

INSYS Smart Device Monitoring App

Escalating/Cascading Alarms

Introduction

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1 Introduction

General

The present publication refers to a combination of selected hardware and software components of INSYS icom GmbH as well as other manufacturers. All components have been combined with the target to realize certain results and effects for certain applications in the field of professional data transfer.

The exact descriptions of all used components, to which this publication refers, are described in the tables *Hardware*, *Accessories* and *Software* at the end of this publication.

The symbols and formatings used in this publication are explained in the correspondent section of the device manual.

Some configurations or preparations, which are precondition in this publication, are described in other publications. Therefore, always refer to the related device manuals. INSYS Smart Devices with web interface provide you with helpful information about the configuration possibilities, if you click on "display help text" in the header.

Target of this Publication

An exemplary configuration for a typical fault monitor application is presented here. If your application has similar requirements, you may modify the configuration on the basis of this Configuration Guide.

A machine signals an alarm. An SMS is to be dispatched to an operator thereupon. If the operator does not acknowledge the SMS also via SMS, an SMS to another operator will be dispatched. If still no acknowledgement is received after another seven minutes, an SMS will be dispatched to the first operator again and so on until an acknowledgement SMS is received.

The alarm is signalled to the IMON by closing one of its inputs.

The following describes how to configure the Monitoring App of an INSYS IMON fault monitor such that it fulfils above described task. It is prerequisite here that the fault monitor is ready for operation, i.e. a SIM card is inserted and it is configured accordingly.

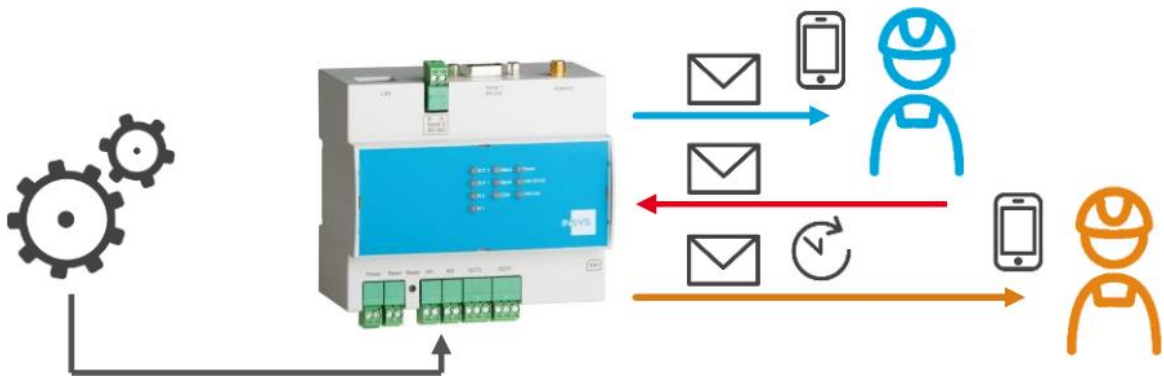


Figure 1: Alarm escalation – overview

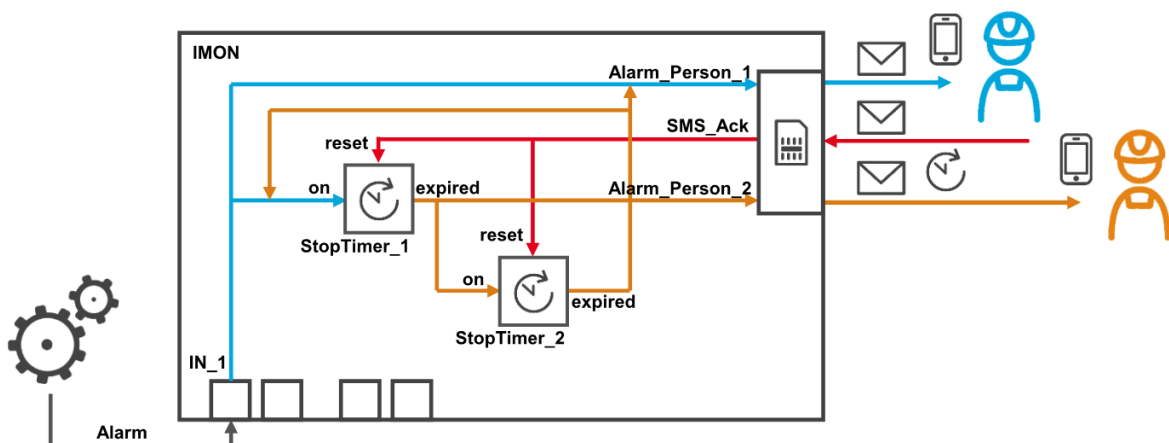


Figure 2: Alarm escalation – simplified diagram

2 Summary

Fault monitor configuration for escalating/cascading alarms

How to configure an INSYS fault monitor for the combination of two inputs for triggering a message dispatch or switching on an alarm beacon via an output. You will find detailed step by step instructions in the following section.

