161 Alden Road, Units 7 & 8, Markham, Ontario Canada L3R 3W7
Tel: +1 416 754-3322 Fax: +1 416-754-3299
Email: info@edac.net http://www.edac.net

ENGINEERING CHANGE NOTICE

		Date:	Document Number
Originator:	**Yu Zhang**	**January 3, 2018**	ECN20180103-00
Phone No.	**(416) 754-3322 ext.234**		
Email Address:	**yzhang@edac.net**	**Revision Number**	**SHEET**
Department	**ENGINEERING**	1	1 of 7

CHANGE TYPE

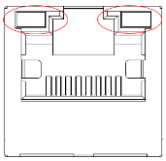
- [ ] **CLASS I** Customer notification and approval required prior to implementation
- [X] **CLASS II** Customer notification only, no approval required
- [ ] **CLASS III** No customer notification required

REASON OF CHANGE

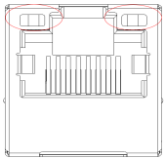
Old tooling has worn out and need to be replaced by new tooling with design improvements.
Affected P/Ns: 1. A63-112-431P112 2. A63-113-431P112 3. A63-112-413P112 4. A63-113-413P112 5. A60-115-231P190

DESCRIPTION OF CHANGE:

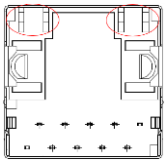
1.Design change in shield to eliminate the use of glue to hold LEDs in place.



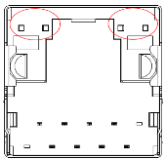
CHANGE TO



2.Design improvement to the housing to allow easy insertion of LEDs without the need to do pre-bending on the leads.



CHANGE TO



3. Implementation:Running Change

PARTIES AFFECTED

[X] Customer	[ ] NORCOMP	[X] ECA
[X] Distributors	[ ] MH	[X] EDG
[ ] Suppliers	[X] ETW	[X] EDAC UK

KEY TARGET DUE DATES IF CHANGE IS APPROVED TO PROCEED (check if applicable and show target dates as known)

[ ] Submit Quote		[ ] PPAP from Supplier	
[ ] Prod. Trial Run		[ ] MRD of Production Parts	
[ ] Run at Rate			

ACKNOWLEDGEMENT FOR ECN INITIATION: (OPTIONALS)

[ ]	Tooling Rep		[ ]	Process Eng Rep	
[ ]	Mfg Eng Rep		[ ]	Facilities Rep	
[ ]	Production Rep		[ ]	Sales Rep.	
[ ]	Materials Rep		[ ]	Product Eng. Rep.	
[ ]	Quality Rep		[ ]	Purchasing Rep	

APPROVALS FOR ECN INITIATION (REQUIRED)

[ ] [ ]	President		Engineering Manager	Ronnie Sta. Monica
[ ] [ ]	Vice President	Bob Sakitkovski	[ ] [☑] Mechanical Engineer	Yu Zhang
[ ] [ ]	MINIMUM OF TWO SIGNATURES REQUIRED		[ ] [☑]	

STATUS

APPROVED ☐

CCS CHANGE REQUEST #

REJECTED ☐

Change REJECTED by:

Rejected Date:

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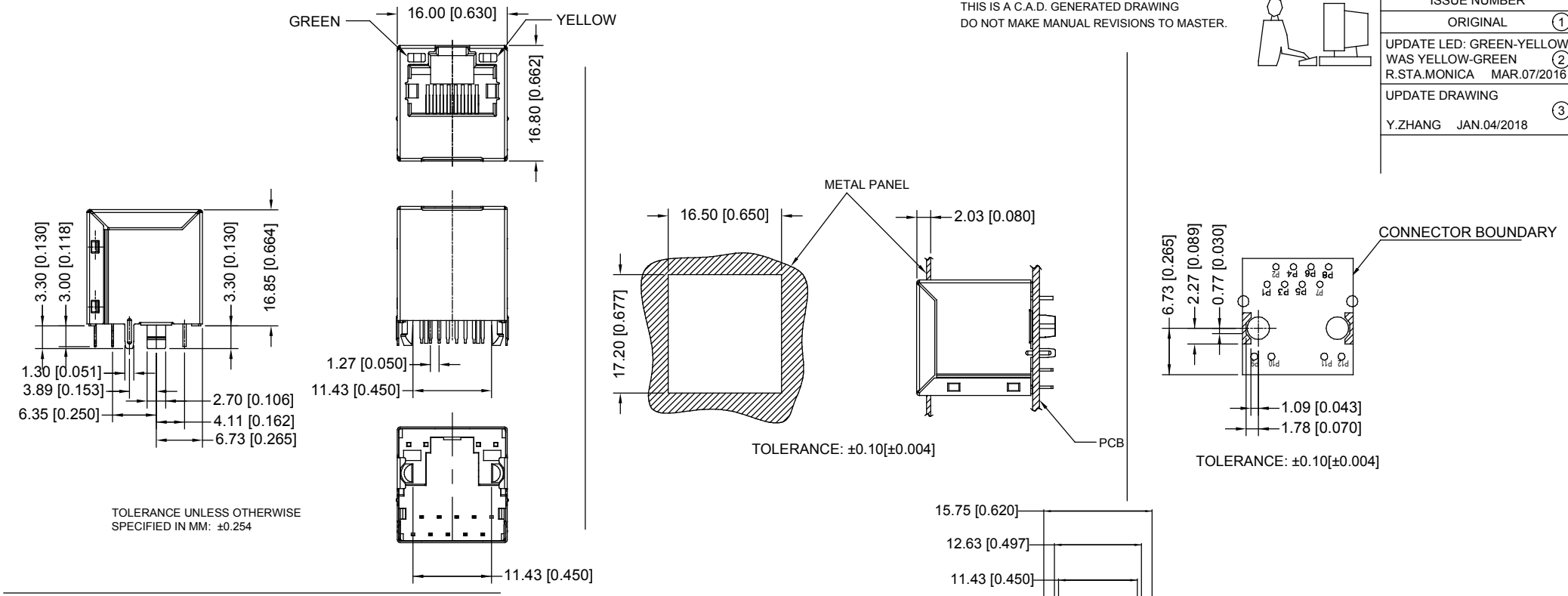
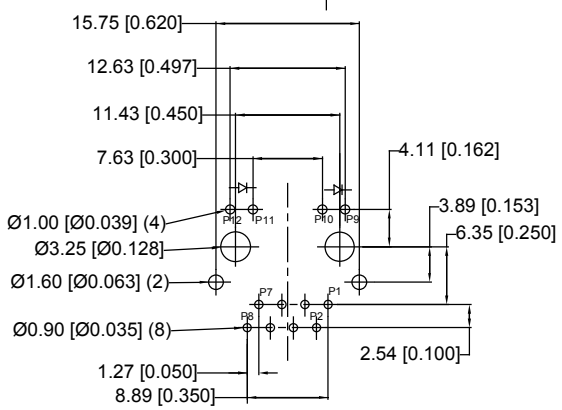
ISSUE NUMBER
ORIGINAL (1)
UPDATE LED: GREEN-YELLOW WAS YELLOW-GREEN (2) R.STA.MONICA MAR.07/2016
UPDATE DRAWING (3) Y.ZHANG JAN.04/2018





