



INSTALLATION GUIDE FOR THE E-S420MA-24V



INTRODUCTION

The NTI E-S420MA-24V Sensor Converter monitors 4-20mA sensors (up to two) when connected to an E-16D, E-5D or E-2D (SYSTEM). The 4-20mA sensors can be any ISA Type 2, ISA Type 3, and ISA Type 4 sensor. When connected to a SYSTEM via 18-24AWG CAT5/5e/6 cable (up to 500 feet away), the 4-20mA sensors can be monitored and the SYSTEM can be configured to alert users as to variations in the current levels.

Features:

- External RJ45 device monitors up to two 4-20mA sensors
- Supports ISA Type 2, ISA Type 3, and ISA Type 4 sensors
- Provides 24VDC, 25mA for each sensor
- 8-position screw-terminal connection
- Supports CAT5/5e/6 cable up to 500ft
- Includes Mounting Ears
- RoHS certified

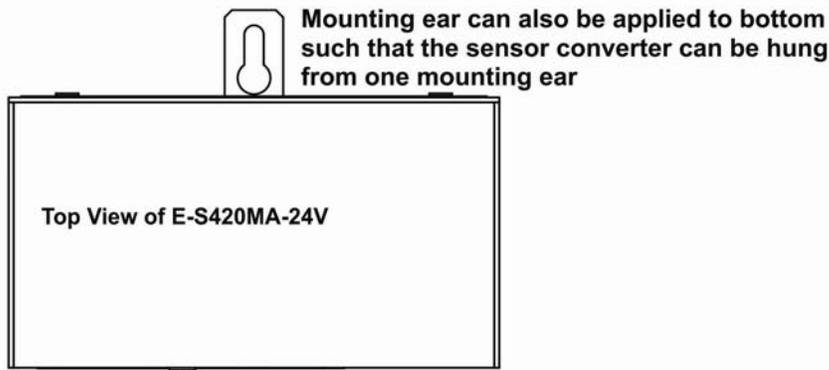
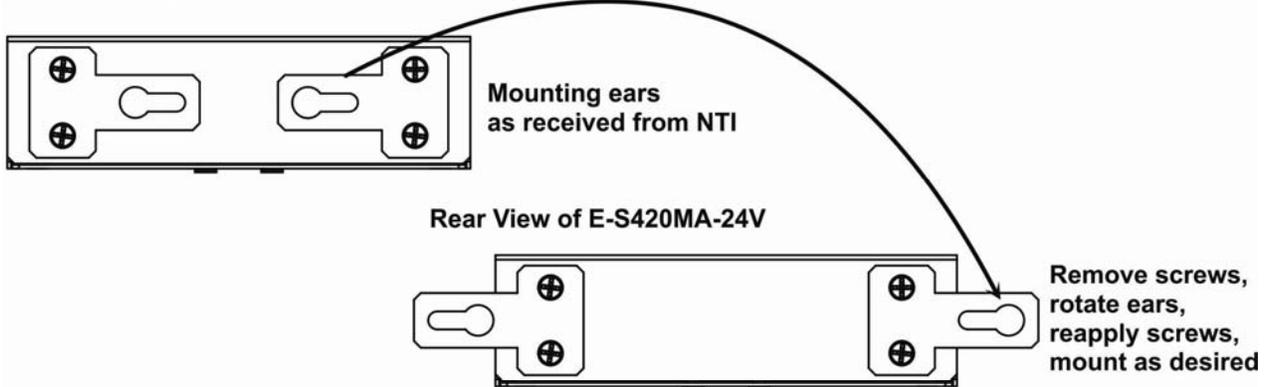
MATERIALS SUPPLIED

- E-S420MA-24V Sensor Converter
- 1K Ohm Resistor (for use with ISA Type 4 Sensors)

