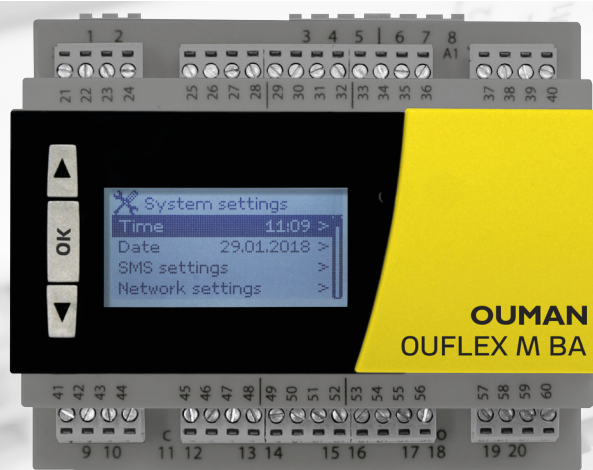# OUMAN OUFLEX M BA

Compact freely programmable automation unit

USER MANUAL

- Application and user interface are freely pro-grammable with Ouflex BA Tool.

- You can load the application to the controller by using SD-card, USB-port or remotely via the M-LINK.

Ouflex M BA has SMS support. Use of a text mes-sages requires that the GSM modem (optional) is connected to the controller.

You can communicate with the controller by text mes-sage using key words.

KEY WORDS

Key words:
Active alarms
Alarm history

- DIN rail-mounted module casing (6M)

- Detachable strip connectors make installation easier.

- Can be as a master device and slave device in the Modbus bus.
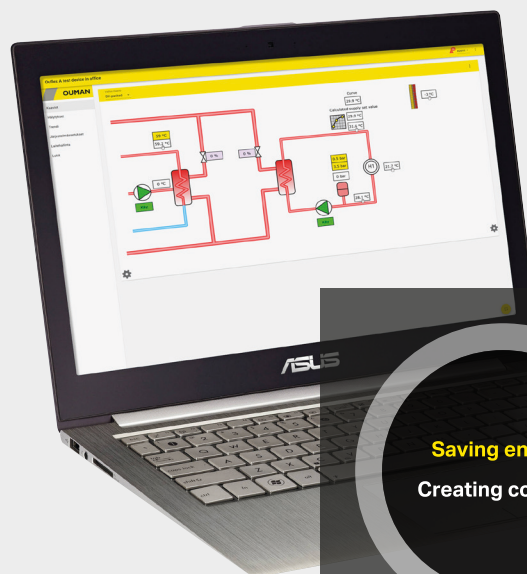
REMOTE UPDATE
via M-LINK

Web UI
via M-LINK

Saving energy
Creating comfort

YM0067E: Versio 2.11->

Saving energy, creating comfort

OUMAN

OUFLEX M BA

Alarm indication
- A blinking exclamation mark indicates active alarms in the device.
- The number shows the quantity of active alarms.

You can use this button to move up through the menu or to change the setting value.

The LED indicates the status of the device:
- Red: the device is starting up
- Green: the device is running

You can use OK button to switch to editing settings for the currently selected function or to confirm changes to setting values.

Buttons under the front cover
Not used
Not used
Not used

You can use this button to move down through the menu or to decrease a setting value.

To go back to the previous window: Press the ESC button under the cover or click OK in the bottom menu bar <--.
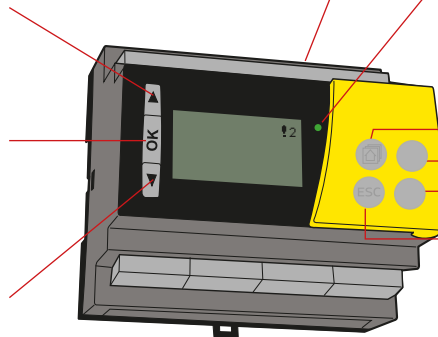
Alarm acknowledgement: press the OK button. The beeper will be turned off. If the cause of the failure is not fixed, the exclamation mark in the upper right corner of the display will keep blinking.

Alarm notice

The Ouman Ouflex M BA controller may emit alarms. Alarm details are highlighted on the screen in failure mode, and the beeper sounds.

When there is more than one unacknowledged alarm in the controller, information on the most recent alarm is highlighted on the screen. After all active alarms are acknowledged, the display quits the failure highlight mode, and the beeper stops.

The beeper can be turned off with active alarms present by pressing the ESC button. When you do so the window with details of the most recent alarm on the screen will close.

To view active alarms, go into the menu
"Alarms -> Active alarms". Unacknowledged alarms are marked with an exclamation mark at the start of the line.

Make sure that the person handling the alarms has sufficient qualifications to perform the necessary maintenance.

Hidden menus
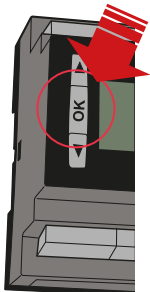
Press OK for a few seconds

Some of the information in your Ouflex M BA device may be hidden. You can see the hidden menus by pressing OK for a few seconds. Similarly, you can hide them again by pressing OK for a few seconds. Hiding information that you seldom need to change or look into makes the UI simpler. When visible, this information is shown indented.

Lock code:
When lock code is taken in use, it's not possible to change any settings without entering lock code. It is recommended that you take lock code into use if the device is located so that anyone can reach it and change settings (e.g. deactivate burglar monitoring). Locking the device and changing the lock code prevents unauthorized use of the device (see page 9).

Maintenance code

There may be a maintenance code in use in your Ouflex M BA device. In this case, you can see the information even when it's locked, but you can't make changes to settings without entering the maintenance code. Normally, you lock the most critical settings behind the maintenance code, or settings that require expertise.
These settings will be indicated by a ⚡ symbol that shows they require the maintenance code.

2

Content

1 System settings ⚒

System settings
Time   17:01 >
Date   dd.mm.yyyy >
Daylight saving time   In use >
Language   English >
SMS settings   >
Network settings(M-Link) >
Bus settings   >
Display settings   >
Type info   >
Lock code   Not in use >
<---
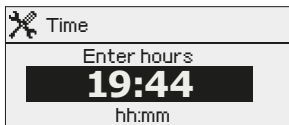
System settings include date and time, language, SMS and network settings, bus settings, display settings and device type information.

1.1 Setting date, time and language

Service -> System settings > Time

Time
Enter hours
19:44
hh:mm

It is important that the date and time are correct. The date and time information is utilized in various features such as time programs, alarm indication, and routing. The device's clock has the capability to automatically adjust for daylight savings and leap years. Moreover, it also has a power backup feature that can retain the correct time and date information for up to three days in case of a power outage.
Set hours and press OK to accept.
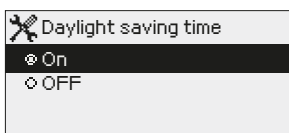Set minutes and press OK to accept.
To exit without saving and changes press Esc.

