

REVISIONS			
REV	DESCRIPTION, ECN, EAR NO.	DATE	APP'D
A	PROPOSAL DRAWING	NOV.9,2021	A.G
B	UPDATE RECOMMENDED PCB LAYOUT	JUN.13,2022	K.T

NOTES:

- MATERIALS:**
 - OUTER MAIN SHIELD: STAINLESS STEEL, TIN FINISHED TAILS. FRONT SHIELD: STAINLESS STEEL.
 - INSERTS: HIGH TEMPERATURE RESISTANT ENGINEERING THERMOPLASTIC, GLASS REINFORCED, UL94V-0, BLACK.
 - CONTACTS: COPPER ALLOY PLATED WITH GOLD OVER 1.27µm (50µ") MINIMUM NICKEL ON THE MATING AREA , AND MATTE TIN ON THE TERMINAL TAILS.
- MECHANICAL:**
 - MATING & UNMATING FORCE: 25N (5.6 lbf) MAXIMUM
- ELECTRICAL:**
 - VOLTAGE RATING: 60VDC.
 - CONTACT RESISTANCE: 30 MILLIOHMS MAXIMUM.
 - SEE SHEET 2 FOR MAGNETICS DETAILS.
- ENVIRONMENTAL:**
 - STORAGE TEMPERATURE: -40° TO +85°.
 - OPERATING TEMPERATURE: -40° TO +85°.
 - RECOMMENDED SOLDER PROCESS: WAVE OR IR REFLOW, PEAK SOLDERING TEMPERATURE 260°C FOR 5-8 SECONDS.
- DESIGNED TO CONFORM TO REQUIREMENTS OF IEC 61076 PART 3-124 SPECIFICATION. THE TYPE A KEY FEATURE SHOWN IS INTENDED FOR USE WITH ETHERNET APPLICATIONS, EITHER 10/100 Mbit/S OR 1 TO 10 Gbit/S (CAT 5e, 6 & 6A). THE TYPE B KEY, WHILE NOT INTENDED FOR ETHERNET, MAY BE USED IN A COMPLEX ETHERNET APPLICATION TO HELP CONTROL MATING PLUG INSTALLATIONS.

ORDERING CODE: NDM - XXXX1 - 00

SERIES, IX INDUSTRIAL WITH MAGNETICS

A: TYPE A KEY FOR ETHERNET.
B: TYPE B KEY.

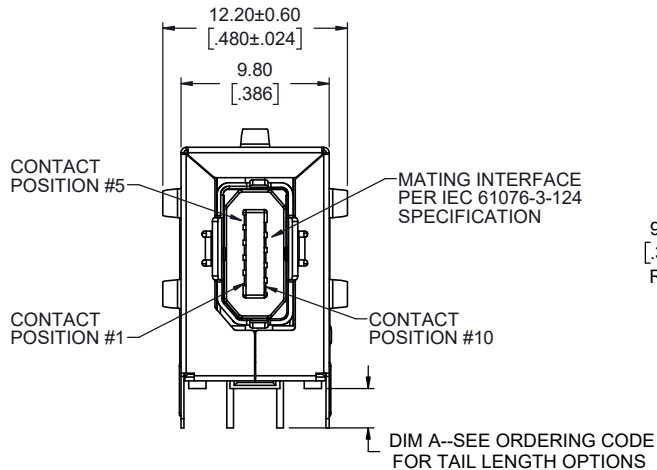
EMI SHIELD TAB OPTION:
1: WITH EXTERNAL TABS.
2: WITHOUT EXTERNAL TABS.

DIM A - TAIL LENGTH OPTIONS:
3 = 2.40mm (.094")
4 = 3.20mm (.126")
5 = 4.00mm (.157")

