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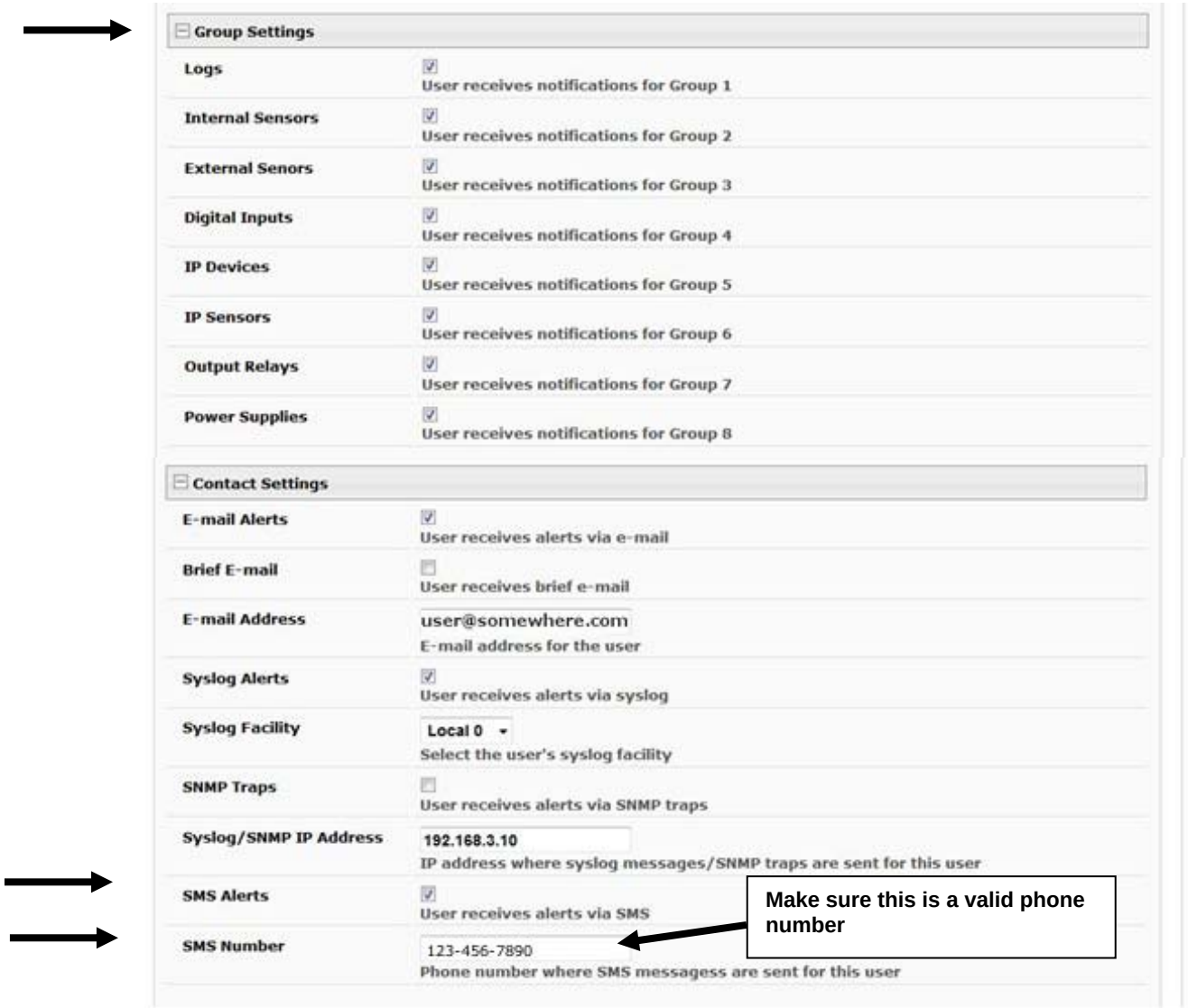
SETUP AND TEST SMS MESSAGING

To test a modem installed on an ENVIROMUX Monitoring System, you must first make sure the System has been configured properly to use the modem. This guide will take you through the basic steps to do that. For more details, refer to the complete product manual.

1. Install a USB modem as directed in the product manual.

2. Configure the ENVIROMUX User Account Contact settings (Administration -> Users ->Edit User -> Contact Settings) to receive SMS Alerts and enter a valid phone number for the SMS messages to be sent to for that user.

