Network Manager

Sensor Alarm Management

Point Availability

SENSTAR®

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Network Manager Sensor Points

The Network Manager can report Sensor status changes for both Equipment Faults and Intrusion Alarms. For each of these classifications multiple statuses may be reported:

Sensor Equipment Faults	Definition
Comm Fail/Mismatch	Activated if communication is lost to the Device or if there is a mismatch between the type of device detected and the device type configured in the NM.
Comm Fault	Activated if a problem is detected with one of the redundant communication paths to a sensor. (Not applicable for all sensor communication topologies.)
Critical Diag	Activated if a device's hardware self-diagnostics detects a critical problem that can interfere with Sensor Alarm detection.
Warning Diag	Activated if a device's hardware self-diagnostics detects a non-critical problem.
Enclosure Tamper	Activated if a device's enclosure is opened.

Intrusion Alarms	Definition
Alarm	Activated if a sensor detects a valid intrusion attempt.
Supervision	Activated if tampering of the sensing technology is detected. (Sensor technology dependent)
Pre-alarm	Activated if an alarm condition is deemed as possibly imminent. For example, fence movement detected before sufficient movement has occurred to declare an alarm. Pre-alarm can be used to direct a PTZ camera to the potential alarm location in advance of the alarm being declared. (Sensor technology dependent)
Trouble	Activated if a Comm Fail or Diagnostic alarm occurs that indicates the sensing technology may be unable to detect the alarm condition. Diagnostic alarms may affect only some of a device's alarm points. The affected alarm point can be considered offline which may require the deployment of resources to provide supplementary protection.

Note: Intrusion Alarms is just used as a generic "event" occurrence description for the sensor's detection capability. Dependent on what the sensor is installed to detect at a site, the detected event could also be thought as reporting an alarm like intrusion/escape or reporting status like door/gate/window open. The final interpretation is left up to the SMS.

The NMS can report Sensor Control point status changes. Sensors configured for remote control can have their Relay points activated/deactivated by the NMS. Depending on the Sensor the control points may involve different technology (relays, Opto-isolated outputs, audio switching, etc.).
Following are tables detailing the applicable alarms for all sensors supported by the Network Manager Service (NMS). Sensors are grouped by the communication network the NMS uses to collect their status. At the start of each communication network grouping is a table listing which Sensor Equipment Faults are applicable for each sensor supported by the network type. The tables for each sensor list the Intrusion Alarm points and Control points supported by each sensor. For each alarm point the table indicates the alarm statuses supported. Notes following the table indicate any installation conditions that might affect a point or status being available.

Usage
The use of the information in these tables is integration dependent. Refer to the integration documentation for additional information.

Genetec Security Center (NMS-GSC Gateway)

Under the Alarms task of Security Center's Config Tool

- Create Alarm entities (or NMS Input custom entities) for each installed Sensor's supported Equipment Faults and Intrusion Alarm statuses to be monitored.
  For example, create Alarm entities for a FlexZone-60's Comm Fail, Critical & Warning Diagnostic and Enclosure Tamper Equipment faults and Alarm entities for Alarm, Supervision and Trouble states of its aux input 1.
- Create NMS Output custom entity for each installed Sensor's supported control points to be controlled via an on-map control or macro.

OnGuard (NMS-OnGuard Gateway)

In OnGuard System Administrator create Senstar NMS Intrusion Panels as required. Under the appropriate tabs:

- Enable Zones for each installed Sensor's supported Equipment Faults, Intrusion Alarm, Supervision and Pre-alarm statuses to be monitored. No assignment is necessary for the Trouble status as it will automatically be added.
  For example, enable Zones for a FlexZone-60's Comm Fail, Critical & Warning Diagnostic and Enclosure Tamper Equipment faults and Zones for Alarm and Supervision states of its aux input 1.
- Enable Offboard relay for each installed Sensor's supported control points to be controlled via OnGuard.