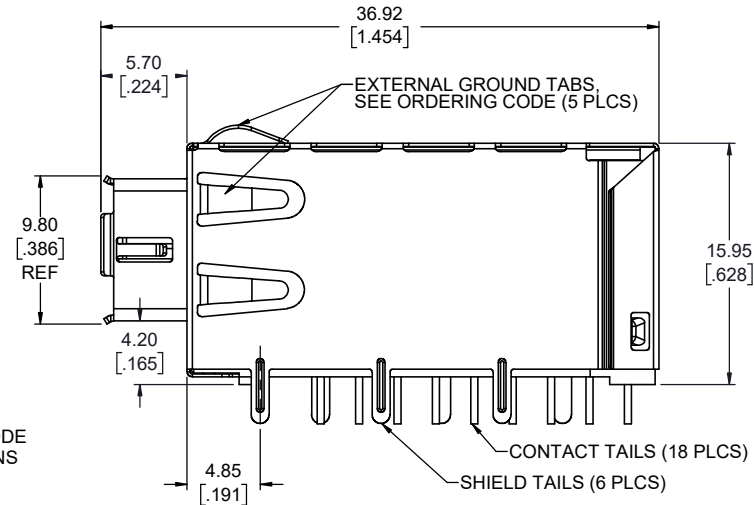
RIGHT ANGLE STANDARD

WITH PoE FUNCTION.

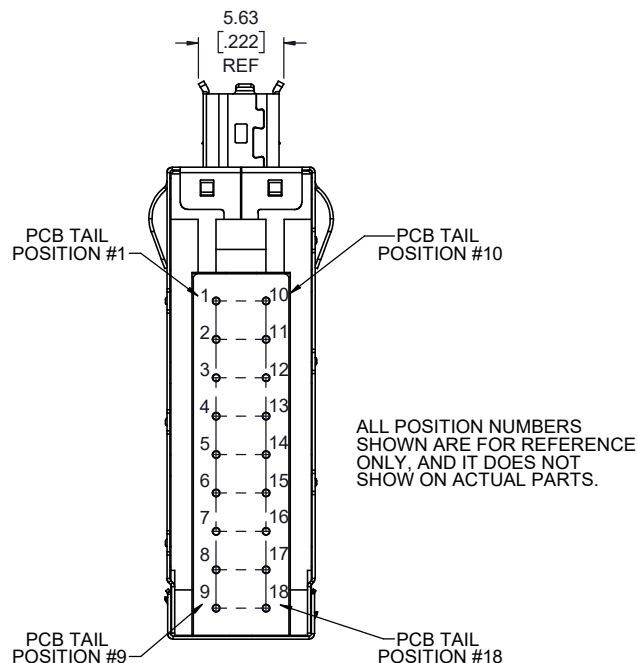
GOLD PLATING THICKNESS
OPTIONS FOR MATING AREA:
2 = 0.20µm (8µ") GOLD
4 = 1.27µm (50µ") GOLD



