

TCOM[®]-195 Low Loss Low Passive Intermod Coax

Ideal for...

- -155 dBc Intermodulation Distortion
- Low Loss UHF/Microwave Interconnect
- Wireless Base Station Interconnect
- Flexible for Easy Routing

• **TCOM[®]** standard is a UV Resistant Polyethylene jacketed cable designed for 20-year service outdoor use. The bending and handling characteristics are significantly better than any air-dielectric and corrugated hard-line cables. **TCOM[®]-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. TCOM-FR has a UL/NEC & CSA rating of ‘CMR’ and ‘FT4’ respectively.

Flexibility and bendability are hallmarks of the TCOM 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 TCOM. Size for size LMR has the lowest loss of any flexible cable and comparable loss to semirigid hard-line cables.

Passive Intermod is lower than -155 dBc exceed the performance levels for most wireless applications.

RF Shielding is 60 dB greater than typical single shielded coax (40 dB). The multi-ply bonded foil outer conductor is rated conservatively at > 100 dB (i.e. >200 dB between two adjacent cables).

Weatherability: TCOM 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 TCOM 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 TCOM 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
TCOM-195	Outdoor	PE	Black	55021
TCOM-195-FR	Indoor-Riser CMR	FRPE	Black	55012

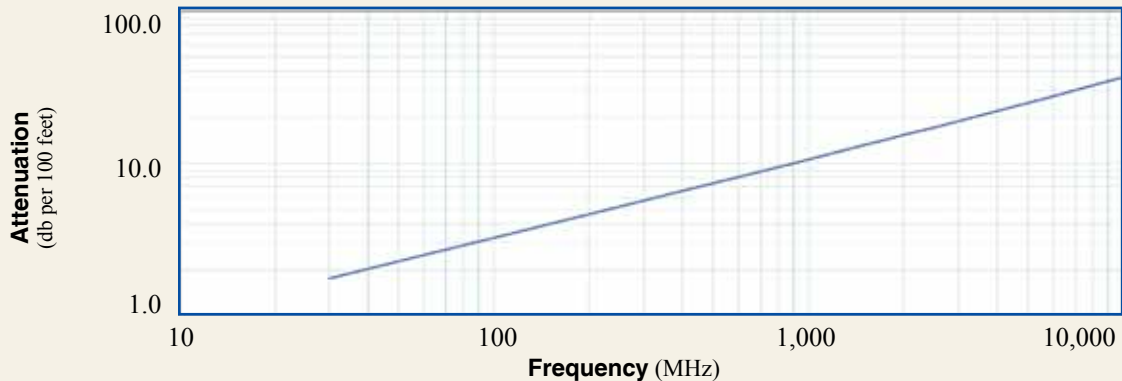
Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BC	0.037	(0.94)
Dielectric	Foam PE	0.110	(2.79)
Outer Conductor	SPC Strip Braid	0.120	(3.05)
Overall Braid	TC Braid over Al tape	0.148	(3.76)
Jacket	(see table above)	0.195	(4.95)

Mechanical Specifications			
Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	0.5	(12.7)
Bend Radius: repeated	in. (mm)	2	(50.8)
Bending Moment	ft-lb (N-m)	0.2	(0.27)
Weight	lb/ft (kg/m)	0.035	(0.05)
Tensile Strength	lb (kg)	40	(18.2)
Flat Plate Crush	lb/in. (kg/mm)	15	(0.27)

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)
Velocity of Propagation	%	76	
Dielectric Constant	NA	1.56	
Time Delay	nS/ft (nS/m)	1.27	(4.17)
Impedance	ohms	50	
Capacitance	pF/ft (pF/m)	25.4	(83.3)
Inductance	uH/ft (uH/m)	0.064	(0.21)
Shielding Effectiveness	dB	>100	
DC Resistance			
Inner Conductor	ohms/1000ft (/km)	7.6	(24.9)
Outer Conductor	ohms/1000ft (/km)	3.42	(11.2)
Voltage Withstand	Volts DC	1000	
Jacket Spark	Volts RMS	3000	
Peak Power	kW	2.5	
Passive Intermod	dBc	-155	

