



## ComBridge Studio System



EIBnet/IP Multi Control Gateway  
Web-Visualization  
Automation Services

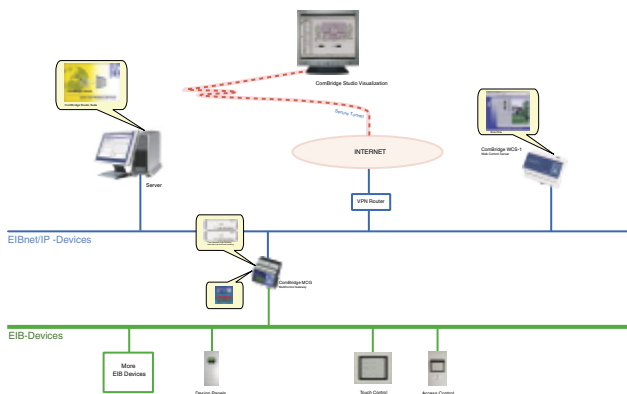
## ComBridge Multi Control Gateway

The ComBridge Multi Control Gateway (MCG) is the ideal EIBnet/IP interface for use in EIB installations with advanced automation functions that must also be visualized.

Combining schedule and logic functions with scenes and event-driven command sequences is typical for residential or commercial building applications.

Typically these automation functions were executed by PC-based visualizations. If these vital functions should not be dependent on the operation of visualization and thus a server running 24/7 then they must become part of the EIB installation. This is where the MCG comes into play. Central control functions like schedules or logic controls can be pushed into and executed by the MCG. Up to 100 schedule commands can be laid down in the MCG.

The real-time clock of the MCG and consequently EIB date/time can be synchronized with an IP time source e.g. the ComBridge Studio Suite. The proven controller technology ensures high stability and reliability with absolutely independent operation, regardless of whether a server or a PC is used to visualize the EIB installation. Intelligently using the EIBnet/IP communication concept the automation processes are configured easily and quickly via the MCG Configurator web tool. Assignment of EIB group addresses is done with ETS. Additionally the ComBridge MCG offers an EIBnet/IP Tunneling connection for configuration of EIB devices thus eliminating the need for further configuration interfaces.



### Program functions

- 100 schedule commands for weekly and/or annual schedules
- 30 Event triggers
- 30 Logic gates
- 200 scene commands
- 30 internal variables
- 80 EIB objects, configured with ETS
- real-time clock, battery buffered
- Web-Tool MCG Configurator
- EIBnet/IP Tunneling for configuration of EIB devices with ETS 3
- IP visualization channel as a permanent connection to e.g. ComBridge Studio Suite or ComBridge WCS, parallel to EIBnet/IP Tunneling

Casing: DIN-rail mounted device, width: 4 TE (1TE = 18mm)

### Interfaces:

EIB, 10-30 VAC oder DC  
RJ45 Ethernet 10Mbit/s

Order number: 3622-141-01

## Program functions

### Astronomical schedule function

Often control applications are based on location specific requirements like sunrise and sunset.

The MCG Configurator implements an astronomical algorithm to set sunrise and sunset times in the MCG to control applications based on the solar calendar without using an additional light level sensor.

The astronomical times can be activated by either selecting a pre-defined location from a table or by entering the target location coordinates, latitude and longitude.

Predefined Locations	Germany, Freiburg
Timezone	(GMT+01:00) Berlin, Paris, Rome, Mid. Europe
Latitude	48° 00' North
Longitude	7° 51' East
Daylight Saving	<input checked="" type="checkbox"/>

Sonnenaufgang	-01	:	00
Sonnenuntergang	+01	:	02

Scenes and sequence of commands can then be activated with a few mouse clicks relative to sunrise or sunset.

This allows for flexible solutions of the application requirements.

