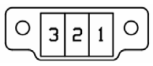
This manual describes how to use the software usermodule „Alarming“.

1. Hardware Cabling

To be able to use all features of this usermodule, the Conel V2 Basic or Full router has to be equipped with a CNT expansion board with counter input, on the first expansion slot of the router. Basic alarm functionality with the standard digital Input can also be performed without the CNT expansion board.

1.1. Pinning of standard input BIN0

The pinning of the standard digital input BIN0 can be seen here:

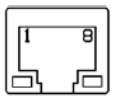


Pin no.	Signal mark	Description
1	BIN0	Binary input
2	GND	Signal ground
3	OUT0	Binary output

Binary 0 (BIN0): connect your potential-free relay (dry contact) between Pin 1&2.

1.2. Pinning of CNT expansion board on RJ45-connector

The RJ45 plug pinning of the CNT expansion board can be seen here:



Pin number	Signal mark	Description
1	BIN1/CNT1	Binary input/counter input
2	BIN2/CNT2	Binary input/counter input
3	BIN3	Binary input
4	BIN4	Binary input
5	GND	Signal ground
6	OUT1	Binary output (open collector)
7	AN1	Analogue input
8	AN2	Analogue input

Counter 1 (CNT1): connect your potential-free relay (dry contact) between Pin 1&5.
Counter 2 (CNT2): connect your potential-free relay (dry contact) between Pin 2&5.
Binary 1 (BIN1): connect your potential-free relay (dry contact) between Pin 1&5.
Binary 2 (BIN2): connect your potential-free relay (dry contact) between Pin 2&5.
Binary 3 (BIN3): connect your potential-free relay (dry contact) between Pin 3&5.
Binary 4 (BIN4): connect your potential-free relay (dry contact) between Pin 4&5.

For more information to the XC-CNT expansion board, please refer to the XC-CNT Users-Guide

1.2. Timing Requirements

The binary- and counter-inputs have 3VDC potential supplied from the router.
To create a “pulse” for incrementing the counter, the output of the PLC has to close the contact between the 2 according pins (to put the input against ground) and after that the output of the PLC has to open the contact again.

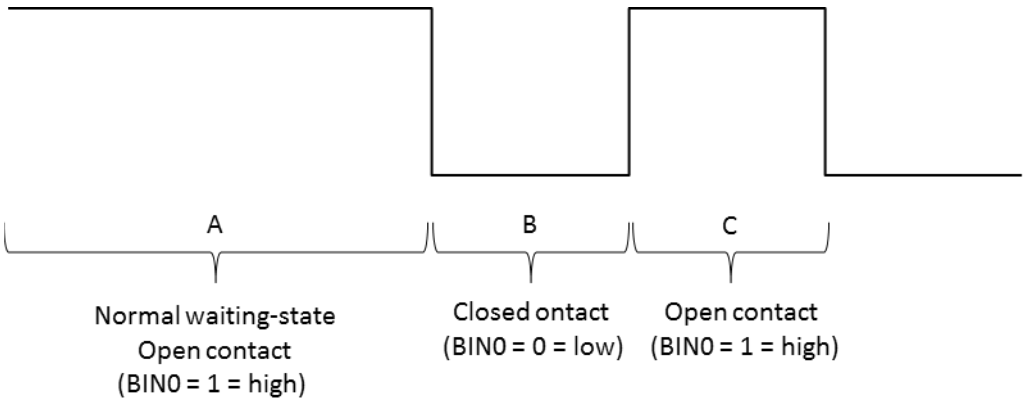
The timing of the closed and opened contacts has to follow these rules:

A) Normal waiting-state is an open contact (BIN0 = 1 = high)

B) The “pulse”-sequence has to begin with a closed contact (BIN0 = 0 = low)
(Minimum duration = 200ms, Maximum duration = 2000ms)

C) The “pulse”-sequence continues with an open contact
(Same duration as the above closed contact duration)

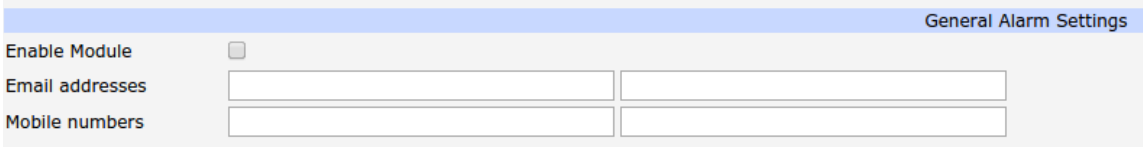
After 5 seconds of no more state-changes (counter-value is stable), the evaluation and processing of alarms will be done.



