SAUTER

SAUTER EY-modulo 5
Local Operating Unit modu840

Manual

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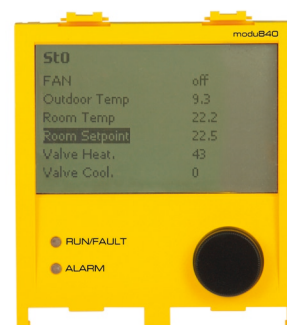
Content

1   Safety informations

⚠ **Incorrect installation**
Possible injury, fire, damage to equipment

▶ Only qualified electricians are authorised to install EY-modulo devices.
▶ Compliance with all international, national, regional and local safety regulations and accident prevention regulations is mandatory.

The products must be installed in such a way that they can be safely used and operated by laymen, and the equipment must be housed in lockable electrical switch cabinets or switch boxes if necessary.

The equipment must be installed in such a way that there is no threat to people, animals or the environment, under any circumstances. The systems may only be started up if it has been ensured that the system can be operated safely and all standards and directives have been complied with in full.

With regard to electrical safety, the EY-modulo devices comply with the requirements of equipment standards EN 60730 and EN 60950. Compliance with standards EN 50178, EN 50310, EN 50110, EN 50274, EN 61140, EN 61558-x etc. must implemented and guaranteed at the system side.

❗ Products from the EY-modulo system range are not «Fail safe» or «No fail» products, and are therefore unsuitable for safety applications.

The device software corresponds to Class A pursuant to IEC/EN 60730-1 Addendum H, and the products do not possess any functional security. It is prohibited to use the products as an SIS (Safety Instrumented System).

The requirements of standards IEC/EN 61508, IEC/EN 61511, IEC/EN 61131-1 & -2 and the like have not been not taken into account.

The products do not comply with EU directives 2004/22/EC for measurement devices and 92/1/EEC for measurement devices for frozen foods.

2   Important notes on operation

Certain knowledge in the area of building automation, HVAC systems, control technology and IT is a prerequisite for working with the manual.

Improper operation can lead to an irrevocable loss of data or of the entire MCR programming for the automation station.

Individual illustrations or descriptions may differ from the final program version as a result of changes made after this manual was published.

2.1   List of abbreviations

Abbreviation	Meaning
AS	Automationsstation
ASHRAE	American Society of Heating Refigurating and Air Conditioning Engineers
BACnet	Building Automation and Control Network
CASE	Computer Aided SAUTER Engineering
CSS	Cascading Style Sheets
CSV	Character Separated Values, Datenformat zum Austausch einfach strukturierter Daten
DBE	Direkte Bedien-/Signalisierungseinheit
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
DOI	Device Object Identifier
FFID	Forming & Fabricating Industry Directory
FTP	File Transfer Protocol
GA	Gebäudeautomation
http	Hypertext Transfer Protocol
https	Hypertext Transfer Protocol Secure
IP	Internet Protocol
Java	ist eine objektorientierte Programmiersprache und als solche ein eingetragenes Warenzeichen der Firma Sun Microsystems
LAN	Local Area Network
MAC address	Media Access Control Address
MSR	Messen-Steuern-Regeln in der Automatisierungstechnik
NTP	Network Time Protocol
SMS	Short Message Service
SVO	Structured View Object (BACnet)
TCP	Transmission Control Protocol
UMS	Unified Messaging Service
URL	Uniform Resource Locater
XML	eXtended Markup Language

2.2   Further documentation

	modu840 (EY-OP840)
Fitting instructions	MV P100002318
Datasheet	PDS 93.015
Materialdeclaration	MD 93.015

2.3   Accessories

0930240511	Control cabinet fitting kit with one RJ-11 cable (6 m) – 4-position with 2 blanking plates
0930240530	Additional housing for hand/desktop/DIN/wall-rail fitting
0367862 001	Connecting cable (1.5 m) modu840 – AS (RJ-11)
0367862 002	Connecting cable (2.9 m) modu840 – AS (RJ-11)
0367862 003	Connecting cable (6.0 m) modu840 – AS (RJ-11)

3   Foreword

The modu840 local operating panel (LOP) is used to display and operate all data points of an automation station (AS) in the EY-modulo 5 family.