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800	10,000
Attenuation dB/100 ft	1.8	2.3	4.0	4.9	7.0	10.1	13.1	14.5	15.3	17.2	27.2	36.8
Attenuation dB/100 m	5.8	7.5	13.1	16.0	23.0	33.0	43.1	47.5	50.2	56.5	89.1	120.7
Avg. Power kW	0.91	0.71	0.40	0.33	0.23	0.16	0.12	0.11	0.10	0.09	0.06	0.04

Calculate Attenuation = $(0.321011) \cdot \sqrt{\text{FMHz}} + (0.000469) \cdot \text{FMHz}$ (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



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)
1. N Male	Straight Plug	TC-195-NMH-X	3190-2880	<1.25:1 (2.5)	Knurl	Solder	Crimp	S/G	1.5 (38.1)	0.75 (19.1)	0.073 (33.1)
2. SMA Male	Straight Plug	EZ-195-SM-X	3190-6140	<1.30:1 (6)	Hex	Spring Finger	Crimp	A/G	0.9 (22.0)	0.37 (9.4)	0.019 (8.6)
3. SMA Male	Straight Plug	TC-195-SM-SS-X	3190-2878	<1.25:1 (2.5)	Hex	Solder	Crimp	SS/G	1.0 (25.4)	0.32 (8.1)	0.015 (6.8)
4. TNC Male	Straight Plug	TC-195-TM-X	3190-2879	<1.25:1 (2.5)	Knurl	Solder	Crimp	S/G	1.4 (35.6)	0.59 (15.0)	0.045 (20.4)
5. TNC Male	Reverse Polarity	EZ-195-TM-RP-X	3190-6142	<1.35:1 (6)	Hex	Spring Finger	Crimp	A/G	1.1 (28.3)	0.87 (22.0)	0.045 (20.4)
6. EZ-195-BM-X	BNC Male	EZ-195-BM-X	3190-6141	<1.30:1 (4)	Knurl	Spring Finger	Crimp	A/G	1.1 (28.4)	0.60 (14.5)	0.045 (20.4)

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



Type	Part Number	Stock Code	Description	Install Tools
Crimp Tool	CT-240/200/195/100	3190-667	Crimp tool for LMR-100, 195, 200 and 240 connectors	<p>CCT-02 3192-165</p>
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges	
Cutting Tool	CCT-02	3192-165	Cable end flush cut tool	
Replacement Blade	RB-02	3192-166	Replacement blade for cutting tool	
Strip Tool	CST-195/200	3192-102	Combination prep tool for LMR-195 and LMR-200	
Replacement Blade Kit	RB-CST	3192-086	Replacement blade kit for all strip tools	

TCOM[®]-240 Low Loss Low Passive Intermod Coax

Ideal for...

- -155 dBc Intermodulation Distortion
- Low Loss UHF/Microwave Interconnect
- Wireless Base Station Interconnect
- Flexible for Easy Routing



Part Description				Stock
Part Number	Application	Jacket	Color	Code
TCOM-240	Outdoor	PE	Black	55017
TCOM-240-FR	Indoor-Riser CMR	FRPE	Black	55023

