PASTERNACK
an INFINITE brand

N Male Right Angle Connector Crimp/Non-Solder Contact Attachment for LMR-400, PE-C400, PE-B400, PE-B405

RF Connectors
Technical Data Sheet

TIMES MICROWAVE SYSTEMS

EZ-400-NMH-RA-X

Times Microwave Systems Connector Specification

Configuration

- N Male Connector
- 50 Ohms
- Right Angle Body Geometry
- Connector Interface Types: LMR-400, PE-C400, PE-B400, PE-B405

Features

- Max. Operating Frequency 6 GHz
- Good VSWR of 1.35:1
- Gold Plated Beryllium Copper Contact
- 1.27 µm minimum contact plating

Applications

- General Purpose Test
- Custom Cable Assemblies

Description

Pasternack's EZ-400-NMH-RA-X type N male right angle connector with crimp/non-solder contact attachment for LMR-400, PE-C400, PE-B400 and PE-B405 is part of our full line of RF components available for same-day shipping. Our type N male connector operates up to a maximum frequency of 6 GHz and offers good VSWR of 1.35:1. Its right angle body geometry allows for easier connections in tight spaces.

Our type N male right angle connector EZ-400-NMH-RA-X datasheet specifications and drawing with dimensions are shown below in this PDF. Pasternack's broad catalog of RF, microwave and millimeter wave connectors allows designers to configure and customize their signal connections however they like. Whether the need is to provide an I/O for a board design, or simply create a custom cable assembly configuration, Pasternack has the right connector for the job. Pasternack can also expertly build your custom cable assemblies for you and ship same-day.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		6	GHz
VSWR			1.35:1	
Dielectric Withstanding Voltage (AC)			2,500	Vrms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 3					GHz
Insertion Loss, Max	0.1					dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: N Male Right Angle Connector Crimp/Non-Solder Contact Attachment for LMR-400, PE-C400, PE-B400, PE-B405 EZ-400-NMH-RA-X

Pasternack Enterprises, Inc. • P.O. Box 16759, Irvine, CA 92623
Phone: (866) 727-8376 or (949) 261-1920 • **Fax:** (949) 261-7451
Sales@Pasternack.com • Techsupport@Pasternack.com

N Male Right Angle Connector Crimp/Non-Solder Contact Attachment for LMR-400, PE-C400, PE-B400, PE-B405

Mechanical Specifications

Size

Length	1.87 in [47.5 mm]
Width/Dia.	0.81 in [20.57 mm]
Height	1.42 in [36.07 mm]
Weight	0.2 lbs [90.72 g]
Mating Torque	44 in-lbs [4.97 Nm]

Material Specifications

Description	Material	Plating
Contact	Beryllium Copper	Gold 1.27 µm minimum
Insulation	PTFE	
Body	Brass	Tri-Metal 2 µm minimum
Coupling Nut	Brass	Tri-Metal 2 µm minimum

Environmental Specifications

Temperature

Operating Range	-55 to +155 deg C
Shock	MIL-STD 202, Method 213, Condition I
Vibration	MIL-STD 202, Method 204, Condition B

Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

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EZ-400-NMH-RA-X

N Male Right Angle Connector Crimp/Non-Solder Contact Attachment for LMR-400, PE-C400, PE-B400, PE-B405 from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: N Male Right Angle Connector Crimp/Non-Solder Contact Attachment for LMR-400, PE-C400, PE-B400, PE-B405 EZ-400-NMH-RA-X

URL: https://www.pasternack.com/n-male-lmr-400-pe-c400-pe-b400-pe-b405-connector-ez-400-nmh-ra-x-p.aspx