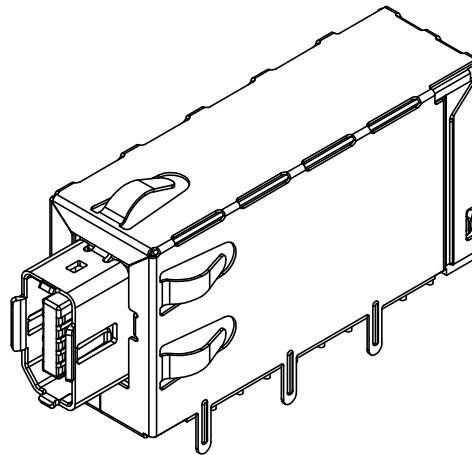
**FRONT VIEW
(TYPE A SHOWN)**



SIDE VIEW



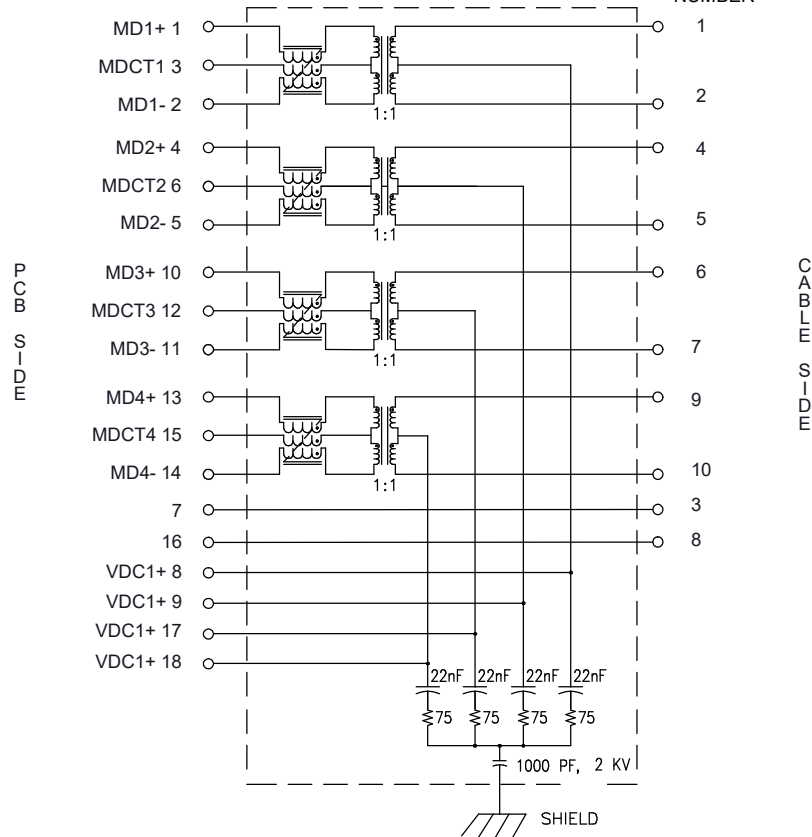
BOTTOM VIEW



UNLESS SPECIFIED OTHERWISE	DRAWN	KELVIN T	OCT.3,21
PRIMARY UNITS MILLIMETERS	CHECKED	KENT LAMBIE	OCT.6,21
SECONDARY INCHES	M.E. APP'D		
REFERENCE IN PARENTHESES	Q.A. APP'D		
GENERAL TOLERANCES	DWG APPR.	ADRIAN	NOV.9,21
1 DECIMAL PLACE ±0.38	ENG. REL. NO.	EAR RJ21018	
2 DECIMAL PLACES ±0.25	REF.		
3 DECIMAL PLACES	THIRD ANGLE PROJECTION		
ANGULAR DEGREES			

Amphenol Canada Corp. Commercial Products			
IX INDUSTRIAL CONNECTOR WITH MAGNETICS, PoE & CAT6A HIGH SPEED PERFORMANCE, RoHS COMPLIANT			
DWG. NO.	P-NDM-XXXX1-00		REV B
CODE ID NO. 03554	DWG SIZE: X	SCALE: 4:1	SHEET 1 OF 3

SCHEMATIC DRAWING

MATING POSITION
NUMBER

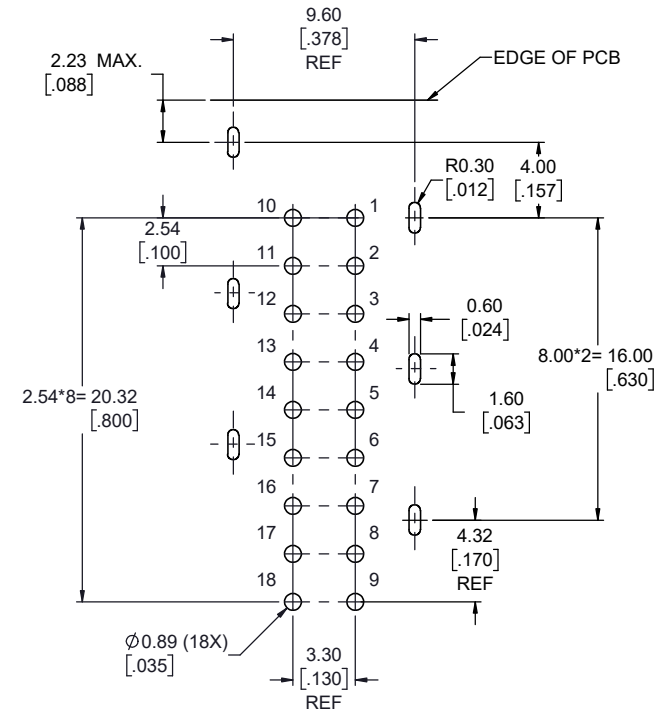
ELECTRICAL SPECIFICATION (@ 25°C)