System settings > Date

Date
Enter day:
dd.mm.yyyy
dd.mm.yyyy

1. Set day and press OK to accept.
2. Set month and press OK to accept.
3. Set year and press OK to accept.
4. To exit without saving and changes press Esc.

System settings > Daylight saving time

Daylight saving time
⊙ On
○ OFF

This setting is hidden setting. You can hide/show these settings by pressing OK for a few seconds. The controller will automatically be switched to daylight saving time and to standard time, if the selection "On" is made.

System settings > Language

Language
⊙ English/ English
○ Suomi/ Finnish
○ Svenska/ Swedish

The language of the user interface can be changed here.

1.2 Text message (SMS) settings

System settings > SMS settings

Use of text messaging requires that the Ouflex M BA is connected to a GSM modem (additional equipment).

Take the GSM modem into use:
Enter your SIM card PIN, if your SIM card has a PIN code request enabled.
1. Switch the device off.
2. Connect the modem.
3. Switch the power on. The controller initializes the modem and detects the message center (the message center number is not visible on the display).
4. Check the signal strength and status of the modem from control-

ler display.
5. Enter Device ID (optional).
6. Test the SMS communication. Send a message to Ouflex M BA: Keywords. If the controller replies with a message containing a list of key words, text message communication is ok. If the controller doesn't reply, switch power off and on again. You can check the validity of the subscription using a mobile phone. Insert the SIM card in a mobile phone, send a text message to another phone and reply. If the messages go through, the subscription is OK. Insert the SIM card back to the GSM modem and test SMS communication again. If the controller still does not reply, check that the message center number has not been inserted manually. Press OK button for a few seconds to display hidden menus. Remove message center number: clear the first digit and press OK button for a few seconds. Switch power off and back on. Controller retrieves the message center number automatically (the message center number is not visible on the display).
7. Retest the text message communication.

SMS PIN:
If the SIM card has PIN inquiry in use, Ouflex M BA device asks you to enter the PIN.
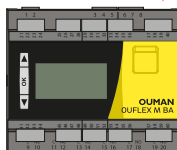
Entering the code:
Use arrow buttons and press OK to accept each number.
Press ESC to return to the previous digit.
Press OK for a few seconds to accept the code.
Press ESC for a number of seconds to cancel.

SMS PIN
Approve: Press and hold OK
Cancel: Press and hold ESC

RJ-45 -connector to the GSM-modem Attention! This is RS232 serial port not ethernet

Signal strength:
Signal strength is expressed with the following descriptions:
"Excellent", "Good", "Moderate", "Low", "Very low" and "Initialization failed".
If signal strength is "Very low" or "No network", try changing the modem's location or use an external antenna. If the unit displays "Initialisation failed," check that the SIM card is correctly installed.

Modem status:

When Ouflex M BA device starts up, it will automatically detect whether the modem is connected or not and then initializes modem.

| Modem status	Explanation / Instructions
Ok	The modem is ready for use.
Not connected	The modem is not connected or the connection is incorrect.

SIM card status:
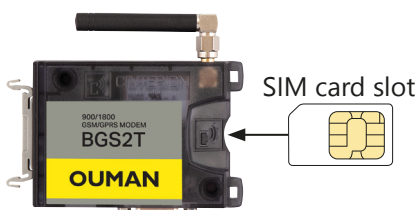
Set the SIM card to SIM-slot that is in the side of the modem, so that circuit of the SIM-card is facing towards the sticker that is on the top of the modem. Press the SIM-card until the slot snaps and card is properly attached to slot. The SIM-card can be removed by using a flat object such as a screwdriver with flat-head.

SIM card slot

To be able to use the SMS-connection, the PIN code has to be installed in the controller. Note. The controller is given the same PIN as that of the SIM card. The SIM card's PIN query must be on.

Mode	Explanation / Instructions
Unregistered	The subscription agreement is not valid.
Registered	The SIM card is ready for use.
PIN error	Incorrect PIN code. Enter the SIM card PIN code in Ouflex M BA device.
PUK	The SIM card is locked (PUK code).

Device ID:

Device ID
O U 0 1
Approve: Press and hold OK
Cancel: Press and hold ESC
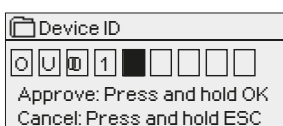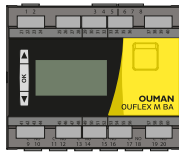
You may give your Ouflex M BA device a device ID. In SMS communication, always type the device ID in front of the keyword (e.g. OU01 MEASURE-MENTS). Note the empty digit between device ID and the keyword.

5

1.3 Network settings (M-LINK)

RJ-45 -connector to the GSM-modem Attention! This is RS232 serial port not ethernet

If you want to connect the Ouflex M BA unit to an Ethernet network, you will need an M-LINK adapter (additional equipment). M-LINK is connected to the COM3 port (RJ45) located on the side of the controller. The maximum length of the RJ45 ethernet cable between Ouflex M BA and M-LINK is 10m and all 4 pairs must be connected. If you have changed your network settings, select "Update Network Settings".
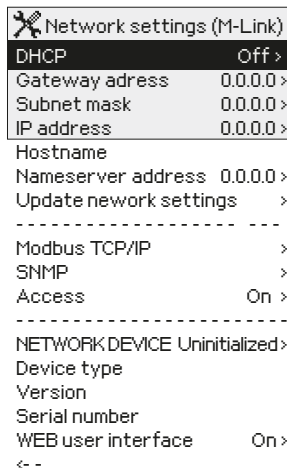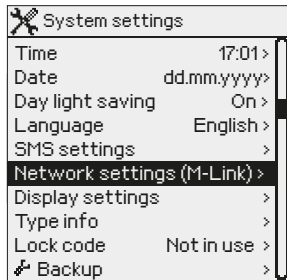
System settings > Network settings (M-LINK)

There are two alternative ways to set the Ouflex M BA device IP address and network settings:

1. IP address is retrieved via DHCP function. This requires that DHCP service is in use in the network and network cables have been connected.
2. IP address is set manually.

The device has a fixed Hostname. The hostname can be used to connect to the device from the Ouflex BA Tool or Ounet.

Setting the IP address via DHCP function:

1. Go to DHCP and press OK.

2. Select "On" and press OK to accept selection.

3. Select "Update network settings" and press OK to accept selection.*

4. Wait approximately one minute.

5. The Ouflex M BA device now uses a DHCP server to assign network settings.New network settings should automatically appear in the user interface. If not, then check network connections and ensure that the DHCP server is available on the network.

Setting the IP address manually:

1. Request correct network settings (IP address, Gateway address, Subnet mask, Nameserver address) from the network administrator.

