

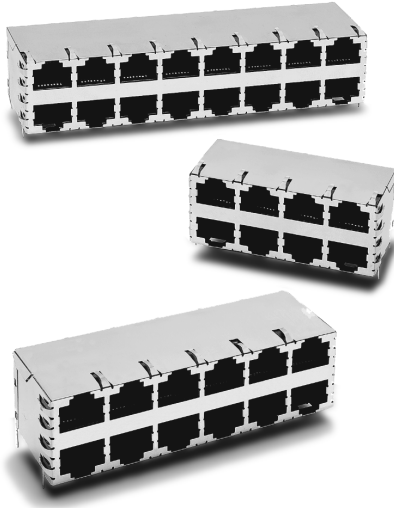
# PULSEJACK™

## 2XN RJ45 Connector

### Description:

10/100 Base-TX RJ45 2XN Tab-UP with or without LEDs (J2 series) integrated magnetics connector (ICM), designed to support applications, such as Hub and Switches and Power over Ethernet enabled switch/hub systems.

### Features and Benefits:



- Ⓢ RoHS peak wave solder temperature rating 260°C
- Ⓢ 2XN RJ45 with internal magnetics
- Ⓢ Available with or without LEDs
- Ⓢ **Power over Ethernet (PoE) Enabled. Compatible to IEEE 802.3af standard**
- Ⓢ Suitable for CAT 5 & 6 Fast Ethernet Cable or better UTP
- Ⓢ Internal magnetics are 100% electrically tested for HI-POT and functionality

### Electrical Performance Summary:

- Ⓢ Internal magnetics options available
- Ⓢ **Meets or exceeds IEEE 802.3i/u/af standard**
- Ⓢ 350µH minimum OCL with 8mA bias current
- Ⓢ High performance for maximum EMI suppression
- Ⓢ **Minimum 1500 Vrms isolation per IEEE 802.3i/u/af requirement**

### Electrical Specifications @ 25°C — Operating Temperature 0°C to +70°C

RoHS Compliant	No. of Ports	Turns <sup>2</sup> Ratios		LEDs <sup>3</sup>	PoE <sup>4</sup> Enabled	Insertion Loss (dB TYP)	Return Loss (dB TYP) 100Ω ±15Ω					Crosstalk (dB TYP)			Common Mode Rejection (dB TYP)	
		TX	RX				L/R	1-65 MHz	1-10 MHz	10-30 MHz	30-60 MHz	60-80 MHz	1-30 MHz	30-60 MHz	60-100 MHz	1-50 MHz
J2039H3 (A,B,C)NL	8,12,16	1CT:1CT	1CT:1CT	None	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	
J2042H3 (A,B,C)NL	8,12,16	1CT:1CT	1CT:1CT	None	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	
J2045H3 (A,B,C)NL	8,12,16	1CT:1CT	1CT:1CT	None	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	
J20-0013NL	4	1CT:1CT	1CT:1CT	G/Y, G/Y	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	
J20-0014NL	8	1CT:1CT	1CT:1CT	G/Y, G/Y	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	
J20-0015NL	12	1CT:1CT	1CT:1CT	G/Y, G/Y	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	
J20-0016NL	16	1CT:1CT	1CT:1CT	G/Y, G/Y	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	
J20-0017NL	8	1CT:1CT	1CT:1CT	None	Yes	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	
J20-0019NL	12	1CT:1CT	1CT:1CT	None	Yes	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20	

#### Notes:

1. Part numbers code (A,B,C, D): A = 2x4, B = 2x6, C = 2x8, D = 2x2
2. Both transmit and receive channels meet IEEE 802.3 specifications.
3. Bi-color LEDs: G = green; Y = yellow for each port
4. PoE = Power over Ethernet Compatible product, compliant to IEEE 802.3af standard, providing minimum 1.5Kv isolation
5. Contact Pulse for PoE enabled product with LEDs.

### RJ45 Durability Testing Rating

Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability	Plug to Jack Retention (MIN)
J2 Series	5lbs./2.268kgs.	5lbs./2.268kgs.	750 Insertions	20lbs./9.072kgs.

### RJ45 Material Specification

Part Number	Shield		Contact			Housing	
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification
J2 Series	Brass	10-20m inches Nickel over 10-20m inches Brass	Phosphor Bronze	Nickel underplating and selective gold plating 30µ inches	Tin matte finish	Thermoplastic	UL 94 V-0