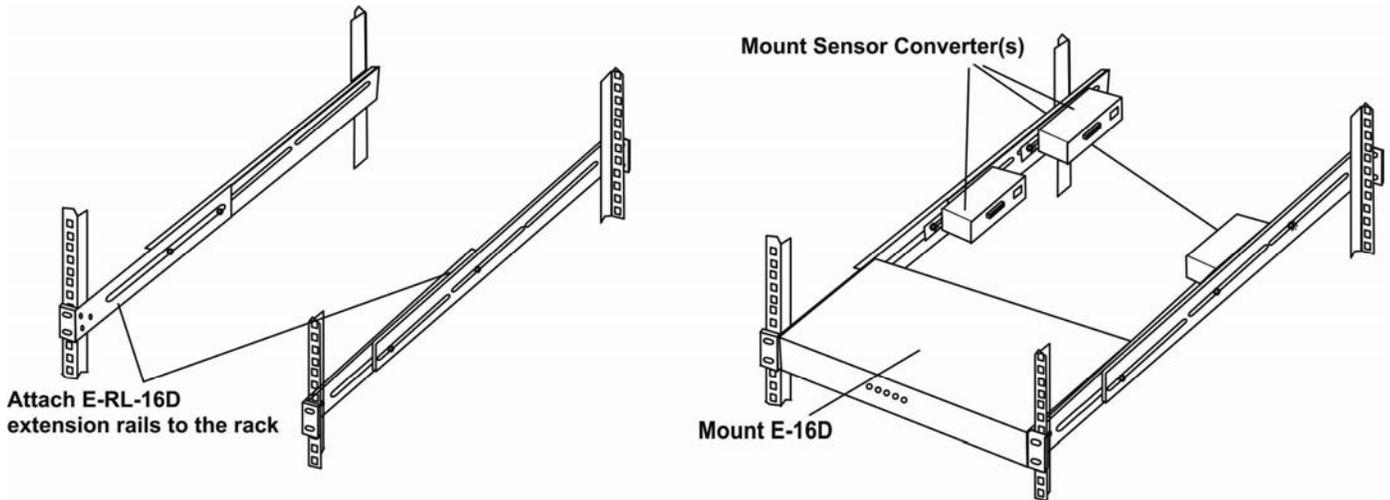
INSTALLATION

Mount the E-S420MA-24V using the mounting ears provided. To use the ears, remove the screws securing the ears to the rear of the E-S420MA-24V, turn the ears around, and reapply the screws. Alternatively, secure one ear to holes on the bottom of the unit so that it can be hung as shown in the image below.

Rear View of E-S420MA-24V



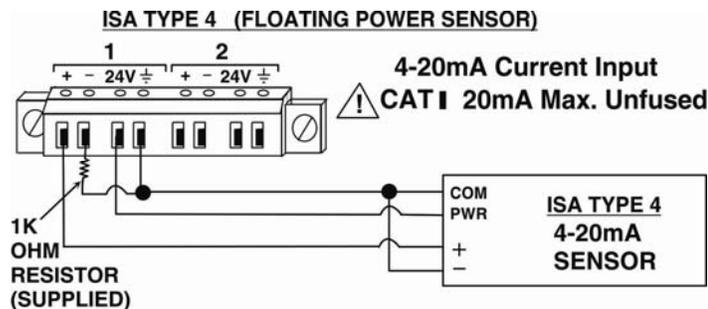
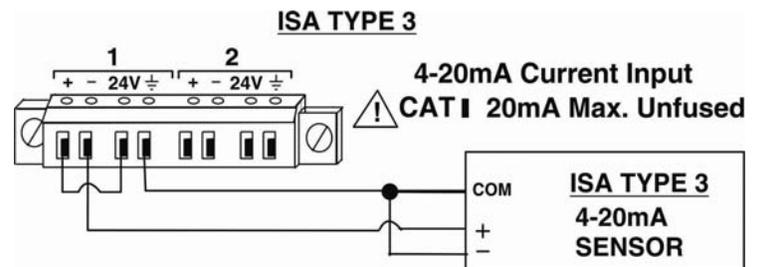
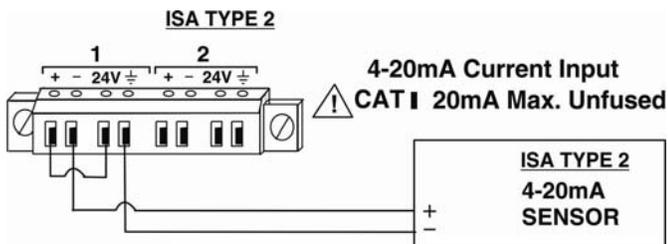
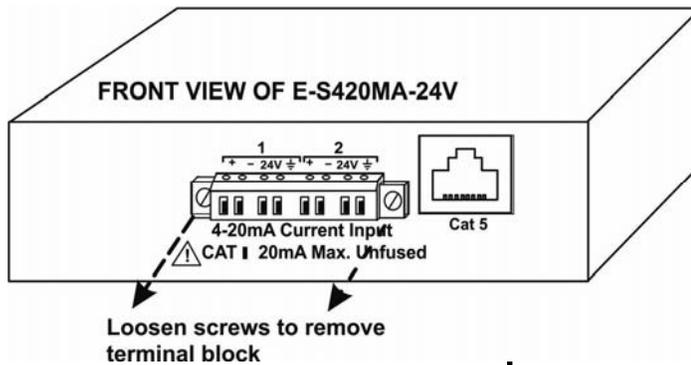
To mount multiple Sensor Converters in close proximity to the SYSTEM, install an extension rail kit (NTI E-RL-16D - sold separately) and mount Sensor Converters as seen in the illustration below.