2. Go to "System settings" -> "Network settings" -> "DHCP" and press OK.

3. Select "Off" and press OK to accept selection.

4. Enter all network settings (IP address, Gateway address, Subnet mask, Nameserver address) provided by the network administrator.

5. Select "Update network settings" .

We offer Ouman Access service (via M-LINK device). This service provides a secure connection to automation equipment using an existing internet connection. In case an internet connection is not available, you can use a 3G/4G modem to establish a ready-to-use connection to the equipment.

System settings > Network settings (M-LINK)->Modbus TCP/IP

ModbusTCP / IP settings are used to change ModbusTCP (slave) server settings.

Modbus TCP/IP port (internal registers):
Port number 502 is reserved for communication of Ouflex M BA device. Information of Modbus registers of Ouflex M BA device is read and written through this port.

Max connections:
It is possible to decrease server load by changing this setting that defines the maximum number of simultaneous connections from different IP addresses to the server.

Idle timeout:
This setting defines the time after which the server closes an inactive connection.

Allowed address:
It is possible to improve the information security of the system by taking permitted connection addresses into use. If the value is 0.0.0.0, connections to the server are permitted from any IP address. If you define one permitted connection address, connections to the server are not permitted from any other IP address.

Function active:
This selection either enables or disables the Modbus/TCP communication.

Modbus TCP/IP gateway ->Modbus 1 port:
It is possible to connect a Modbus/RTU bus to Ouflex M BA controller. The bus has its own port address that is used to communicate with bus devices via Modbus/TCP interface. Port 1 setting defines the TCP/IP port that functions as a gateway to Modbus RTU-bus.

System settings > Network settings (M-LINK)-> SNMP

SNMP:
SNMP function can be used to send notifications about alarms activating, inactivating and being acknowledged via SNMP protocol to a desired server.

IP address:
The IP address of the target server to which messages are sent. Ounet IP address is a default.

Active:
This selection either enables or disables the entire SNMP function.

> **When using Ouman Access, the SNMP alarm message sent will include the Access IP address. Therefore, it is necessary to enter the Access IP address as the local IP address in Ounet.**

System settings > Network settings (M-LINK)-> Access

Access
M-LINK supports Ouman Access-service which gives you a secure remote connection to the Ouflex M BA-device. With this setting you can activate the ACCESS-service to be able to use it.

Ouflex M BA receives Access IP address from M-Link device.

System settings > Network settings (M-LINK)-> NETWORK DEVICE

From network settings you can see a status of network device (uninitialized/ error/ connected), device type, version and serial number. If all the settings are correct, the status of the device is "Connected".

If Ouflex M BA is connected in the network, but you want to prevent browser connection, for example for data security reasons, select "Off" of WEB user interface.

1.4 Bus settings

System settings -> Bus settings -> Modbus RTU slave (COM2 (A1/B1))

Ouflex M BA unit can be connected to a Modbus RTU as a slave device. The first row shows which bus Ouflex M BA is connected as a slave device. Set Ouflex M BA bus address. Note. Two devices may not have the same bus address. All devices in the bus should be set to the same setting value of the baud rate, data bits, stopbits and parity.

System settings -> Bus settings -> Modbus RTU master (COM4 (A2/B2))

Ouflex M BA device can be a master device in two Modbus RTU. It is shown in the first line in which the bus Ouflex M BA is the master device. All the devices in the same bus should be set to the same setting value of the baud rate, data bits, stop bits and parity. If a device is unstable on the bus, it may be possible to get the bus traffic stable by increasing the delay between the packets.

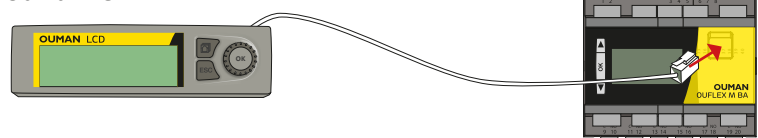# 1.5 Display settings

System settings > Display settings

Contrast:
You can adjust the contrast of the display. If you wish the display to be brighter, set a smaller numerical value. The setting range is 50... 100. New setting is taken into use after confirmation is done.

External display:
The Ouman LCD external display can be connected to the Ouflex M BA device using the RJ12 connector located under the yellow flap. To establish the connection, use a special Ouman cable called LCD CABLE M.

Ouman LCD

1.6 Type information

System settings > Type information

Type information shows the hardware and software versions. This information is useful especially in the case of maintenance or upgrade.

1.7 Lock code

System settings > Lock code

Enabling the lock code feature on the device ensures that no settings can be altered without entering the lock code.

It is recommended to enable the lock code when the device is located where anyone can access it and change settings, such as deactivating burglar monitoring. By locking the device and changing the lock code, you can prevent unauthorized use of the device. This enhances the security of the device and protects it from potential tampering or misuse.

Lock code function	Description
Not in use	You can read Ouflex M BA device information and change settings.
In use	You can read Ouflex M BA device information but you can not change settings without entering the lock code. The factory setting of lock code is 0000. If you take lock code into use, change the code for security reasons.

System settings > Change lock code

NOTE! When you enter a locking code when changing the default, the code will not be required again until the unit has been untouched for 10 minutes, and the display goes into idle state. You can also set the display in idle state by pressing the ESC button for a long period of time.

**You can view the device information of Ouflex M BA without entering the lock code, but you cannot change any settings.**

The default factory setting for the lock code is 0000. We highly recommend changing the lock code if taken into use.

1. Ouflex M BA device asks you to enter the current code. The factory setting of lock code is 0000.
2. Select number by using ▼ or ▲ button and press OK to accept each number. Press ESC to return to the previous square.
3. To accept the code, press and hold the OK button for a few seconds. To cancel the operation, press and hold the ESC button for a few seconds.

# 1.8 Restore settings and updates

Restore application settings
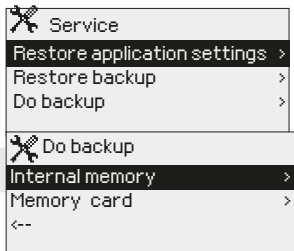
The "Restore Application Settings" function allows the device to revert to the settings it had when the existing application was first downloaded.

Create a backup, when Ouflex M BA has been configured and the device-specific settings have been set.

The backup function saves all parameters stored in the non-volatile memory, including setting values and time programs. You can save the backup to either the internal memory or a micro SD memory card. Backups saved to memory cards can be copied to another device.

Memory card is not included in the delivery.
Technical requirements to microSD memory card:
Standard micro SDHC, UHS
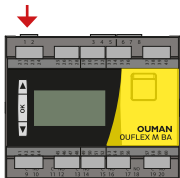Capacity 512 MB...32 GB
File system FAT 32
Class: 4...10+

Restore backup
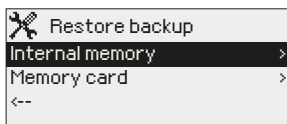
To restore a backup, press OK and select whether to restore from the internal memory or the memory card.