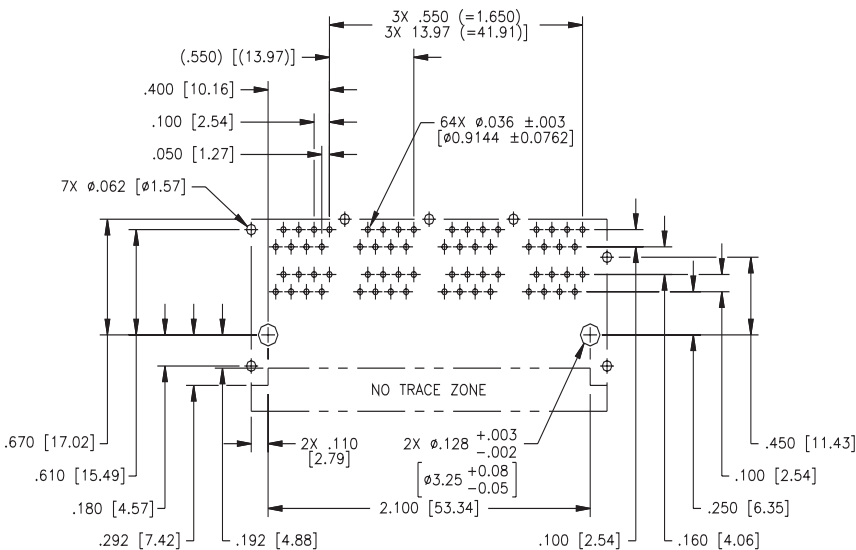
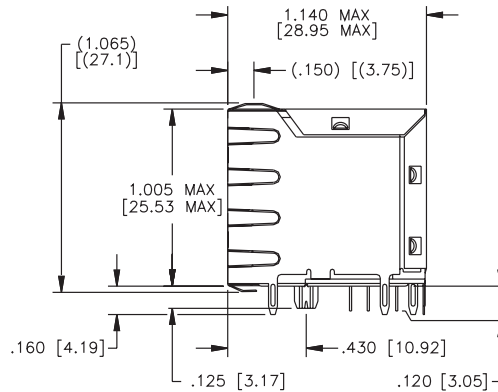
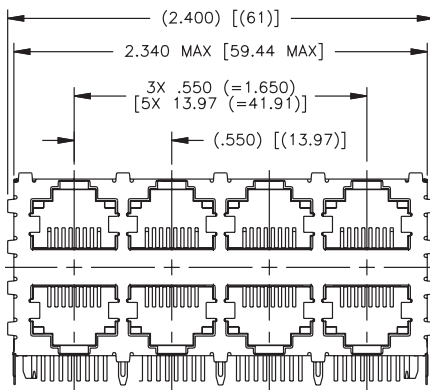
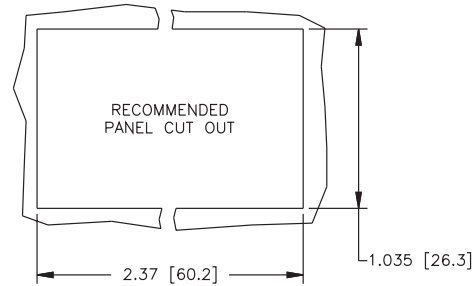
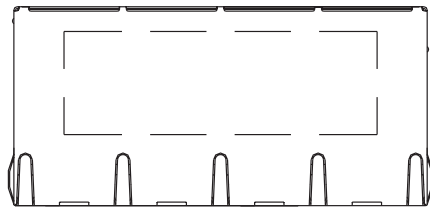
Notes: 1. All connector part numbers starting with the series prefix J2 comply to the above limits. 2. Connector dimensions comply with FCC dimension requirements.

USA 858 674 8100 • Germany 49 7032 7806 0 • Singapore 65 6287 8998 • Shanghai 86 21 62787060 • China 86 755 33966678 • Taiwan 886 3 4643715

# PULSEJACK™ 2XN RJ45 Connector

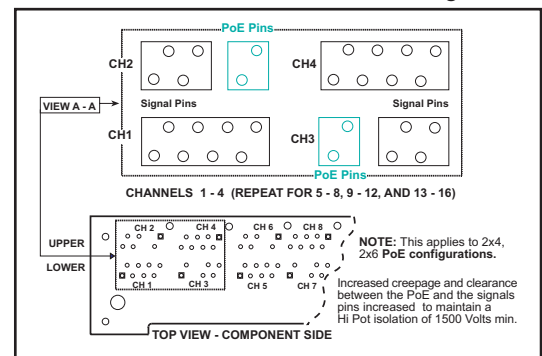
## J2 Series (No LEDs) Mechanicals (available PoE Enabled)

2 X 4



SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE  
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ±.002

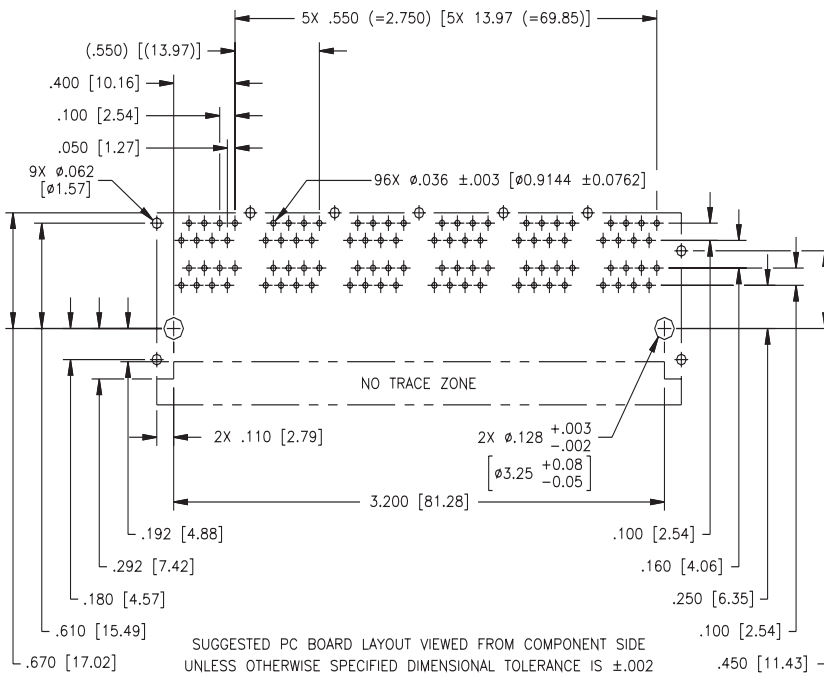
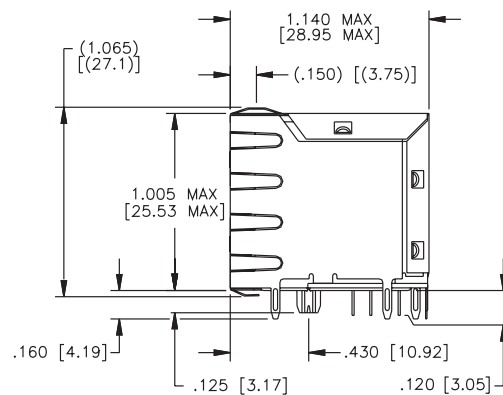
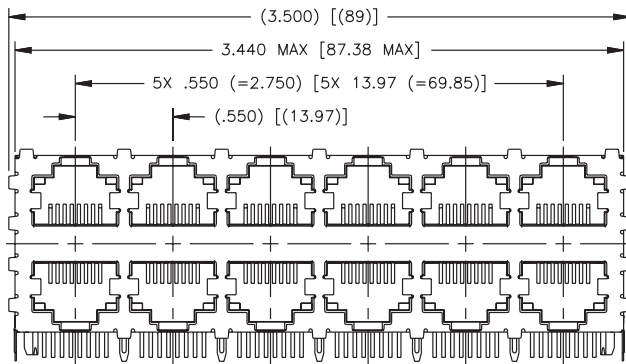
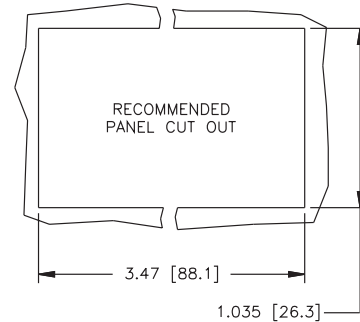
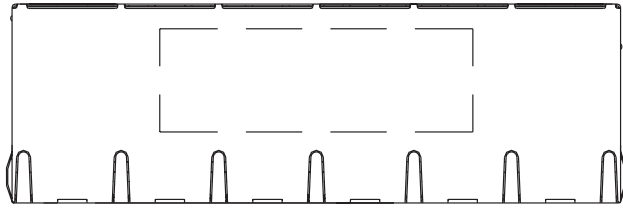
### PoE Enabled Connector Pin Out Assignment



