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Tel: +1-800-832-3873
E-mail: techline@littelfuse.com
www.littelfuse.com/SE-330

SE-330 SERIES (NEW REVISION) ETHERNET/IP INTERFACE

Revision 3-E-121117

Document Number: PM-1201-EN

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DISCLAIMER

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1. GENERAL

This document describes the EtherNet/IP features supported by the new revision SE-330, SE-330AU, and SE-330HV. Unless otherwise indicated, "SE-330" refers to all three monitor series in general. The SE-330 supports Explicit and Polled I/O messaging as defined by the ODVA EtherNet/IP Specification.

SE-330 ordering options 3, 4, and 5 include dual Ethernet ports with support for fiber-optic or RJ45 interfaces. See Figs. 1, 2, and 3.

There are some operational differences between the original SE-330 EtherNet/IP interface and the SE-330 EtherNet/IP (new revision). The operational differences are as follows:

- The device IP address is now set using SE-MON330
- Only one Input and one Output assembly is supported
- Assembly Class 4, Instance 101 and 102 is no longer supported
- Assembly Class 4, Instance 150 (Output) is identical except the "Clear Event Records" bit has been removed

2. SE-330 ETHERNET/IP INTERFACE

2.1 SE-330 NETWORK SETTINGS

The IP address, subnet mask, and gateway are configured using SE-MON330.

NOTE: EtherNet/IP is currently supported only on Port 1. The second port is available for using Modbus/TCP. Ensure that each port is configured with a unique IP address even if not used.

2.2 RSLOGIX5000 SETUP

Add a Generic EtherNet/IP Module as a New Module to the PLC. The Comm Format for the SE-330 is DATA-SINT. The Input Assembly is instance 100 with a size of 6, and the Output Assembly is instance 150 with a size of 1.

2.3 LED INDICATION

Two LED's on the top panel of the SE-330 indicate the network status of each port. The NS LED is OFF when EtherNet/IP is initializing. The NS LED flashes green after EtherNet/IP is initialized and is steady green when a connection is established. The NS LED flashes red when an I/O connection has timed out.

NOTE: On loss of an I/O connection, the NS LED remains flashing red until a new connection is established.