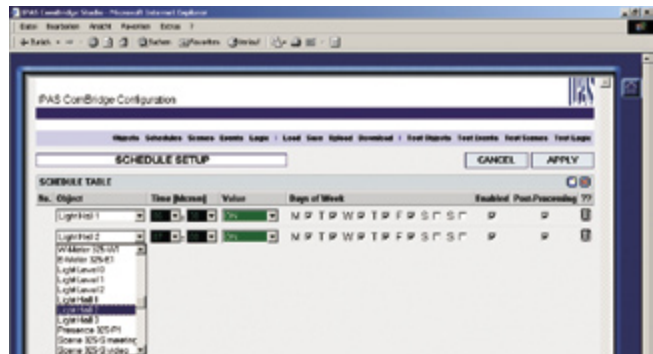
## Program functions

### Schedule commands:

Just a few mouse clicks in the browser allow setting, changing, or deleting schedule commands that are stored and executed in the ComBridge MCG.

Schedule commands can control EIB objects directly or logic, scenes and sequences of commands via scene commands. A schedule command always controls a previously configured EIB object. The value of the schedule command is entered depending on the data type of the object.

Each schedule command requires entry of time, day of week and the information if this command should be post-processed i.e. executed after power resumed and if the command should have been executed during the power failure. Schedule commands can be assigned to different execution periods, which allows for an annual schedule.

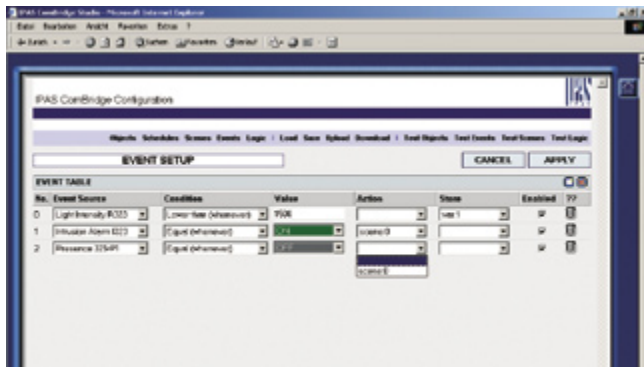


### Event handling / Scenes

Events are triggers for e.g. a sequence of commands or scene. An event trigger compares the value of an EIB object against a pre-defined value.

This can be TRUE (1) or FALSE (0) or an analog value dependent on the EIB object data type. Important values and states of the application can be compared with limits. If the result of the comparison is true then a scene (sequence of commands) can be called and/or an internal variable can be set as an input to a logic function.

Scenes may contain delays between commands effectively changing it to a sequence of commands.



### Logic functions

ComBridge MCG offers a selection of two basic types of logic gates: AND and OR.

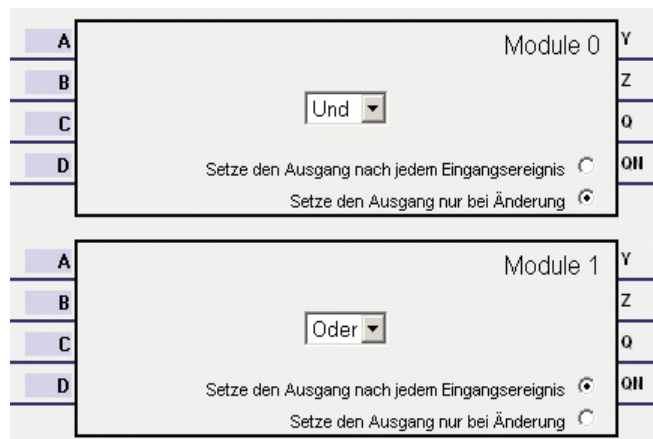
Each logic gate has four inputs that may be assigned to an EIB object, an internal variable, or may be unused. The output may control an EIB object directly, set the value of an internal variable, or trigger a scene (sequence of commands).

In the latter case different scenes can be started for a positive or a negative logic result.

Available send conditions are:

- Send output on every input event
- Send output only on output change

Internal Flags are useable as input information for an additional logic function.