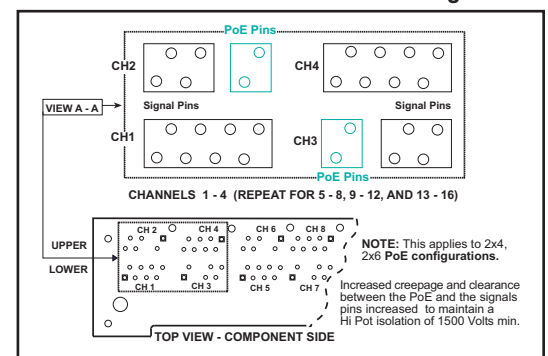
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0,25}$

### J2 Series (No LEDs) Mechanicals (available PoE Enabled)

**2 X 6**



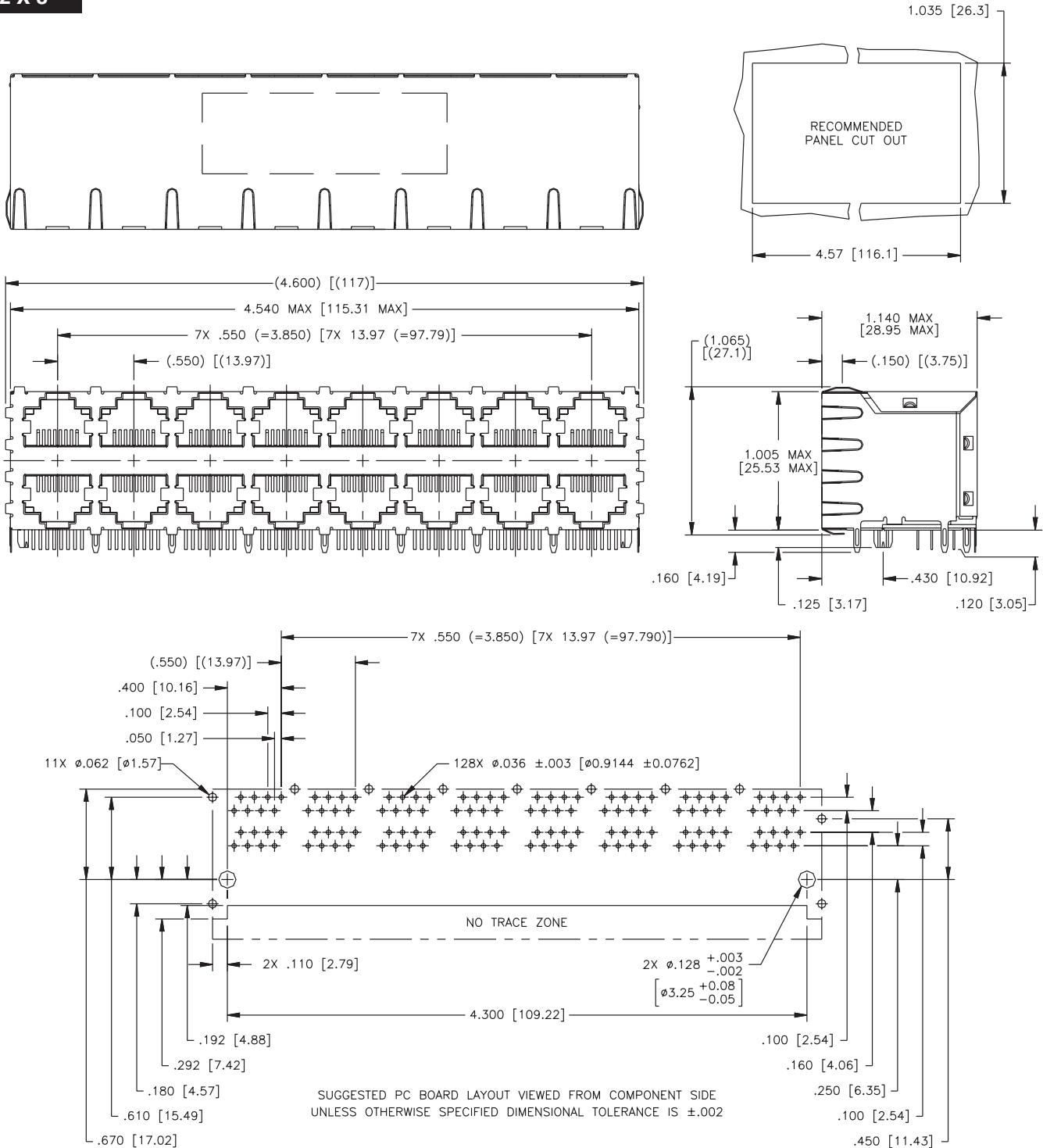
### PoE Enabled Connector Pin Out Assignment