Milestone XProtect (NMS-XProtect Gateway)

Under NMS Gateway MIP Plug-ins:

- Create Node item for each installed Sensor. No need to specify individual equipment faults.
- Create Input item for each Intrusion alarm to be monitored. No need to specify alarm statuses.
- Create Output item for each Control point to be controlled.
- Alternatively, select Import to load a file produced by the export feature in the NMS-XProtect Config application. The Sensors, Intrusion and Control points to be integrated will be added automatically.

Silver Network

Equipment Faults	16I/16O	Alarm Logic Engine	Audio Mux	BR100	E5000	FlexPS/FLexPS SC	FlexZone-4/60	FP400	MPS-4100	OmniTrax/OmniTrax LT	rBOX-510	Senstar LM100	UltraLink I/O	Ultrawave	XField/XField LT
Comm Fail/Mismatch	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Comm Fault	✓			✓		✓	✓	✓	✓	✓		✓	✓	✓	✓
Critical Diag	✓			✓		✓	✓	✓		✓		✓	✓	✓	✓
Warning Diag	✓			✓		✓	✓	✓		✓		✓		✓	✓
Enclosure Tamper	✓			✓		✓	✓			✓		✓		✓	✓

Note: Comm Faults are not applicable for Star topology networks and where redundant links are not installed to a sensor in a Loop topology network.

16I/16O

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-16	Aux Input 1-16	✓	✓		✓	1-16	Relays 1-16

Note: Supervision status availability dependent on Sensor configuration of inputs.

Alarm Logic Engine (virtual)

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-400	Logic Element 1-400	✓	✓		✓	1-400	Fanout points 1-400

Note: 1) Point availability is dependent on configuration of NMS done using Front Panel.
2) Supervision support is applicable only if supported by Input points assigned to Element.
3) Supervision and Trouble status is a logic OR of the status of Input points assigned to Element.

Audio Mux (virtual)

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
n/a						1-100	Audio Channel 1-100

Note: Channel availability is dependent on Audio source definitions configuration done using Front Panel.

BR100

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1	Aux Input 1	✓	✓		✓	1-2	Relays 1-2
2	Microwave	✓			✓	3	Self-Test Microwave

E5000

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-8	GPIO Inputs 1-8	✓			✓	1-8	GPIO Outputs 1-8

FlexPS / FlexPS SC

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-4	Processor Relays 1-4
3-4	Side A-B	✓	✓		✓	5-6	Audio Select Side A-B
						7-8	Self-Test Side A-B

Note: Aux Input Supervision status availability dependent on Sensor configuration of inputs.

FlexZone-4

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-4	Processor Relays 1-4
3-6	Zone 1-4	✓		✓	✓	5-8	Optional Relays 1-4
7, 9, 11, 13	GSM 1-4 Module Status	✓	✓		✓		
8, 10, 12, 14	GSM 1-4 Aux Input	✓	✓		✓		
15-18	Optional Aux Input 1-4	✓	✓		✓		

Note: 1) Aux Input Supervision status availability dependent on Sensor configuration of inputs.
2) Support of GSM points requires installation of GSM receiver card as well as GSMs.
3) Support of Optional Aux Input points requires installation of Input expansion module.
4) Support of Optional Aux Relay points requires installation of Relay expansion module.

FlexZone-60

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-4	Processor Relays 1-4
3-62	Ranging Zone 1-60	✓		✓	✓	5-8	Optional Relays 1-4
63, 65, 67, 69	GSM 1-4 Module Status	✓	✓		✓		
64, 66, 68, 70	GSM 1-4 Aux Input	✓	✓		✓		
71-74	Optional Aux Input 1-4	✓	✓		✓		

Note: 1) Aux Input Supervision status availability dependent on Sensor configuration of inputs.
2) Zone availability dependent on Sensor configuration of detection cable.
3) Support of GSM points requires installation of GSM receiver card as well as GSMs.
4) Support of Optional Aux Input points requires installation of Input expansion module.
5) Support of Optional Aux Relay points requires installation of Relay expansion module.

