=Scene 3	-

A telegram with the value 1 is received at input A. The logic AND result changes to TRUE (=1). The variable no. 1 as well as object no.1 are set to 1 and sent out. At the same time scene 2 (logic gate output Q) is started.

State at t=T2		Ausgangswert	
A=1	AND / OR	Y=Variable 1	1
B=1	Send condition:	Z=Object 1	1
C=1	a) on change of output value	Q=Scene 2	X
D=1	b) when an input event occurs	QN=Scene 3	-

A telegram with value 1 is received on input B. The logic AND result is TRUE (=1). The output values of the variable no. 1 and the object no. 1 are sent and the scene is started again.

Some notes on logic gates:

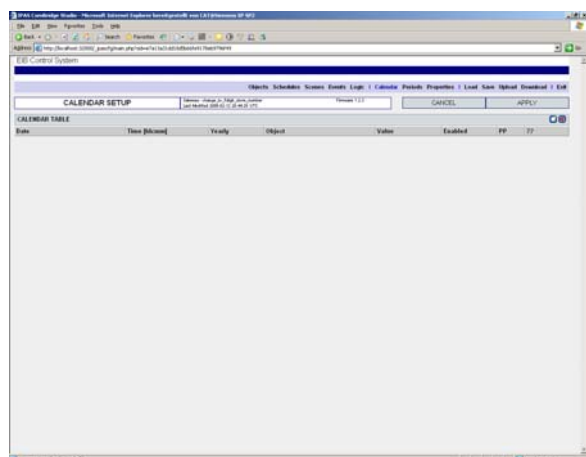
A NOT-AND gate (NAND) can be realized with an OR gate where all inputs are inverted (i.e. AN instead of A, BN instead of B, etc).

In a similar way A NOT-OR gate (NOR) can be realized with an AND gate where all inputs are inverted.

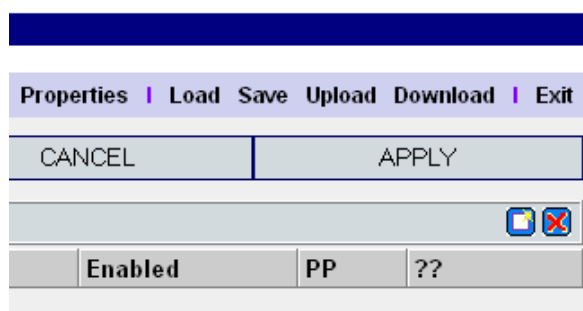
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Enter calendar programs (Calendar)

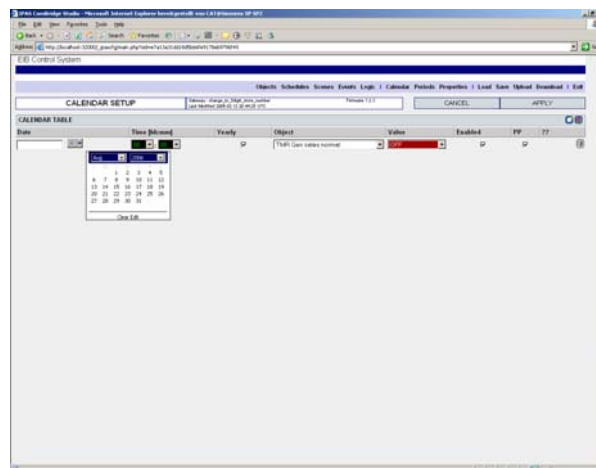
Click on the main menu point Calendar to define schedules to be executed on a specific day of the year (e.g. 4 July).



New calendar schedule commands are added by clicking on the yellow box below the APPLY button.



Click on the symbol under Date to select the day from the calendar.



The schedule command is executed on that day at the selected time.

The schedule command can be repeated annually (yearly) or only once on the selected day (yearly). The schedule command shows the name of the object the schedule command applies to. Alternatively, a scene can be selected instead of an object name to be started at the desired time. Set the schedule time, the value to be sent and the week days the schedule command shall be executed. Each schedule command can be activated (enable) or deactivated (enable). By default schedule commands are post-processed (post-processing). Post-processing can be disabled individually for each schedule command.

Changes only apply after the APPLY button has been pressed.