- Add device "IMON" with the type I/O
- Add element "IN_1" as input 1 of the IMON
- Add element "StopTimer_1" as stop watch timer with 5 minutes
- Add element "StopTimer_2" as stop watch timer with 7 minutes
- Add recipient "Person_1" with mobile phone number
- Add recipient "Person_2" with mobile phone number
- Add monitoring "IN_1_close" (input IN_1 closes)
- Add monitoring "StopTimer_1_expired" (StopTimer_1 expired)
- Add monitoring "StopTimer_2_expired" (StopTimer_2 expired)
- Add monitoring "SMS_Ack" (receipt of an acknowledgement SMS)
- Add action "Alarm_Person_1" as message to the "Person_1"
- Add action "Alarm_Person_2" as message to the "Person_2"
- Add action "StopTimer_1_reset" (reset StopTimer_1)
- Add action "StopTimer_2_reset" (reset StopTimer_2)
- Add action "StopTimer_1_on" (start StopTimer_1)
- Add action "StopTimer_2_on" (start StopTimer_2)
- Add assignment "IN_1_close" to "Alarm_Person_1"
- Add assignment "IN_1_close" to "StopTimer_1_on"
- Add assignment "StopTimer_1_expired" to "Alarm_Person_2"
- Add assignment "StopTimer_1_expired" to "StopTimer_2_on"
- Add assignment "StopTimer_2_expired" to "Alarm_Person_1"
- Add assignment "StopTimer_2_expired" to "StopTimer_1_on"
- Add assignment "SMS_Ack" to "StopTimer_1_reset"
- Add assignment "SMS_Ack" to "StopTimer_2_reset"

3 Configuration

Provisions

It is recommended to commission the router as suggested in the Quick Installation Guide. Different settings of the router may result in necessary adjustments of the settings described in the following. Please prepare the following items before starting the configuration of the application:

- **Connection to the router**

- You have access to the Monitoring App of the router via your web browser.

- **Configurations in the router**

- The router is logged in to the cellular network (configuration via startup wizard or in "GSM / GPRS" or "UMTS" menu).

- The router can receive SMS (the Service Center Number is specified and SMS reception is activated in the "Messages" menu on the "Configuration" page).

Monitoring App Configuration

A functional Monitoring App requires to add the individual devices, elements, logic operations, recipients, monitorings and actions as well as the assignment of actions to monitorings.

Perform the following steps for this:

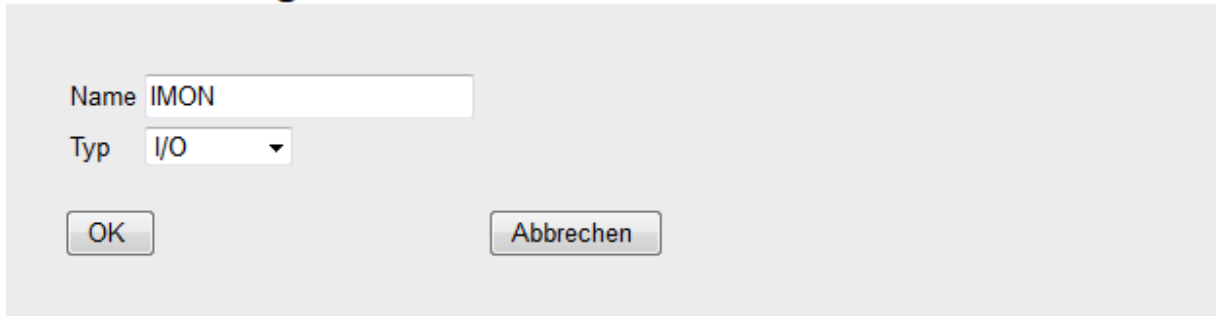
- Adding devices
- Adding elements
- Adding contacts
- Adding monitorings
- Adding actions
- Adding assignments

■ Adding devices

How to add the necessary devices for the Monitoring App. It is necessary to add the inputs and outputs of the fault monitor as a device for this application.

1. Select in the menu the page → Setup application → Devices
2. Select the **Add device** button
 - ✓ The "Add device" page appears.
3. Enter "IMON" as name and select the type "I/O"

Gerät hinzufügen



The screenshot shows a dialog box titled "Gerät hinzufügen". It has two input fields: "Name" with the text "IMON" and "Typ" with a dropdown menu showing "I/O". Below the fields are two buttons: "OK" and "Abbrechen".