Menu-guided operation is made possible using plain text by a single rotary knob. An illuminated display (LCD display) with 160x100 pixels allows up to 8 lines of about 32 characters to be displayed. The operating panel can be directly attached to the AS or kept separate from the AS. No special parameter settings are required – the modu840 reads the data (BACnet objects) and system structures (Structured View Objects) automatically from the AS in such a way that the operating panel is immediately ready for operation. Information such as data point lists, active alarms, switching commands and setpoint entries are automatically exchanged between the connected automation station and the operating panel. The panel is connected by placing it on top of the SAUTER EY-modulo 5 automation station via the integrated spring contacts or connected separately using an RJ-11 connecting cable, which is available as an accessory together with a suitable installation frame.

Usage: simple, user-friendly on-site operation of an automation station with display screen and intuitive, menu-guided operation with rotary knob.

Both the scope of functionality of the modu840 operating panel and the appearance of individual data entry screens can change, particularly as a result of automation station firmware updates.

The modu840 operating panel is shown and described on the basis of the currently available hardware and firmware versions V1.1.0R240. Individual illustrations or descriptions may differ from the final program version due to changes made after this manual was published.

4   Product structure

The hardware consists of a single-chip solution with integrated Flash and RAM. The display controller is integrated on the LCD. The CPU consists of 256 kB of Flash memory and 32 kB of RAM. The maximum CPU clock frequency is 60 MHz. The 13.5 volt power supply is provided by the automation station.

The dimensions of the housing are: 94 x 85 x 25 mm^3 (HxWxD)

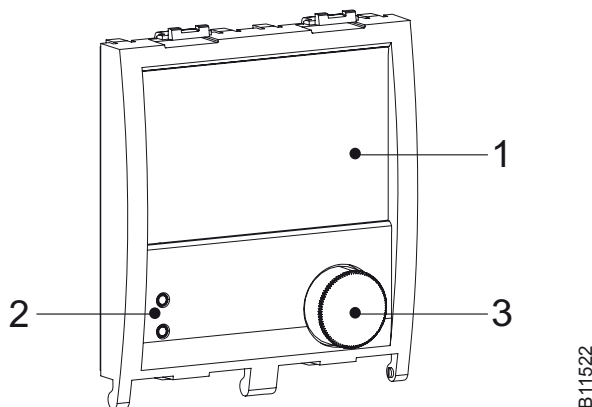The modu840 is shown in Fig. 1 and consists of three I/O elements:

Abb. 1   modu840

1	Display
2	Signal LED's
3	Control knob

The modu840 can be attached directly to the SAUTER EY-modulo 525 base station as a handheld operating unit. The power supply and the serial interface are automatically connected to the back of the modu840 via the integrated spring clamps. If the modu840 handheld operating unit is installed separately, the unit can also be installed in the switch cabinet door, for example. Special installation frames and special connecting cables for connecting the unit to the base station are available as accessories for doing this.

4.1   Display

The main display consists of a backlit LCD display with a visible size of 72.3 x 44.7 mm^2 with 160 x 100 pixels. Depending on the font size that is used and the individual characters, about 8 rows of approximately 32 characters or simple monochrome pixel graphics can be displayed on this screen.

4.2   LED signalling

There are two separate LED's on the surface for indicating operating statuses. The functionality thereof is described in the following table Tab. 1.

Designation	Function	Description
RUN/FAULT	OFF	• Unable to correctly initialise application on modu830 • AS is switched off
	red ON	• Data communication error between modu840 and AS • Low memory
	green ON	• modu840 operating correctly
	green flashing	• Communication with AS, waiting for data • modu840 firmware update
ALARM	OFF	no active alarms, no active collective alarm
	red ON	Collective alarm active but already acknowledged, or alarm summary only contains acknowledged, active alarms (at least 1)
	red flashing	Collective alarm active (IN_ALARM) or alarm summary has at least one active alarm

Tab. 1   modu840 LED indicators

4.3   Controls

The modu840 display is exclusively operated using the rotary knob on the front of the display. This control knob is the only navigation facility with an intuitive "Turn and Press" operating concept.