CANCEL discards all changes since the last APPLY. The N350E Configurator checks if changes have been applied when the window is left. If not, this can be done then or all changes are discarded.

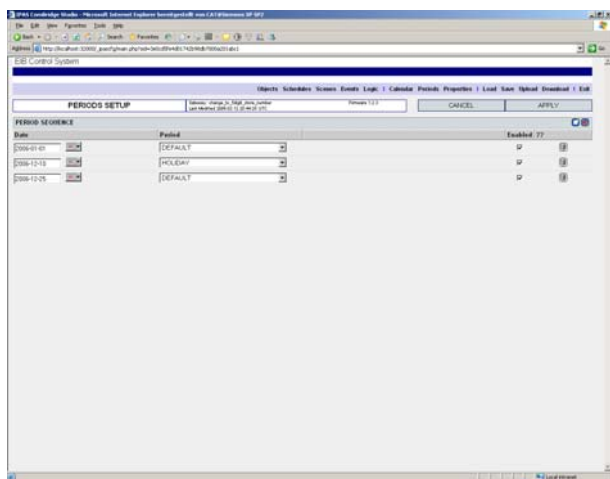
Note:

A total of 50 calendar schedule commands and periods for weekly schedules can be set.

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Entry of periods (Periods)

The menu point Periods allows for definition of periods for execution of the associated weekly schedules.



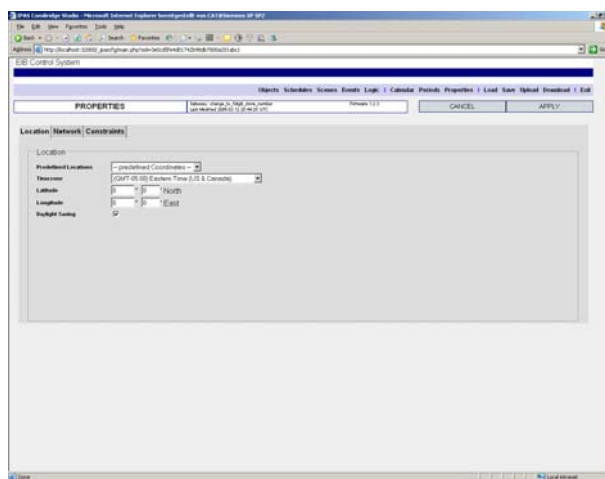
Periods start with the listed day at 00:00 hours and end on the day prior to the next period at 23:59 hours. The weekly schedule assigned to that period can be selected from a list. Each period can be enabled (enabled) or disabled (enabled).

Changes only apply after the APPLY button has been pressed.

CANCEL discards all changes since the last APPLY. The N350E Configurator checks if changes have been applied when the window is left. If not, this can be done then or all changes are discarded.

Entry and display of device properties (Properties)

The menu point Properties allows for viewing important settings of the device and changing some of these parameters.



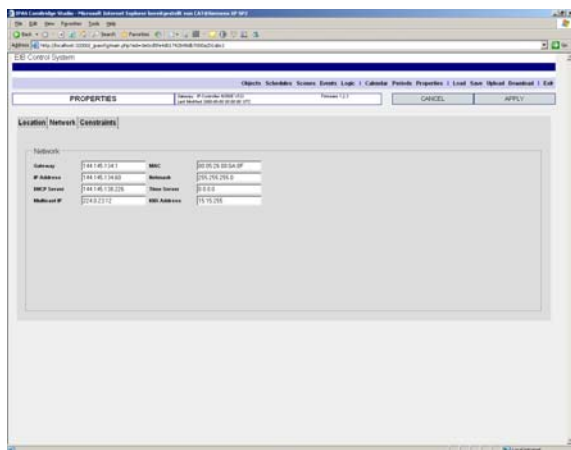
The tab Location shows location coordinates, time zone, and daylight savings time change-over settings.

Select the location coordinates from a list of pre-defined locations or enter the latitude and longitude coordinates. The time zone entered in this tab overwrites the setting by ETS. This also applies to the setting for daylight savings time change-over.

