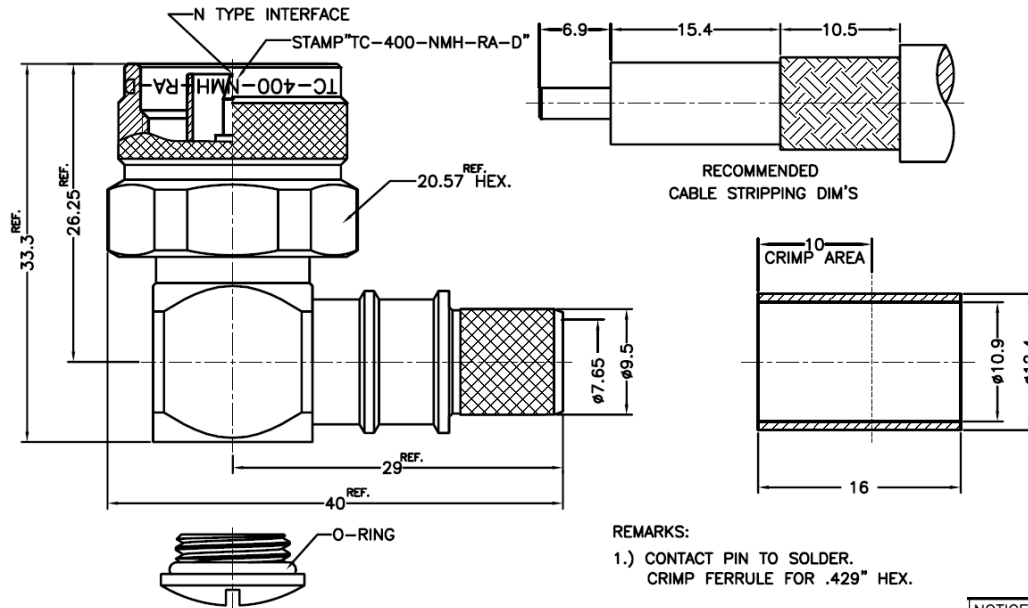


NOTICE OF PROPRIETARY RIGHTS THIS DOCUMENT CONTAINS CONFIDENTIAL TECHNICAL DATA, INCLUDING TRADE SECRETS, PROPRIETARY TO TIMES MICROWAVE SYSTEMS. DISCLOSURE OF THIS DATA IS EXPRESSLY CONDITIONED UPON YOUR ASSENT THAT ITS USE IS LIMITED TO USE WITHIN YOUR COMPANY ONLY. ANY OTHER USE IS STRICTLY PROHIBITED WITHOUT THE PRIOR WRITTEN CONSENT OF TIMES MICROWAVE SYSTEMS.

SYM	REVISION DESCRIPTION	DFTM	DATE	APPD	DATE
A	RELEASED FOR PRODUCTION	D. J. H.	5/30/07	J. D. B.	5/30/07
B	CHANGED PER CDC #27394	D. J. H.	10/2/07	J. D. B.	10/2/07
C	CHANGED PER CDC #27653	D. J. H.	12/6/07	J. D. B.	12/10/07
D	CHANGED PER CDC #28404	D. J. H.	5/27/08	J. D. B.	5/27/08

THIS CONNECTOR IS INDIVIDUALLY PACKAGED. FOR BULK PACKAGING, SEE 3190-2293BLK.



REMARKS:
1.) CONTACT PIN TO SOLDER.
CRIMP FERRULE FOR .429\"