No.	Objekt	Zeit (Monat)	Wert	Wochentage	Aktion	PP	Scene
1	Light1		1		Setze den Ausgang nach jedem Eingangsereignis		
2	Light2		1		Setze den Ausgang nach jedem Eingangsereignis		
3	Light3		1		Setze den Ausgang nach jedem Eingangsereignis		
4	Light4		1		Setze den Ausgang nach jedem Eingangsereignis		
5	Light5		1		Setze den Ausgang nach jedem Eingangsereignis		

### Scenes / Sequence of Commands

Scenes are characterised by the fact that all commands in a scene are recalled at the same time. The MCG allows to define "scenes" as sequences of commands that are separated by time delays. Each command in a scene or sequence of commands requires the time delay or EIB object and command value.

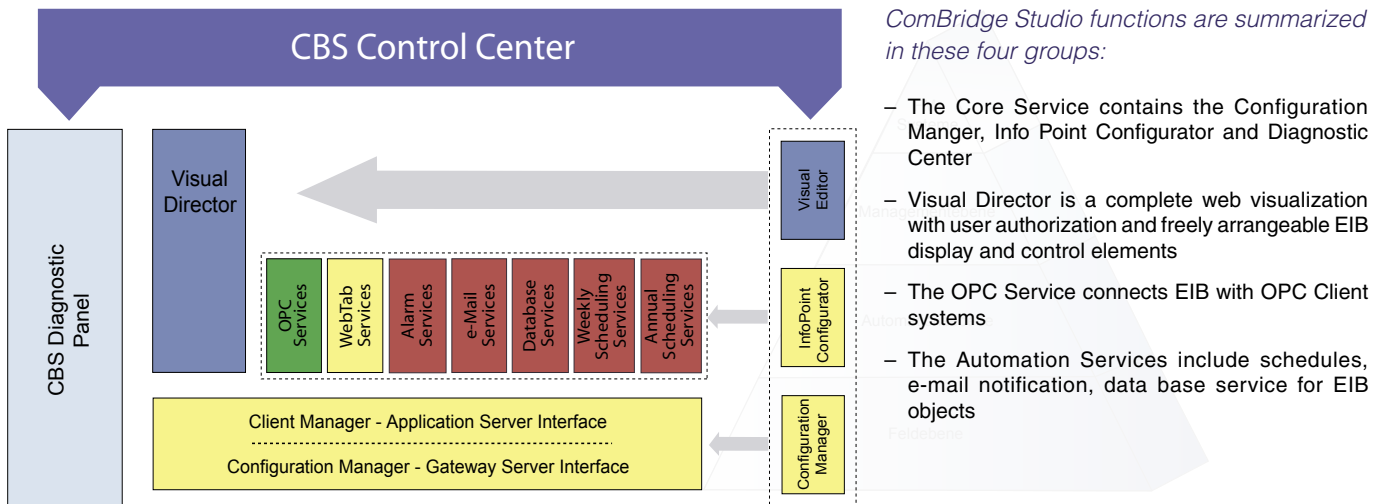
## ComBridge Studio Suite

### Description

#### ComBridge Studio Suite

ComBridge Studio Suite elegantly solves the task known from classic supervisory systems in projects with structured data networks (Intranet or Internet) that connect distributed facilities and that encompass a large number of users with different levels of control authorization.

ComBridge Studio is installed on network servers and thus integrates into existing network structures.



*Just purchase the functionality required for the installation - not more*

Thanks to its modular and scalable software platform, ComBridge Studio gives you the flexibility to purchase just the functionality required for the installation - not more. Gateways, users and functions can be added at a later stage, when the need arises. This makes it a very cost effective solution.

#### Configuration Manager

The Configuration Manager is the user interface to manage the communication with the EIBnet/IP interfaces. Tunneling connections can be deliberately established or closed.

#### InfoPoint Configurator

The ComBridge Studio InfoPoint Configurator is the configuration tool for the Application Services with an intuitive drag-and-drop interface.

ETS group addresses are imported into the left hand folder, group addresses can be dragged across into the workspace to configure WebTabs, OPC service and the Automation Services. The group address description, when available is added to the data line.