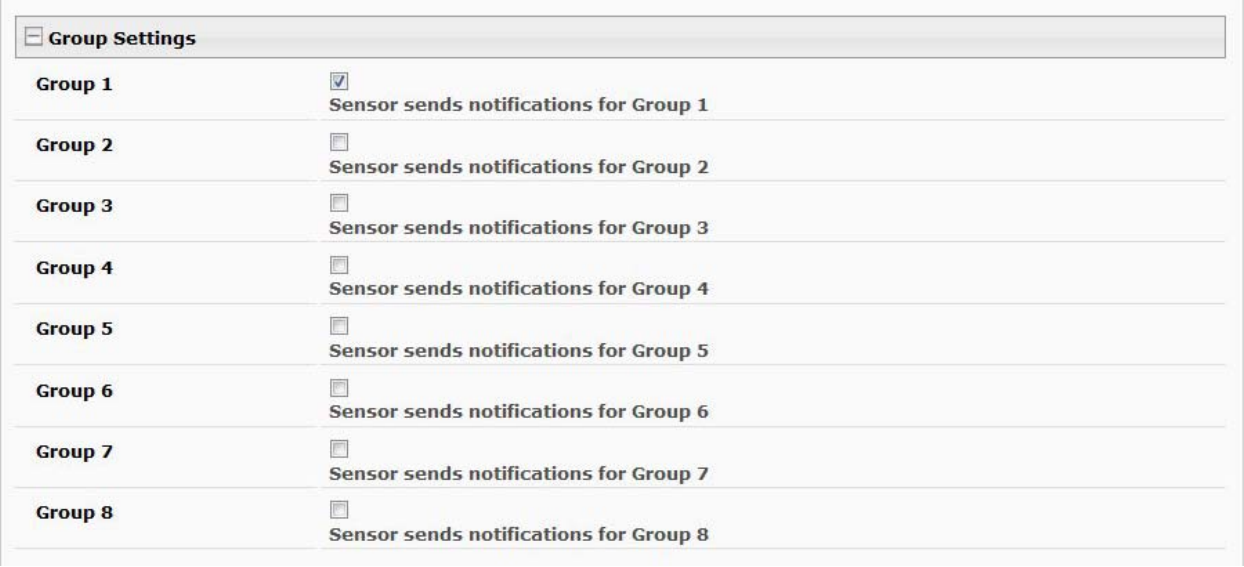
Also make sure that user is set to receive messages from the type of sensor causing the message to be sent. Make sure enough boxes are checked under "Group Settings." .



(Image from the E-xD web interface under User Settings)

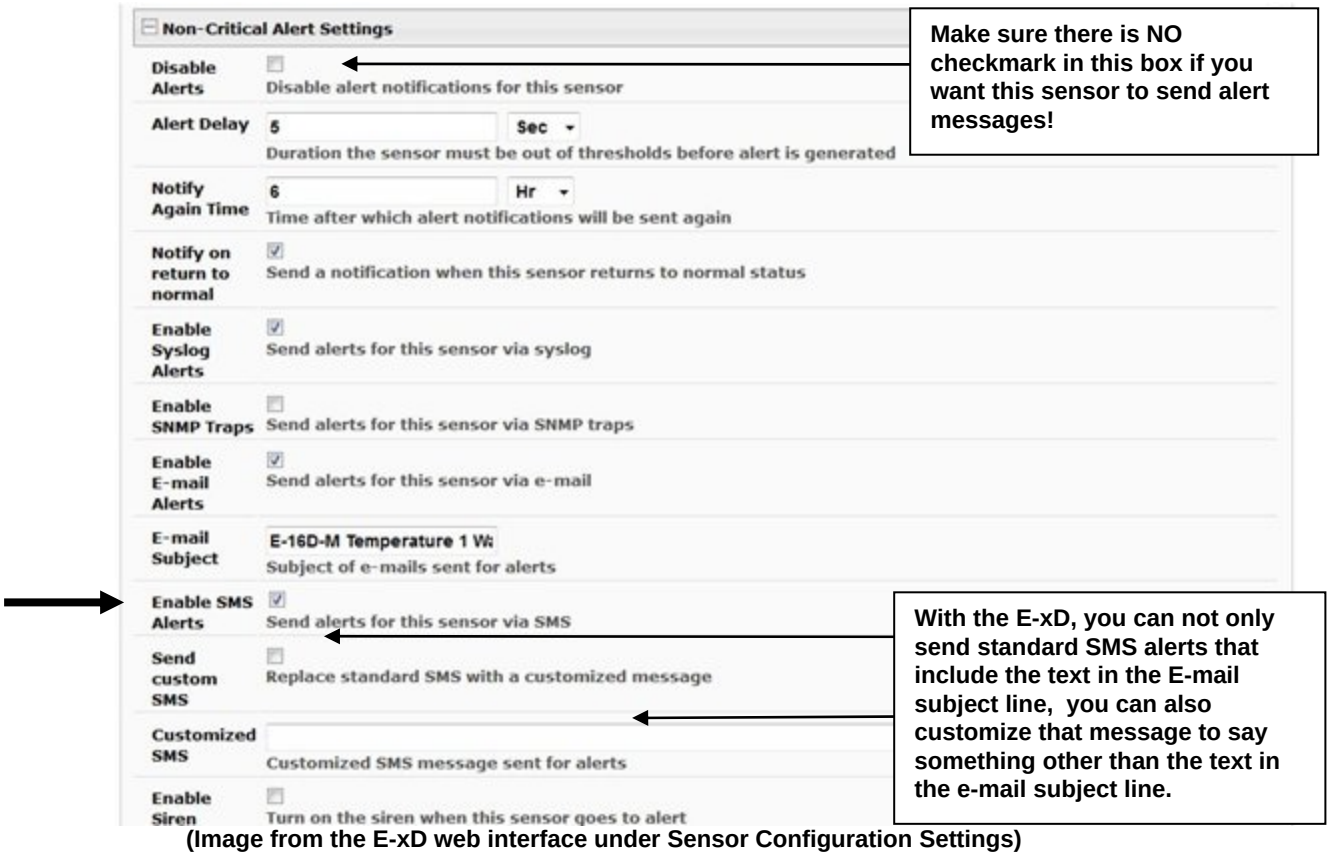
3. Configure a sensor to send alerts via SMS messaging. These settings can be found under Sensor Configuration in the product manual.