CONNECTION

1. Connect a 4-20mA sensor to the “+ , - , 24V, and \perp (earth ground)” connections of either group 1 or group 2 (as shown below) on the removable terminal block. Connection methods for ISA Type 2, ISA Type 3, and ISA Type 4 are shown below.

Note: The wire connection terminal block is easily removed from the Sensor Converter for more convenient wire termination.

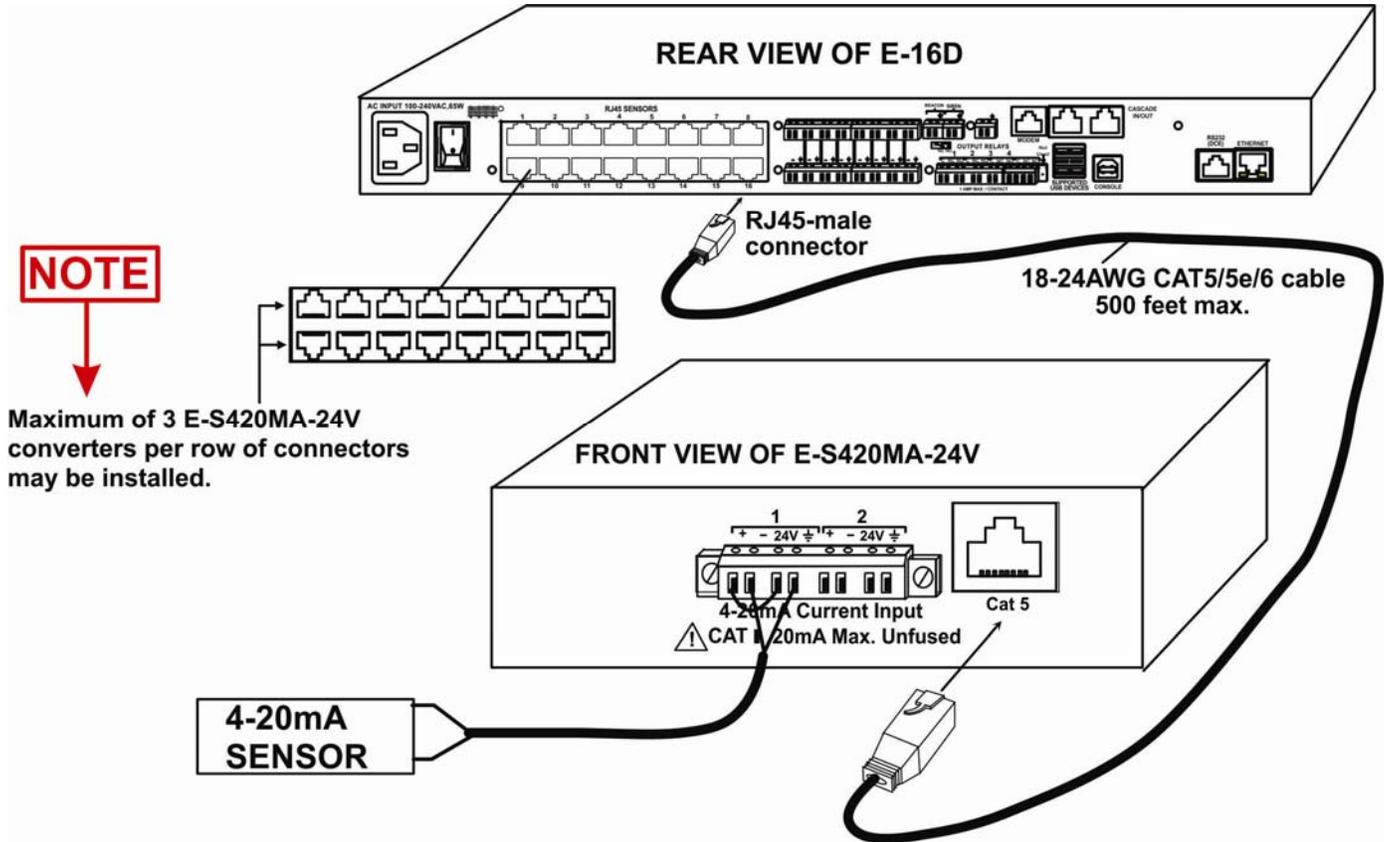


2. Connect a CAT5/5e/6 patch cable (up to 500 feet long) between the "Cat 5" port on the Sensor Converter and an "RJ45 Sensor" port on the SYSTEM. The CATx cable should be 18-24AWG in order to work at the maximum distance.

Note: Each row of RJ45 Sensor connectors (1-8 and 9-16) is rated for a combined load of 500mA. Each E-S420mA-24V uses 130mA @ 12VDC. When applying sensors, be sure that the total load on each row does not exceed 500mA or failure of the SYSTEM may result.

Note: If you apply 3 E-S420MA-24V to each row, you will not be able to use many of the remaining sensor ports due to lack of remaining capacity.

Up to 3 E-S420MA-24V can be connected to an E-5D, and up to 2 can be connected to an E-2D.



CONFIGURATION

When an E-S420MA-24V Current Sensor is connected to the SYSTEM, the summary page will update with two sensor names of the Type "Current". Various types of sensors can be connected to an E-S420MA-24V. In order to better define the sensor on the Summary Page, in SNMP traps, or in an MIB browser, click