

Flow Computer Device Series enCore FC FC1, MC1

Manual
Notification AFB

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1 About these Instructions

The enCore manual has a modular design. To get an overview of the enCore/enSuite concept, the structure of the manual, safety and risk instructions, and the text labeling, refer to the "Operating Instructions" of the enCore FC manual.

The present volume describes the basic functionality and operation of the Notification AFB.



AFB Notification in the FC device series

The Notification AFB is available for all devices in the enCore Flow Computer device series (in short: enCore FC). The functions that a specific device individually supports depends on the device type and are described in detail in the online help.

The meaning of the individual parameters is extensively documented in the enSuite online help, which is why parameterization is only addressed as an example in this document.



Accessing online help

In enSuite you can access the general help via the menu item **Help – [Show online help](#)**. You can open context-sensitive help directly in the parametrization window from the desired branch by pressing **[F1]**.

This part of the documentation is intended for specialist personnel who are responsible for service activities of the following tasks after the successful assembly of the device and installation of the latest enSuite version on PC:

- customizing of the device parametrization to the measuring task
- test of all data points and commissioning
- other service activities

The illustrations in this manual serve to depict the facts that are being explained, and therefore may differ from the actual design depending on the configuration of the device and enSuite.

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2 Functional description

In enCore devices, all important information of the device is available at all times, in particular unexpected events like malfunctions. The purpose of the `Notification AFB` is to immediately inform you by email about critical events related to the enCore device. In this way, you are always informed about the current state of the enCore device and you can take action at an early stage in the event of a malfunction. An email can be sent to various recipients.

The AFB operates as an email client and supports the **Simple Mail Transfer Protocol** (SMTP). It sends notifications via emails to an SMTP server (it is not possible to receive emails). The SMTP server can send outgoing emails within the network in which the enCore device is active. The network administrator of this network determines which additional permissions these emails will have, e.g. forwarding onto the Internet.

The AFB lets you manage up to four SMTP servers and enables up to four notification rules for each SMTP server.

A notification rule consists of:

- a recipient list with a maximum of eight
- between one and four application sources that trigger sending an email. In addition, you specify the priority level during parameterization, where an application source generates an email. The AFB currently supports the Error List as application source.

In most applications, an SMTP server with a notification rule is sufficient. For this reason, enSuite already creates a basic empty structure for parameterizing an SMTP server with a notification rule as soon as you add new

Notification AFB in enSuite. The basic structure is displayed in red writing (invalid parameterization).

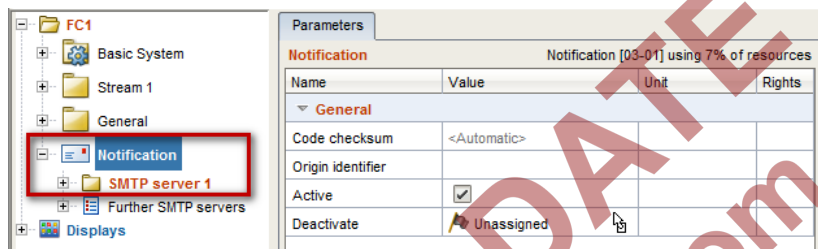


Fig. 2-1: Notifications – empty structure

This parameterization is only valid if you store the connection data for SMTP server 1 and define the notification rule.

2.1 Enable notifications

Configure general settings in enSuite

- ▶ Go to the Notification folder in the **Parameters** tab.
- ✓ Here you will find the general parameters for the AFB.
- ▶ Please assign a short and meaningful identifier to this AFB.
- This identifier is used in the subject line of each email together with the system time of the enCore device:
Subject: <Origin identifier> <System time>
- ✓ The AFB is activated by default.
- ▶ For example, to prevent an undesirable flood of emails while commissioning a device, you can first switch off the AFB by deactivating the **Active** checkbox – the AFB is activated by default.



Only activate AFB during commissioning

We recommend disabling the AFB during commissioning until activation makes sense in order to avoid a possible flood of emails.

- ▶ Optionally, you can specifically disable the AFB when an event message arrives, and when the message ends, sending messages is enabled again.
E.g. 🚫 **open the security switch** or 🚫 **maintenance mode**.