RECOMMENDED PCB LAYOUT
TOLERANCE: ±0.10[±0.004]

NOTES:
1. MATERIALS:
HOUSING: THERMOPLASTIC, UL94 V-0, COLOR: BLACK
SHIELD: COPPER ALLOY WITH NICKEL PLATING
CONTACTS: COPPER ALLOY PLATED WITH GOLD PLATING AND TIN IN SOLDER AREA

PART NO	GOLD PLATING THICKNESS
A63-112-431P112	GOLD FLASH PLATING
A63-113-431P112	15 MICRO INCHES OF GOLD
A63-114-431P112	30 MICRO INCHES OF GOLD

2. OPERATING TEMPERATURE: 0°C TO +70°C
3. STORAGE TEMPERATURE: -40°C TO +85°C
4. MATE WITH MODULAR PLUG CONFORMING TO FCC PART 68, SUBPART F.
5. RECOMMENDED TEMPERATURE FOR WAVE SOLDERING IS 260°C MAX, 10 SEC MAX
6. DIMENSION: MM [INCHES]

RoHS COMPLIANT

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RJ45 MAGNETIC JACK WITH LED, VERTICAL, 8P, 8C SHIELDED, 10/100Mbps FILTER

EDAC INC
TORONTO, ONTARIO
CANADA
YOUR CONNECTION TO QUALITY & SERVICE

ACAD REFERENCE NO.: A63-11X-431P112	
DRAWN: R.STA.MONICA	DATE: JUN.27/2012
CHECKED:	DATE:
PART NUMBER: SEE NOTE	SHEET 1 OF 2
DRAWING NUMBER: A63-11X-431P112	ISSUE: 3

THIS IS A C.A.D. GENERATED DRAWING
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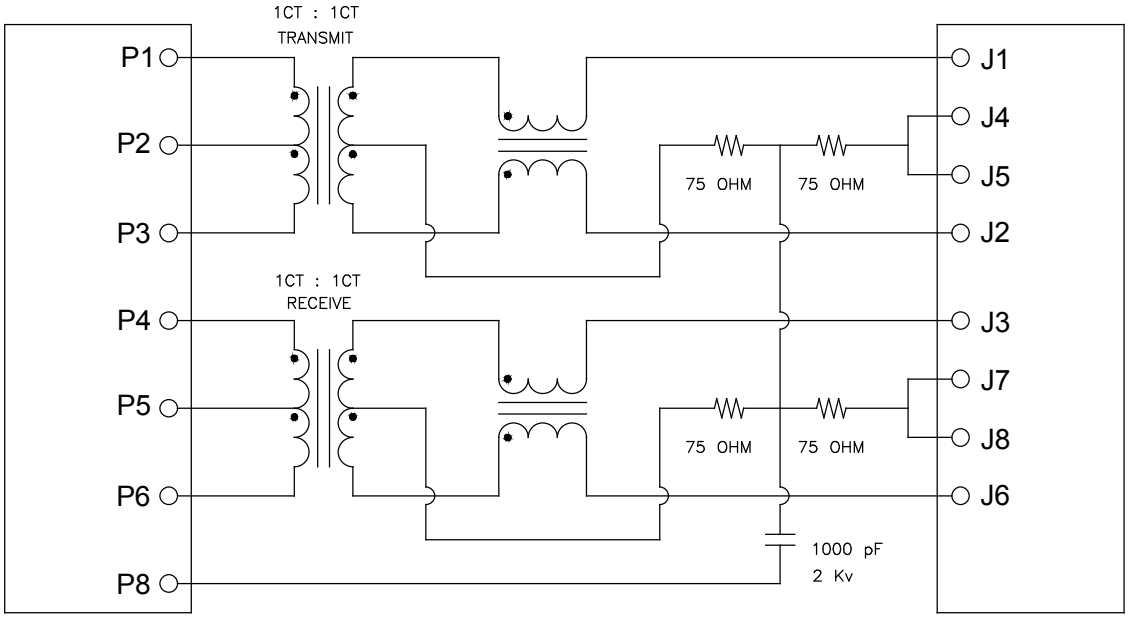
ELECTRICAL CIRCUIT:

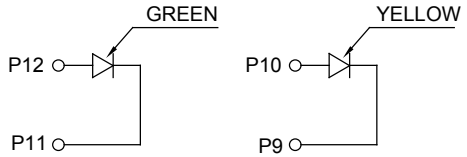
CONNECTOR SOLDER SIDE



ELECTRICAL SPECIFICATIONS:

TURN RATIO @ 100KHz:	(P1~P3):(J1~J2) = 1:1±5% (P4~P6):(J3~J6) = 1:1±5%	
PRIMARY INDUCTANCE:	350µH min @ 100KHz, 0.1V 8mA DC BIAS	
DC RESISTANCE:	(J1~J2):(J3~J6)	1.2Ω MAX.
INSERTION LOSS:	1-100MHz	-1.2dB MAX.
RETURN LOSS:	1-30MhZ	-16dB min.
	30-60MHz	-12dB min.
	60-80MHz	-10dB min.
	80-100MHz	-8dB min.
CROSS TALK:	1-100MHz	-30dB min.
COMMON TO COMMON MODE ATTENUATION:	1-100MHz	-30dB min.
ISOLATION PHY SIDE TO LINE SIDE:	1500V AC OR 2250V AC	

LED CIRCUIT:



LED SPECIFICATIONS (WITH FORWARD CURRENT OF 20 mA)			
STANDARD LED	WAVELENGTH	FORWARD V (MAX)	TYP
GREEN	565 nm	2.4 V	2.2 V
YELLOW	590 nm	2.5 V	2.1 V

PIN	YELLOW	PIN	GREEN
P9	-	P11	-
P10	+	P12	+

RJ45 MAGNETIC JACK WITH LED, VERTICAL, 8P, 8C SHIELDED, 10/100Mbps FILTER

ACAD REFERENCE NO.: A63-11X-431P112

DRAWN: R.STA.MONICA | DATE: JUN.27/2012

CHECKED: | DATE:

PART NUMBER: SEE NOTE

SHEET 2 OF 2

DRAWING NUMBER: A63-11X-431P112

ISSUE: 3

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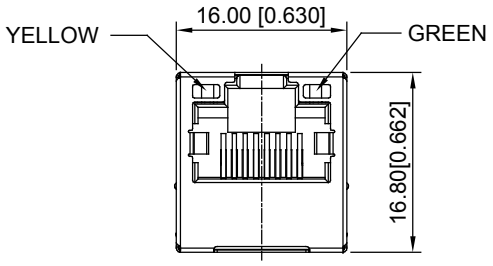
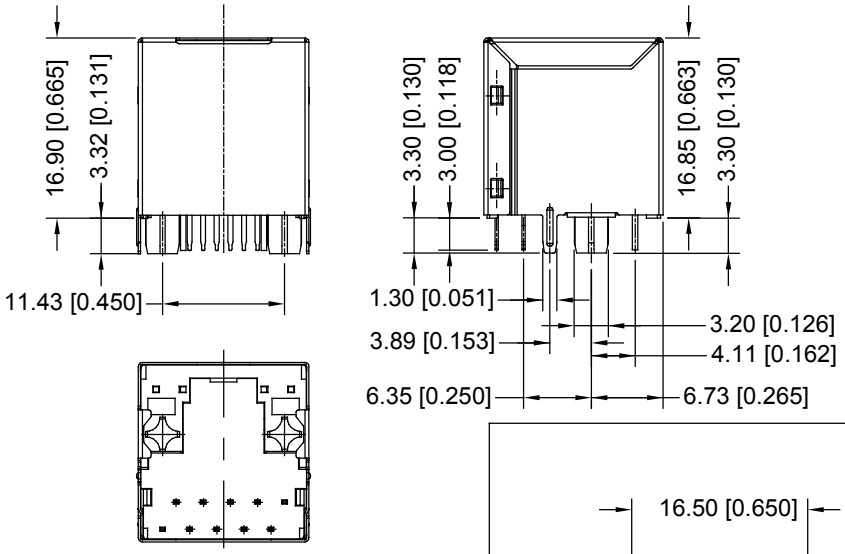
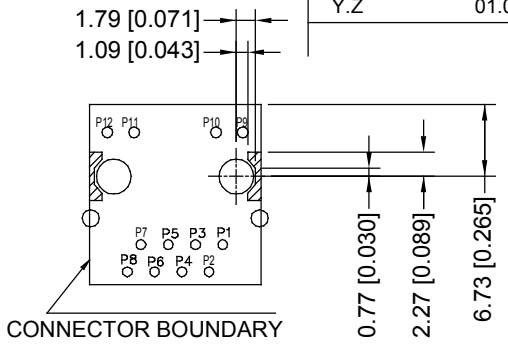
ISSUE NUMBER	
ORIGINAL	1
DIM UPDATE-C.B 10.3.16	2
UPDATE DRAWING	3
Y.Z	01.04.2018



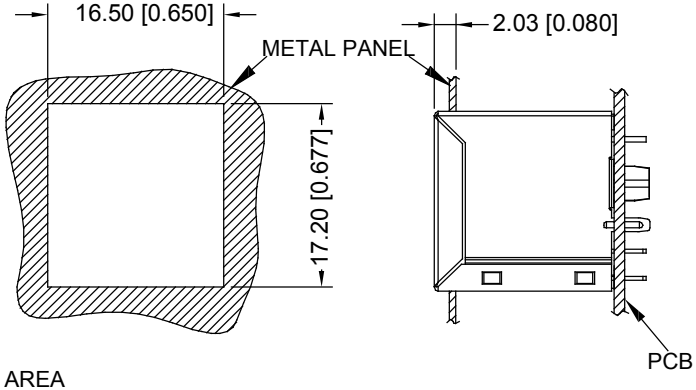
LED SPECIFICATION			
STANDARD LED	WAVELENGTH	Forward V(max)	TYP
GREEN	565nm	2.4V	2.2V
YELLOW	590nm	2.5V	2.1V