Control knob functionality:

• Rotate right (+): move cursor downwards, increase adjustment value or skip forwards to next entry
• Rotate left (-): move cursor upwards, decrease adjustment value or skip backwards to previous entry
• Press: select highlighted menu item or button
• Long press (approx. 3 sec.): go to main menu

5 User interface

The user interface of the modu840 is used to provide a full display of the system statuses of a Sauter EY-modulo 5 automation station. The content and the basic structure are based on the integrated moduWeb web server. The menu structure and the display have been specially optimised for lower resolution and for single-button operation.

The additional menu item "Cancel" is displayed in the menus (with the exception of the main menu) in order to go up a level in the menu hierarchy to the previous menu. In the Main screen an „ ↵ " (Enter) symbol is displayed instead of "Cancel", which also takes you to the main menu.

The user interface of the modu840 can also be used by mobile clients (PDA's, smart phones, mobile phones) to access the automation station, provided that they have the latest browser software (such as Windows mobile 6 or Opera mini). Therefore the mobile client must have WLAN functionality or Internet access.

The SAUTER EY-modulo 5 automation station that is being operated must have access to the same WLAN access point or Internet access in order to make use of this facility, like the mobile client. Access to the automation station takes place via the local Ethernet network. When an Internet connection is being used, it must be possible to access the automation station from the Internet via a public IP address. A public IP address such as this can be represented in the local building network via port forwarding to the relevant internal local IP address, for example.

 In order to provide the smaller representation of the modu840 with simplified operation via the web server of the SAUTER EY-modulo automation station that is more suitable for mobile clients, "/mobile" is appended to the known URL of the automation station.

Example: «http://192.168.10.10/mobile»

5.1 Main screen

The Main screen of the modu840 display consists of a dynamically updated standard display of up to three freely selectable data points. The first of these data points is always displayed in extremely large characters. The display of this Main screen is called up from the main menu by selecting the "Main screen" menu item.

The displayed data points are selected using the "Add to Main screen" menu item on the relevant details page for the associated data point.
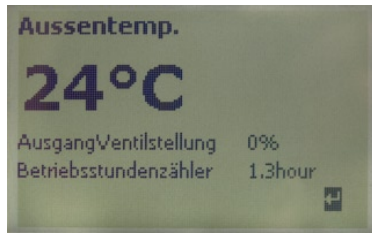
Abb. 2   Main screen

ℹ The data points that have been selected for display in the Main screen are stored on the automation station so that different Main screen configurations can be stored on different stations.

Every logged-on user is automatically logged off by the system after a configurable period of time. If a Main screen has been defined for the system concerned, the modu840 automatically switches to this default display after the session time has elapsed. Pressing the control knob takes the user back to the main menu. The modu840 interface can now be used with "Guest" access rights without having to log in again, which allows data points and alarms to be viewed but not modified or confirmed.

5.2   Login screen

Authorisation to access the SAUTER EY-modulo automation station takes place using the "Login" page in the modu840 main menu. Logging in takes place by entering a user name and the associated password with the role rights that have been pre-assigned to the user. Without a valid login, the modu840 can always be started with Guest access by clicking on the "Cancel" button so that it is at least possible to view data points and system statuses with the modu840.
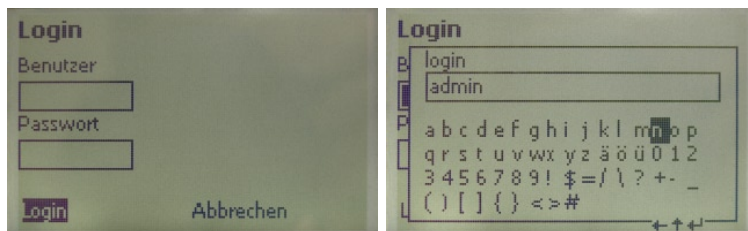

Abb. 3   Login

An individual role concept is assigned to each user via the user name and password. This role concept controls the visibility of and access to the operating menus using predefined user profiles and individual enabling of the hierarchical data point structure. The users that have been created for the integrated moduWeb web server can also log into the modu840 using the same password and access rights. Users can be created and modified using the user administration facility of the moduWeb server that is integrated in the SAUTER EY-modulo 5 automation stations.