NOTICE:	ALL PARTS MUST MEET TO RoHS REQUIREMENTS
RoHS	☒

MATERIALS AND PLATING UNIT: MICRO-INCHES			ELECTRICAL CHARACTERISTICS	
BODY, SHELL	BRASS C3604	ALBALOY(COPPER-TIN-ZINC) PL.80 MIN.	Impedance	50 Ω
CONTACT PIN	BRASS C3604	GOLD 50/ COPPER	Voltage rating	1000V(rms)
INSULATOR	TEFLON MIL-P-19468	RED	Frequency range	0~11GHz
FERRULE	COPPER	ALBALOY(COPPER-TIN-ZINC) PL.80 MIN.	Dielectric withstanding voltage	1500V
GASKET	SILICONE	RED	Contact resistance	Center contact: $\leq 1m\Omega$ Outer contact $\leq 0.25m\Omega$
(MECHANICAL CHARACTERISTICS) Force to engage and disengage 6 lbs MAX. Center contact retention force 6 lbs MIN. Coupling torque 30 in-lbs MIN. Coupling nut retention force 100 lbs MIN. Durability ≥ 500 cycles			Insulation resistance	$\geq 5000M\Omega$
			Insertion loss	According as the cable
			RF- leakage	-90 dB up to 3 GHz
			VSWR	≤ 1.25 (DC-2.5GHz)
			3rd Intermodulation	-
			ENVIRONMENTAL CHARACTERISTICS	
			Temperature range	-55° C- +155° C
			Thermal shock	US MIL- STD 202, Meth. 107, Cond. B
			Vibration	US MIL- STD 202, Meth. 204, Cond. B
			Shock	US MIL- STD 202, Meth. 213, Cond. I
			Climatic class	IEC 60068 65/165/21

MATL:		UNLESS OTHERWISE SPECIFIED		DFTM. D. J. H.	TIMES MICROWAVE SYSTEMS	
USED ON: 0		ALL DIMENSIONS ARE IN INCHES MACHINED SURFACES FINISH N/A RMS MAX. REMOVE ALL BURRS .005 MAX. BREAK MACHINE CORNERS .005 MAX. FILLET R. TOLERANCES ON DECIMALS .XX ± 0.2 .XXX ± 0.1 ANGLES $\pm 3^\circ$ FRACTIONS $\pm N/A$		DATE 5/30/07		
				CHKD. J. D. B.		
				DATE 5/30/07		
				APPD. J. D. B.	TC-400-NMH-RA-D 90° N MALE (INDIVIDUALLY PACKAGED) FOR LMR400 CABLE	
SCALE: N/A		DWG. SIZE A		DATE 5/30/07		
DO NOT SCALE DRAWING		CODE IDENT	68999	DATE 5/30/07	1 of 1	SD3190-2293 REV D



N Female Bulkhead Connector Crimp/Solder Attachment
For PE-C400, 0.400 inch, .640 inch DD Hole

TECHNICAL DATA SHEET

PE44530

N Female Bulkhead Connector Crimp/Solder Attachment For PE-C400, 0.400 inch, .640 inch DD Hole

Configuration

Connector	N Female
Connector Specification	MIL-STD-348A
Connector Interface Type	PE-C400, 0.400 inch
Cable Attachment Method (Shield/Contact)	Crimp/Solder
Body Style	Straight
Mount Method	Bulkhead

Electrical Specifications

Frequency Range, GHz	DC to 11
Impedance, Ohms	50
Maximum Operating Voltage, Volts	1,500

Frequency 1

Frequency, GHz	DC to 6
VSWR	1.3:1

Mechanical Specifications

Temperature

Operating Range, deg C	-65 to +165
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Size

Length, in [mm]	1.72 [43.69]
Width/Dia., in [mm]	0.87 [22]
Weight, lbs [g]	0.096 [43.54]

Connector

Type	N Female
Contact Material and Plating	Brass, Gold
Body Material and Plating	Brass, Tri-Metal
Dielectric Type	Teflon

Compliance Certifications (visit www.Pasternack.com for current document)

RoHS Compliant	Yes
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Plotted and Other Data