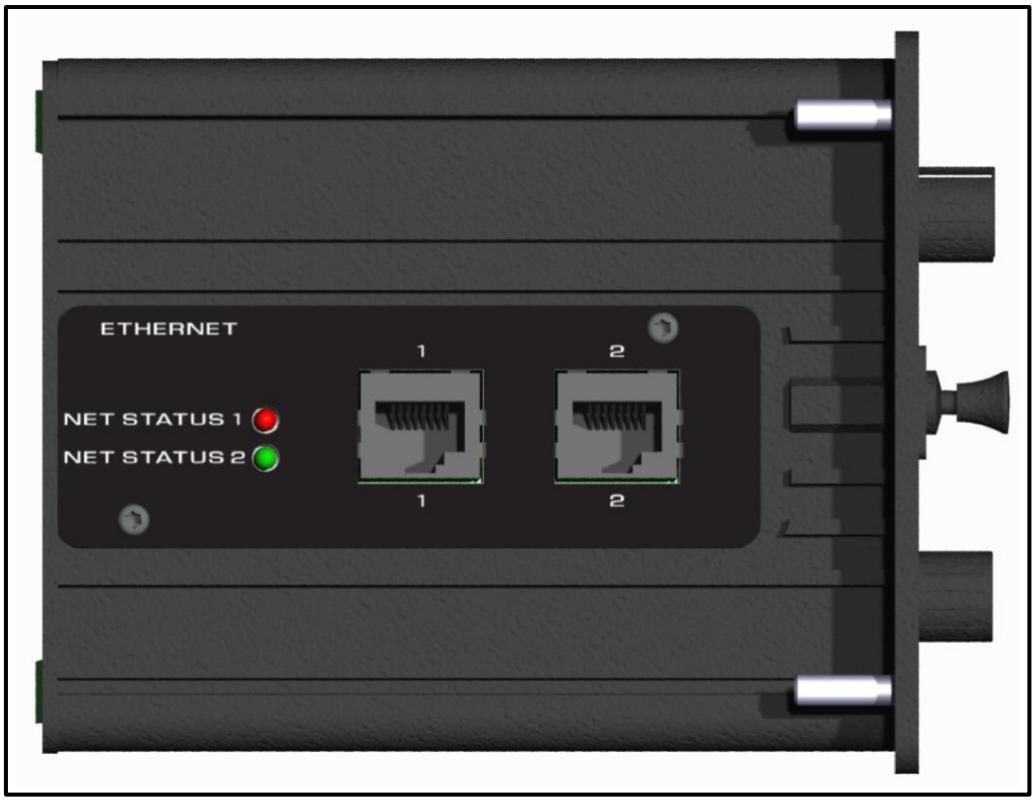

FIGURE 1. Top View of SE-330 (SE-330-X3-XX) with Dual RJ-45 Ethernet Network Communications.

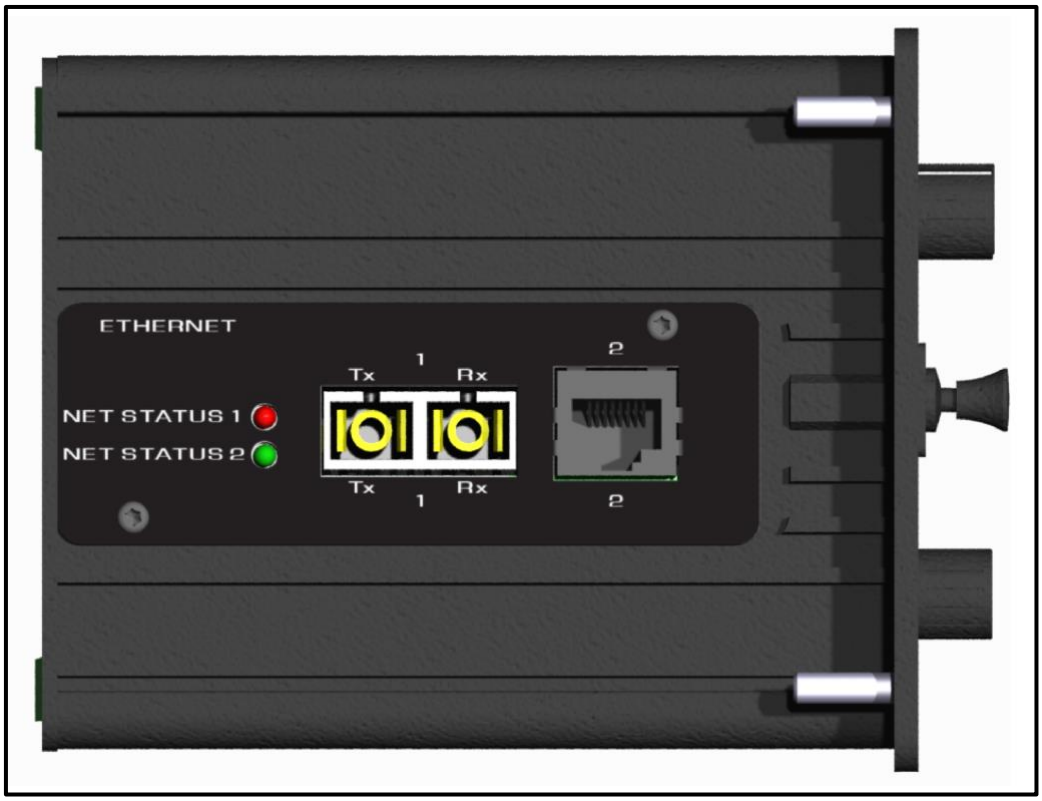

FIGURE 2. Top View of SE-330 (SE-330-X4-XX) with Single Fiber SC and Single RJ-45 Ethernet Network Communications.