Dimensions: Inches  
mm  
Unless otherwise specified,  
all tolerances are  $\pm$  .010  
0,25

### J2 Series (No LEDs) Mechanicals (not PoE Enabled)

2 X 8

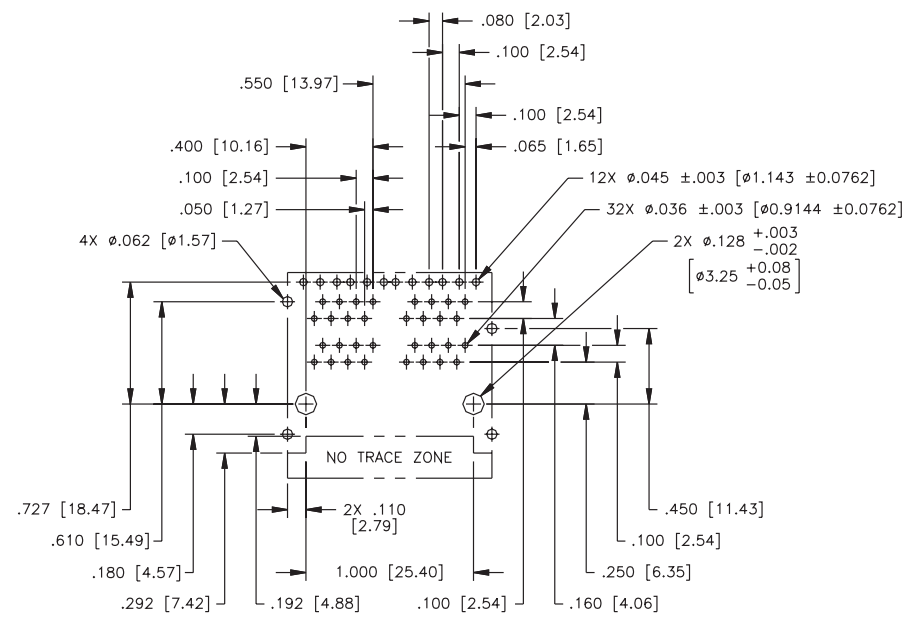
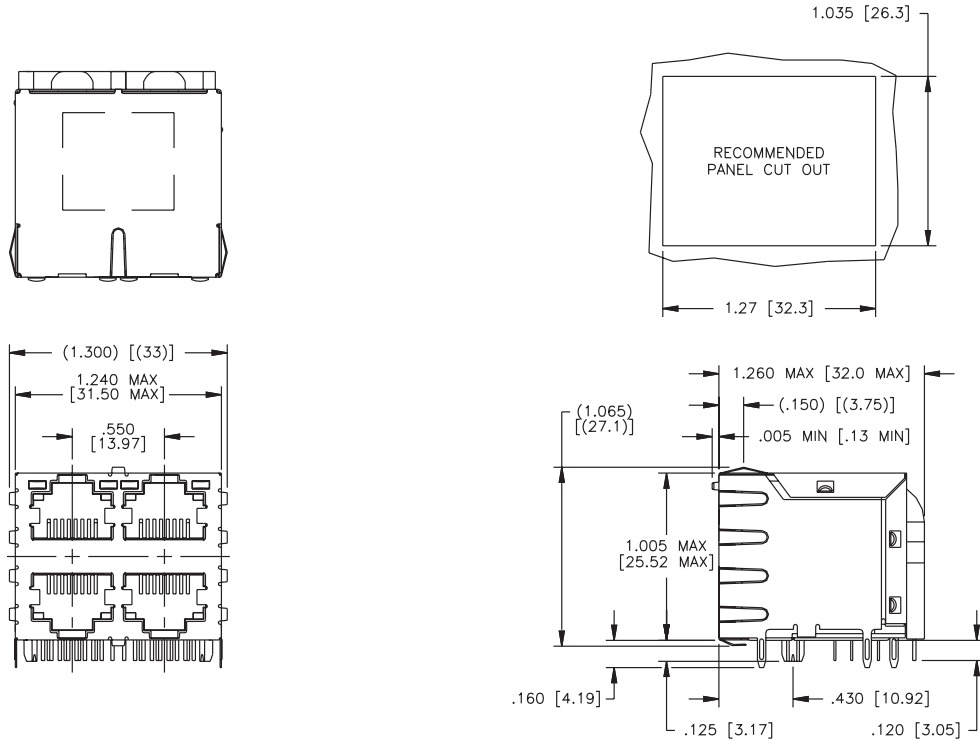