Notes:	Values at 25 °C, sea level
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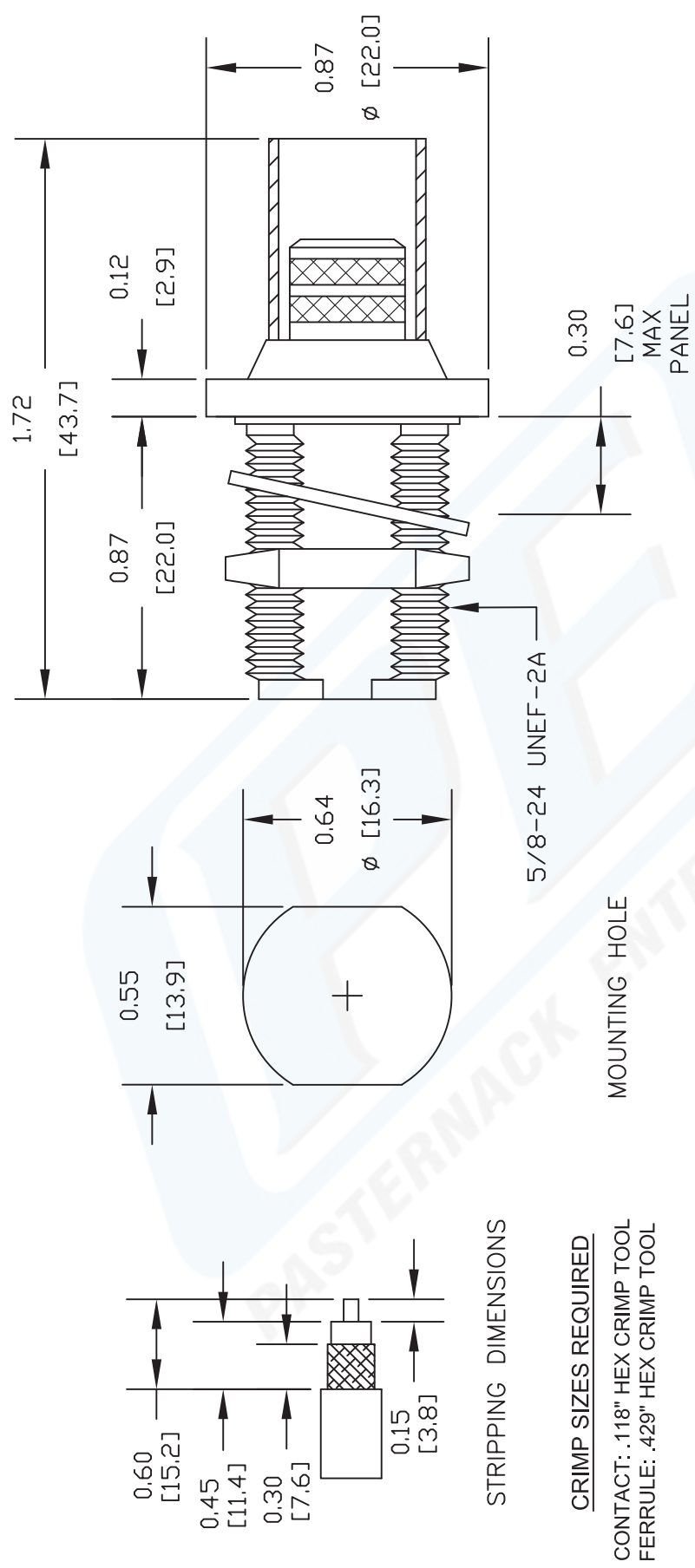
URL: <http://www.pasternack.com/n-female-standard-pe-c400-0.400-connector-pe44530-p.aspx>

N Female Bulkhead Connector Crimp/Solder Attachment For PE-C400, 0.400 inch, .640 inch DD Hole from Pasternack Enterprises has same day shipment for domestic and International orders. We maintain 99% availability of the industry's broadest selection of RF, microwave and fiber optic products.

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal.

PE44530 CAD Drawing

N Female Bulkhead Connector Crimp/Solder Attachment
For PE-C400, 0.400 inch, .640 inch DD Hole



NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].
4. FITS MIL-C-17 AND EQUIVALENT CABLES.

DWG TITLE
PE44530

PASTERNAK®
Pasternack Enterprises, Inc.
P.O. Box 16759 | Irvine | CA | 92623
Phone: (949) 261-1920 | Fax: (949) 261-7451
Website: www.pasternack.com | E-Mail: sales@pasternack.com

REV. B	FSCM NO. 53919	CAD FILE 081711	SCALE N/A	SIZE A	2231
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LMR-® 400-UF UltraFlex 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 that requires periodic/repeated flexing



• **LMR® - UltraFlex** has a stranded center conductor and rubber outer jacket designed for multiple bending/flexing cycles. It is used for both indoor and outdoor applications.