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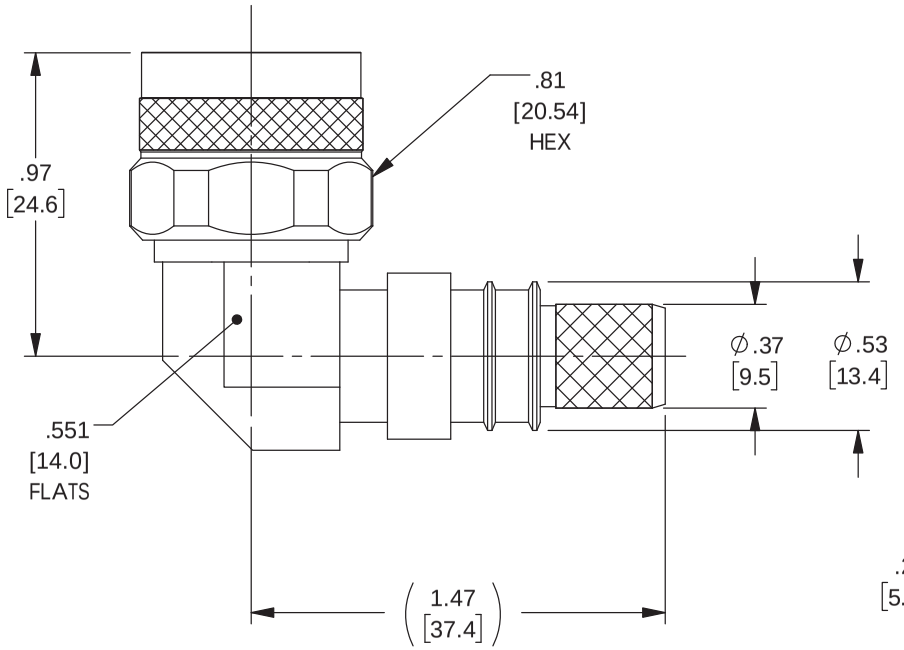
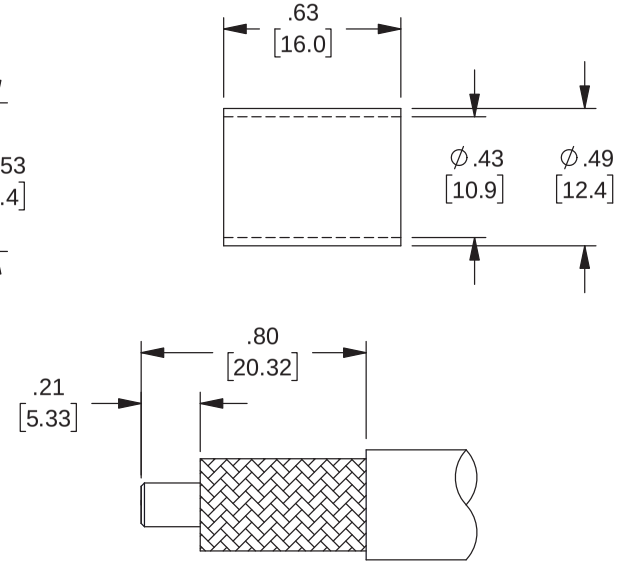
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	01/19/20201	SELLIS





RECOMMENDED CABLE
STRIPPING DIMENSIONS

FERRULE HEX CRIMP SIZE: 0.429 [10.89]

THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:

.X = ± .2 [5.08]	FRACTIONS
.XX = ± .02 [.51]	± 1/32
.XXX = ± .005 [.13]	ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305] = +1 [25] / -0
12 [305] < L ≤ 60 [1524] = +2 [51] / -0
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
300 [7620] < L = +5%L / -0

ALL DIMENSIONS SHOWN
ARE FOR REFERENCE ONLY.

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THIRD-ANGLE PROJECTION

SHEET 1 OF 1

SCALE N/A

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	53919	BPUCHASKI	EZ-400-NMH-RA-X	A