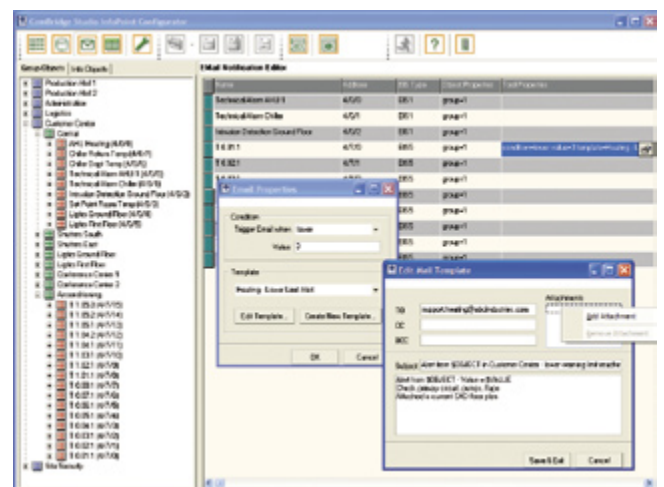
The InfoPoint Configurator is further used to configure the WebTab appearance, such as colours, width, whether to show the object group address, whether to show its status and whether to provide buttons to interact with the object.

The InfoPoint Configurator is used to set up the other Application Services as well: schedules are entered here, with the ability to select the days of the week for each scheduled activity.

E-mail triggers can be defined here, sending the associated e-mail template when the event occurs. E-mails templates contain the list of e-mail recipients, message header and text and optional attachments such as drawings, plans, software tools, photos or pdf-files, etc.

Templates can refer to the object name, value, trigger and condition causing the e-mail to be sent, so that one template can be used for similar events. Finally, the InfoPoint Configurator lists the data points to be logged and saved to a database.

This avoids flooding historical event database with irrelevant data, by selecting just those values that really do need monitoring.





## ComBridge Studio Suite

# ComBridge Studio Suite

## Core and Webtab Services

This package contains all necessary parts to manage EIBnet/IP devices and services for ComBridge Studio applications. This includes the IPAS WebTabs enabling immediate visualization of EIB/KNX data points.

WebTabs are tables with one row per data point. Each row contains the name of the data point, a user defined label, the current status, and buttons to allow user interaction. Each EIS type has a specific row layout. For example a dimmer row (EIS2) displays the label, the object name, a value field with the relative dimming value in % and two buttons, one for on/brighter and the other for off/darker.

The same logic applies for the buttons as for a wall switch: a short click with the mouse switches the dimmer on and off, holding the mouse button pressed down has the effect of dimming up or down.

## Services



### Universal OPC Server:

ComBridge Studio has full OPC server functionality allowing the integration of EIB/KNX data points with other building management systems. This has double benefit. With ComBridge Studio OPC Services, it is possible to access, control and visualise EIB/KNX installations from any OPC client, and at the same time still fully benefit from the other ComBridge Studio applications like using WebTabs or Visual Director for desktop room control.

Another benefit is the Quantity Control. Not all data points are relevant to the OPC client, and passing all data from the EIB installation to the OPC client and back may result in an explosion of telegrams:

The InfoPoint Configurator allows to restrict the list of routed objects to the relevant group addresses.



### Alarm Service:

Any critical condition or occurring event can be set to trigger an alarm database entry. Conditions include higher and lower limits, on and off telegrams, or any time a group address is sent as a telegram on the bus. It is possible to define alarm templates with user defined additional information that is written into the alarm database. Without any additional configuration the Visual Director automatically visualizes alarms.



### (Weekly) Scheduling Service:

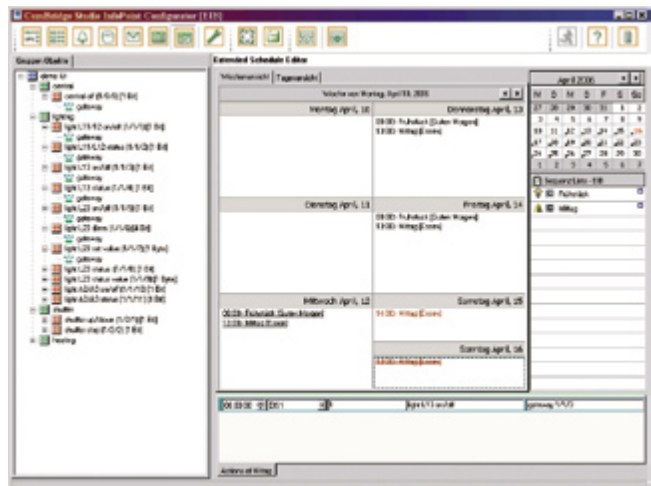
Daily Schedules can be managed centrally using the Scheduling Service. Tick boxes allow to control for which weekdays the command applies. Switch commands (EIS1), set points (EIS5) and other EIS types can be used.