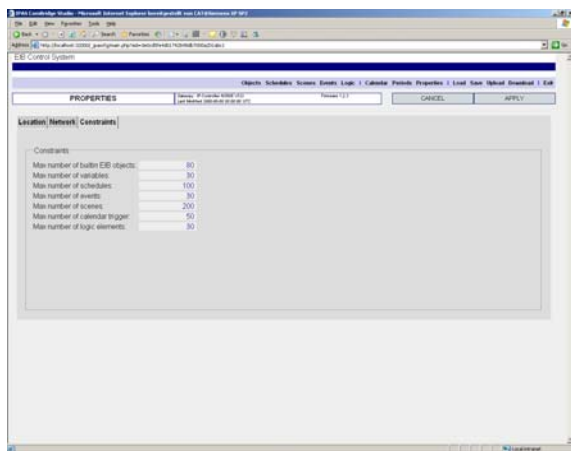
Changes in the tab Location only apply after the APPLY button has been pressed.

CANCEL discards all changes since the last APPLY. The N350E Configurator checks if changes have been applied when the window is left. If not, this can be done then or all changes are discarded.

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The tab Network shows the current network settings of the device that were uploaded. This includes the physical address of the device.



The tab Constraints displays the limits for the different functions and lists set for the device. These values cannot be changed.

Save the entries on the local hard drive (Save)

Click on the menu point Save to save the results of your work on the local hard drive. Assign a valid file name with the ending ".xml".

Load the entries from the local hard drive (Load)

Click on the menu point Load to load the saved settings from the local hard drive. Select a file with the ending ".xml" and click on the button Load.

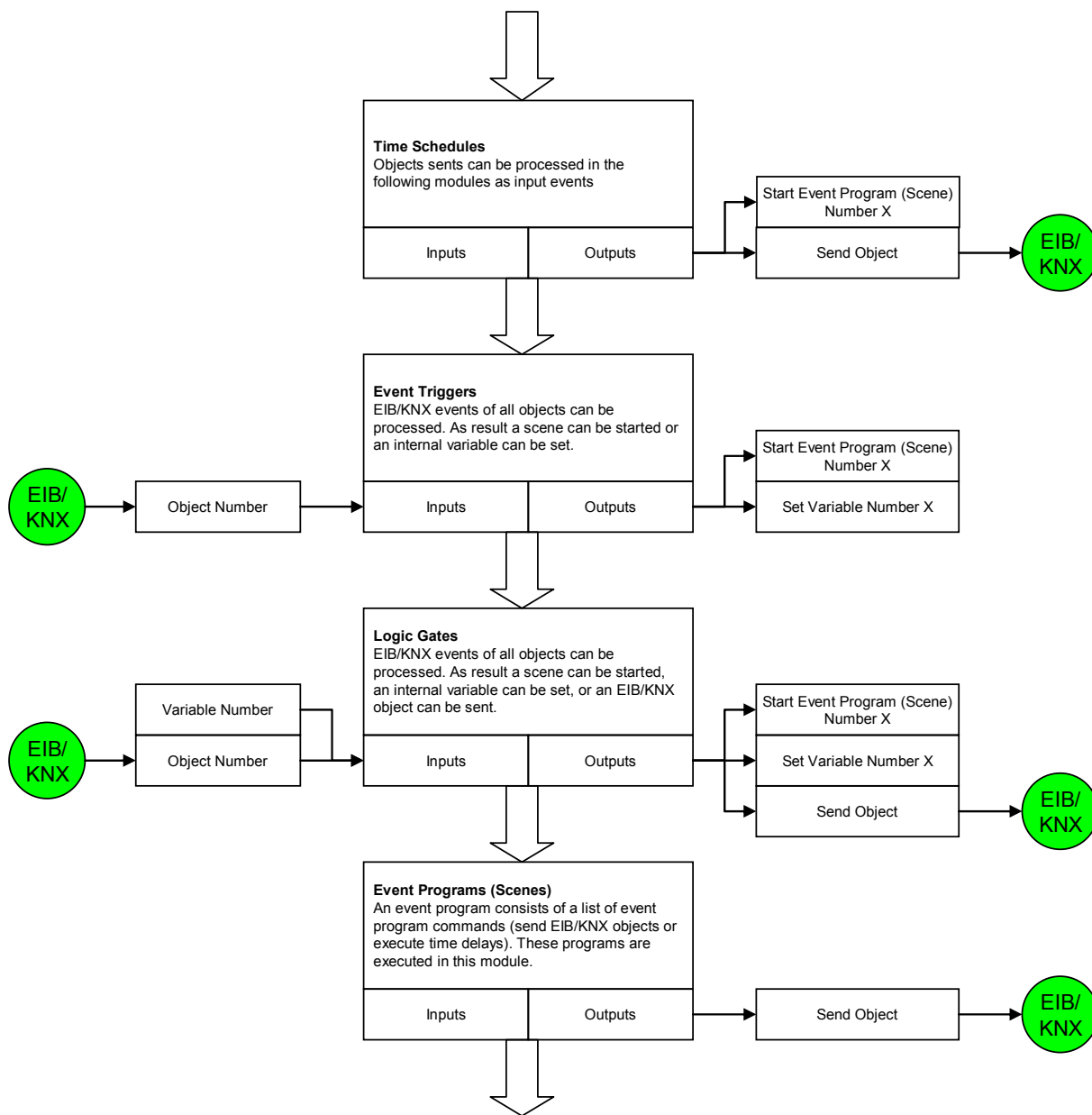
Load the settings into the N350E (Download)