The user name is between 4 and 16 characters in length. The user name is not case sensitive.

The password for logging on consists of between 6 and 16 characters. Alphanumeric characters and a subset of the special characters (! $ = / \ ? + - _ ( ) [ ] { } < > #) can be used for the password. The characters are concealed when the password is being entered. The password is case-sensitive. The password cannot be identical to the user name.

The data entry screen shown in Fig. 3 on the right is used to enter the user name and password. The cursor is moved around in this data entry screen by rotating the control knob. Briefly pressing the control knob selects the relevant letter and displays it in the top input field. When the password is being entered, a placeholder is displayed instead of the characters. The following control characters:

• „←" Undo if wrong entry made
• „↑" Toggle between upper/lower case
• „↵" Complete entry and display entry in higher-order input screen

are available. The user name and the password are transmitted to the automation station for authorisation by clicking on the „Login" button in the higher-order data entry screen.

With the SAUTER EY-modulo 5 automation stations, a distinction is made between the following predefined user groups in the modu840 and the moduWeb web server:

• Administrator
• Specialist
• User
• Guest

Different authorisations are assigned to different user groups or operating levels in the menu structure. The availability of menu items and the possibility of changing parameters and values are predefined in different ways for the different user groups role rights are assigned in the moduWeb web server by the administrator when a new user is created, for example. The user cannot change the user group to which he is assigned, nor the assigned authorisation rights.

Authorisation	Guest	User	Specialist	Administrator
Login / Logout	✓	✓	✓	✓
Observe data points, alarms	✓	✓	✓	✓
Change setpoints		✓	✓	✓
Issue commands		✓	✓	✓
Confirm alarms		✓	✓	✓
Record historical data		✓	✓	✓
Timer program for switch command			✓	✓
Delete historical data			✓	✓
Change control parameters			✓	✓
Update modu840 firmware				✓

Tab. 2   modu840 access authorisations

ℹ No more than 5 users can be logged in simultaneously. This includes all users who have logged in via the integrated moduWeb web server. If five users are already logged in, another attempt to log in will fail and error message "503" and the remark „Service temporarily unavailable: Session limit exceeded" will be displayed. In order to log in, another user must be logged off manually, or you must wait until an inactive user is automatically logged off by the system when the session time elapses. Please note that a separate session is also started every time the modu840 is attached. Without an explicit login, this is a session with "Guest" user rights.

If a login fails, the login page is redisplayed with the additional information text "Login failed". For security reasons, there is a 10-second delay before another login attempt is permitted.

After logging in, the main menu appears on the modu840 display.

5.3   Main menu

The main menu appears after successfully logging in or after a long press of the rotary button (>3 s). This consists of the menu shown in Fig. 4.
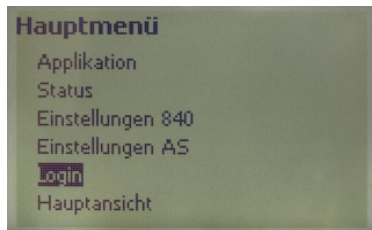

Abb. 4   Main menu

The modu840 operating unit is based on the following menu and sub-menu structure:

• Application
    • «Structured View Object» (SVO) list (project-specific)…
    • Data points…

This sub-menu branches to the full data point list or the structured system view. The underlying structure is based on BACnet SVO objects and is specified during system planning using the SAUTER CASE Suite planning software for the SAUTER EY-modulo 5 automation station.

• Status
    • Control loops…
    • Alarms…
    • Historic alarms…

The control loops that have been created are displayed here, as are the latest alarm and event messages and the overview of the previous 64 historical alarms.

- Settings 840
    - Language…
    - Contrast…
    - Brightness…
    - Update…
    - Version

"Settings 840" is a special menu item containing the settings for the modu840 display. The brightness and the contrast of the display can be adjusted here.

- Settings AS
    - Version
    - Network

This menu item is used to view the automation station settings. The network configuration of the automation station can found here, for example.

- Log in / Log out [user name]

If no active user is logged in, the "Login" menu item is displayed, otherwise the menu item is displayed as "Log out" followed by the name of the user who is currently logged in.