*WITH A FORWARD CURRENT OF 20mA



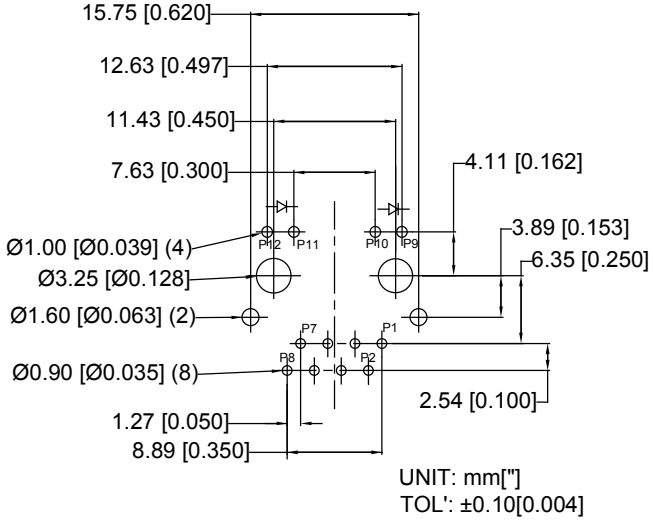


TOLERANCED TO ±0.10[0.004]



SUGGESTED PANEL OPENING

TOLERANCED TO ±0.10[0.004]



UNIT: mm["]
TOL': ±0.10[0.004]

RECOMMENDED PCB LAYOUT

NOTES:
1.CONNECTOR MATERIAL:
HOUSING: THERMOPLASTIC UL94 V-0
SHIELD: BRASS
SHIELD PLATING: NICKEL
CONTACT: COOPER ALLOY
CONTACT PLATING: 6 MICRO-INCHES MIN IN CONTACT AREA
2.PIN NOT ELECTRICALLY CONNECTED MAYBE OMITTED
SEE ELECTRICAL DRAWING FOR OMITTED PINS
3.RJ45 CAVITIES CONFORM TO FCC RULES AND REGULATION PART 68.
4.THE PART IS RECOMMENDDED FOR WAVE SOLDERING PROCESS
PEAK SOLDERING TEMPERATURE IS 260°C MAX,10 SECS MAX
5.OPERATING TEMPERATURE T=0°C TO 70°C
6.STORAGE TEMPERATURE T=-40°C TO 85°C
7.All CRITICAL DIMENSIONS WITH "*"

RoHS COMPLIANT

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RJ45 MAGNETIC JACK WITH LED, VERTICAL, 8P, 8C SHIELDED, 10/100Mbps FILTER

ACAD REFERENCE NO. A63-112-413P112	
DRAWN: C.B	DATE: OCT 03/16
CHECKED:	DATE:
SCALE: (IN C.A.D. 1:1)	SHEET 1 OF 2
DRAWING NUMBER A63-112-413P112	ISSUE 3

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CANADA
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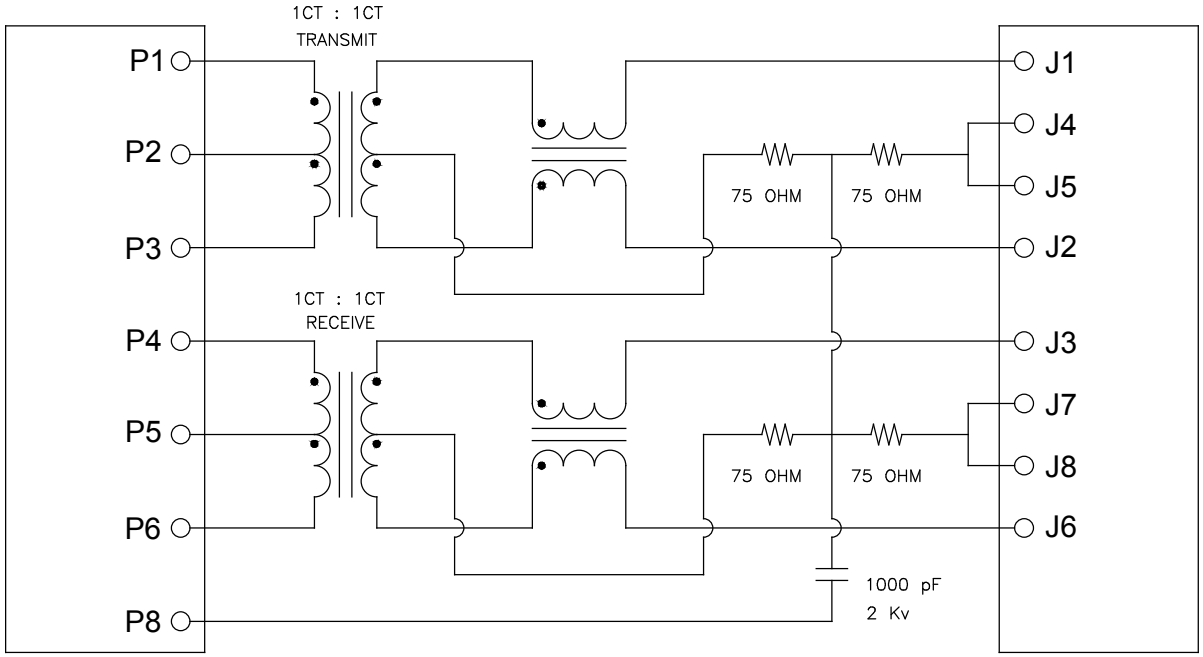
ISSUE NUMBER	
ORIGINAL	1