## Software updates

memory card

It is recommended to create a backup of the system before software update.

To update the software of Ouflex M BA, follow these steps:

1. Insert a microSD memory card containing the new software into the controller.

2. Ouflex M BA will ask, "Would you like to restart the device?"

3. Select "Yes."

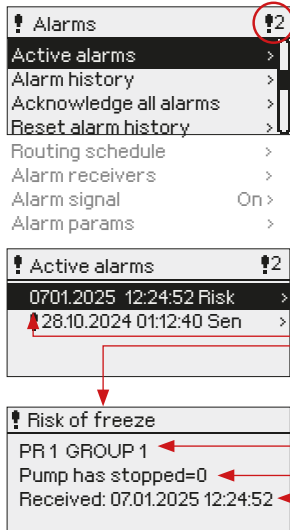4. Ouflex M BA will reboot to begin updating the new software. The update process takes a few minutes.

Log
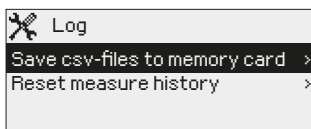
Ouflex M BA allows you to save CSV files to the memory card. Additionally, you can reset the measurement history directly from the device's internal memory.

2 Alarms

Active alarms

The alarm menu of the Ouflex M BA device allows you to view both active alarms and previously active alarms. The number of active alarms is displayed in the top right corner of the main view.

Every active alarm is shown in a separate row, where you can see when the alarm has become active. Press OK to get more information about the alarm.

An exclamation mark in front of the date shows that the alarm has not been acknowledged.

The reason for the alarm is shown in the heading.

You can also see, what is the alarm priority (1 = Emergency, 2=Danger, 3=Fault, 4= Service, 5=Info) and what alarm group it belongs to (Group 1 has urgent alarms, group 2 malfunction alarms and group 3 service alarms).

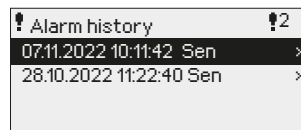Source of the alarm.

Time the alarm was received

Ensure that the individual responsible for handling alarms has the necessary qualifications to perform required maintenance.

ACTIVE ALARMS **Send message: Active alarms**
The controller sends a message with information about all active alarms. The message is for informational purposes.

Alarm history

The reason, source and inactivation time (07.11.2022 10:11:42) is shown for every alarm in alarm history. The last 10 alarms can be seen in inactive alarms.

ALARM HISTORY **Send message: Alarm history**
The controller sends a message with information about the 10 most recent alarms. The message is for informational purposes.

Acknowledge all alarms

To acknowledge all alarms on the Ouflex M BA device, simply press OK. A fixed register 13 called "Acknowledge all alarms" has been added to the Modbus interface template. You can enter a value of one (1) in the register to acknowledge all alarms on the controller. The register value will automatically return to zero after acknowledgement.

Reset alarm history

Ouflex M BA requests confirmation before deleting alarm history.

Routting schedule

See following page.

Alarm receivers

To send alarms as text messages to the service or maintenance team, you can connect a GSM modem to the Ouflex M BA. The controller will automatically send alarm messages to the appropriate team based on the alarm routing schedule. If an alarm is not acknowledged within 5 minutes, the message will be sent again to the same recipients and a backup number. Note that the controller can send a maximum of 100 messages per day.

Entering the telephone numbers:
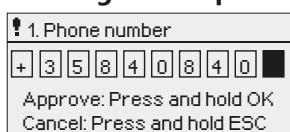
1. Browse by using ▼ or ▲ button. Press OK to accept a number/sign.
2. Press OK to move to the next square.
   Press Esc to return to the previous square.
3. Press OK for a number of seconds to accept the number. Press Esc for a number of seconds to cancel
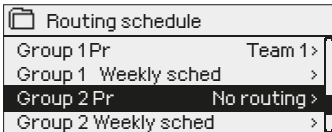
Alarm signal
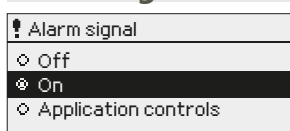
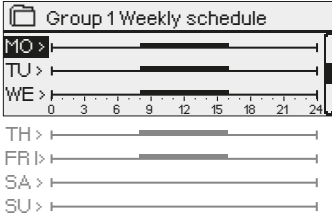You can take the alarm sound off, if you want.
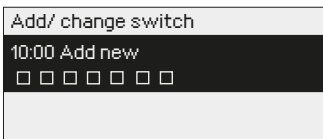
Routing schedule

Alarms > Routing schedule

```
┌─────────────────────────────┐
│ 🗀 Routing schedule          │
│ Group 1 Pr          Team 1 > │
│ Group 1  Weekly sched     >  │
│ Group 2 Pr       No routing >│
│ Group 2 Weekly sched      >  │
└─────────────────────────────┘
```

Graph

```
┌─────────────────────────────┐
│ 🗀 Group 1 Weekly schedule   │
│ MO >                         │
│ TU >                         │
│ WE >                         │
│     0  3  6  9  12 15 18 21 24│
│ TH >                         │
│ FR >                         │
│ SA >                         │
│ SU >                         │
└─────────────────────────────┘
```

This example shows that group 1 alarms are always forwarded. During business hours (Monday - Friday 8:00 a.m. - 4:00 p.m.) alarms are forwarded to different teams than during evenings and weekends. More detailed information is shown in the "Editing view".
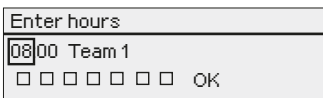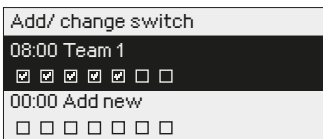
Editing view

```
┌─────────────────────────────┐
│ Add/ change switch           │
│ 10:00 Add new                │
│ □ □ □ □ □ □ □                │
│                              │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ Enter hours                  │
│ 08 00  Team 1                │
│ □ □ □ □ □ □ □   OK           │
└─────────────────────────────┘
```
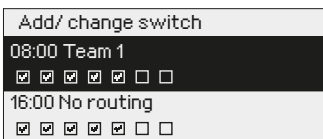
```
┌─────────────────────────────┐
│ Add/ change switch           │
│ 08:00 Team 1                 │
│ ☑ ☑ ☑ ☑ ☑ □ □                │
│ 00:00 Add new                │
│ □ □ □ □ □ □ □                │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ Add/ change switch           │
│ 08:00 Team 1                 │
│ ☑ ☑ ☑ ☑ ☑ □ □                │
│ 16:00 No routing             │
│ ☑ ☑ ☑ ☑ ☑ □ □                │
└─────────────────────────────┘
```

Ouflex M BA default alarm groups are:

- **Group 1: Urgent alarm that should always be immedi**ately routed.