First make sure the sensor will send messages to a group the user is configured to get messages from, again, under "Group Settings" for that sensor.



(Image from the E-xD web interface under Sensor Configuration Settings)

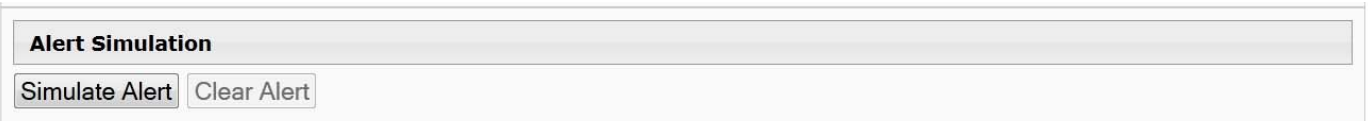
Next make sure that "Enable SMS Alerts" is checked. Also make sure that "Disable Alerts" is **NOT** checked for this sensor.



(Image from the E-xD web interface under Sensor Configuration Settings)

4. Once the sensor is configured, and the user settings include the correct settings and valid phone number, a test can be conducted.

The web interface for the E-xD includes a button that simulates an alert message being sent. This is found under the sensor configuration for each sensor. There is also a button on the GSM Modem Status page that will send a test SMS message to all users configured to receive SMS messages (see below).