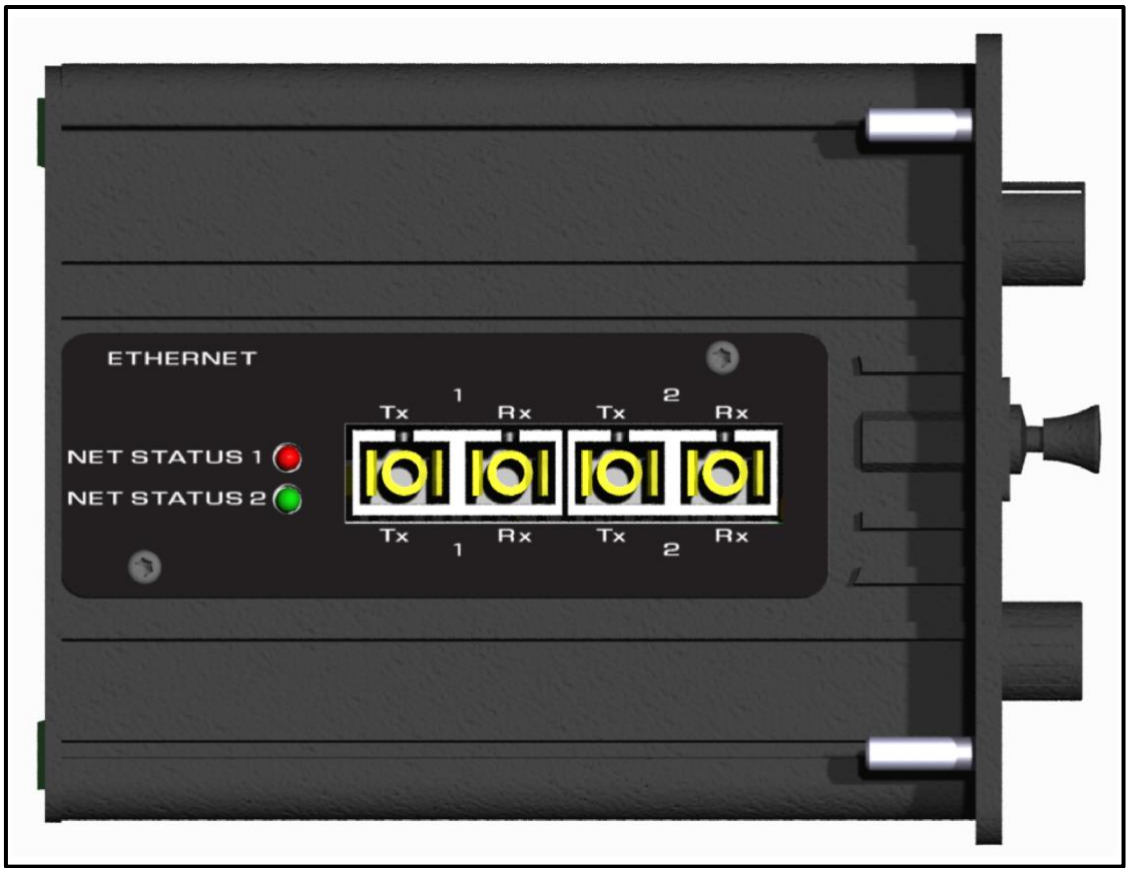

FIGURE 3. Top View of SE-330 (SE-330-X5-XX) with Dual Fiber SC Ethernet Network Communications.

3. ETHERNET/IP OBJECTS

The module supports the following objects:

TABLE 1. ETHERNET/IP OBJECTS

CLASS	DESCRIPTION
0x01	Identity
0x04	Assembly

3.1 IDENTITY OBJECT

Identity Object Class Services

Get_Attribute_Single: Returns contents of specified attribute.

Identity Class 1, Instance 0 Attributes

ATTRIBUTE NUMBER	ATTRIBUTE NAME	SERVICES	DESCRIPTION	DEFAULT, MINIMUM, MAXIMUM	DATA TYPE
1	Revision	Get	Revision of this object.	1	UINT
2	Max Instance	Get	Maximum number of instances.	1	UINT

Identity Object Instance Services

Get_Attribute_Single: Returns contents of specified attribute.
Set_Attribute_Single: Modify the specified attribute.
Reset: Performs reset services based on the parameter.