2. Software Settings

After uploading the usermodule (.tgz file) to the V2 Conel router, it is possible to use the following configuration settings on the webinterface of the router:

2.1 General Alarm Settings



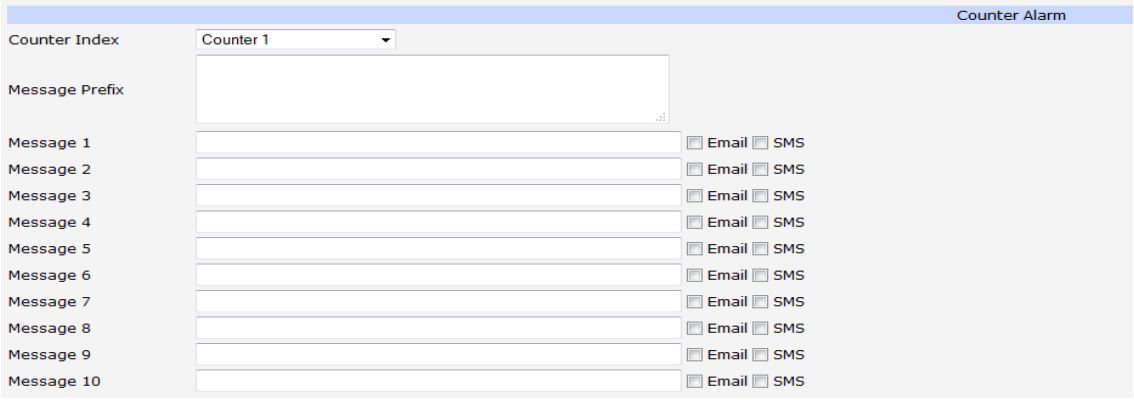
Enable Module: Alarms will only be sent, if this check box is set.

Email addresses: Email addresses that should receive alarm emails. Maximum length is 50 characters. The email server settings have to be made separately under “Configuration” →”SMTP”.

Mobile numbers: Mobile numbers that should receive alarm SMS.

If the sending of email or SMS fails, the module tries 3 times to resend the alarm.

2.2 Counter Alarm



Counter Index: On this drop down menu you can define, which inputs will be used for evaluation. Choose between CNT1 or CNT2 or BIN0.

Message Prefix: Common alarm text for all alarm messages (e.g. Location). This text will always be written in front of the 10 different alarm messages. The maximum length is 110 characters.

Message 1-10: According to the number of counter pulses, each number has its own alarm text. The maximum length is 50 characters.

The check boxes “Email” and “SMS” define, which alarm should be sent for the according pulse number.

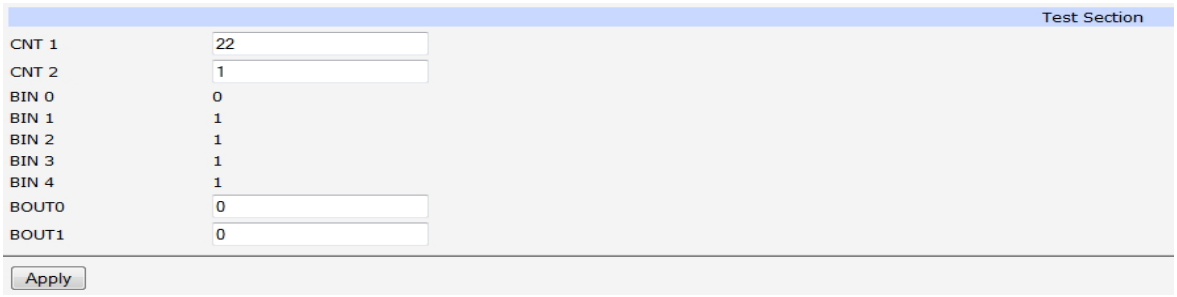
2.3 Digital Alarms

Message BIN X high: The binary input is high, when the dry-contact to ground is open. The text has a maximum length of 160 characters. The check boxes “Email” and “SMS” define, which alarm should be sent for the according binary input.

Message BIN X low: The binary input is low, when the dry-contact to ground is closed. The text has a maximum length of 160 characters. The check boxes “Email” and “SMS” define, which alarm should be sent for the according binary input.

After 2 seconds of stable state, the evaluation and processing of alarms will be done.

2.4 Test Section



CNT X: For setting the counter inputs to specific values between 1 and 10.
This allows you to make a quick first alarming test. Even without real dry-contact-pulses from a PLC.

BIN X: Shows the current state of the binary inputs.

BOUT X: For setting the state of the routers binary outputs.