PARAMETER	LIMITS	TEST CONDITIONS
TURN RATIO	1:1 ±3%	
POLARITY	PER SCHEMATIC	
INSERTION LOSS	-2.0dB MAX.	1~400 MHz
	-3.0dB MAX.	400~500 MHz
RETURN LOSS	-22dB MIN.	1~100 MHz
	-22 + 20.75 log(F/100) dB MIN.	100~500 MHz
INDUCTANCE (OCL)	160 µH MIN. @100KHz 100mV	
CROSSTALK ISOLATION	-28dB MIN.	1~100 MHz
	-19dB MIN.	100~500 MHz
COMMON MODE REJECTION RATIO	-30dB MIN.	1~40 MHz
	-20dB MIN.	40~500 MHz
COMMON TO DIFFERENTIAL MODE REJECTION (CDMR)	-30dB MIN.	1~250 MHz
	-20dB MIN.	250~500 MHz
HIPOT (ISOLATION)	1,500VAC MIN. 1mA	60 SECONDS
CURRENT RATING	960 mA FOR EACH OF FOUR DIFFERENTIAL PAIRS	

CONNECTOR PIN ASSIGNMENT

MATING POSITION NUMBER	PIN ASSIGNMENT 1, 2.5, 5 OR 10 Gb/s ETHERNET
1	BI_DA +
2	BI_DA -
3	GND
4	BI_DC +
5	BI_DC -
6	BI_DB +
7	BI_DB -
8	GND
9	BI_DD +
10	BI_DD -

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RECOMMENDED PCB LAYOUT
COMPONENT SIDE OF PCB
(+/-0.05mm)

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SECONDARY UNITS INCHES	M.E. APP'D		
REFERENCE IN PARENTHESES	O.A. APP'D		
GENERAL TOLERANCES	DWG APPR.	ADRIAN	NOV.9.21
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3 DECIMAL PLACES	THIRD ANGLE PROJECTION		
ANGULAR DEGREES			

Amphenol Canada Corp.
Commercial ProductsIX INDUSTRIAL CONNECTOR
WITH MAGNETICS, PoE &
CAT6A HIGH SPEED PERFORMANCE,
RoHS COMPLIANT

DWG. NO.	P-NDM-XXXX1-00	REV	B
CODE ID NO. 03554	DWG SIZE: X	SCALE: 4:1	SHEET 2 OF 3

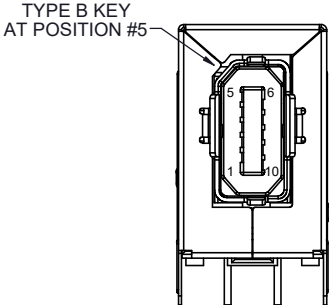
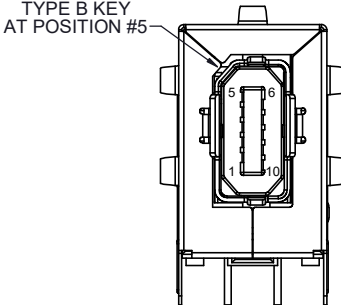
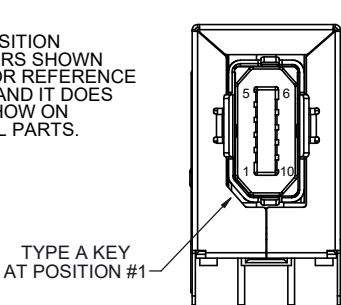
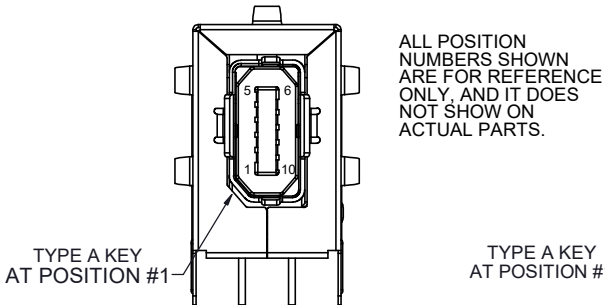
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TYPE A KEY WITH EXTERNAL TABS
PART NUMBER: NDM-A1XX1-00