on the "Edit" link to open the sensor configuration page and configure the sensor. In the image below, an RTD Temperature sensor has been connected to the Current Sensor plugged into RJ45 port 10 and configured to be used.

Sensors					
Conn.	Description	Type	Value	Status	Action
1	Temperature 1	Temperature Combo	83.2°F	Normal	View Edit Delete
1	Humidity 1	Humidity Combo	40%	Normal	View Edit Delete
1	Dew Point Sensor 1	Dew Point	56.5°F	Normal	View Edit Delete
2	Light Sensor 2	Light	78.7lx	Normal	View Edit Delete
3	Temperature 3	Temperature	81.4°F	Normal	View Edit Delete
4	Humidity 4	Humidity	39%	Normal	View Edit Delete
5	Temperature 5	Temperature Combo	27.8°C	Normal	View Edit Delete
5	Humidity 5	Humidity Combo	40%	Normal	View Edit Delete
6	ACLMV 6 Main	ACLM-V AC Voltage	116.7V	Normal	View Edit Delete
6	ACLMV 6 UPS	ACLM-V AC Voltage	118.5V	Normal	View Edit Delete
7	S60VDC 7-1	Voltage	12.2V	Normal	View Edit Delete
7	S60VDC 7-2	Voltage	0.1V	Normal	View Edit Delete
9	ACLM-P Power 9	ACLM-P Power	Out of range	Acknowledged	View Edit Delete
9	ACLM-P Voltage 9	ACLM-P AC Voltage	117.9V	Normal	View Edit Delete
10	RTD Sensor 10	Temperature	78.1F	Normal	View Edit Delete
10	Sensor 10-2	Current	0.0mA	Normal	View Edit Delete
15	Key Pad 15	Keypad	Open	Normal	View Edit Delete
16	Motion Detector 16	Motion Detector	Closed	Normal	View Edit Delete

An RTD sensor is connected to one input on the current sensor, the second input has not been configured.