- **Group 2**: Malfunction alarms than can be routed during business hours.
- **Group 3**: Service alarms or non-urgent alarms.

   In the routing schedule menu, you can view the current alarm routing settings and set up a schedule for each alarm group. The weekly schedule allows you to assign different alarm teams to specific times. In the graph, alarm teams are distinguished from each other by the bars with different thicknesses.

Browse weekly schedule by using ▼ or ▲-knob. If you wish to see the exact switch times and names of alarm teams, or if you wish to edit, remove or add switch times, press 🡒 at any weekday.

Browsing a weekly schedule:

An editing view opens, and it shows all the switch times and also to which alarm teams alarms are routed at these times on the chosen days.

Adding a new switch time:
1. Press OK at the "Add new" row.
2. Press OK. Set the switch time for alarm routing (set hours and minutes separately) and press OK.
3. Press OK and then use ▼ or ▲-knob to set the alarm team or the "No routing" option. (No routing option means that alarms will not be sent.) Accept by pressing OK.
4. Press OK at desired weekdays you wish to choose.
5. Press OK at the end of the row to accept the created schedule.
6. Press Esc to exit.

Editing a weekly schedule:
1. Use ▼ or ▲-knob to navigate to the value you wish to change and press OK.
2. Use arrow buttons to make the time and alarm team changes. Press OK to accept.
3. Press the OK button to change the day of the week.
4. Press Esc to exit.

Deleting a switch time:
1. Use ▼ or ▲-knob to navigate to the switch time you wish to delete and press OK.
2. Press OK at the alarm team and select "Delete switch time"
3. Press OK at the end of the row.
4. To exit edit mode, press ESC.

If the alarms are routed, they will be forwarded to the alarm team as text messages according to the routing schedule. To acknowledge an alarm, simply forward the same message back to the Ouflex M BA.

3 Point information

In the point info you can see wiring info, bus points and time programs.

3.1 Wiring info

Point info -> Wiring info

The Point Information section in Ouflex M BA displays information about all the inputs and outputs, including their current state or measurement value, and their connections. To manually control input or output, select the row and enter the service code, then choose "Manual control" and enter a fixed value. If an input or output is currently under manual control, a palm image will be displayed at the beginning of the row. The device also has a temperature sensor to measure the circuit board temperature, and outputs have a "Sounder" option to turn off alarm sounds.

3.2 Bus points

Point info -> Bus points

In the bus points menu, you can view all the devices that are connected to the bus. If you press OK on a specific bus device, you can see the points that are associated with that bus device. The points are organized in groups, starting with the universal inputs, followed by the analogue and digital outputs.

3.3 Time programs

Point info -> Time programs

The Ouflex MBA device allows you to set up weekly programs for various functions such as temperature control, car heating, light control, electric group control, and alarm routing. You can access the time programs either through the clock symbol or under the specific function for which a time program has been created.

Present value

Point info -> Time programs -> Present value

In the Ouflex M BA device, the present value displays the current status of the control. If automatic control is being used, the display shows the state of the control according to the current time program. The control command can be set as a weekly schedule or an exception schedule.

When you press the "Present value" line OK, Ouflex M BA-device asks for a service code. After entering the service code, you can change the control mode (automatic/ manual). This way you bypass time program and force the control to the desired mode. When the manual control is in use, the hand symbol appears on the front of the line.

Weekly schedule

Point info -> Time programs -> Weekly schedule

Graphic view
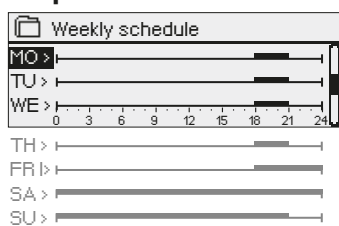
The picture example shows the time program status is ON each weekday from Monday to Thursday from 18:00 to 21:00, and at the weekend from Friday, 18:00 to Sunday, 21:00.

In the weekly schedules menu, you can access graphic views in both general and edit modes that display the specific times when new control commands are received. The graphical representation consists of columns of varying heights that correspond to different control.
View weekly schedule:
To view the graphical representation of the weekly program, simply press the OK button on the corresponding day of the week. This will display a detailed view of the activation times for the different control modes. From this view, you can also edit, delete, or add new switch time values as needed.

Edit

Add new switch time:

1. Press the OK key on the "00:00 Add new" line.
2. Press the OK key, set the switch time for the desired control mode (hours and minutes are set separately), and confirm the new time by pressing the OK key.
3. Press the OK key to proceed to control mode selection (on / off). Confirm your choice by pressing OK.
4. Select the days of the week for the control command (modes on/ off) by pressing OK on the line for the corresponding day of the week. You can press ▼ to skip the day. Confirm your choice of the new time program by pressing OK at the end of the line. Attention! Control modes must have a closed cycle, i.e. you must set the time of return to the normal control mode (automatic). Press ESC to quit the programming mode.

Exception schedule

If you need to make changes to the control mode that deviates from the regular weekly schedule, you can use the exception schedule. This allows you to enter specific dates, times, and control modes for a certain period. To return to the regular weekly schedule, simply switch back to automatic mode.

Adding a new switch time:

1. Move to the "Exception schedule" line and press OK. The "Add new" caption will appear on the screen. Press OK.
2. Press the OK key, set the start time (date) for the control mode, then set the time and the control mode.
3. Select, if the exception schedule repeats or not. If you select repeat, it can be repeated every month same time or every year same time.
   - one day schedule from the weekly schedule (Monday - Sunday)
   - special day from the special day program (SD1 - SD7)
   - Mode On, Off or
   - "automatic."
4. Accept the exception schedule you created by pressing "Ready."

The picture shows an exception schedule. Control mode is "ON" from 29 January 2026, 11:30 to 5 February 2026, 16:00

NOTE! Remember to also set the end time for the exception schedule! When you set the date and time, the mode will change to "Automatic". In this case, the control returns back to the weekly schedule. If you selected that the start time "Repeats every month or every year", you have to do same selection to the end time.

Deleting a switch time from an exception schedule:

1. Navigate to the row with the switch time you want to delete.
2. Select "Delete switch time."
3. Accept the deletion by pressing "Ready."

Special days

Graph
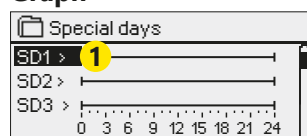
Editing view

To accommodate special occasions like holidays or other events, Ouflex M BA allows you to create special day programs as exceptions to your normal weekly schedule. You can create up to 7 special day programs and assign them to specific dates in the exception schedule. This way, you can easily make changes to your usual schedule for special events without having to manually override the weekly program.

Adding a new switch time:

1. Navigate to "Special days" and press OK. Select an unused special day and press OK.
2. Place the cursor on "Add new" and press OK. Set the time for the program (hours and minutes are set separately). Select the mode to be switched to at the time specified. Accept the program by pressing OK when the cursor is on OK.
3. Navigate to the "Add new" row. Set the time for the mode to deactivate and the device to return to standard control mode. Accept the program by pressing OK. You can set several different AHU control modes within one special day.