Further parameterization takes place in 2 steps:

- ⇒ [2.2 Parameterizing the connection settings](#) of an SMTP server(p. 8)
- ⇒ [2.3 Define the notification rule with a](#) recipient list and message (p. 10)

2.2 Parameterizing the connection settings of an SMTP server

Parameterizing connection settings in enSuite

Save the connection settings of the SMTP server:

- ▶ To parameterize the first SMTP server, open the branch **<Device>** -  **Notifications – SMTP server 1**.
- ▶ Go to the **Parameter** tab.
- ▶ In the **Servename/IP** parameter, specify the host name or the IP address of the SMTP server
E.g. **smtp.your-server.com**
- ▶ In the **Security** selection list, select the encryption technology to be used to prevent the unwanted reading of emails during transmission. Please note that recipients (SMTP servers) must be able to "understand" the same encryption technology.
 - **none** – default setting for unencrypted SMTP by default via port 25/TCP
 - **STARTTLS**
by default via port 587/TCP
 - **SSL/TLS**
by default via port 465/TCP


- ▶ If this outgoing mail server is not used for SMTP associated ports (⇒ Parameter **Security**), enter the **Alternative port** number.
- ▶ If the SMTP server requires authentication, enter the **Username** and **Password** for SMTP authentication.
- ▶ For the **Sender** parameter, set the email address that the SMTP server will use to send email notifications:
`<name>@<domain of the SMTP server>`

To avoid an SMTP server overload,




- ▶ in the **Overload limit** parameter, define the maximum number of emails the AFB is allowed to send to the SMTP server within 10 seconds. The default setting is **100**.
- The AFB monitors the parameterized upper limit.
Behavior in the event of an error:
 - The message 🚩 **Overload exceeded** is displayed.
 - The AFB informs the recipient list about the error by means of an email: The subject line is:
`<Origin identifier> <System time> LOST NOTIFICATIONS`
 - As long as the parameterized **Overload limit** is exceeded, the AFB *does not* generate any further notifications for this server.
- Only if, within the last 10 seconds, the number of emails falls below half the upper limit, the message 🚩 **Overload exceeded** will no longer be displayed and new emails will be generated for this server.

To prevent too many emails from accumulating and blocking the queue, enCore devices are able to monitor the pending email limit.

- ▶ For the **Pending limit** parameter, enter the maximum amount of emails that can be queued in the enCore device which have not (yet) been sent to the SMTP server. The default setting is **50**.
- The AFB monitors the parameterized upper limit.
Behavior in the event of an error:
 - The message 🚩 **Pending exceeded** is displayed.

- The AFB informs the recipient list about the error by means of an email: The subject line is:
`<Origin identifier> <System time> LOST NOTIFICATIONS`
 - The AFB deletes all emails that are currently in the queue, except the last ones.
 - As long as the parameterized **Pending limit** is exceeded, the AFB does not generate *any* further notifications for this server.
- ☐ Only if the email was successfully sent, the notification  **Pending limit exceeded** ends and new emails will be generated for this server based on the parametrized application source.
- ✓ The connection settings for this SMTP server are parameterized.


To use one or more outgoing mail servers,

- ▶ switch to the branch **<Device> –  Notifications – Further SMTP servers** on the **Parameters** tab.
- ▶ With the plus sign  in the right pane, add an SMTP server – with a maximum of 4 outgoing mail servers.
- ✓ In the new **SMTP server <x>** folder, there is a basic empty structure created for a further notification rule.
- ▶ Switch to the branch **<Device> –  Notification – Further SMTP servers – SMTP server <x>**.
- ▶ Save the required data as described in this chapter.

2.3 Define the notification rule with a recipient list and message

A notification rule consists of at least one recipient and one application source.


Parameterizing the notification rule in enSuite

- ▶ Switch to the branch **<Device> –  Notifications – <Servername/IP> – Notification <x>**
- ▶ Go to the **Parameters** tab.
- ▶ Assign a **Name** to this notification rule.

In order to parameterize the first recipient for this rule,

- ▶ choose from the **Recipient type** selection list how this recipient will be addressed:
 - **To** as the main addressee
 - **CC (Carbon Copy)** for informational purposes, visible for all other recipients
 - **BCC (Blind Carbon Copy)** blind copy for informational purposes, invisible for all other recipients
- ▶ Save the email address of the recipient.
For example `firstname.lastname@company.com`



To set the first application source for this rule


- ▶ ... from the selection list, select the **Source** that provides the information. The AFB currently supports the alarms and warnings of the **Error List**.
- ▶ Set the **Priority level** by activating the desired **Alarm**, **Warning** and/or **Hint** checkboxes.
-  As soon as new information with the specified priority level is available for the parameterized application source, the AFB generates a new message and sends it to the stored recipient list by email. The subject line is:
`<Origin identifier> <System time> <New entry text>
<Time> <Alarm | Warning>`

If necessary, you can define further recipients and application sources for this notification rule.

As an example for application sources, the procedure is described below:

To use one or more notification services,

- ▶ switch to the branch **<Device> –  Notification – <Servername/IP> – Further notifications** on the **Parameters** tab.
- ▶ Add a notification service with the plus sign  in the right pane - maximum 8 notifications are possible.
- ✓ In the new **Notification <x>** folder, a basic empty structure is created for a further notification service.

- ▶ Switch to the branch **<Device>** –  **Notification**.
- ▶ Save the required recipient list and application source(s) as described.