Dimensions: Inches  
mm

Unless otherwise specified, all tolerances are ±  $\frac{.010}{0,25}$

### J2 Series (With LEDs) Mechanicals (not PoE Enabled)

**2 X 2**

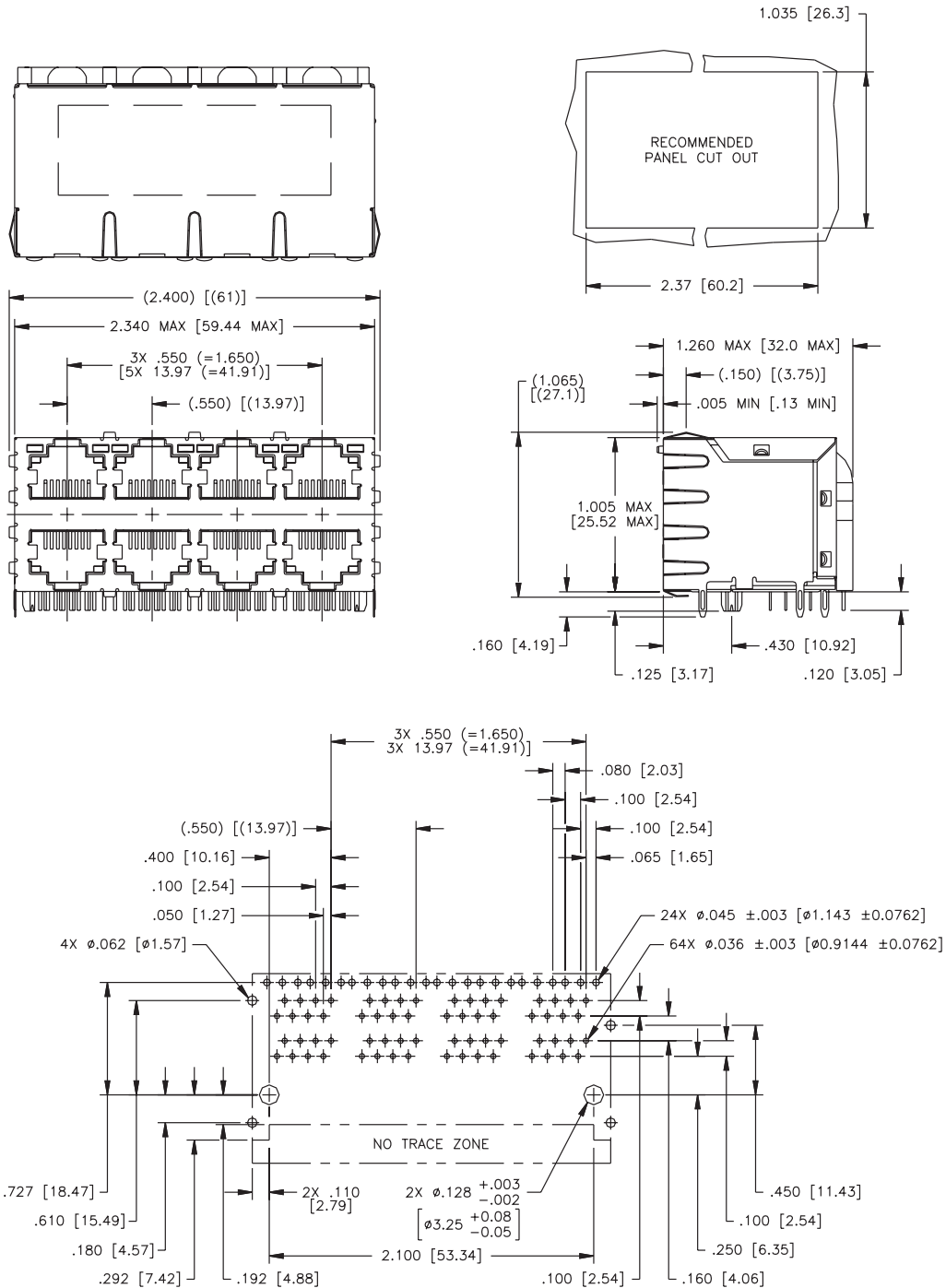


SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE  
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS  $\pm 0.02$