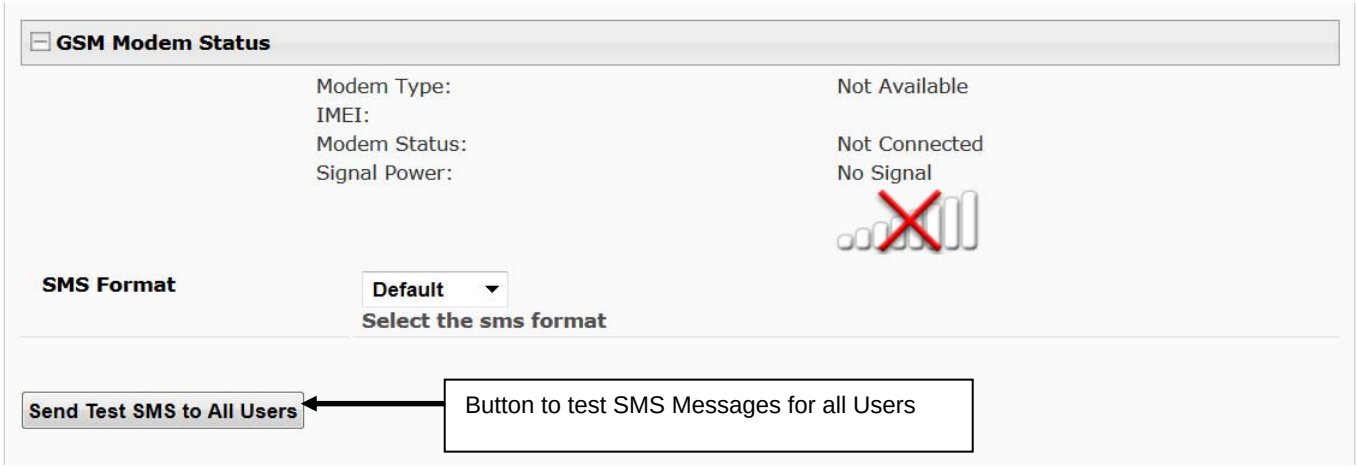


Once the alert is tripped or simulated, the phone number for the configured user should receive the configured SMS message.

Troubleshooting

If no message is received, double-check all of the settings just described. Then check your modem status and strength (see page **Error! Bookmark not defined.**).

When installed and working, the modem status will say "Ready" and the signal strength will be indicated. Ideally, signal strength should always be at least -100db. (-99, -98 is better, -101,-102 is worse). If the modem is plugged in and not working, make sure your SIM card is up to date and paid for with your service provider.



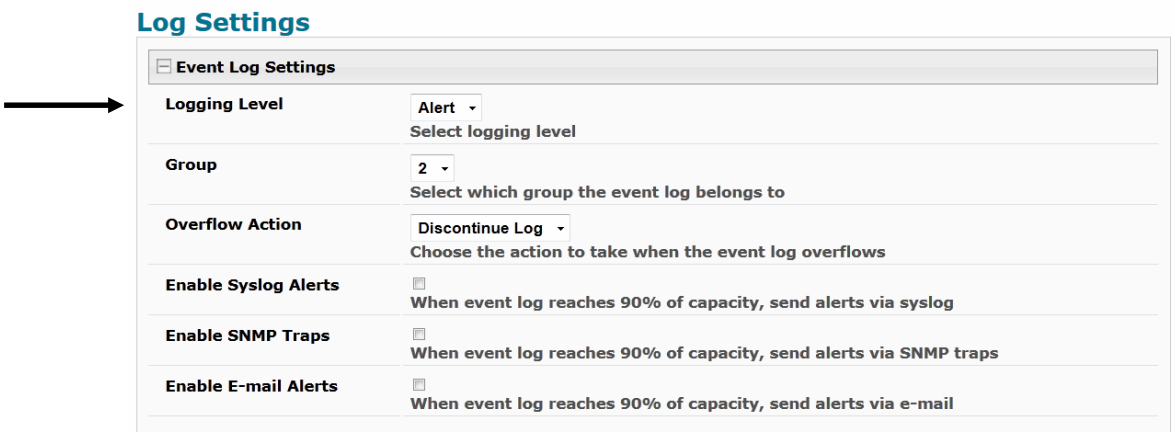
No Modem Installed

Modem properly installed in an E-xD (Note: Signal strength shown here is extremely poor)

If the signal to the modem is too weak, then either the ENVIROMUX will need to be moved or the modem will have to be moved (you can extend the modem up to 5 meters (16.4 feet) from the ENVIROMUX with a USB extension cable).

CMS Error Codes

With E-xD units, there is also a feature under Log Settings for setting the Logging Level. Try setting the Logging Level to “Debug”, and test the SMS messaging again. If the SMS message does not work, check the event log for an error code. “CMS error #500” for example, might show up. The table on pages 5-7 provides codes and meanings.