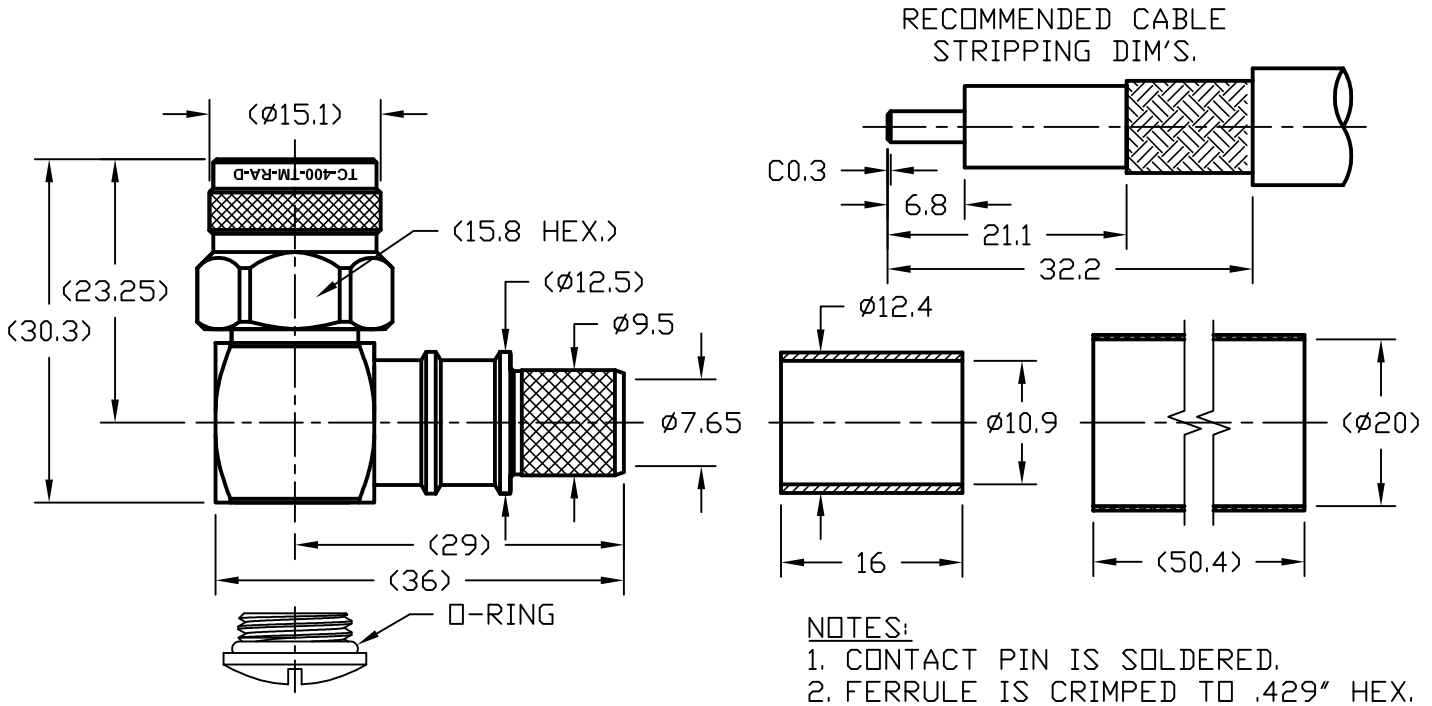
TIMES MICROWAVE SYSTEMS

EZ-400-NMH-RA-X CAD Drawing

N Male Right Angle Connector Crimp/Non-Solder Contact
Attachment for LMR-400, PE-C400, PE-B400, PE-B405

T-Rev.D

SYM	REVISION DESCRIPTION	DFTM	DATE	APPD	DATE
A	RELEASED FOR PRODUCTION	K.A.M.	6/3/11	J.D.B.	6/3/11
B	CHANGED PER CDC #34607/36250	D.J.H.	9/24/12	J.D.B.	9/25/12



NOTES:
1. CONTACT PIN IS SOLDERED.
2. FERRULE IS CRIMPED TO .429" HEX.

ALL PARTS SATISFIED ROHS REQUIREMENTS

MATERIALS AND PLATING		UNIT: MICRO-INCHES
BODY/SHELL	BRASS C3604	ALBALOY 80 MIN/COPPER
CONTACT PIN	BRASS C3604	GOLD 50 MIN/NICKEL/COPPER
INSULATOR	TEFLON MIL-P-19468	N/A
GASKET	SILICONE	RED
FERRULE	BRASS	ALBALOY 80 MIN/COPPER
SHRINK TUBING	PO	BLACK