Schedules Editor													
07:00		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EIS1	1	<input checked="" type="checkbox"/>	Komfortbetrieb
17:00		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EIS1	0	<input checked="" type="checkbox"/>	Komfortbetrieb
15:00		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EIS1	0	<input checked="" type="checkbox"/>	Komfortbetrieb

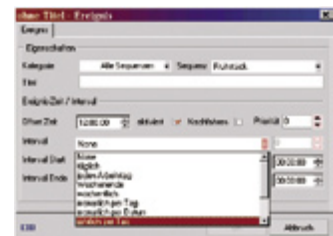


### Annual Scheduling Service:

The Annual Scheduling Service provides PC based annual schedules with prioritized daily, weekly and exception day schedules. Recurring sequences of commands can be stored under a command set name. The number of commands in a sequence is not limited and can be called with time delays from the start time of the sequence.



A schedule entry refers to a command set and is assigned a specific time of day (start time) and a period. If the start time has to change for a single occurrence of the schedule entry then the start time can be changed without affecting the other occurrences of this schedule entry.

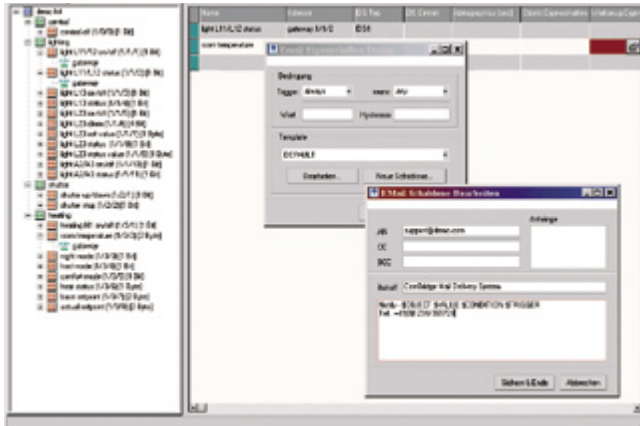


## Services



### *E-mail Notification Service:*

Any critical condition or occurring event can be set to trigger an e-mail. Conditions include higher and lower limits, on and off telegrams, or any time a group address is sent as a telegram on the bus. It is possible to define e-mail templates with a list of recipients, with the description of the event, and even with attachments, such as drawings, descriptions, software tools, tips etc.



### *Database Services:*

Using the database services, it is possible to selectively write events, measurements, meter values etc to an event history for reporting and analysis, or for purposes of quality control and service level monitoring, for analysis,

## Visual Editor

Visual Editor is a fully-fledged HTML editor that provides toolbars and a WYSIWYG workspace. Images, text, tables, pictures and EIB control elements are simply dragged into the workspace. It works with browser layers, so that elements can be positioned on top of each other.

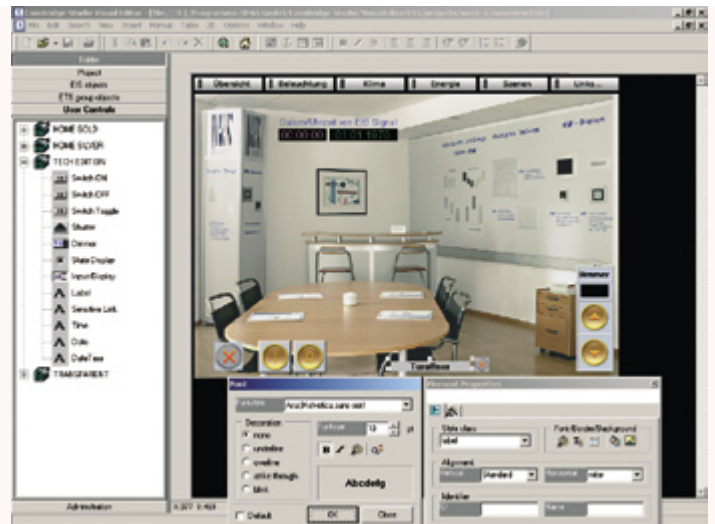
Minimal HTML knowledge is required, since the Editor provides navigation templates that just need to be filled with content. A comprehensive set of controls allows operating and visualising all EIS types of an EIB installation.