Select "Edit" to configure

RTD Sensor 10 Configuration (Type: Temperature)

Sensor Settings

Description
Descriptive name for the sensor

Group
Select which group the sensor belongs to

Min. Level
Min. supported value for the sensor

Max. Level
Max. supported value for the sensor

Associate Sensor
Associate sensor to a customized sensor type

Associated Sensor Type
Type of the associated sensor

Associated Sensor Unit
Measurement unit for the associated sensor

SNMP Associated Type ID
ID value for SNMP type of associated sensor

Min. Associated Level
Sensor expected value corresponding to 4mA

Max. Associated Level
Sensor expected value corresponding to 20mA

Min. Non-Critical Threshold
Min. threshold below which indicates a non-critical alert condition

Max. Non-Critical Threshold
Max. threshold above which indicates a non-critical alert condition

Min. Critical Threshold
Min. threshold below which indicates an alert condition

Max. Critical Threshold
Max. threshold above which indicates an alert condition

Refresh Rate
The refresh rate at which the sensor view is updated

Non-Critical Alert Settings

Critical Alert Settings

Data Logging

Temperature range of the sensor-
-10°F to 250°F

Configuration of sensor connected to E-S420MA-24V

Most of the sensor settings are the same as any other sensor configuration (see your SYSTEM manual for details) but there are some differences:

Sensor Settings	Description
Associate Sensor	Select if the Type "Current" should be replaced by the sensor type to be entered in the next box
Associated Sensor Type	Enter the "Type" of sensor that should be displayed on the summary page and in all alert communications received regarding this sensor
Associated Sensor Unit	Enter between 1 and 3 alphabetical characters. These characters will be used by the ENVIROMUX to represent the unit of measure reported by the attached sensor. Leaving it empty will result in an empty string in the reported data.
SNMP Associated Type ID	Enter ID value from MIB file if SNMP traps will be used for alert notifications for this sensor (for more on this, see "SNMP Custom Type ID" below)
Min. Associated Level	The minimum range of the units to be associated with the current reading measured from the attached sensor.
Max. Associated Level	The maximum range of the units to be associated with the current reading measured from the attached sensor.

SNMP Custom Type ID: Use this field if SNMP traps will be used for alert notifications. The Type ID corresponds with a value defined in the MIB file under "extSensorType" (default value is 32767 for type "Custom"). Place the desired number in this box that represents the type of sensor to be reported in the MIB browser or SNMP trap.

To define a new type of sensor;

1. open the MIB file,
2. locate the section titled "extSensorType",
3. assign a description and a number not already in use (in the "SYNTAX" field) to associate with it ,
4. enter the number for the newly defined extSensorType in the SNMP Custom Type ID box.

If the Type ID is left blank, the value "0" will be assigned, which will be reported in the browser and SNMP trap as type "undefined".

TROUBLESHOOTING

Problem	Solution
Message "OUT OF RANGE" appears in sensor status page	Wires to sensor are not connected to terminal block.

TECHNICAL SPECIFICATIONS

Description	Specification
Measurement Range	4-20mA
Measurement Accuracy	± 0.5% of full scale
Resolution	± 15 uA
Power	130mA @ 12V 10mA @ 5V (Powered by the SYSTEM)
Size (In.) W x D x H	4.15x2.3x1.2

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The warranty period on this product (parts and labor) is two (2) years from date of purchase. Please contact Network Technologies Inc at (800) 742-8324 or 330-562-7070 for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.