**Dimensions:** Inches  
mm  
Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0,25}$

### J2 Series (With LEDs) Mechanicals (not PoE Enabled)

2 X 4

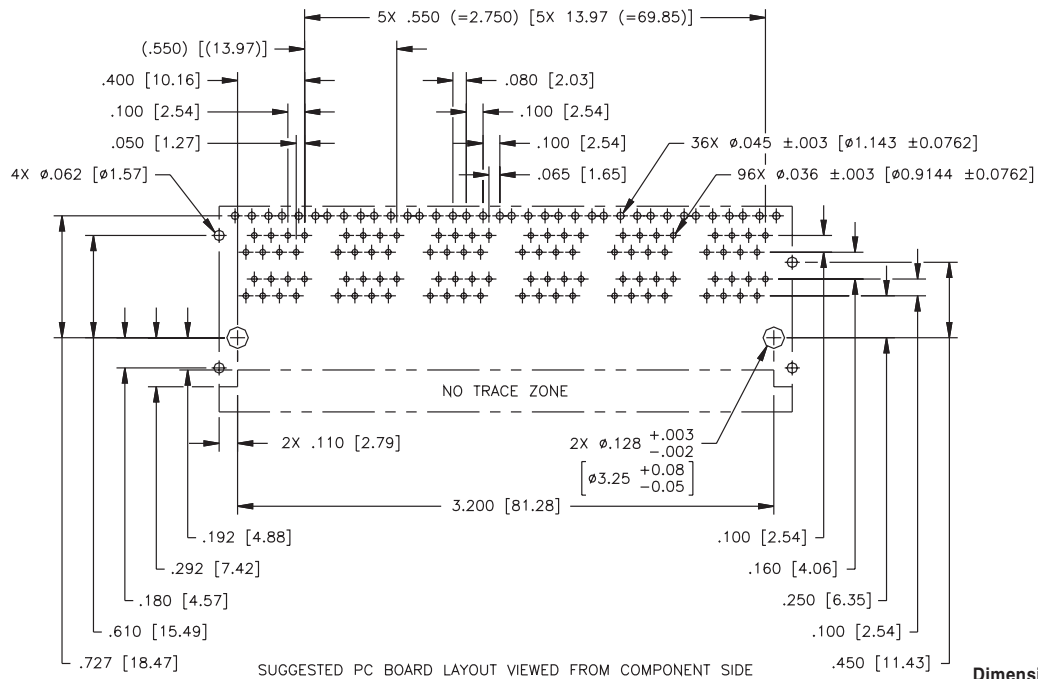
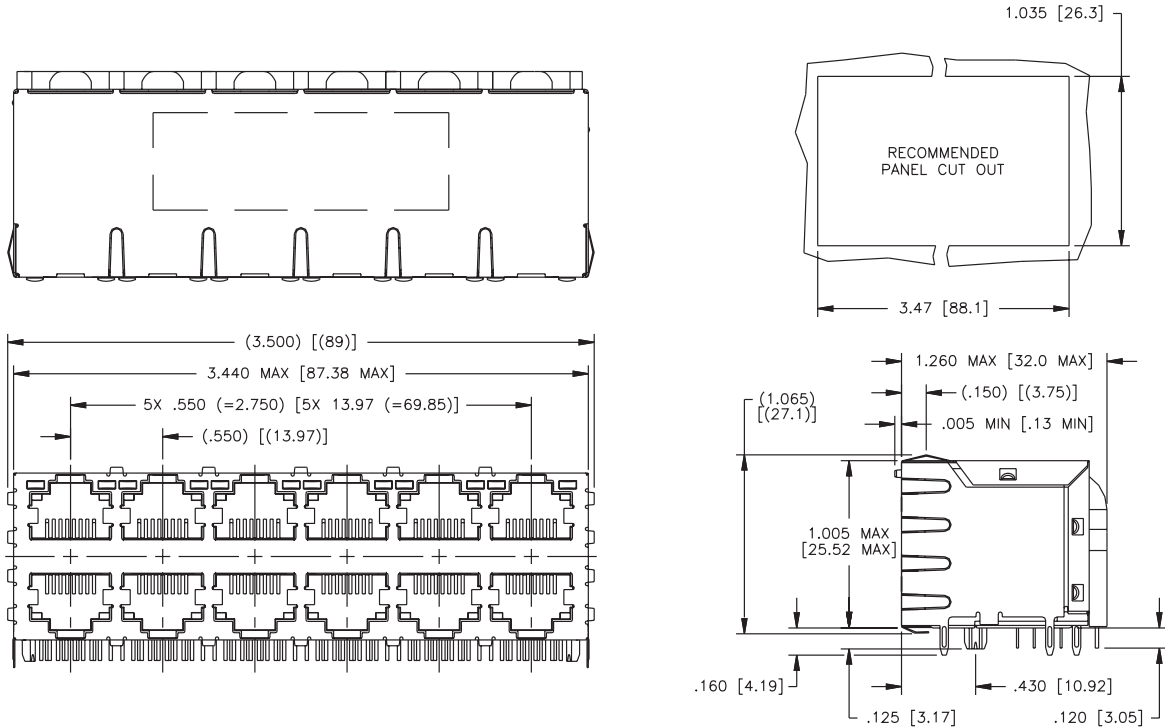


SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE  
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ±.002

Dimensions: Inches  
mm  
Unless otherwise specified,  
all tolerances are ± .010  
0,25

### J2 Series (With LEDs) Mechanicals (not PoE Enabled)

2 X 6



SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE  
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ±.002

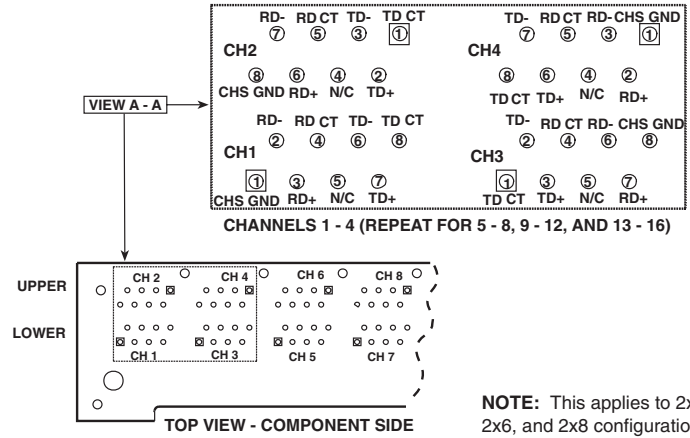
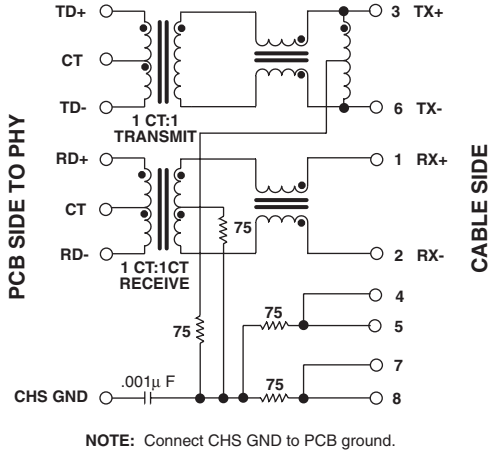
Dimensions: Inches  
mm  
Unless otherwise specified,  
all tolerances are ± .010  
0,25