Log Setting configuration in E-xD

SMS MESSAGING- CMS ERROR CODES

Error Code	Meaning
1	"Unassigned (unallocated) number" This cause indicates that the destination requested by the Mobile Station cannot be reached because, although the number is in a valid format, it is not currently assigned (allocated).
8	"Operator determined barring" This cause indicates that the MS has tried to send a mobile originating short message when the MS's network operator or service provider has forbidden such transactions.
10	"Call barred" This cause indicates that the outgoing call barred service applies to the short message service for the called destination.
17	"Network failure". This cause is sent to the MS if the MSC cannot service an MS generated request because of PLMN failures, e.g. problems in MAP.
21	"Short message transfer rejected" This cause indicates that the equipment sending this cause does not wish to accept this short message, although it could have accepted the short message since the equipment sending this cause is neither busy nor incompatible.
22	"Congestion". This cause is sent if the service request cannot be actioned because of congestion (e.g. no channel, facility busy/congested etc.).
27	"Destination out of service" This cause indicates that the destination indicated by the Mobile Station cannot be reached because the interface to the destination is not functioning correctly. The term "not functioning correctly" indicates that a signaling message was unable to be delivered to the remote user; e.g., a physical layer or data link layer failure at the remote user, user equipment off line, etc.
28	"Unidentified subscriber" This cause indicates that the subscriber is not registered in the PLMN (i.e. IMSI not known).
29	"Facility rejected" This cause indicates that the facility requested by the Mobile Station is not supported by the PLMN.
30	"Unknown subscriber" This cause indicates that the subscriber is not registered in the HLR (i.e. IMSI or directory number is not allocated to a subscriber).
38	"Network out of order" This cause indicates that the network is not functioning correctly and that the condition is likely to last a relatively long period of time; e.g., immediately reattempting the short message transfer is not likely to be successful.
41	"Temporary failure" This cause indicates that the network is not functioning correctly and that the condition is not likely to last a long period of time; e.g., the Mobile Station may wish to try another short message transfer attempt almost immediately.
42	"Congestion" This cause indicates that the short message service cannot be serviced because of high traffic.
47	"Resources unavailable, unspecified" This cause is used to report a resource unavailable event only when no other cause applies.
50	"Requested facility not subscribed" This cause indicates that the requested short message service could not be provided by the network because the user has not completed the necessary administrative arrangements with its supporting networks.
69	"Requested facility not implemented" This cause indicates that the network is unable to provide the requested short message service.
81	"Invalid short message transfer reference value" This cause indicates that the equipment sending this cause has received a message with a short message reference which is not currently in use on the MS network interface.
95	"Invalid message, unspecified" This cause is used to report an invalid message event only when no other cause in the invalid message class applies.
96	"Invalid mandatory information" This cause indicates that the equipment sending this cause has received a message where a mandatory information element is missing and/or has a content error (the two cases are indistinguishable).
97	"Message type non existent or not implemented" This cause indicates that the equipment sending this cause has received a message with a message type it does not recognize either because this is a message not defined or defined but not implemented by the equipment sending this cause.
98	"Message not compatible with short message protocol state" This cause indicates that the equipment sending this cause has received a message such that the procedures do not indicate that this is a permissible message to receive while in the short message transfer state.

Error Code	Meaning
99	"Information element non existent or not implemented" This cause indicates that the equipment sending this cause has received a message which includes information elements not recognized because the information element identifier is not defined or it is defined but not implemented by the equipment sending the cause. However, the information element is not required to be present in the message in order for the equipment sending the cause to process the message.
111	"Protocol error, unspecified" This cause is used to report a protocol error event only when no other cause applies.
127	"Interworking, unspecified" This cause indicates that there has been interworking with a network which does not provide causes for actions it takes; thus, the precise cause for a message which is being send cannot be ascertained.
128	Telematic interworking not supported x
129	Short message Type 0 not supported x x
130	Cannot replace short message x x
143	Unspecified TP PID error x x
144	Data coding scheme (alphabet) not supported x
145	Message class not supported x
159	Unspecified TP DCS error x x
160	Command cannot be actioned x
161	Command unsupported x
175	Unspecified TP Command error x
176	TPDU not supported x x
192	SC busy x
193	No SC subscription x
194	SC system failure x
195	Invalid SME address x
196	Destination SME barred x
197	SM Rejected Duplicate SM x
198	TP VPF not supported X
199	TP VP not supported X
208	SIM SMS storage full x
209	No SMS storage capability in SIM x
210	Error in MS x
211	Memory Capacity Exceeded X
212	SIM Application Toolkit Busy x x
255	Unspecified error cause
128...255	Other values in this range are reserved, defined by GSM 03.40 subclause 9.2.3.22 values
300	ME failure
301	SMS service of ME reserved
302	operation not allowed
303	operation not supported
304	invalid PDU mode parameter
305	invalid text mode parameter
310	SIM not inserted
311	SIM PIN required
312	PH SIM PIN required
313	SIM failure
314	SIM busy

Error Code	Meaning
315	SIM wrong
316	SIM PUK required
317	SIM PIN2 required
318	SIM PUK2 required
320	memory failure
321	invalid memory index
330	SMSC address unknown
331	no network service
332	network timeout
340	no +CNMA acknowledgment expected
500	unknown error
256...511	Other values in this range are reserved
512...	manufacturer specific

For the complete E-xD product manual with all features and functions, click here.