- Main screen

The Main screen contains the latest and cyclically updated current value of up to three freely selectable data points. This view is used as the default view for the modu840 operating unit.

The availability and scope of the menus and menu items depends on the role rights of the user who is logged in.

The functionality of the individual menu items is explicitly described below.

5.3.1 Application

The "Application" menu contains a structured view of the data points that are available on the SAUTER EY-modulo 5 automation station. The menu items in the "Application" menu are system-specific and are based on the BACnet SVO objects. This hierarchical data point structure is created during system planning with the SAUTER CASE Suite planning software, and the I/O definition and the actual control are automatically transferred to the automation station using the MSR program download. For example, physical structuring (e.g. building 1, building 2, floor 1, floor 2, switch cabinet 1, switch cabinet 2 etc.) or functional structuring (e.g. heater 1, heater 2, air conditioning, ventilation etc.) can be created during planning. This system-specific data point structuring displayed on the modu840 cannot be modified. The hierarchical SVO structure of the data points also forms the basis of the display on the moduWeb web server.

The user who is logged into the modu840 operating unit only sees the data points and menu items in the "Application" sub-menu of the structured system display for which he/she has the relevant authorisation. The predefined role rights and specific authorisation for individual subsystems or hierarchy nodes in a system can be defined and modified using the user administration facility of the moduWeb web server.

In the latest version, each individual structured data point list in the structured list display can contain about 100 data points. Any additional data points in longer SVO lists will not be displayed on the modu840. During system planning it must therefore be ensured that this maximum number of list entries is not exceeded.

As well as the structured SVO display, users that are logged in with administrator rights can also view the additional "Data point" display. Selecting the additional "Data points" menu item in the application sub-menu opens up a list containing all available data points in the system is opened in a flat, unstructured table.

If a hierarchical SVO structure has not been defined for the data points during system planning, this flat "Data point" display of all data points will be displayed to all users as a sub-menu item in the "Application" menu.

For the sake of clarity, the unstructured list display of all data points is limited to 25 points per page. If there are more than 25 data points, subsequent pages (each of which contains 25 data points) will be shown as page number "0", "1", "2" at the bottom of the page. The page that is currently being displayed will be highlighted in bold text. The other data points can be viewed by selecting the relevant page number.

The data point display corresponds to the current situation when the page was called up and displayed. The modu840 display is not dynamically updated in the current version. In order to obtain an up-to-date display, the required page must therefore be refreshed.

All SAUTER EY-modulo 5 automation stations are based on the BACnet standard. The description of the data point is used in the modu840 when the data points are displayed. If no description has been specified, the name of the data point (mandatory BACnet specification) is used. The data points are sorted in alphanumerical order in the list display.

The highlighting is moved through the data point list by rotating the rotary knob and then through the following available page numbers at the bottom of the data point list.
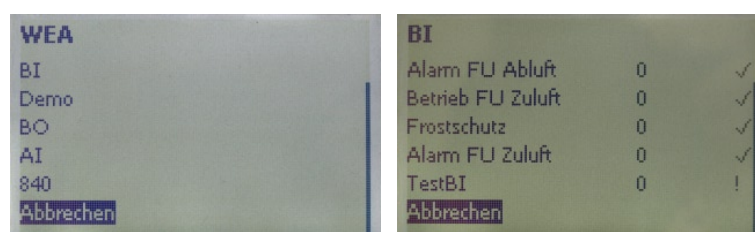

Abb. 5   Data point list

Briefly pressing the control knob opens up a sub-menu associated with the currently selected data point or the data point list page that has been selected.

The sub-menu for a data point can contain the following sub-menu items:

- Edit analogue
- Edit
- Details
- Add to Main screen

A data point that depicts an automation station output can be manually modified using the "Edit analogue" or "Edit" menu items, for example. In both cases, an data entry screen containing the full name of the data points, the current value, an "OK" and a "Cancel" button is displayed. If the selected data point is already in manual mode, the "Reset manual mode" button also appears beneath the designation of the data point. Manual control of the data points, which may have been initiated by the modu840 or the moduWeb web server, for example, is cancelled using this button. The value of the data point can be edited using other sub-menus by highlighting the current value and pressing the control knob.