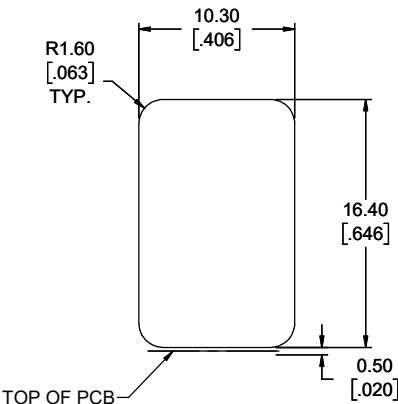
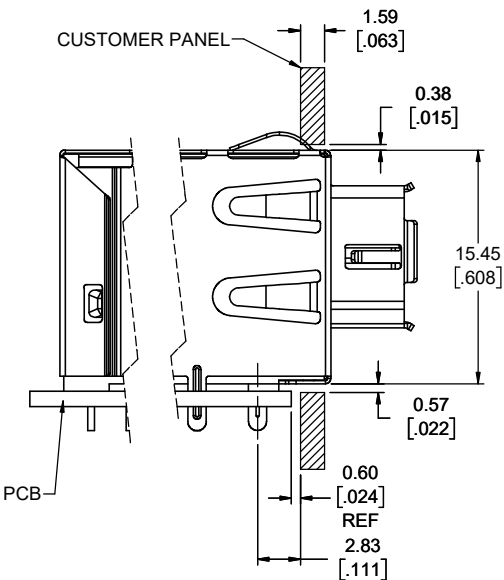
TYPE A KEY WITHOUT EXTERNAL TABS
PART NUMBER: NDM-A2XX1-00

TYPE B KEY WITH EXTERNAL TABS
PART NUMBER: NDM-B1XX1-00

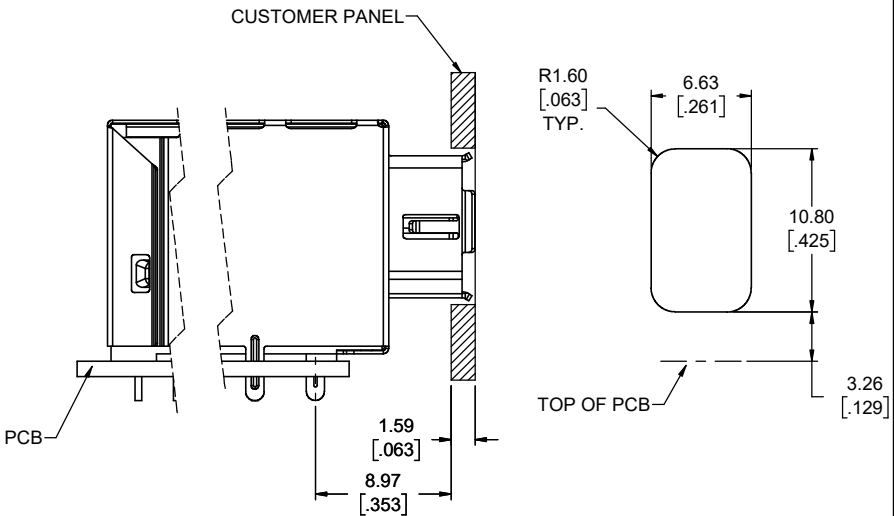
TYPE B KEY WITHOUT EXTERNAL TABS
PART NUMBER: NDM-B2XX1-00



RECOMMENDED PANEL CUTOUT FOR EXTERNAL TABS
PART NUMBER: NDM-X1XX1-00



RECOMMENDED PANEL CUTOUT WITHOUT EXTERNAL TABS
PART NUMBER: NDM-X2XX1-00



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REFERENCE IN PARENTHESES	Q.A. APP'D		
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2 DECIMAL PLACES ±0.25	REF.		
3 DECIMAL PLACES	THIRD ANGLE PROJECTION		
ANGULAR DEGREES	DO NOT SCALE DRAWING		

Amphenol Canada Corp. Commercial Products			
IX INDUSTRIAL CONNECTOR WITH MAGNETICS, PoE & CAT6A HIGH SPEED PERFORMANCE, RoHS COMPLIANT			
P-NDM-XXXX1-00			REV B
CODE ID NO. 03554	DWG SIZE: X	SCALE: 4:1	SHEET 3 OF 3