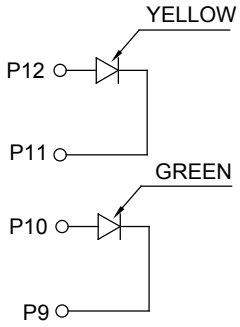
CONNECTOR SOLDER SIDE



ELECTRICAL SPECIFICATIONS:

TURN RATIO @ 100KHz:	(P1~P3):(J1~J2) = 1:1±2% (P4~P6):(J3~J6) = 1:1±2%	
PRIMARY INDUCTANCE:	350µH min @ 100KHz, 0.1V 8mA DC BIAS	
DC RESISTANCE:	(J1~J2):(J3~J6)	1.2Ω MAX.
INSERTION LOSS:	1-100MHz	-1.0dB MAX.
RETURN LOSS:	1-30MhZ	-18dB min.
	30-60MHz	-16dB min.
	60-80MHz	-12dB min.
CROSS TALK:	1-100MHz	-30dB min.
COMMON TO COMMON MODE ATTENUATION:	1-100MHz	-30dB min.
ISOLATION PHY SIDE TO LINE SIDE:	1500V AC OR 2250V AC	

LED CIRCUIT:



LED SPECIFICATIONS (WITH FORWARD CURRENT OF 20 mA)			
STANDARD LED	WAVELENGTH	FORWARD V (MAX)	TYP
GREEN	565 nm	2.4 V	2.2 V
YELLOW	590 nm	2.5 V	2.1 V

PIN	GREEN	PIN	YELLOW
P9	-	P11	-
P10	+	P12	+

RJ45 MAGNETIC JACK WITH LED, VERTICAL, 8P, 8C
SHIELDED, 10/100Mbps FILTER

ACAD REFERENCE NO. A63-112-413P112	
DRAWN: C.B	DATE: OCT. 03/16
CHECKED:	DATE:
SCALE: N.T.S	SHEET 2 OF 2
DRAWING NUMBER A63-112-413P112	ISSUE 3

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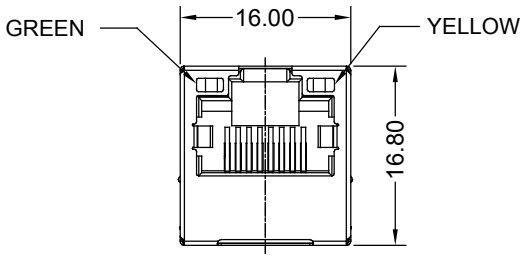
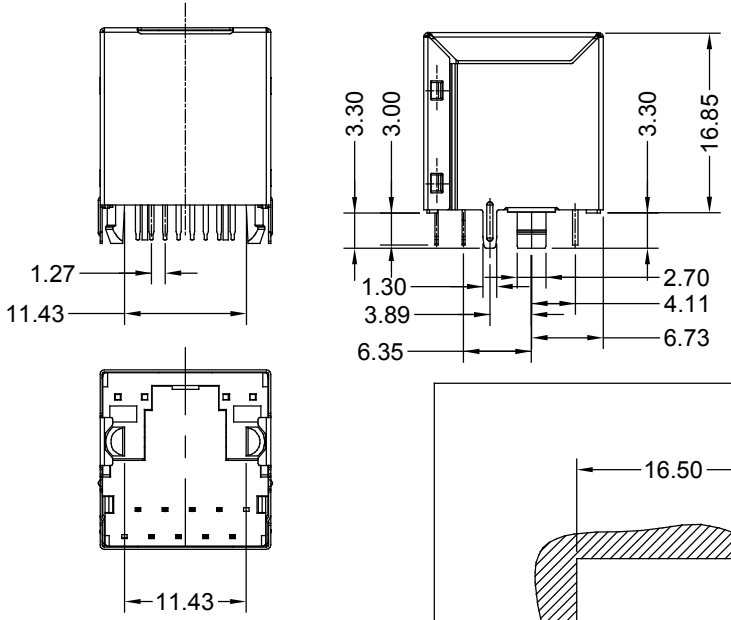
ISSUE NUMBER	
ORIGINAL	1
DIM UPDATE-C.B 10.3.16	2
UPDATE DRAWING	3
Y.Z	01.04.2018