3 Display and operation

In the display of **Notification AFB**, the AFB status as well as detailed information about the parameterized SMTP servers are displayed.



Display and navigation in enCore FC devices

The general structure of the displays in enCore FC devices and the basic navigation options are detailed in the "Instruction manual" of enCore FC device series in the chapter concerning display and navigation.

In general, for operation of enCore FC devices, a distinction is made between hyperlinks and actions. While you use hyperlinks to navigate through the device's displays, you can use actions to perform certain functions. Both in the device and in the manual, hyperlinks and actions are highlighted in blue.

3.1 Display overview

The following figure shows the hierarchical structure as well as navigation through the displays of the `Notification AFB`:

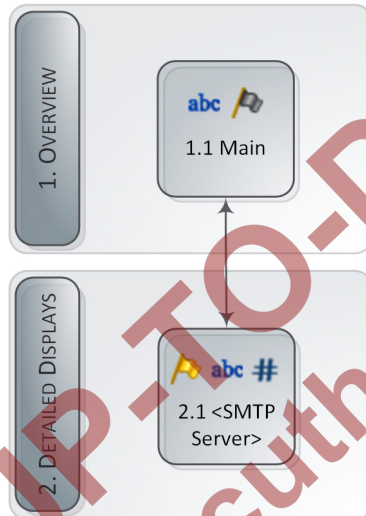


Fig. 3-1: Display – hierarchical structure

3.2 Displays in detail

The initial display of the AFB is the **Main**.

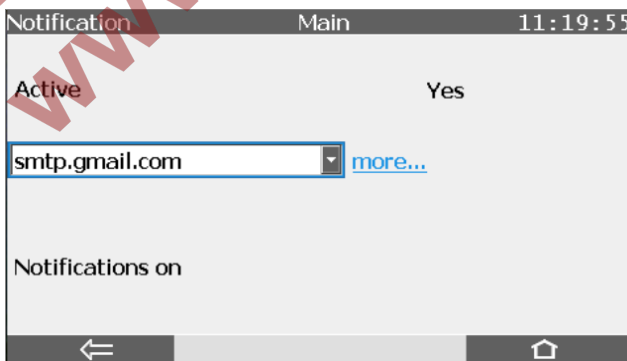


Fig. 3-2: Display **Main** – example

The **Main display** of the `Notification AFB` informs whether the AFB and the notification function are currently activated. With the appropriate user authorization, you can manually activate or deactivate the AFB in this display.

All parameterized SMTP servers are shown in a selection list. As soon as you have selected the desired entry, use **[more ...]** to switch to the detailed display of the SMTP server.

The main display and its destination displays

[1.1 Main display]	
Active	<yes no>
AFB status: indicates whether the AFB is activated (yes) or deactivated (no). As soon as a user with the authorization Change general system settings is logged onto the device, a selection list is displayed and you can change the AFB status directly in the control panel.	
<SMTP Server Selection List >	[more...]
List with parameterized outgoing mail servers	⇒ [2.1 <SMTP server> switches to the detailed display
Notifications	on off
The email function was deactivated (off) upon receipt of the message or activated (on) upon sending.	

[2.1 <SMTP server>]	
Overload exceeded	<off on>
<p>The warning 🚩 Overload exceeded is not pending (off) or pending (on).</p> <p>This warning signals that the parameterized number (⇒ parameter Overload limit) of emails was exceeded within the last 10 seconds.</p>	
Pending exceeded	<off on>
<p>The warning 🚩 Pending exceeded is not pending (off) or pending (on).</p> <p>This warning signals that the parameterized number of emails pending in the queue (⇒ parameter Pending limit) was exceeded.</p>	
Sent notifications	<Number of emails>
<p>Number of emails sent since the device was last rebooted</p>	
Last connection	<date> <time>
<p>Time stamp of the last connection to the SMTP server</p>	

[<current connection status>]

the following connection statuses are possible:

- **Connecting**

The AFB is currently connecting to the SMTP server.

Possible cause:

Initialization phase after reboot or activation of the AFB

- **Idle**

Currently there are no emails pending in the SMTP server.

Possible cause:

There are no events for the parametrized **priority level** of the **application source(s)**.

- **Online**

Currently there is a connection to the SMTP server.

- **Authentication failure**

Login to the outgoing mail server failed.

Possible cause: parameterized access data incorrect (parameter **Username/Password**)

- **Unable to connect**

Possible causes:

Network problem; parameterized SMTP connection settings incorrect

- **Fatal connection error**

Possible causes:

There was a fatal error while sending emails with SSL encryption.

Warning! Emails will no longer be sent. Reboot the enCore device.

[<SMTP server error message>]

In case of an SMTP error, the error message reported by the SMTP server is displayed here (if necessary on several lines, the lines remain empty if the connection is error-free).

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