ELECTRICAL CHARACTERISTICS	
Impedance	50 Ω
Frequency range	0~11GHz
Voltage rating	500V(rms)
Dielectric withstanding voltage	1000V
Contact resistance	Center contact≤3 mΩ
	Outer contact≤2 m Ω
Insulation resistance	≥5000MΩ
Insertion loss	According to the cable
RF- leakage	N/A
VSWR	≤1.35 MAX@0-6GHz

MECHANICAL CHARACTERISTICS	
Force to engage and disengage	N/A
Center contact retention force	6 lbs Min
Coupling torque	15 in-lbs Min
Coupling nut retention force	60 lbs Min
Durability	≥ 500 cycles

ENVIRONMENTAL CHARACTERISTICS	
Temperature range	-55°C- +125°C
Thermal Shock	MIL-STD-202,Method 107,Cond B
Vibration	MIL-STD-202,Method 204,Cond B
Shock	MIL-STD-202,Method 213,Cond I
Climatic Class	IEC 60068 55/155/56

MATL:

USED ON: 0-4

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN mm
MACHINED SURFACES FINISH 1.6 RMS MAX.
REMOVE ALL BURRS 0.15X45° MAX. BREAK MACHINE CORNERS 0.15X45°D MAX. FILLET R.
TOLERANCES ON DECIMALS
.X ± 0.3 .XX ± 0.2
ANGLES ± 1° FRACTIONS ± N/A

DFTM. K. A. M.
DATE 6/3/11
CHKD. J. D. B.
DATE 6/3/11
APPD. J. D. B.
DATE 6/3/11

TIMES MICROWAVE SYSTEMS

TC-400-TM-RA-D
90° TNC MALE
FOR LMR400 CABLE

SCALE: N/A | DWG. SIZE A | DO NOT SCALE DRAWING | CODE IDENT 68999 | SHT. 1 of 1 | SD3190-2671 | REV. B

TIMES MICROWAVE SYSTEMS

LMR®-400
Flexible Low Loss Communications Coax

Ideal for...

- Drop-in replacement for RG-8/9913 Air-Dielectric type Cable
- Jumper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs
- Any application (e.g. WLL, GPS, LMR, WLAN, WISP, WiMax, SCADA, Mobile Antennas) requiring an easily routed, low loss RF cable

• **LMR®** standard is a UV Resistant Polyethylene jacketed cable designed for 20-year service outdoor use. The bending and handling characteristics are significantly better than air-dielectric and corrugated hard-line cables.

• **LMR®- DB** is identical to standard LMR plus has the advantage of being watertight. The addition of waterproofing compound in and around the foil/braid insures continuous reliable service should the jacket be inadvertently damaged during installation or in the future.

• **LMR®- FR** is a non-halogen (non-toxic), low smoke, fire retardant cable designed for in-building runs that can be routed anywhere except air handling plenums. LMR-FR is UL/NEC & CSA rated'CMR' and 'FT4' respectively, meets FAA FAR25 requirements and is MSHA-P for mining applications.

• **LMR®- FR-PVC** is a general-purpose indoor cable and has a UL/NEC & CSA rating of 'CMR' and 'FT4' respectively. It is less expensive than LMR-FR, however it emits toxic fumes (HCL) and greater smoke density when burned.

• **LMR®- PVC** is designed for low loss general-purpose applications and is somewhat more flexible than the standard polyethylene jacketed LMR.

• **LMR®- PVC-W** is a white-jacketed version of LMR-PVC for marine and other applications where color compatibility is desired.

• **Flexibility** and bendability are hallmarks of the LMR-400 cable design. The flexible outer conductor enables the tightest bend radius available for any cable of similar size and performance.

• **Low Loss** is another hallmark feature of LMR-400. Size for size LMR has the lowest loss of any flexible cable and comparable loss to semirigid hard-line cables.

• **RF Shielding** is 50 dB greater than typical single shielded coax (40 dB). The multi-ply bonded foil outer conductor is rated conservatively at > 90 dB (i.e. >180 dB between two adjacent cables).

• **Weatherability**: LMR-400 cables designed for outdoor exposure incorporate the best materials for UV resistance and have life expectancy in excess of 20 years.

• **Connectors**: A wide variety of connectors are available for LMR-400 cable, including all common interface types, reverse polarity, and a choice of solder or non-solder center pins. Most LMR connectors employ crimp outer attachment using standard hex crimp sizes.