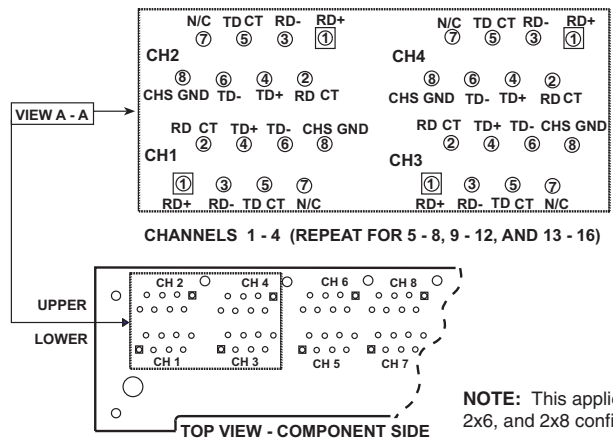
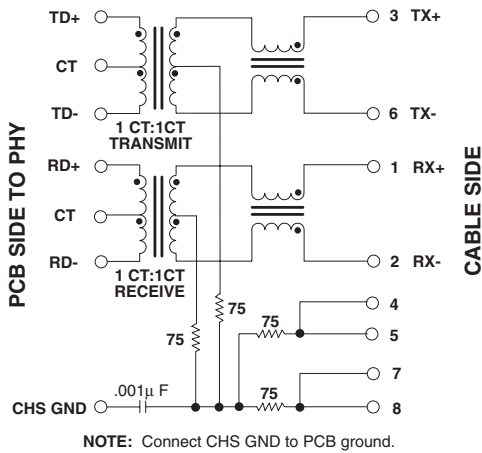


### J2 Series (No LEDs) Schematics (not PoE Enabled)

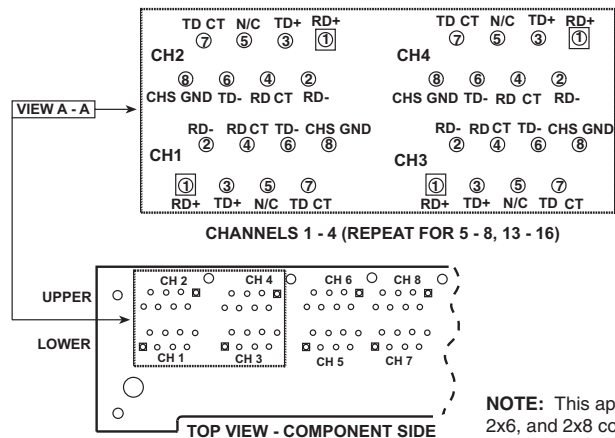
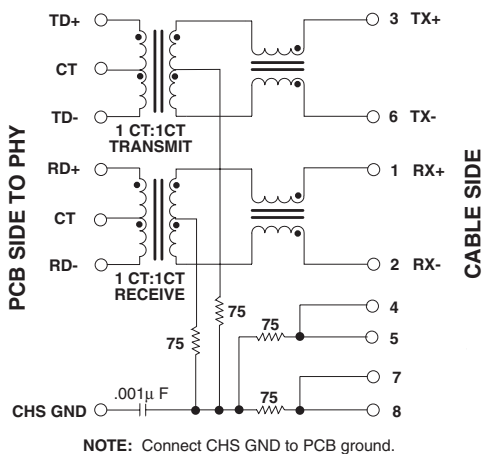
#### J2039