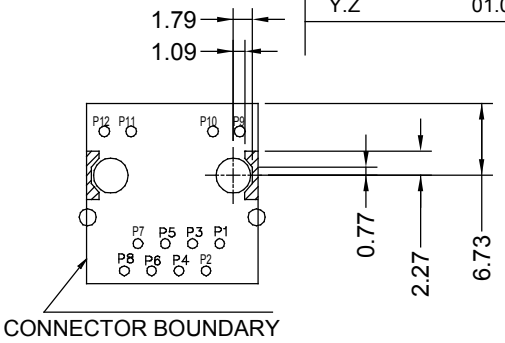


LED SPECIFICATION			
STANDARD LED	WAVELENGTH	Forward V(max)	TYP
GREEN	565nm	2.4V	2.2V
YELLOW	590nm	2.5V	2.1V

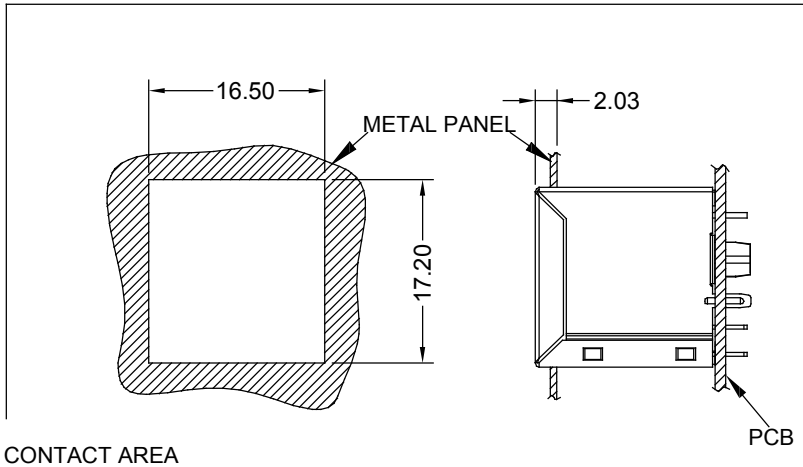
*WITH A FORWARD CURRENT OF 20mA



TOLERANCE UNLESS OTHERWISE SPECIFIED IN MM: ±0.254

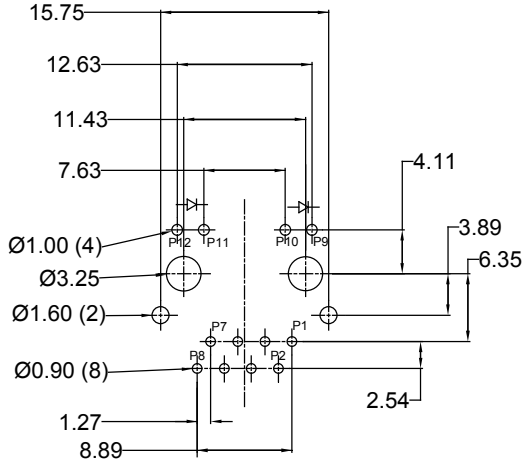


TOLERANCED TO ±0.10[0.004]



SUGGESTED PANEL OPENING

TOLERANCED TO ±0.10[0.004]



UNIT: mm["]
TOL': ±0.10[0.004]

RECOMMENDED PCB LAYOUT

NOTES:
1.CONNECTOR MATERIAL:
HOUSING: THERMOPLASTIC UL94 V-0
SHIELD: BRASS
SHIELD PLATING: NICKEL
CONTACT: COOPER ALLOY
CONTACT PLATING: 15 MICRO-INCHES MIN IN CONTACT AREA
2.PIN NOT ELECTRICALLY CONNECTED MAYBE OMITTED
SEE ELECTRICAL DRAWING FOR OMITTED PINS
3.RJ45 CAVITIES CONFORM TO FCC RULES AND REGULATION PART 68.
4.THE PART IS RECOMMENDDED FOR WAVE SOLDERING PROCESS
PEAK SOLDERING TEMPERATURE IS 260°C MAX,10 SECS MAX
5.OPERATING TEMPERATURE T=0°C TO 70°C
6.STORAGE TEMPERATURE T=-40°C TO 85°C
7.All CRITICAL DIMENSIONS WITH "*"

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RJ45 MAGNETIC JACK WITH LED, VERTICAL, 8P, 8C SHIELDED, 10/100Mbps FILTER

ACAD REFERENCE NO. A63-113-413P112	
DRAWN: C.B	DATE: OCT 03/16
CHECKED:	DATE:
SCALE: (IN C.A.D. 1:1)	SHEET 1 OF 2
DRAWING NUMBER A63-113-413P112	ISSUE 3

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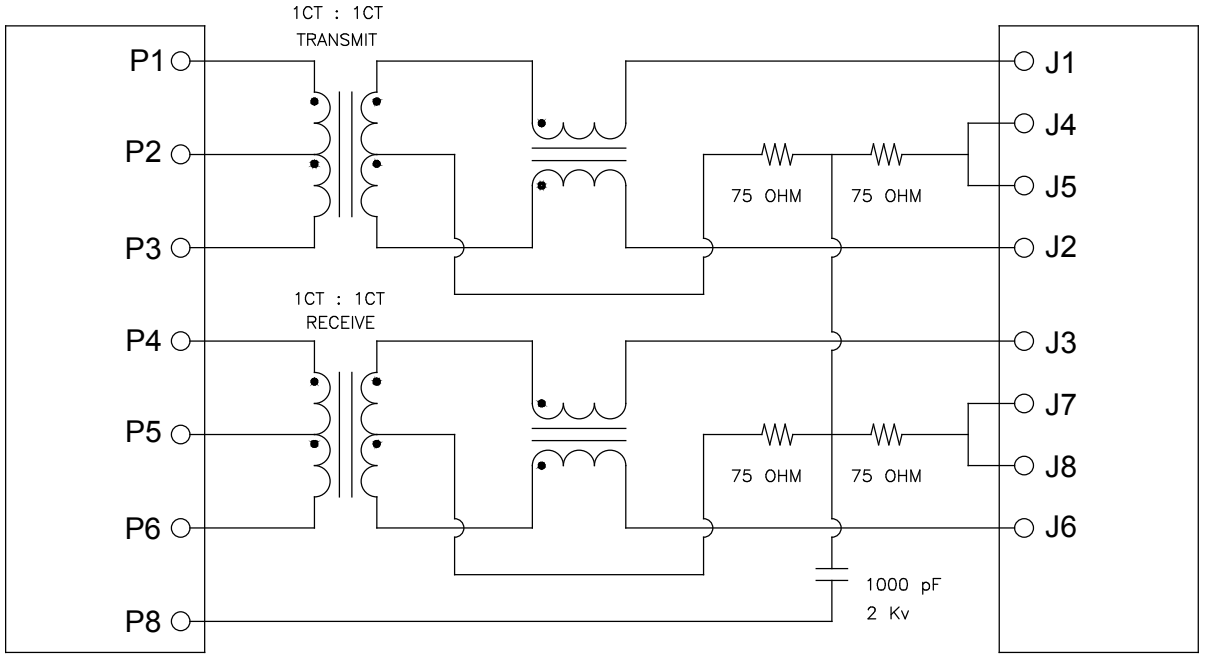
ISSUE NUMBER	
ORIGINAL	1