4. Click on **OK**
 - ✓ You have added the devices that are necessary for the application with this.

Configuration

■ Adding elements

How to add the necessary elements for the Monitoring App. It is necessary to add input 1 and two timers for this application.

1. Select in the menu the page → Setup application → Elements
2. Select the **Add Element** button
 - ✓ The "Add element" page appears.
3. Enter "IN_1" as name and select "IO", "IMON" and "Input" under Device
4. Enter "1" as number for input 1 of the fault monitor

Element hinzufügen









Name

Gerät

Nummer

5. Click on **OK**
6. Select the **Add element** button again and add the elements "StopTimer_1" (stop watch timer with 5 minutes) and "StopTimer_2" (stop watch timer with 7 minutes) one after another
 - ✓ The elements appear in the respective list one after another.

Elemente

aktiv		Name	Gerät / Quelle
<input checked="" type="checkbox"/>	 	IN_1 (IO)	Eingang 1
<input checked="" type="checkbox"/>	 	StopTimer_1 (Timer)	Stoppuhr 00:05:00
<input checked="" type="checkbox"/>	 	StopTimer_2 (Timer)	Stoppuhr 00:07:00

- ✓ You have added the elements that are necessary for the application with this.

■ Adding recipients

How to add the necessary recipients for the Monitoring App. It is necessary to add the mobile phone number of two operators for the transmission of the alarm SMS and the receipt of the acknowledgement SMS for this application.

1. Select in the menu the page → Setup application → Recipients
2. Select the **Add recipient** button
 - ✓ The "Add recipient" page appears.
3. Enter "Person_1" as name
4. Select the recipient type "Mobile phone"
5. Enter the mobile phone number

Empfänger hinzufügen

6. Click on **OK**
7. Select the **Add recipient** button again and add "Person_2"
 - ✓ The elements appear in the respective list one after another.

Empfänger

Empfänger hinzufügen

aktiv		Name	Telefon
<input checked="" type="checkbox"/>		Person_1	Mobiltelefon +491711234567
<input checked="" type="checkbox"/>		Person_2	Mobiltelefon +491721234567

- ✓ You have added the recipients that are necessary for the application with this.

Configuration

■ Adding monitoring operations

How to add the monitoring operations for the Monitoring App. It is necessary to monitor input 1, the expiration of both timers and the receipt of the acknowledgement SMS for this application.

1. Select in the menu the page → Monitoring
2. Select the **Add monitoring** button
✓ The "Add monitoring" page appears.
3. Enter "IN_1_close" as name and select "Element", "IN_1" and "closes" under Source

Überwachung hinzufügen



4. Click on **OK**
5. Select the **Add monitoring** button again and add the monitorings "StopTimer_1_expired" (StopTimer_1 expired) and "StopTimer_2_expired" (StopTimer_2 expired) one after another
6. Select the **Add monitoring** button

7. Enter "SMS_Ack" as name and select "Message" under Source
8. Highlight "Person_1" and "Person_2" under Sender and select the >> button
9. Enter the text that must be contained by the acknowledgement SMS under Message

Überwachung hinzufügen

10. Click on OK
 - ✓ The monitorings appear in the respective list one after another.

Überwachungen

Überwachung hinzufügen

aktiv		Name	Überwachung
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> IN_1_close	IN_1 schließt
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> StopTimer_1_expired	StopTimer_1 abgelaufen
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> StopTimer_2_expired	StopTimer_2 abgelaufen
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> SMS_Ack	Nachricht von Person_2 Person_1 OK

- ✓ You have added the monitoring operations that are necessary for the application with this.

Configuration

■ Adding actions

How to add the actions for the Monitoring App. It is necessary to send the alarm SMS to the two operators as well as start and reset the two timers for this application.

1. Select in the menu the page → Actions → Definitions
2. Select the **Add action** button
 - ✓ The "Add action" page appears.
3. Enter "Alarm_Person_1" as name and select "Message" under Target
4. Highlight "Person_1" under Recipient and select the **>>** button
5. Enter the SMS text under Message

i Variables can also be inserted in the message text. Location of the IMON (if configured), date and time are also transmitted in the SMS in below example. Refer to the IMON manual for further information about this.