#### J2042



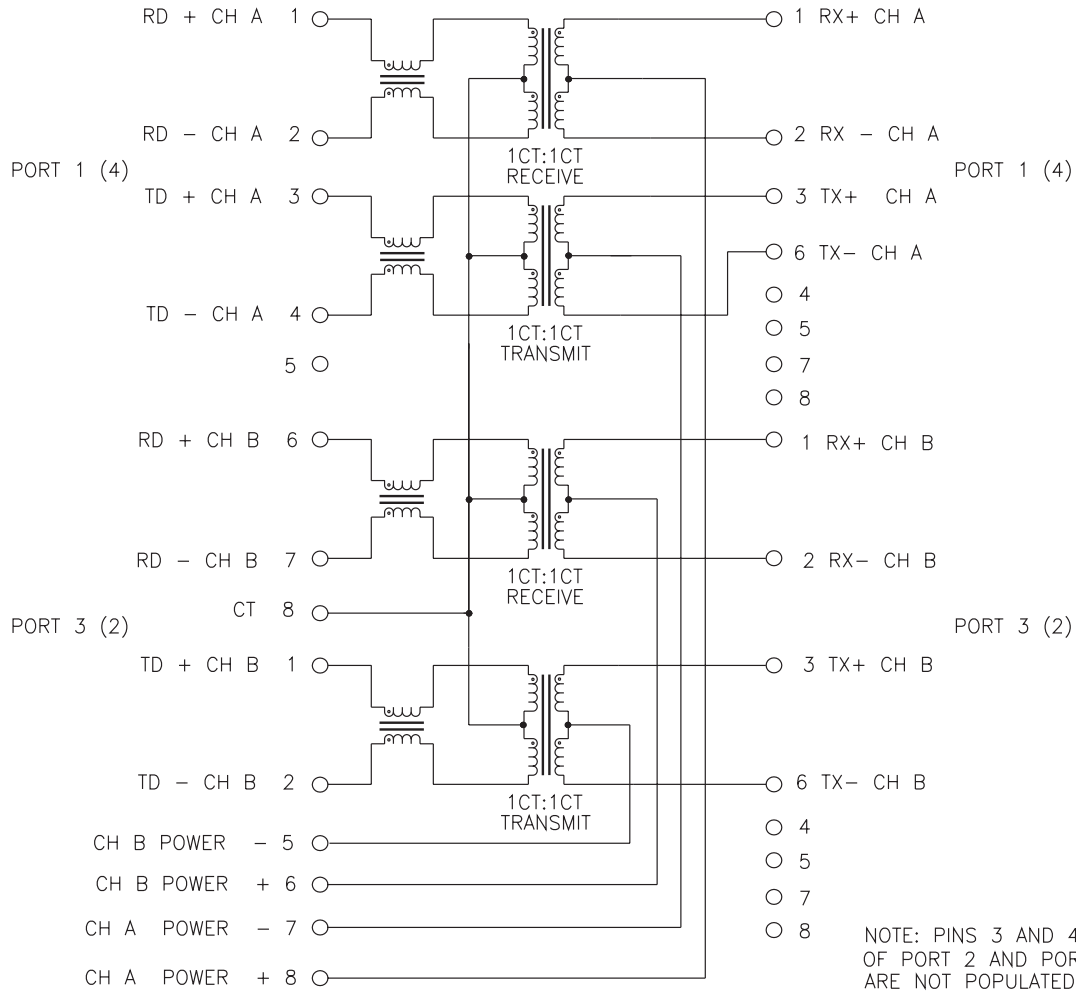
#### J2045



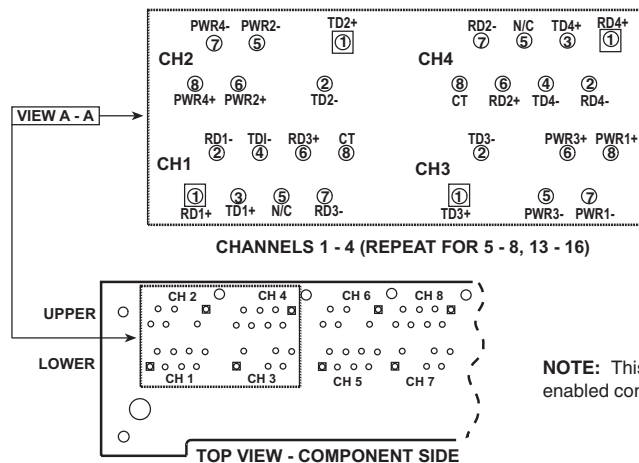
### J2 Series (No LEDs/PoE Enabled) Schematics

J20-0017/19NL

PCB SIDE



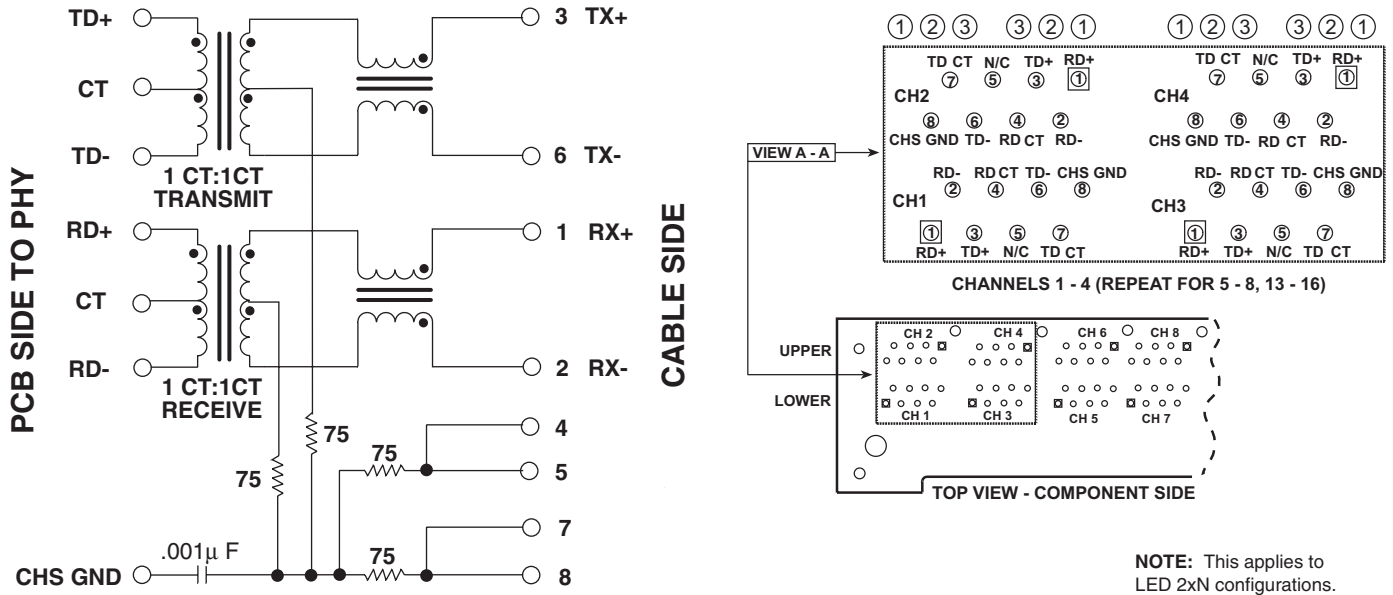
CABLE SIDE



NOTE: This applies to 2xN PoE enabled configurations.

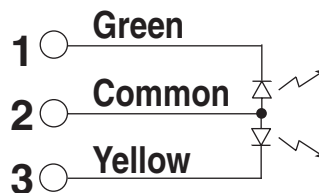
### J2 Series (With LEDs) Schematics (not PoE Enabled)

#### J20-0013/14/15/16NL



NOTE: This applies to LED 2xN configurations.

#### LED Configuration



Standard LED Color	LED Wavelength <sup>1</sup>	Forward <sup>2</sup> (V MAX)	Typical (V TYP)
Green	560 - 570 nm	2.5	2.1 - 2.2
Yellow	588 - 610 nm	2.5	2.1 - 2.2

1. LED intensity/wavelength measured with Photo Research PR-650 Colormeter  
 2. With a forward current of 20 mA

#### For More Information:

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<a href="http://www.pulseeng.com">www.pulseeng.com</a> Tel: 858 674 8100 Fax: 858 674 8262	Tel: 49 7032 7806 0 Fax: 49 7032 7806 135	TEL: 86 755 33966678 FAX: 86 755 33966700	Tel: 86 21 62787060 Fax: 86 2162786973	TEL: 65 6287 8998 FAX: 65 6280 0080	Tel: 886 3 4643715 Fax: 886 3 4641911

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