4 Settings

In Ouflex M BA, settings can be classified into the following categories:

- Main settings
- Hidden settings
  You can hide/show these settings by pressing OK for a few seconds. When visible, these settings are shown slightly indented.
- Settings that require maintenance code
  There is a ⌨ symbol in front of these settings. If you try to change one of these settings, your Ouflex device asks you to enter the maintenance code.

Changing a setting:
Choose the desired setting by using the ▼ or ▲ button. Press OK to go to the view where editing is possible. Change the setting by using the ▼ or ▲ button.
Press OK to accept the change. Press Esc to exit the editing view.

The controller has a protection mechanism for non-volatile memory. For example, when a setting value is changed, the controller checks when it was last saved. If more than a minute has passed since the saving, the change is saved immediately. If less than a minute has passed since the last change, the change will only be saved within the next minute.
You can see the setting range (minimum and maximum value), if there is one, in the editing view.

Locking the settings:
Lock the settings to prevent unauthorized persons from changing them. The device will then ask for lock code before it let's you change the settings. You can lock the settings in Ouflex device system settings.

If a GSM modem is connected to Ouflex M BA device and the setting values have been brought into SMS interface, you can edit settings by text message. Send a message " Key words". The reply message shows you which key words are in use in the application. The example below describes the communication principle.

Send a message: H1 Settings.
To edit the setting values using your mobile phone, the controller first sends the main settings to your phone. Then, you can write the new setting in place of the old setting and send a message back to the controller. The controller will then send the updated setting as a return message.

5 Measuring point control/manual control

The default mode of operation for the controller is automatic control. However, if your application permits changing the control mode, you can switch from automatic control to manual control using this feature.

When you are in the manual control mode, the hand symbol appears.

If a GSM modem is connected to Ouflex M BA device and the setting values have been brought into SMS interface, you can edit settings by text message. Send a message " Key words". The reply message shows you which key words are in use in the application. The example below describes the communication principle.

Example

R1 relay control

R1 RELAY CONTROL:
*Automatic / ON /OFF

1. Send a message: R1 Relay control
2. The device will send a confirmation message with a * indicating the current control mode. To switch to a different control mode, simply move the * to the desired control mode and send the message back to the controller.
3. The controller will then send a confirmation message indicating that it has switched to the new control mode.

6 Naming

There may be fields that you can rename in your Ouflex device. You often download an application where general names have been given to the controls, and you may want to rename them more accurately.

In heating control, for example, the rooms have typically been named "Room 1", " Room 2", etc. You may want to give them more accurate names. In control of electric groups, you may want to rename "Electric group 1" and "Electric group 2" more accurately, depending on what you actually control with the relay in question.

Move to the title you wish to rename and press OK. A naming view opens. Use the ▼ or ▲ button and accept each letter by pressing OK. Move to the next square by pressing OK.

Return to the previous square by pressing ESC.
Accept the name by pressing OK for a number of seconds. Cancel by pressing ESC for a number of seconds.

17
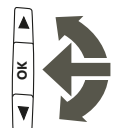
7 Remote use

Communication via a mobile phone

If a GSM modem is connected to the Ouflex M BA you can communicate with the controller by text messages using command words.

Send the following text message to the controller: KEY WORDS.

If the controller has a device ID in use, always write the device ID in front of the key word (example. Ou01 KEY WORDS or Ou01 ?).
Capital and small letters are different characters in the device ID!

The controller sends a list of key words as a text message that gives you information about the controllers' functions and state. The key word is separated by a /. You can write the key word using capital or small letters. Write only one key word per message. Store the key words into your phone's memory.

Key word	Explanation
?	Reply message shows all key words in the language that has been selected for the controller.
Key words	If the controller is set up in English, the regulator sends a list of key words.
Acitve alarms	The reply message will show all active alarms.
Alarm history	The reply message will show information about the latest alarms.

Internet-based on-line control room
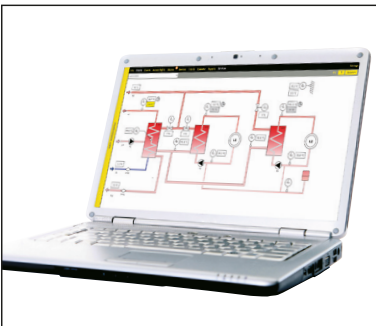
If an M-LINK device (optional) is connected to the Ouflex M BA, you will have access to a Modbus TCP/IP interface for controlling the Ouflex M BA.

Internet-based on-line control room for professional remote control and monitoring (optional).

Optional accessories

M-LINK

M-Link is an Ouflex M BA adapter that is providing Modbus TCP/IP interface to Ouflex M BA

- Integrated Ouman Access connection
- Modbus TCP/IP
- Modbus TCP/IP ◄──► RTU Gateway
- SNMP alarm transfer

Additional Control panel, Ouman LCD

The external display is connected to the RJ12 connector under the flap cover. Use Ouman cable LCD CABLE M.

RJ-45 -connector to the GSM-modem
Attention! This is RS232 serial port not ethernet
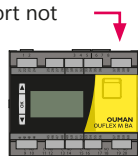
GSM-modem

By connecting the modem to the Ouflex M BA you can communicate with SMS's to the controller and have information on activated alarms to GSM phone.

Ouman's GSM modem is connected to the COM3 port (RJ45) of Ouflex M BA unit. The modem has a fixed antenna that can be changed to an external antenna with a 2,5m cord (optional equipment) if needed. The modem's indicator light shows what mode it is in.

Warranty information

The seller provides a 24-month warranty for the quality of the materials and workmanship of all delivered goods.

The warranty period begins on the date of purchase. In the event that material or workmanship defects are detected and the goods are sent, without delay or no later than by the end of the warranty period, back to the seller, the seller agrees to address the defect at their own discretion either by repairing the damaged goods or by delivering a new, defect-free goods, free of charge, to the buyer.

The buyer is responsible for the costs resulting from delivering the goods to the seller for warranty repairs, while the seller is responsible for the costs resulting from returning the goods to the buyer.

The warranty shall not cover damages resulting from accidents, lightning, floods or other natural events, normal wear and tear, inappropriate, negligent or unusual use of the goods, overloading, incorrect maintenance, or reconstruction, alteration and installation work which is not carried out by the seller (or their authorized representative.

The buyer shall be responsible for selecting material of equipment susceptible to corrosion, unless other agreements are signed. In the event that the seller alters the structure of their equipment, they shall not be obligated to make similar changes to previously procured equipment. The validity of the warranty requires that the buyer has fulfilled their contractual obligations related to the delivery.