Aktion hinzufügen

The screenshot shows the 'Aktion hinzufügen' (Add Action) configuration screen. It features the following elements:

- Name:** Alarm_Person_1
- Ziel:** Nachricht
- Empfänger (Absender):** Person_2
- ausgewählt (Recipient):** Person_1
- Nachricht (Message):** Alarm! \$LOCATION \$DATE \$TIME
- Buttons:** OK and Abbrechen

6. Click on **OK**
7. Select the **Add action** button again and add the action "Alarm_Person_2" accordingly

- Select the **Add action** button again and enter "StopTimer_1_reset" as name and select "Element" as well as "StopTimer_1" and "reset" under Target

Aktion hinzufügen

- Click on **OK**
- Select the **Add action** button and add the actions "StopTimer_2_reset" (reset StopTimer_2), "StopTimer_1_on" (start StopTimer_1) and "StopTimer_2_on" (start StopTimer_2) one after another
 - ✓ The actions appear in the respective list one after another.

Definition Aktionen

Aktion hinzufügen

aktiv	Name	Aktion
<input checked="" type="checkbox"/>	Alarm_Person_1	Nachricht an Person_1 Alarm! \$LOCATION \$DATE \$TIME
<input checked="" type="checkbox"/>	Alarm_Person_2	Nachricht an Person_2 Alarm! \$LOCATION \$DATE \$TIME
<input checked="" type="checkbox"/>	StopTimer_1_reset	StopTimer_1 zurücksetzen
<input checked="" type="checkbox"/>	StopTimer_2_reset	StopTimer_2 zurücksetzen
<input checked="" type="checkbox"/>	StopTimer_1_on	StopTimer_1 starten
<input checked="" type="checkbox"/>	StopTimer_2_on	StopTimer_2 starten

- ✓ You have added the actions that are necessary for the application with this.

Configuration

■ Adding assignments

How to add the assignments for the Monitoring App. It is necessary to assign the respective actions to the monitorings for this application.

1. Select in the menu the page → Actions → Assignments
2. Select the **Add assignment** button
 - ✓ The "Add assignment" page appears.
3. Select "IN_1_close" as Monitoring and "Alarm_Person_1" as Action

Zuordnung hinzufügen



4. Click on **OK**
5. Select the **Add assignment** button again and add the assignments "IN_1_close" to "StopTimer_1_on", "StopTimer_1_expired" to "Alarm_Person_2", "StopTimer_1_expired" to "StopTimer_2_on", "StopTimer_2_expired" to "Alarm_Person_1", "StopTimer_2_expired" to "StopTimer_1_on", "SMS_Ack" to "StopTimer_1_reset" and "SMS_Ack" to "StopTimer_2_reset" one after another
 - ✓ The assignments appear in the respective list one after another.

Zuordnungen

Zuordnung hinzufügen

aktiv		Überwachung	Aktion
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> IN_1_close	Alarm_Person_1
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> IN_1_close	StopTimer_1_on
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> StopTimer_1_expired	Alarm_Person_2
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> StopTimer_1_expired	StopTimer_2_on
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> StopTimer_2_expired	Alarm_Person_1
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> StopTimer_2_expired	StopTimer_1_on
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> SMS_Ack	StopTimer_1_reset
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> SMS_Ack	StopTimer_2_reset

- ✓ You have added the assignments that are necessary for the application with this.

4 Test

Testing the application

The Monitoring App is active directly after configuration. You can check the correct function directly by closing one or both inputs of the fault monitor.

The current status of the defined elements (input and timers) is indicated directly on the status page of the web interface of the Monitoring App (consider update interval). The following figure shows that IN_1 is closed and StopTimer_1 is started thus. An SMS to Person_1 will also be dispatched with this. A SIM card must be inserted and the fault monitor must be configured accordingly (PIN, SCN) for dispatching the SMS. If Person_1 does not reply the SMS with the configured acknowledgement text (here "OK"), an SMS to Person_2 will be dispatched upon expiry of StopTimer_1 and StopTimer_2 will be started. The complete process will restart upon expiry of StopTimer_2. The receipt of the acknowledgement SMS will stop the process.

Status

Aktualisierung alle <input type="text" value="5"/> Sekunden <input type="button" value="OK"/>		
IMON		
IO	IN_1	1
Timer		
	StopTimer_1	0:04:42
	StopTimer_2	not running

5 Used Components

Please observe: The power supply units required to operate devices are not listed here in detail. Take care for a provision at the site, if they are not part of the scope of delivery.

Hardware

Description	Manufacturer	Type	Version
Fault monitor	INSYS	IMON-G100 IMON-G200 IMON-U300	Firmware 2.12.4 Monitoring 2.2.0

Table 1: Used hardware

Software

Description	Manufacturer	Type	Version
Operating system	Microsoft	Windows 7	Ultimate SP1
Browser	Mozilla	Firefox	39

Table 2: Used software

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