FP400

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-6	Processor Relays 1-6
3-6	Optional Aux Input 1-4	✓	✓		✓	7-10	Optional Relays 1-4
7-10	Fiber Zone 1-4	✓	✓		✓		

Note: 1) Aux Input Supervision status availability dependent on Sensor configuration of inputs.
2) Support of Optional Aux Input points requires installation of Input expansion module.
3) Support of Optional Aux Relay points requires installation of Relay expansion module.

LM100

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-10	Aux Input 1-10	✓	✓		✓	1-10	Processor Relays 1-10
11-14	Optional Aux Input 1-4	✓	✓		✓	11-14	Optional Relays 1-4
15-64	Ranging Zone 1-50	✓	✓		✓	15-64	Zone 1-50 lights – activate at lighting level 1
65, 67, 69, 71	GSM 1-4 Module Status	✓	✓		✓	65-114	Zone 1-50 lights – activate at lighting level 2
66, 68, 70, 72	GSM 1-4 Aux Input	✓	✓		✓	115-164	Zone 1-50 lights – activate at alarm lighting level
73-122	Zone 1-50 Aux Input	✓	✓		✓	165-214	Zone 1-50 lights – force OFF (override any other lighting triggers)

Note: 1) Aux Input Supervision status availability dependent on Sensor configuration of inputs.
2) Processor Aux Input & Output availability dependent on Sensor configuration of points as inputs or outputs.
3) Support of Optional Aux Input points requires installation of Input expansion module.
4) Zone availability dependent on Sensor configuration of detection sensors (luminaires).
5) Support of GSM points requires installation of GSM receiver card as well as GSMs.
6) Support of Optional Aux Relay points requires installation of Relay expansion module.
7) Zone n Aux Input availability is head type dependent (WVS head).

MPS-4100

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Microwave 1-2	✓	✓		✓	1-2	Audio Select Microwave 1-2
						3	Self-Test Microwave 1 & 2

Note: Support of Microwave 2 dependent on paired Microwave connection to base Microwave.

OmniTrax/OmnitTrax LT

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-4	Processor Relays 1-4
3-10	Optional Aux Input 1-8	✓	✓		✓	5-12	Optional Relays 1-8
11-60	Ranging Zone 1-50	✓			✓		

Note: 1) Aux Input Supervision status availability dependent on Sensor configuration of inputs.
2) Support of Optional Aux Input points requires installation of Input expansion module.
3) Zone availability dependent on Sensor configuration of detection cable.
4) Support of Optional Aux Relay points requires installation of Relay expansion module.

rBOX510

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-8	DIO Inputs 1-8	✓			✓	1-8	DIO Outputs 1-8
1-8	GPIO Inputs 1-8	✓			✓	1-8	GpIO Outputs 1-8

UltraLink I/O

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-8	Processor Input 1-8	✓	✓		✓	1-8	Processor Relays 1-8
9-40	I/O Card 1 Inputs 1-32	✓	✓		✓	9-40	I/O Card 1 Relay 1-32
41-72	I/O Card 2 Inputs 1-32	✓	✓		✓	41-72	I/O Card 2 Relay 1-32
73-104	I/O Card 3 Inputs 1-32	✓	✓		✓	73-104	I/O Card 3 Relay 1-32
105-136	I/O Card 4 Inputs 1-32	✓	✓		✓	105-136	I/O Card 4 Relay 1-32
137-168	I/O Card 5Inputs 1-32	✓	✓		✓	137-168	I/O Card 5 Relay 1-32
169-200	I/O Card 6 Inputs 1-32	✓	✓		✓	169-200	I/O Card 6 Relay 1-32
201-232	I/O Card 7 Inputs 1-32	✓	✓		✓	201-232	I/O Card 7 Relay 1-32
233-264	I/O Card 8Inputs 1-32	✓	✓		✓	233-264	I/O Card 8 Relay 1-32

Note: 1) Aux Input Supervision status availability dependent on Sensor configuration of inputs.
2) I/O Card x Input availability dependent on the card installed at that location supporting inputs.
3) I/O Card x Relay availability dependent on the card installed at that location supporting relays or open collector outputs.