Identity Class 1, Instance 1 Attributes

ATTRIBUTE NUMBER	ATTRIBUTE NAME	SERVICES	DESCRIPTION	DEFAULT, MINIMUM, MAXIMUM	DATA	SE-330 REGISTER
1	Vendor ID	Get	Identification of each vendor by number.	691	UINT	
2	Device Type	Get	Generic	43	UINT	
3	Product Code	Get	SE-330 Platform	SE-330 – 301 SE-330AU – 3301 SE-330HV – 3302	UINT	0
4	Revision	Get	Major revision must match the eds value (Major.Minor).		A2 02 C6 C6	
5	Status	Get	Summary Status of the device.	0, 0, 255	WORD	
6	Serial Number	Get	Serial number of SE-330.	N/A, 0, 999999999	UDINT	2/3
7	Product Name	Get	Human readable identification.	"Littelfuse SE-330"	SHORT_ STRING	

3.2 ASSEMBLY OBJECT

Assembly Class (4), Instance (0) Attributes

ATTRIBUTE NUMBER	ATTRIBUTE NAME	SERVICES	DESCRIPTION	DEFAULT, MINIMUM, MAXIMUM	DATA TYPE
1 0x01	Revision	Get_Attibute_Single	Revision of this object.	1, 1, 1	UINT

3.2.1 INPUT ASSEMBLY

Assembly Class (4), Instance (100), Attribute (3) – Input 1 (6 Words)

WORD	BIT9	BIT8	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0	0	Hardware Trip	Remote Trip	Internal Error	EEPROM Error	NER/NGR Volts	ADC Error	CAL Error	RF Trip	EF/GF Trip
1	Flash Upgrade Error	SD Card Error	CT Latch	CT Error	EEPROM Error	NER/NGR Detect	ADC Detect	CAL Detect	RF Detect	EF/GF Detect
2	Diagnostic State(1)									
3	NER/NGR Current (% of CT Rating)									
4	NER/NGR Voltage (% of Setting)									
5	Delta Ohms (Ohms)									

* Bits 10 – 15 are zero.

(1) Diagnostic state:
0 = None
1 = Calibration
2 = Remote Trip
3 = CT Latch Error
4 = ADC Error
5 = SD Card Error
6 = Watchdog Trip
7 = Hardware Error
8 = NVRAM Error
9 = Flash Upgrade Error
10= USB Error

3.2.2 OUTPUT ASSEMBLY

Assembly Class (4), Instance (150), Attribute (3) – Output 1 (1 Word or 2 Bytes)

WORD	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0	0	0	0	0	0	Remote Calibration	Remote Trip	Fault Reset

4. SPECIFICATIONS

Protocol .....EtherNet/IP
Ports.....2, EtherNet/IP on port 1 only
IP Addresses .....1 per port
  Port 1 Default.....192.168.1.100
  Port 2 Default.....192.168.2.100
Number of Connections.....8 total
Connectors .....Copper and/or fiber, refer to Figs. 1, 2, and 3 and ordering information in the product manual

Copper:
  Connector.....RJ45
  Cable.....CAT5

  Length.....100 m (328')
  Interface.....10BASE-T, 100BASE-Tx

Fiber:
  Connector.....SC
  Cable.....SC Multimode
  Length.....2,000 m (6,561') per segment
  Interface.....100BASE-Fx
  Center Wavelength.....1300 nm
  Operating Wavelength.....1270 to 1380 nm

APPENDIX A
SE-330 SERIES (NEW REVISION) ETHERNET/IP INTERFACE REVISION HISTORY

MANUAL RELEASE DATE	MANUAL REVISION
December 11, 2017	3-E-121117
June 25, 2015	3-D-062515
July 17, 2014	3-C-071714
February 3, 2014	3-B-020314
November 29, 2013	3-A-112913

MANUAL REVISION HISTORY

REVISION 3-E-121117

SECTION 2

Note updated.

SECTION 4

Specifications updated.

REVISION 3-D-062515

SECTION 4

IP Addresses updated.

REVISION 3-C-071714

Remote calibration feature added.

SECTION 2

Input assembly instance 100 size changed to 6.

SECTION 3

Input and Output assembly sections added.

REVISION 3-B-020314

SECTION 2

Figs. 1, 2, and 3 added.

SECTION 4

Specifications added.

REVISION 3-A-112913

Initial release.