• **Flexibility** and bendability are hallmarks of the LMR-400-UF 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-UF. 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-UF cables are designed for outdoor exposure and have a life expectancy in excess of 10 years.

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

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

Part Description				
Part Number	Application	Jacket	Color	Stock Code
LMR-400-UF	Indoor/Outdoor	TPE	Black	54040

Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Stranded BC	0.108	(2.74)
Dielectric	Foam Polyethylene	0.285	(7.24)
Outer Conductor	Aluminum Tape	0.291	(7.39)
Overall Braid	Tinned Copper	0.320	(8.13)
Jacket	Black Thermoplastic Elastomer	0.405	(10.29)

LMR®-400-UF **UltraFlex 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 (mm)	Width in (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	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)
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)
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)
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-NM	3190-188	<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)	0.75 (19.1)	0.121 (54.9)
	Straight Plug	TC-400-NMH-D	3190-552	<1.25:1 (10)	Hex/Knurl	Solder	Crimp	A/G	1.5 (38)	0.89 (22.6)	0.113 (51.3)
	Right Angle	TC-400-NMH-RA	3190-422*	<1.35:1 (6)	Hex	Solder	Crimp	S/G	1.8 (46)	1.25 (31.8)	0.130 (59.0)
	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)
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 Male	Straight Plug	TC-400-TM	3190-260	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/S	1.7 (43)	0.59 (15.0)	0.074 (33.6)
	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)

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

Mechanical Specifications

Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	1.0	(25.4)
Bend Radius: repeated	in. (mm)	4.0	(101.6)
Bending Moment	ft-lb (N-m)	0.375	(0.51)
Weight	lb/ft (kg/m)	.088	(0.131)
Tensile Strength	lb (kg)	160	(72.6)
Flat Plate Crush	lb/in. (kg/mm)	20	(0.36)