• **Cable Assemblies**: All LMR-400 cable types are available as pre-terminated cable assemblies. Refer to the section on FlexTech for further details.

Part Description				Stock
Part Number	Application	Jacket	Color	Code
LMR-400	Outdoor	PE	Black	54001
LMR-400-DB	Outdoor/Watertight	PE	Black	54091
LMR-400-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54030
LMR-400-FR-PVC	Indoor/Outdoor Riser CMR	FRPVC	Black	54073
LMR-400-PVC	General Purpose	PVC	Black	54218
LMR-400-PVC-W	General Purpose	PVC	White	54204

Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BCCAl	0.108	(2.74)
Dielectric	Foam PE	0.285	(7.24)
Outer Conductor	Aluminum Tape	0.291	(7.39)
Overall Braid	Tinned Copper	0.320	(8.13)
Jacket	(see table above)	0.405	(10.29)

TIMES MICROWAVE SYSTEMS

LMR®-400
Flexible Low Loss Communications Coax

Connectors

Interface	Description	Part Number	Stock Code	VSWR** Freq. (GHz)	Coupling Nut	Inner Contact Attach	Outer Contact Attach	Finish* Body /Pin	Length in	Length (mm)	Width in	Width (mm)	Weight lb(g)	
7-16 DIN Female	Straight Jack	TC-400-716-FC	3190-376	<1.25:1 (2.5)	NA	Solder	Clamp	S/S	1.6	(41)	1.13	(28.7)	0.281	(127.5)
7-16 DIN Male	Straight Plug	EZ-400-716M-X	3190-2524	<1.25:1 (6)	Hex	Spring Finger	Crimp	A/G	1.6	(39.5)	1.38	(35)	0.277	(126.0)
7-16 DIN Male	Straight Plug	TC-400-716-MC	3190-279	<1.25:1 (2.5)	Hex	Solder	Clamp	S/S	1.4	(36)	1.40	(35.6)	0.268	(121.6)
7-16 DIN Male	Right Angle	TC-400-716MC-RA	3190-1671	<1.25:1 (<3)	Hex	Solder	Clamp	A/S	2.4	(61.5)	1.88	(47.8)	0.35	(159)
7-16DIN Male	Right Angle	EZ-400-716M-RA-X	3190-2545	<1.35:1 (6)	Hex	Spring Finger	Crimp	A/G	1.6	(41.7)	1.75	(44.3)	0.374	(0.17)
BNC Male	Straight Plug	TC-400-BM	3190-318	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/S	1.7	(43)	0.56	(14.2)	0.063	(28.6)
HN Male	Straight Plug	TC-400-HNM	3190-923	<1.25: (<1)	Knurl	Solder	Clamp	S/G	2.3	(59.2)	0.88	(22.4)	0.25	(113.4)
HN Male	Right Angle	TC-400-HNM-RA	3190-2541	<1.25:1 (2.5)	Hex	Solder	Crimp	A/G	1.6	(41.4)	1.56	(39.6)	0.198	(90.0)
QDS Male	Straight Plug	TC-400-QDSM	3190-620	<1.25: (<3)	Knurl	Solder	Clamp	A/G	1.8	(46.6)	1.00	(25.4)	0.25	(113.4)
Mini-UHF	Straight Plug	TC-400-MUHF	3190-520	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/G	1.1	(28)	0.50	(12.7)	0.020	(9.1)
N Female	Straight Jack	TC-400-NFC	3190-299	<1.25:1 (2.5)	NA	Solder	Clamp	N/S	1.6	(41)	0.75	(19.1)	0.119	(54.0)
	Straight Jack	EZ-400-NF	3190-956	<1.25:1 (2.5)	NA	Spring Finger	Crimp	N/G	1.8	(45)	0.66	(16.8)	0.105	(47.6)
	Straight Jack	TC-400-NF	3190-2255	<1.25:1 (2.5)	NA	Solder	Crimp	N/G	1.8	(45)	0.66	(16.8)	0.105	(47.6)