With analogue outputs the value of the data point can be changed in steps of 0.1 by selecting "Edit analogue" and turning the rotary knob, as shown in the left-hand illustration of Fig. 6. Pressing the rotary knob accepts the modified value and transfers it to the menu above.

Alternatively, the "Edit" menu item can be selected in the data point sub-menu, and the analogue value can be entered directly in numeric format. The individual digits are selected by turning the rotary knob and pressing the knob at the relevant location. If an erroneous entry is made, the last digit that was entered can be deleted again using the „←" button. Number entry is completed by pressing the „↵" (Enter) button, and the value that has been entered is taken over into the menu above.

Until now, values could only be modified in the modu840 operating unit. In order to modify the value of the data point on the automation station, it must also be transferred to the automation station. This takes place in the "Edit" sub-menu for the data point by moving the cursor from the modified data point value to "OK" and confirming the change to the data point value by pressing the control knob. If you do not want to modify the value of the data point you can exit the sub-menu by selecting the "Cancel" button or using a long press of the control knob (< 3s).
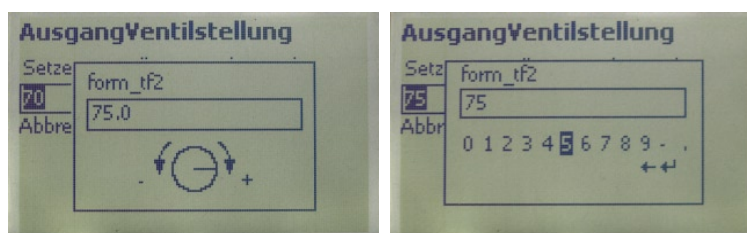
Abb. 6   Editing analogue data points

With binary or multi-state data points, only the "Edit" menu item appears in the sub-menu for the data point. When this menu item is selected, a special data entry screen containing the available switching statuses and the "Cancel" button is displayed. The required status is selected using the control knob and then confirming the entry by briefly pressing the control knob. Examples of binary and multi-state data points are shown in Fig. 7.

If the "Details" menu item is selected in the data point sub-menu, a data point-specific list is displayed containing properties and additional information for the selected data point. As well as the name and the description of the data point, other BACnet properties such as the object type and status flags are also displayed. Depending on the user authorisation, the permitted value range of the data point or the alarm limits can also be directly modified in this list, for example. Values are modified by calling up the "Edit" input screen with numeric value entry.

The "Add to Main screen" sub-menu item in the sub-menu of a data point is used to add this data point to the Main screen default display. In the first three items of the sub-menu you can select which one of the three possible positions the current data point is displayed in. If a data point has already been stored in the relevant position, the designation of this data point appears in this location in the sub-menu. Alternatively, if a position is unoccupied, "Position i" with i = 1, 2, 3 is displayed. Positions that have already been assigned can be selected using the control knob and overwritten with the current data point. Position 1 in the Main screen is always displayed in a bigger font size. All items in the Main screen can also be deleted in this sub-menu using the "Remove all" option.
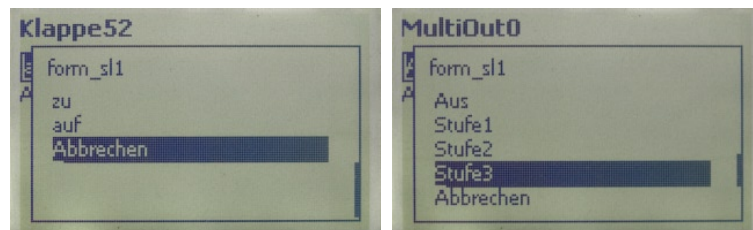

Abb. 7   Editing binary or multi-state data points

Data points that have been modified by the user via the modu840 are subsequently in manual operating mode and are no longer modified by the automation station's MSR controller. If the data point is going to be automatically controlled again by the controller's loaded MSR plan, manual mode must first be disabled. An additional "Reset manual mode" button that can also be selected by rotating the control knob is displayed for this purpose in the "Edit analogue" and "Edit" data point sub-menus together with the data point name, the current value, the "OK" button and "Cancel" button. If the "Reset manual mode" button has been selected, pressing the rotary knob cancels manual mode for the data point.