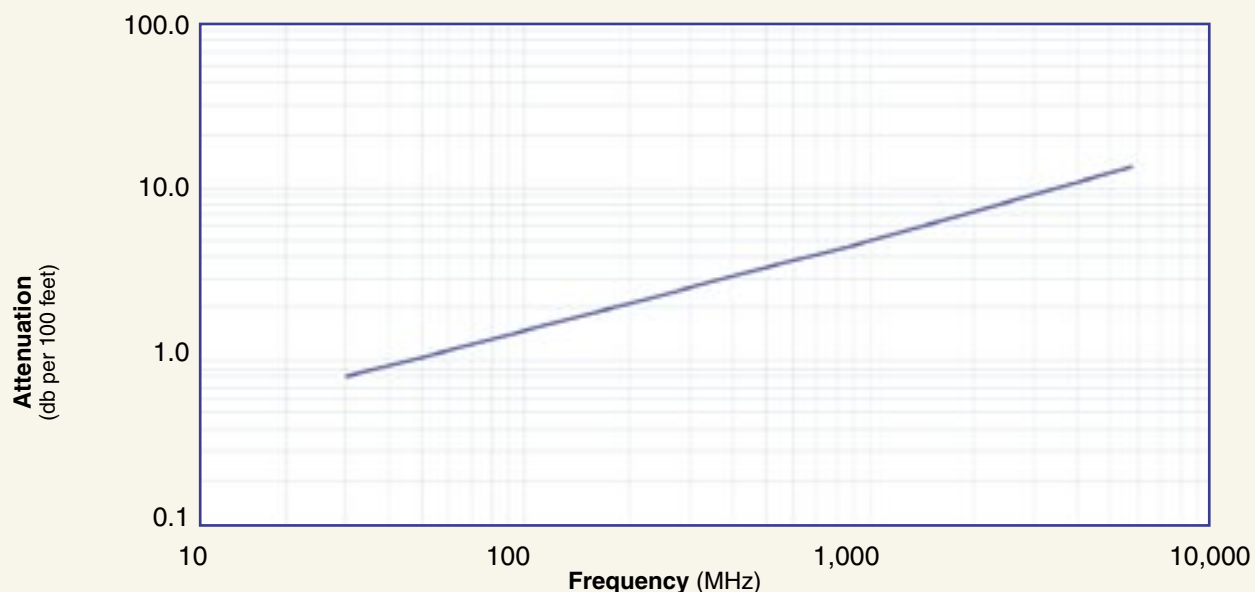
Environmental Specifications

Performance Property	°F	°C
Installation Temperature Range	-40/+185	-40/+85
Storage Temperature Range	-94/+185	-70/+85
Operating Temperature Range	-40/+185	-40/+85

Electrical Specifications

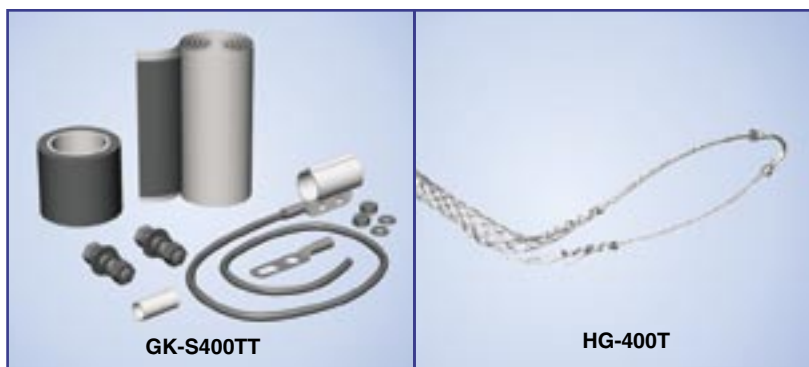
Performance Property	Units	US	(metric)
Cutoff Frequency	GHz	16.2	
Velocity of Propagation	%	85	
Dielectric Constant	NA	1.38	
Time Delay	nS/ft (nS/m)	1.20	(3.92)
Impedance	ohms	50	
Capacitance	pF/ft (pF/m)	23.9	(78.40)
Inductance	uH/ft (uH/m)	0.060	(0.21)
Shielding Effectiveness	dB	>90	
DC Resistance			
Inner Conductor	ohms/1000ft (/km)	1.07	(3.51)
Outer Conductor	ohms/1000ft (/km)	1.65	(5.4)
Voltage Withstand	Volts DC	2500	
Jacket Spark	Volts RMS	8000	
Peak Power	kW	16	

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800
Attenuation dB/100 ft	0.8	1.1	1.8	2.2	3.3	4.7	6.2	6.8	7.2	8.1	13.0
Attenuation dB/100 m	2.7	3.5	6.1	7.4	10.7	15.4	20.2	22.3	23.6	26.6	42.6
Avg. Power kW	2.77	2.14	1.22	1.00	0.69	0.48	0.36	0.33	0.31	0.28	0.17

Calculate Attenuation = $(0.146748) \cdot \sqrt{\text{FMHz}} + (0.000312) \cdot \text{FMHz}$ (interactive calculator available at http://www.timesmicrowave.com/cable_calculators)
 Attenuation: VSWR=1.0; Ambient = +25°C (77°F) Power: VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F);
 Sea Level; dry air; atmospheric pressure; no solar loading



Hardware Accessories

Type	Part Number	Stock Code	Description
Ground Kit	GK-S400TT	GK-S400TT	Standard Grounding Kit (each)
Hoisting Grip	HG-400T	HG-400T	Laced Type (each)



Install Tools

Type	Part Number	Stock Code	Description
Crimp Tool	HX-4	3190-200	Crimp Handle
Crimp Dies	Y1719	3190-202	.429" Hex Dies
Crimp Tool	CT-400/300	3190-666	Crimp tool for LMR 400 connectors
Crimp Rings	CR-400	3190-830	Crimp rings for TC/EZ-400 connectors (package of 10)
Cutting Tool	CCT-01	3190-1544	Cable end flush cut tool
Replacement Blade	RB-01	3190-1609	Replacement blade for cutting tool