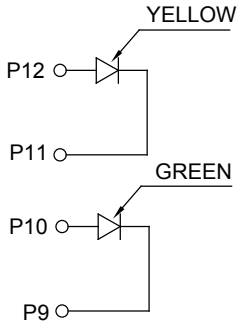
CONNECTOR SOLDER SIDE



ELECTRICAL SPECIFICATIONS:

TURN RATIO @ 100KHz:	(P1~P3):(J1~J2) = 1:1±5% (P4~P6):(J3~J6) = 1:1±5%	
PRIMARY INDUCTANCE:	350µH min @ 100KHz, 0.1V 8mA DC BIAS	
DC RESISTANCE:	(J1~J2):(J3~J6)	1.2Ω MAX.
INSERTION LOSS:	1-100MHz	-1.2dB MAX.
RETURN LOSS:	1-30MhZ	-16dB min.
	30-60MHz	-12dB min.
	60-80MHz	-10dB min.
CROSS TALK:	1-100MHz	-30dB min.
COMMON TO COMMON MODE ATTENUATION:	1-100MHz	-30dB min.
ISOLATION PHY SIDE TO LINE SIDE:	1500V AC OR 2250V AC	

LED CIRCUIT:



LED SPECIFICATIONS (WITH FORWARD CURRENT OF 20 mA)			
STANDARD LED	WAVELENGTH	FORWARD V (MAX)	TYP
GREEN	565 nm	2.4 V	2.2 V
YELLOW	590 nm	2.5 V	2.1 V

PIN	GREEN	PIN	YELLOW
P9	-	P11	-
P10	+	P12	+

RJ45 MAGNETIC JACK WITH LED, VERTICAL, 8P, 8C SHIELDED, 10/100Mbps FILTER

ACAD REFERENCE NO. A63-113-413P112	
DRAWN: C.B	DATE: OCT. 03/16
CHECKED:	DATE:
SCALE: N.T.S	SHEET 2 OF 2
DRAWING NUMBER A63-113-413P112	ISSUE 3

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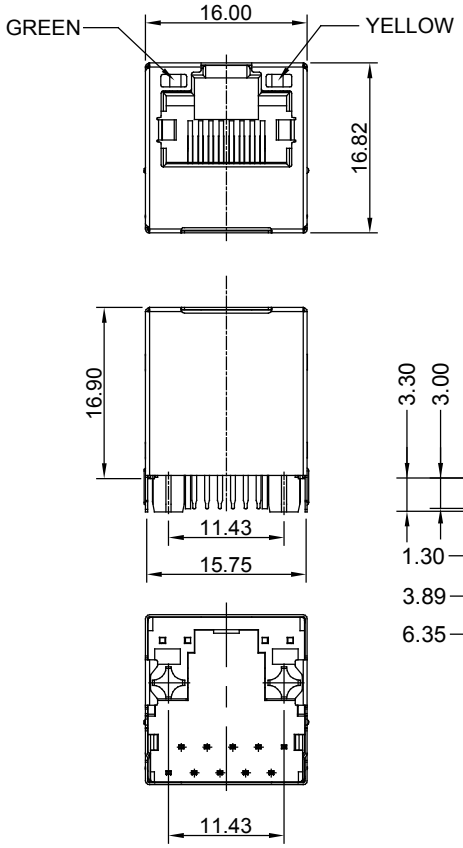
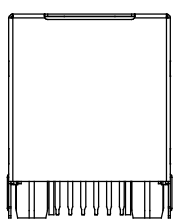
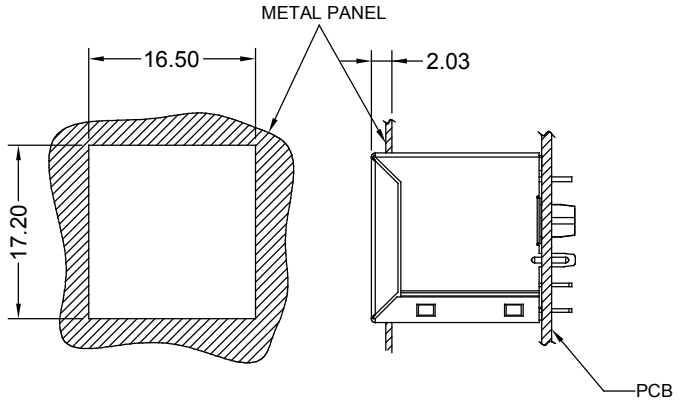
ISSUE NUMBER	
ORIGINAL	1
UPDATE DRAWING	
Y.ZHANG JAN.04/2018	2

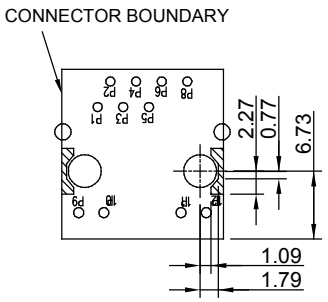


UNLESS SPECIFIED ALL DIMENSIONS TOLERANCE IS ±0.254

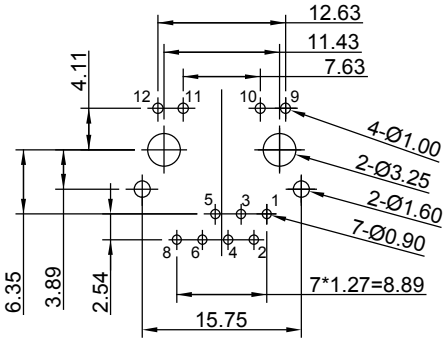




RECOMMENDED PANEL OPENING
(TOLERANCE:±0.10)