	Bulkhead Jack	EZ-400-NF-BH	3190-518#	<1.25:1 (2.5)	NA	Spring Finger	Crimp	N/G	1.8	(46)	0.88	(22.4)	0.102	(46.3)
	Bulkhead Jack	TC-400-NFC-BH (A)	3190-872	<1.25:1 (2.5)	NA	Solder	Clamp	A/G	1.8	(46)	0.88	(22.4)	0.145	(65.8)
N Male	Straight Plug	SC-400-NM	3190-1454	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/G	1.5	(38)	0.75	(19.1)	0.090	(40.8)
	Straight Plug	TC-400-NMC	3190-277	<1.25:1 (2.5)	Knurl	Solder	Clamp	N/G	1.5	(38)	0.70	(17.8)	0.121	(54.9)
	Straight Plug	EZ-400-NMC-2	3190-2640	<1.25:1 (2.5)	Hex/Knurl	Spring Finger	Crimp	N/G	1.5	(38)	0.75	(19.1)	0.121	(54.9)
	Straight Plug	EZ-400-NMH-X	3190-2590	<1.25:1 (10)	Hex/Knurl	Spring Finger	Crimp	A/G	1.5	(38)	0.89	(22.6)	0.103	(46.8)
	Straight Plug	TC-400-NMH-X	3190-2626	<1.25:1 (10)	Hex/Knurl	Solder	Crimp	A/G	1.5	(38)	0.89	(22.6)	0.113	(51.3)
	Straight Plug	EZ-400-NMK	3190-661	<1.25:1 (10)	Knurl	Spring Finger	Crimp	S/G	1.5	(38)	0.75	(22.6)	0.113	(51.3)
	Right Angle	EZ-400-NMH-RA-X	3190-2638	<1.35:1 (6)	Hex/Knurl	Spring Finger	Crimp	A/G	1.87	(47)	1.42	(36.0)	0.177	(80.2)
	Right Angle	TC-400-NMH-RA-D	3190-2293#	<1.35:1 (6)	Hex/Knurl	Solder	Crimp	A/G	1.8	(46)	1.25	(31.8)	0.130	(59.0)
	Right Angle	TC-400-NMC-RA (A)	3190-870	<1.35:1 (2.5)	Hex	Solder	Clamp	A/G	1.8	(46)	1.25	(31.8)	0.150	(68.0)
	Reverse Polarity	TC-400-NM-RP	3190-960	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/G	1.5	(38)	0.75	(19.1)	0.090	(40.8)
SMA Male	Straight Plug	TC-400-SM	3190-439	<1.25:1 (8)	Hex	Solder	Crimp	N/G	1.2	(29)	0.50	(12.7)	0.032	(14.5)
TNC Female	Reverse Polarity	TC-400-TF-RP	3190-1063	<1.25:1 (2.5)	NA	Solder	Crimp	N/G	1.8	(46)	0.55	(14.0)	0.074	(33.6)
	Reverse Polarity	EZ-400-TF-RP	3190-795	<1.25:1 (2.5)	NA	Spring Finger	Crimp	A/G	1.8	(46)	0.55	(14.0)	0.074	(33.6)
TNC Male	Straight Plug	TC-400-TM-X	3190-2532	<1.25:1 (6)	Hex/Knurl	Solder	Crimp	A/G	1.9	(48)	0.67	(17.5)	0.075	(34.3)
	Straight Plug	EZ-400-TM-X	3190-2533	<1.25:1 (6)	Hex/Knurl	Spring Finger	Crimp	A/G	1.9	(48)	0.67	(17.5)	0.075	(34.3)
	Right Angle	TC-400-TM-RA	3190-442#	<1.35:1 (2.5)	Knurl	Solder	Crimp	N/G	1.7	(43)	0.59	(15.0)	0.085	(38.6)
	Reverse Polarity	TC-400-TM-RP	3190-1062	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/G	1.7	(43)	0.59	(15.0)	0.074	(33.6)
	Reverse Polarity	EZ-400-TM-RP	3190-794	<1.25:1 (2.5)	Knurl	Spring Finger	Crimp	A/G	1.7	(43)	0.59	(15.0)	0.074	(33.6)

* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alballoy **VSWR spec based on 3 foot cable with a connector *Available in bulk pack