UltraWave

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1	Aux Input 1	✓	✓		✓	1-2	Processor Relays 1-2
2	Microwave	✓	✓		✓	3	Self-Test Microwave

Note: Aux Input Supervision status availability dependent on Sensor configuration of inputs.

XField / XField LT

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-4	Processor Relays 1-4
3-10	Optional Aux Input 1-8	✓	✓		✓	5-12	Optional Relays 1-8
11-12	Field Side A-B	✓			✓	13-14	Self-Test Side A-B

Note: 1) Aux Input Supervision status availability dependent on Sensor configuration of inputs.
2) Support of Optional Aux Input points requires installation of Input expansion module.
3) Support of Optional Aux Relay points requires installation of Relay expansion module.

FiberPatrol

Equipment Faults	Sensor Unit	Redundant Sensor Unit
Comm Fail/Mismatch	✓	
Comm Fault		
Critical Diag	✓	
Warning Diag	✓	
Enclosure Tamper		

Sensor Unit

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-480	Zone 1-480	✓	✓	✓	✓	n/a	

Note: 1) Zone availability dependent on Sensor configuration of detection cable.
2) The Supervision status is used to report the zone(s) containing a fiber cable cut.
3) The two Sensor Units used as the alarm source unit for a Redundant Sensor Unit do not report Intrusion alarm statuses.

Redundant Sensor Unit (virtual)

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-480	Zone 1-480	✓	✓	✓	✓	n/a	

Note: 1) Zone availability dependent on Sensor configuration of detection cable of the source Sensor Units.
2) The Intrusion Point status is generated based on the status of the two source Sensor Units.

E5000

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-8	GPIO Inputs 1-8	✓			✓	1-8	GPIO Outputs 1-8

CCC Network

Equipment Faults	InnoFence/FOST	GPRU	DTR/SPRU	Barricade/VPRU	YAEL-16
Comm Fail/Mismatch	✓	✓	✓	✓	✓
Comm Fault	✓	✓	✓	✓	✓
Critical Diag					✓
Warning Diag				✓	✓
Enclosure Tamper	✓		✓	✓	✓

Note: Comm Faults are not applicable where redundant links not installed to a sensor.

InnoFence / FOST

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓			✓	1	Self-Test
3-4	Fiber 1-2	✓	✓		✓		

GPRU

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-8	Input 1-82	✓			✓	1-9	Relays 1-9
						10	Self-Test

DTR / SPRU

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-5	Lower Taut Wire group 1-5	✓			✓	1	Self-Test
6	Upper Taut Wire group	✓			✓		

Barricade / VPRU

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-4	Sensor Line 1-4	✓			✓	1-2	Relays 1-2
						3	Self-Test

YAEL-16

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1	Fence	✓	✓		✓	1-3	TTL Output 1-3
						4	Self-Test

Crossfire Network

Equipment Faults	PLC-420	PLC-430	MPS-4100	Intelli-Flex/Fiberr	IntelliField
Comm Fail/Mismatch	✓	✓	✓	✓	✓
Comm Fault	✓	✓	✓	✓	✓
Critical Diag					
Warning Diag				✓	
Enclosure Tamper				✓	✓

Note: Comm Faults are not applicable for Star topology networks and where redundant links not installed to a sensor in a Loop topology network.