KEEP OUT AREA
(TOLERANCE:±0.10)



RECOMMENDED PCB LAYOUT
(TOLERANCE:±0.10)

Connector Material:

1. Housing : ThermoPlastic UL94V-0
   Contact: Copper Alloy. Selective 50u" Gold Plated Min In Contact Area.
   Shield: Brass Nickel Plated
2. Operating Temperature: 0°C to +70°C
3. Storage Temperature: -40°C to +85°C
4. Recommended Wave Soldering Temerature:
   260°C Max, 10 Seconds Max
5. Pins Not Electrically Connected Maybe Omitted. See electrial Diagram for Omitted Pins.
6. Cavity Conforms To FCC Rules And Regulation Part 68 Subpart F.

180° RJ45 10/100 BASE-T JACK WITH MAGNETIC MODULE

ACAD REFERENCE NO.	A60-115-231P190
DRAWN: N.SONDH	DATE: May. 09/16
PART NUMBER	SEE ABOVE
SHEET 1 OF 2	
DRAWING NUMBER	A60-115-231P190
ISSUE	2

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RoHS COMPLIANT
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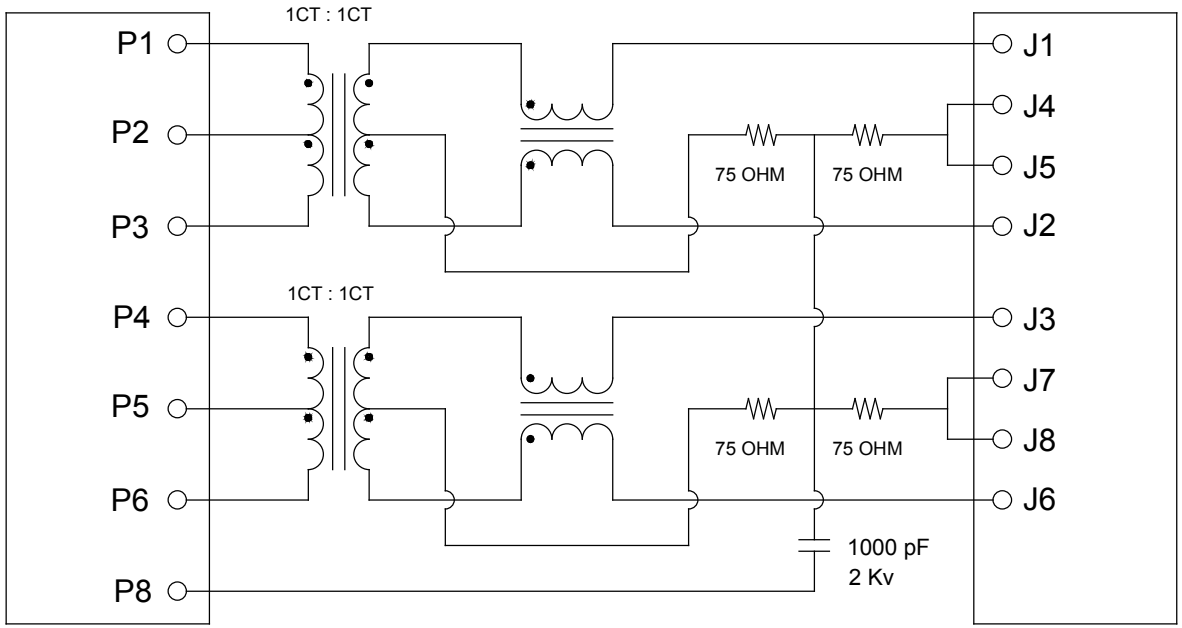
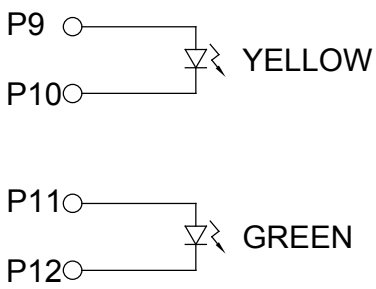
DO NOT MAKE MANUAL REVISIONS TO MASTER.

CIRCUIT SCHEMATIC





Electrical Specifications:

1. Turn Ratio @100KHz:
   PINS:(P1~P3):(J1~J2)=1:1±5%
   PINS:(P4~P6):(J3~J6)=1:1±5%
2. Primary Inductance: 350uH Min @100KHz,0.1V 8mA DC Bias
3. DC Resistance: (J1~J2),(J3~J6)= 1.2 Ohms Max
4. Insertion Loss: 1-100MHz 1.2dB MAX
5. Return Loss:
   1MHz - 30MHz -1.2 dB Max
   30MHz - 60MHz -16 dB Min
   60MHz - 80MHz -10dB Min
6. Cross Talk: 1MHz - 100MHz -30dB Min
7. Common To Common Mode Atenuation:
   1MHz - 100MHz -30dB Min
8. Isolation:
   PHY Side To Line Side: 1500VAC OR 2250VDC

LED SPECIFICATIONS			
STANDARD LED	WAVELENGTH	Forward V (max)	TYP
GREEN	565 nm	2.4V	2.2V
YELLOW	590 nm	2.5V	2.1V

WITH FORWARD CURRENT OF 20mA

PIN	YELLOW	PIN	GREEN
P9	+	P11	+
P10	-	P12	-

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180° RJ45 10/100 BASE-T JACK WITH MAGNETIC MODULE

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