The length of designations for data points and alarm messages in the list display is limited by the maximum resolution of the display. Depending on the individual widths of the characters that are used, at least 11 characters can be displayed (with right alignment). Longer designations are truncated appropriately, preceded by "…". The full description and the associated, unique data point name can be called up at any time using the "Details" sub-menu for the relevant data point.

5.3.2 Status

The status menu of the modu840 operating unit consists of the following menu items:

- Control loops
- Alarms
- Historic alarms

The alarm and event messages that are still pending on the SAUTER EY-modulo 5 automation station that are active or have not yet been acknowledged are displayed under the Alarms menu item.

The information is displayed in tabular format sorted by time stamp, whereby the most recent message appears at the top of the list. The first column of the alarm list of the modu840 contains the description of the data point that triggered the alarm. Column 2 contains the priority of the message (number from 1 – 255). This number corresponds to the BACnet priority of the fault message and is defined by the corresponding BACnet objects during the planning of the system. A priority of "1" is the highest priority. The third column indicates whether the message is an alarm or an event message. Alarm messages are marked by a filled triangle symbol „▲". Event messages are marked with an unfilled triangle symbol „△" in the same column. If a message requires acknowledgement, an additional square symbol „□" is displayed after the triangle symbol. The unfilled square symbol indicates that the message has been neither manually confirmed nor acknowledged. A message that has already been acknowledged is indicated with a square containing a cross „☒".

Individual messages in the "Alarms" sub-menu can be selected using the control knob. A message-specific sub-menu can be opened by pressing the control knob. Additional information concerning the selected message such as type, time stamp and cause can be obtained using the "Details" sub-menu item. If the message requires acknowledgement by the user, the "Confirmation" menu item also appears in the same sub-menu for the message above the «Details» menu item. The user can acknowledge the automation station fault message by highlighting and selecting this sub-menu item using the control knob. A confirmation page is displayed whenever a message is acknowledged.

ⓘ Messages do not have to be confirmed on the modu840 operating unit. For example, confirmation can take place via the moduWeb web server or a BACnet client using Scada software.

Inactive and (if required) previously confirmed fault messages are displayed in the list of "Historic alarms". The entire list of "Historic alarms" contains a maximum of 64 entries. The most recent messages are displayed at the top of the list. The historic alarm list has the same structure as the alarm/event list.

An overview of the PID control loops that are available on the automation station is provided for the control loops in the "Status" menu. This is based on BACnet Loop Objects.

ℹ In this separate display of control loops in the "Status" menu, control loops are only displayed to users who are logged in with specialist, user or guest role rights if a structured system display has also been implemented. Without the structured system display, these user groups can only access the control loops via the flat data point list.

5.3.3 Settings 840

This menu item can be used to modify specific settings on the modu840 operating unit.

The sub-menu items of "Settings 840" are:

- Language
- Contrast
- Brightness
- Update
- Version

Rotating the control knob moves the highlighting in the sub-menu until the required menu item has been reached. Pressing the control knob selects the required menu item and branches to the following sub-menu or the relevant input screen.

The following languages

- German
- English
- French

are available for selection in the relevant sub-menu.

ℹ A fourth customer-specific language has not yet been implemented in this first version.

The language selection of the modu840 only changes the implemented menu structure and the languages in the operating unit data entry screens. The data point designations, the hierarchical system structure and any error descriptions are project-specific and can be implemented in the relevant national language during system planning using the SAUTER CASE Suite planning software.

The contrast and brightness of the modu840 operating unit display are adjusted by changing the value in the relevant sub-menu immediately above the control knob. The display of the modu840 changes immediately as a result of the change. The settings are taken over or confirmed by briefly pressing the control knob.
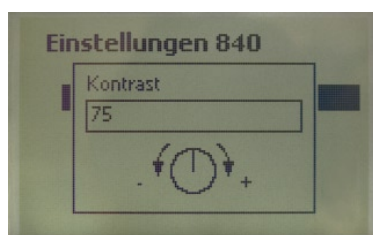
Abb. 8   Settings

ℹ️ The "Update" function of the modu840 operating unit exclusively relates to firmware updates in the modu840 operating unit. It is not possible to update the automation station with a modu840.