PLC-420

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description

1-16	Input Card 1
	  IO-101/102 Inputs 1-16
		✓			✓	1-16	Output Card 1
							  IO-201 Open Collector O/P 1-16
							  IO-202 Relay 1-16 (Card 1A)

17-32	Input Card 1
	  IO-101 Inputs 17-32
	  IO-102 Inputs 1-16
	  Supervision
		✓			✓	17-32	Output Card 1
							  IO-201 Open Collector O/P 17-32
							  IO-202 Relay 1-16 (Card 1B)

33-48	Input Card 2
	  IO-101/102 Inputs 1-16
		✓			✓	33-48	Output Card 1
							  IO-201 Open Collector O/P 1-16
							  IO-202 Relay 1-16 (Card 1A)

49-64	Input Card 2
	  IO-101 Inputs 17-32
	  IO-102 Inputs 1-16
	  Supervision
		✓			✓	1-16	Output Card 1
							  IO-201 Open Collector O/P 1-16
							  IO-202 Relay 1-16 (Card 1A)

Note: Support dependent on corresponding IO-10x card and IO-20x card installation.

PLC-430

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-8	Inputs 1-8	✓	✓		✓	1-8	Processor Relay 1-8

MPS-4100

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Microwave 1-2	✓	✓		✓	1-2	Audio Select Microwave 1-2
						3	Self-Test Microwave 1 & 2

Note: Support of Microwave 2 dependent on paired Microwave connection to base Microwave.

Intelli-Flex/Fiber

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-2	Processor Relays 1-2
3-4	Side A-B	✓	✓		✓	3-4	Audio Select Side A-B
						5-6	Self-Test Side A-B

Note: Support of Audio requires installation of Audio routing card.

IntelliField

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-6	Processor Relays 1-6
3-4	Side A-B	✓	✓		✓	7-8	Self-Test Side A-B

Sennet Network

Equipment Faults	TU	LTU	Perimitrax/SM	Intelli-Flex/Fiber	Network Controller
Comm Fail/Mismatch	✓	✓	✓	✓	✓
Comm Fault	✓	✓	✓	✓	✓
Critical Diag	✓	✓	✓		✓
Warning Diag	✓		✓	✓	✓
Enclosure Tamper	✓	✓	✓	✓	✓

Note: Comm Faults are not applicable where redundant links not installed to a sensor.

TU

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-16	Input 1-16	✓	✓		✓	1-8	Relays 1-8

LTU

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-64	Card 1 Input 1-64	✓	✓		✓	1-64	Card 1 Output 1-64
65-128	Card 2Input 1-64	✓	✓		✓	65-128	Card 2 Output 1-64
129-192	Card 3 Input 1-64	✓	✓		✓	129-192	Card 3 Output 1-64
192-256	Card 4 Input 1-64	✓	✓		✓	192-256	Card 4 Output 1-64

Note: 1) Input Supervision status availability dependent on Sensor configuration of inputs.
2) Card x Output availability dependent on the card installed at that location supporting 32/64 relays or 64 open collector outputs.

Perimitrax / SM

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-8	Aux Input 1-8	✓	✓		✓	1-4	Relays 1-4
9-10	Side A/B	✓			✓	5-6	Self-Test Side A/B

Note: 1) Input Supervision status availability dependent on Sensor configuration of inputs.

Intelli-Flex/Fiber

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-2	Aux Input 1-2	✓	✓		✓	1-2	Processor Relays 1-2
3-4	Side A-B	✓	✓		✓	3-4	Audio Select Side A-B
						5-6	Self-Test Side A-B

Note: 1) Support of Audio requires installation of Audio routing card.

Network Controller

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
n/a						n/a	

Starcom

Equipment Faults	Device Controller
Comm Fail/Mismatch	✓
Comm Fault	
Critical Diag	✓
Warning Diag	✓
Enclosure Tamper	

Device Controller

Intrusion Points	Description	Alarm	Supervision	Pre-Alarm	Trouble	Control Points	Description
1-1024	Input 1-1024	✓	✓		✓	1-1024	Outputs 1-1024

Note: 1) Point availability is dependent on configuration of NMS done using Front Panel.
2) Alarm & Supervision status is applicable only if supported by source data stream.