The seller shall provide a new warranty for goods replaced or repaired under the original warranty. However, the new warranty shall only be valid until the expiration of the warranty period of the original goods. For any repairs not covered by the warranty shall be subject to a 3-month maintenance warranty covering the material and workmanship.

Ouflex M BA structure

Micro-SD memory card slot
USB-connector, COM5
RS-232 connection, COM3
(M-Link or SMS-modem)

RS-232 connection , COM1
(External display)
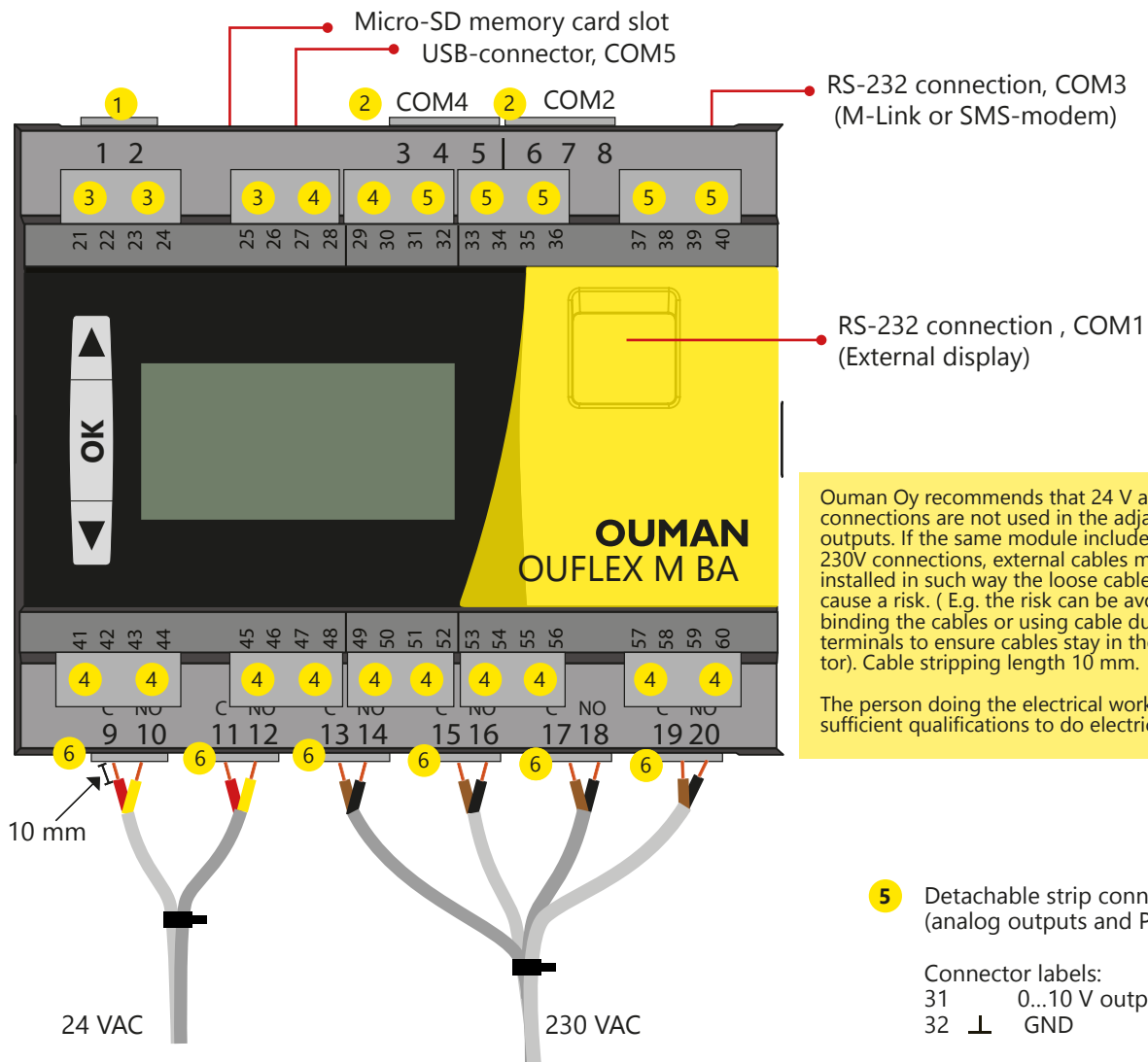
OUMAN
OUFLEX M BA

Ouman Oy recommends that 24 V and 230 V connections are not used in the adjacent outputs. If the same module includes 24 V and 230V connections, external cables must be installed in such way the loose cable doesn`t cause a risk. (E.g. the risk can be avoided by binding the cables or using cable duct near the terminals to ensure cables stay in the connector). Cable stripping length 10 mm.

The person doing the electrical work must have sufficient qualifications to do electrical work.

10 mm

24 VAC

230 VAC

1 Detachable strip connectors (operation voltage). Connector labels:
1   24 VACeration voltage output
2 ⊥

2 Detachable strip connectors (RS-485-bus connectors) Not optoislolated. Connector labels:
COM4
3   ⊥   GND
4   RS-485-bus connection   B2
5   RS-485-bus connection   A2

COM2
6 ⊥   GND
7   RS-485-bus connection   B1
8   RS-485-bus connection   A1

3 Detachable strip connectors (passive sensors, digital inputs and pulse inputs):

21   M1
22 ⊥   GND

23   M2
24 ⊥   GND

25   M3
26 ⊥   GND

4 Detachable strip connectors (passive sensors , digital inputs and active sensors 0-10V or 0/4-20mA.
27   M4
28 ⊥   GND

29   M5
30 ⊥   GND

41   M6
42 ⊥   GND

43   M7
44 ⊥   GND

45   M8
46 ⊥   GND

47   M9
48 ⊥   GND

49   M10
50 ⊥   GND

51   M11
52 ⊥   GND

53   M12
54 ⊥   GND

55   M13
56 ⊥   GND

57   M14
58 ⊥   GND

59   M15
60 ⊥   GND

5 Detachable strip connectors (analog outputs and PWM).

Connector labels:
31   0...10 V output (Y4)
32 ⊥   GND

33   0...10 V output (Y3)
34 ⊥   GND

35   0...10 V output (Y2)
36 ⊥   GND

37   0...10 V output   (Y1)
38 ⊥   GND

39   PWM (act parallel with output Y1)
40 ⊥   GND

6 Detachable strip connectors (relays with normally open contact max 230 Vac, 5 A). Connector labels:

9   Relay 1 C
10   Relay 1 NO

11   Relay 2 C
12   Relay 2 NO

13   Relay 3 C
14   Relay 3 NO

15   Relay 4 C
16   Relay 4 NO

17   Relay 5 C
18   Relay 5 NO

19   Relay 6 C
20   Relay 6 NO

Product information and product disposal

Product:	Building automation control unit
Manufacturer:	Ouman Oy
	Sinkokatu 11
	26100 RAUMA
	FINLAND
	+358 2 8387 4400
	https://ouman.fi
Product name:	Ouflex M BA
Models:	Ouflex M BA, Ouflex M BA 1-PCB
Version:	HW and SW version on the type label
Valid:	2025/08