The "Update" function is only available to users who are logged in as "Administrator".

If an automation station firmware update is performed using the SAUTER CASE Sun Tool, the latest version of the modu840 firmware is transferred to the EY-modulo automation station and can then be uploaded from the automation station to the modu840 via the modu840 «Update» functionality and started.

When the modu840 "Update" sub-menu item is selected, an information screen is displayed in which the current firmware version of the modu840 operating unit and the version of the modu840 firmware (image version) on the automation station is displayed. If uploading or updating of the modu840 firmware is required, the "Update" button is selected using the control knob and the selection confirmed by pressing the knob. The current firmware is then overwritten with the image version.

The update starts automatically. The language-independent display "Update run" appears on the screen. The Run/Fault LED on the modu840 user interface flashes in green at the same time. After approx. 1 minute the update of the modu840 is complete and a start screen automatically appears in the display.

ℹ️ If the firmware update of the modu840 is interrupted by removing the operating unit, switching off the automation station or cutting off the power supply, the update process restarts as soon as the connection to the automation has been re-established and/or the automation station has been restarted. If an update fails, "Update failed" is displayed on screen. In this case it may be necessary to trigger the start of the modu840 update process manually by pressing the control knob of the modu840.

ℹ️ The "Settings 840" menu is only available if a modu840 operating unit is being used. This menu does not appear in the menus of mobile clients.

Selecting the "Version" sub-menu item will cause the firmware that is currently installed on the modu840 to be displayed.

5.3.4 Settings

Automation station settings can be displayed using the "Settings" menu item in the main menu of the modu840 operating unit. The following options are available:

• Version
• Network

The firmware version of the automation station can also be read out using the modu840 operating unit. This is done using the "Version" menu item, which displays the current firmware version in an appropriate sub-menu.

If the "Network" sub-menu item is selected, the BACnet/IP address, the associated subnet mask, the selected default gateway, the DNS server and the IP configuration mode (manual /DHCP) of the automation station are displayed. These settings cannot be changed via the modu840.

Reading out the current network configuration of the automation station makes it easier to modify the network parameters on an operating PC for using the moduWeb web server that is implemented on the SAUTER EY-modulo 5 automation station.

6   Installation

The modu840 handheld operating unit operates without additional parameter settings. It can be inserted into the existing double slot of the SAUTER EY-modulo 525 automation station. No cover is required for this. For this reason, the transparent plastic covers for labelling the "local operating and indication unitss" must be carefully removed before attaching the modu840. The LOI or the relevant dummy covers that have been fitted must also be removed from both slots of the EY-modulo 5 base station.

Abb. 9   SAUTER EY-modulo 525 with attached modu840 operating unit.

ℹ️ Keep parts that are removed from the unit in a safe place so that they can be re-attached to the modu525 base unit when the work that is being carried out with the modu525 handheld operating unit is complete.

To attach the modu840 operating unit to a SAUTER EY-modulo 525 automation station, the modu840 unit must be held in front of the two free slots of the base station. First, the pins at the bottom of the operating unit are engaged using gentle pressure, followed by the upper clips at the top of the unit. The electrical connection for the power supply and data communication is made automatically via the integrated spring clamps.

To remove the modu840 operating unit, first release the clips at the top and tilt the top edge of the operating unit away towards the front, until the pins at the bottom of the modu840 automatically release.

📖 Details of how to assemble the modu840 are shown in diagrams in the assembly instructions of the modu840.

❗ The board containing the electronic components of the modu840 is unprotected and accessible at the rear of the operating unit. In order to prevent damage to the modu840 unit, the usual safety restrictions concerning the handling of electronic equipment must be taken into consideration, particularly with regard to static charging and mechanical damage to the electronics. If possible, always use an appropriate cover for transportation and storage (optionally available as an accessory).

Bibliography /List of Sources

[1]	ANSI/ASHRAE Standard 135-2004 BACnet A Data Communication Proto-col for Building Automation and Control Networks

List of figures

List of changes

Date	Edition Revision/Version	Change
13.08.08	R1, V4	Scope of functionality in acc.with moduWeb firmware 1.1.0 modu840 r240

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