Click on the menu point Download and then either on Search Devices or directly on Download. When selecting Download you must enter a valid IP address of an N350E.

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Sequence of program execution

In the N350E the function modules are executed in this sequence: time schedules, event triggers, logic gates and last event schedules. Internal variables are set to carry data between function modules. These internal variables are reset after the event programs were executed.



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Supported Software

Here is a list of software supporting the IP Controller N 350E.

ComBridge Studio

IPAS GmbH
 Grabenstr 149 a
 47057 Duisburg
 [http://www.ipas-products.com]

ComBridge Studio is a visualization software that can use the IP Interface N148/21, the IP Router N146, and the IP Controller N350E as interface to EIB. Find more information in the GAMMA catalog or at the above listed web site.

ETS3

EIBA s.c.
 Bessenveldstraat 5
 B-1831 Diegem
 [http://www.eiba.com]

ETS3.0d (Patch A) now offers EIBnet/IP as interface to the bus besides RS232 and USB. With this interface ETS3 may use the IP Interface N148/21, the IP Router N146 and the IP Controller N350E as interfaces to the bus just like a standard RS232 or USB serial interface. This function includes group download of device configuration via the bus and the group monitor function of ETS3.

Note

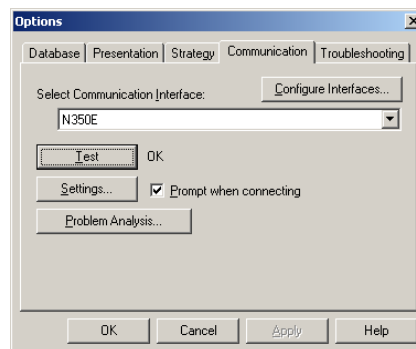
The ETS3 driver currently does not support bus monitoring and local download. When attempting a local download to the IP Controller N350E this message appears: "incompatible BCU version \$091A (required \$0012)".

Note

After installing the ETS3 driver and selecting the IP Interface N148/21, the IP Router N146 or the IP Controller N350E as communication interface a windows message may pop up announcing that a "Class" is unknown. In this case install the Microsoft .Net Framework that you can download from the Microsoft software update site (file size: approx. 25MB).

Note

When the IP Interface N148/21, the IP Router N146 or the IP Controller N350E is selected as communication interface an additional physical address must be assigned to this communication connection for flawless operation.



Click on Settings.



Enter an additional physical address in the field „Individual Address“. This additional address shall not be used by another device and shall be in the same line as the address of the N350E. Click on „Is this address free?“ to test if this address is available. Click on OK to write this additional address into the device and to use it for the connection established by ETS3.

Note


When you want to configure the N350E itself via the Tunneling connection use the download via bus. Do not use a local download.

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General Notes

- Any faulty devices should be returned to the local Siemens office.
- If you have further questions about the product, please contact our Technical Support:

 +49 (0) 180 50 50-222

 +49 (0) 180 50 50-223

 www.siemens.com/automation/support-request