All HTML attributes and Style Sheet formatting can be accessed through property windows. Attributes and styles can be selected from a list; colours can be selected from a table, thus avoiding potential syntax errors.

Double clicking on the EIB control element that has been dragged into the workspace and moved to the desired location opens the property window. To then connect it to an EIB group address, simply drag the address into the property window. Dimmers and Shutters require several group addresses to operate correctly. User administration is also provided for. Simply fill out a form stating who should have access to the system during which hours of the day. Users are given an access level allowing to determine whether he has the right to interact with an EIB control element or not. Users can have an individual start page within the project after successful authentication. This makes it possible to design completely separate navigation structures for different types of users and prevent occasional or unauthorized users from accessing sensitive areas.

Projects are saved and exported to the web server using just one button. Project files are html text files that can be viewed and edited with any text editor or other HTML programming environment. For the experienced user, all elements are highly customizable. Appearance and behaviour can be modified to suit the application needs.

The Visual Director runs with PHP and includes session management. Therefore the full power of dynamic and database driven content can be exploited. Server side includes can be used to simplify the construction of large site navigation and structures.



## ComBridge Studio Suite

# ComBridge Studio Suite

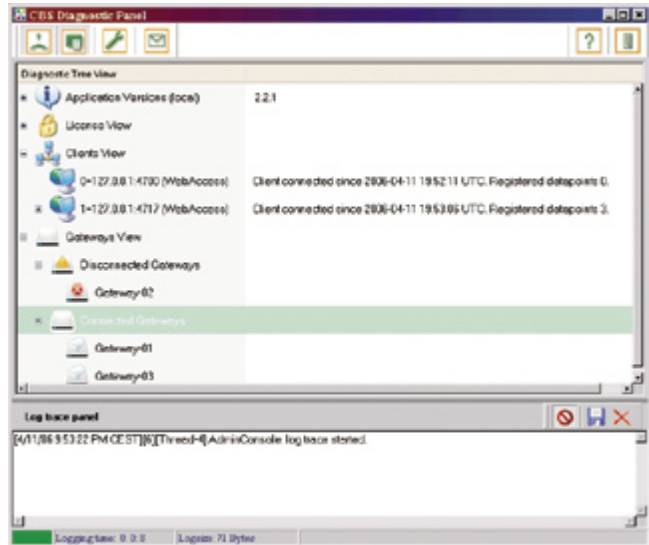
## ComBridge Diagnostic Center

### *CBS Diagnostic Center*

ComBridge Studio Suite comes with a Diagnostic Center. It provides information about the current software setup, the number and usage of licenses, the status of Application Services and EIBnet/IP devices.

In the “Client View” all connected browsers with their respective IP addresses are listed. Additionally the number of registered EIB data points is displayed.

The Gateway View presents the connection status of each EIBnet/IP device connected with ComBridge Studio allowing for fast identification of devices with communication issues.



### *Model*

### *Order number:*

#### **ComBridge Studio Core and Webtab Services**

63101-32-01

– 5 User

63101-32-10

– 5 Gateways

63101-32-11

#### **ComBridge Studio OPC Services**

#### **ComBridge Studio Automation Services**

– Email Services

63101-32-07

– Database Services

63101-32-04

– Schedule Services

63101-32-12

– Annual Schedule Services

63101-32-16

– Alarm and History Services

63101-32-17

#### **ComBridge Studio Visual Director**

63101-32-08

#### **ComBridge Studio Automation Services for WCS**

WCS Automation Services

63101-32-20

WCS Windows Multimedia PlugIn

63101-32-21



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