There is a type label on the end of the device

OUFLEX M BA

24VAC / DC 9VA / 4W IP20
HW: X.X SW: X.X

Made in EU   CE   xx/xxxx
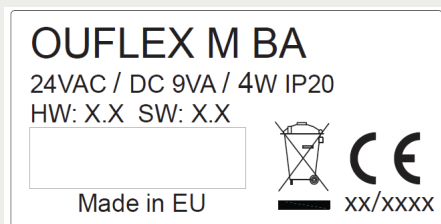
Year/week of manufacture

Product disposal

The enclosed marking on the additional material of the product indicates that this product must not be disposed of together with household waste at the end of its life span. The product must be processed separately from other waste to prevent damage caused by uncontrolled waste disposal to the environment and the health of fellow human beings. The users must contact the retailer responsible for having sold the product, the supplier or a local environmental authority, who will provide additional information on safe recycling opportunities of the product. This product must not be disposed of together with other commercial waste.

EU Declaration of Conformity

EU DECLARATION OF CONFORMITY

Product: Ouflex M BA 1-PCB

Manufacturer:
> **Ouman Oy**
> **Voimatie 6**
> **FI-90440 Kempele**
> **FINLAND**

This declaration is issued under the sole responsibility of the manufacturer.

Object of the declaration:
> **Equipment: Freely programmable automation device**
> **Brand name: OUMAN**
> **Model / type: Ouflex M BA 1-PCB**

The object of the declaration is in conformity with the relevant Union harmonisation legislation:

EMC:
> **Emission:**
> **EN 61000-6-3:2007/A1:2011 (EN 55022)**
>
> **Immunity:**
> **EN 61000-6-2**
> **(IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5,**
> **IEC 61000-4-6, IEC 61000-4-11)**

Safety: **EN 60730-1**

This product herewith complies with the requirements of the EMC Directive 2014/30/EU and the amending CE Directive 93/68/EEC.

This product herewith complies with the requirements of the Low Voltage Directive 2014/35/EU and the amending CE Directive 93/68/EEC.
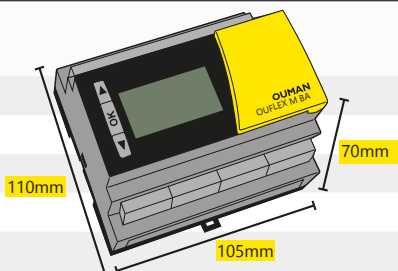
Kempele, Finland, 19th of January 2022

Matti Lipsanen
Managing Director

Saving energy, creating comfort

OUMAN

Dimensions	width 105 mm, height 110 mm, depth 70 mm DIN rail-mounted module casing, 6 modules.
Weight	0.28 kg
Protection class	IP 20
Operating temperature	0 °C...+50 °C
Storing temperature	-20 °C...+70 °C

Power supply
  Operating voltage
  Power requirement 24VAC
  Power requirement 24VDC
	24 VAC-33VAC (50-60 Hz) or 20 – 48VDC
	9VA With the optional accessories (M-LINK/GSM and external display) 12VA
	4W With the optional accessories (M-LINK/GSM and external display) 6.5W

Measurement inputs: Passive sensors (Inputs M1...M15	15 pcs, programmable Measurement channel accuracy in the measuring range -50 ... 130 ° C):

NTC10	**M 1-3:** ±0.1 ºC **M4-15:** ±0.1 ºC between -20 ºC...+120 ºC, ±0.3 ºC between -50 ºC...-20 and +0.2 ºC between +120 ...130 ºC
NTC-20	**M 1-3:** ±0.1 ºC **M 4-15:** ±0.1 ºC between 0 ºC...-120 ºC, ±0.7 ºC between -50 ºC...0 ºC and ±0.2 ºC between +120 ºC...+130 ºC
NTC 1.8 and NTC 2.2	±0.2 ºC between -50ºC...+100 ºC, ±0.5 ºC between +100 ºC...+130 ºC
Ni1000LG/DIN:	±0,3 ºC between -50 ºC...+130 ºC
Pt1000:	±0,3 ºC between -50 ºC...+130 ºC
	Also sensor tolerances and the effect of cables must be considered when calculating total accuracy.

Digital inputs (Inputs M1...M15)	Contact voltage 5 Vdc, Switching current 0.5 mA Transfer resistance max. 1,9 Ω (closed), min. 11 k Ω (open).
Active sensors (Inputs M4...M15)	Voltage measurement 0-10 V, meas. accuracy 0,5 % Current measurement 0/4...20mA, meas. accuracy 1,5 %.
Pulse inputs (Inputs M1...M3)	Minimum pulse length 30ms
Analog outputs (Y1...Y4)	4 pcs. Output voltage range 0...10 V. NOTE! The analog outputs are intended for 0-10 V control/regulation signals (max 7 mA), so the supply voltages of the actuators must not be taken from them.
PWM output:	1 piece that works in parallel with the Y1 output . The open circuit voltage of 15V. Output current is max. 50 mA, when output voltage is 10V
Relay outputs	6 pcs relays normally open contacts, 230V, resistive 5A/ inductive 1A (cos Ø -0.8)
Data transfer connections	
RS-485 connections (A1+, B1- and A2+, B2-)	2 pcs, not optoisolated (Modbus RTU master or 1 RTU slave) COM2 and COM4.
RS-232	1, support to the external display (Ouman LCD), COM1/ RJ-12 connector
RS-232	1, support to the GSM modem or M-LINK COM3/RJ-45 connector. NOTE! GSM modem and M-LINK can not be used simultaneously.
USB device connector	1, Ouflex BA Tool online connection, COM5
MicroSD memory card	Memory card is not included in the delivery. Technical requirements to microSD memory card: Standard micro SDHC, UHS, Capacity 512 MB ...32 GB, File system FAT 32, Class: 4...10+
Freely programmable	Yes, with Ouman's Ouflex BA Tool
Ouman ACCESS security solution	yes with M-LINK
Options	
M-LINK	M-LINK network adapter provides Modbus TCP / IP interface for Ouflex M BA device
GSM modem	By connecting the Ouman GSM modem to the Ouflex M BA, you can communicate with text messages to device and receive alarms to GSM phone.
Additional Control panel	The Ouman LCD external display is connected to the flap cover over the RJ12 jack. Use Ouman cable LCD CABLE M.

Ouman's products do not contain harmful substances as defined in the REACH regulation, excluding the products listed on the website behind the attached QR code.

YM0015E_Ouflex M BA_User manual_ENG_ 20250822