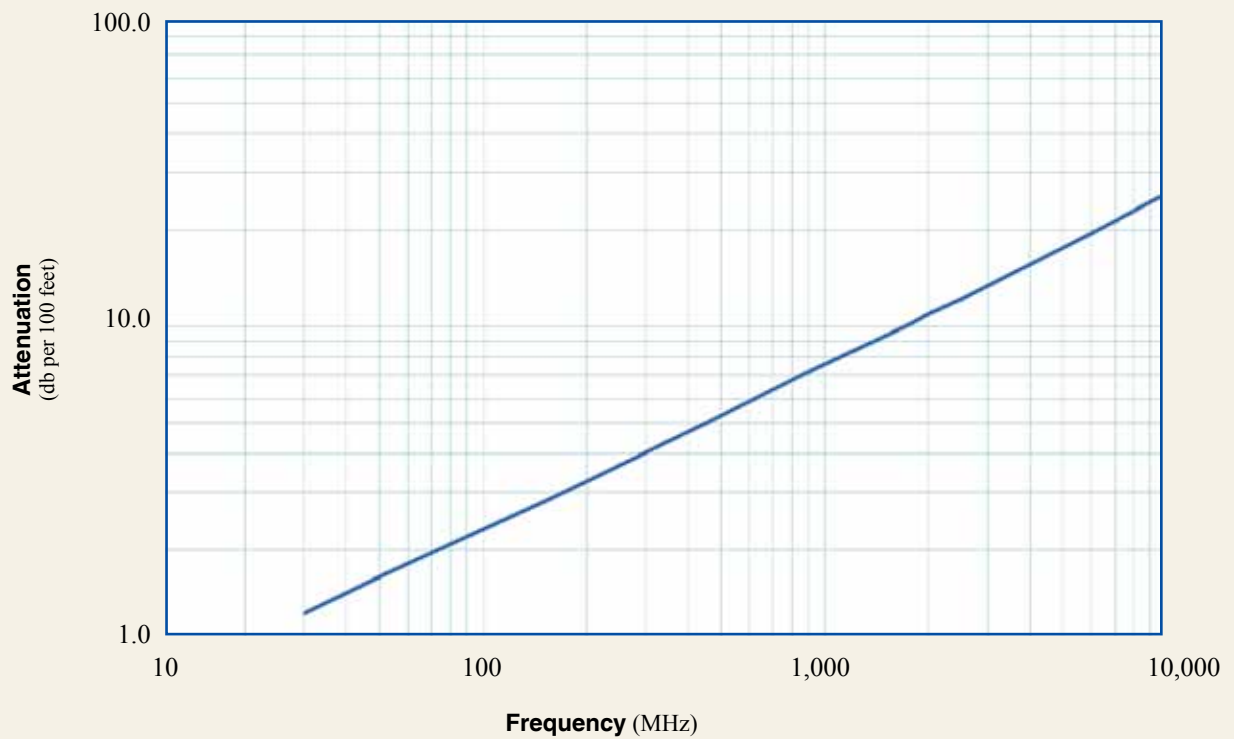
Environmental Specifications		
Performance Property	°F	°C
Installation Temperature Range	-40/+185	-40/+85
Storage Temperature Range	-94/+185	-70/+85
Operating Temperature Range	-40/+185	-40/+85

Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BC	0.056	(1.42)
Dielectric	Foam PE	0.150	(3.81)
Outer Conductor	SPC Strip Braid	0.160	(4.06)
Overall Braid	TC Braid over Al tape	0.188	(4.78)
Jacket	(see table)	0.240	(6.10)

Mechanical Specifications			
Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	0.75	(19.1)
Bend Radius: repeated	in. (mm)	2.5	(63.5)
Bending Moment	ft-lb (N-m)	0.25	(0.34)
Weight	lb/ft (kg/m)	0.045	(0.07)
Tensile Strength	lb (kg)	80	(36.3)
Flat Plate Crush	lb/in. (kg/mm)	20	(0.36)

Electrical Specifications			
Performance Property	Units	US	(metric)
Velocity of Propagation	%	84	
Dielectric Constant	NA	1.42	
Time Delay	nS/ft (nS/m)	1.21	(3.97)
Impedance	ohms	50	
Capacitance	pF/ft (pF/m)	24.2	(79.4)
Inductance	uH/ft (uH/m)	0.060	(0.20)
Shielding Effectiveness	dB	>100	
DC Resistance			
Inner Conductor	ohms/1000ft (/km)	3.2	(10.5)
Outer Conductor	ohms/1000ft (/km)	2.06	(6.8)
Voltage Withstand	Volts DC	1500	
Jacket Spark	Volts RMS	5000	
Peak Power	kW	5.6	
Passive Intermod	dBc	-155	

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800	10,000
Attenuation dB/100 ft	1.3	1.6	2.9	3.5	5.0	7.2	9.4	10.3	10.9	12.3	19.4	26.2
Attenuation dB/100 m	4.2	5.4	9.4	11.4	16.4	23.5	30.7	33.9	35.8	40.3	63.6	86.0
Avg. Power kW	1.58	1.22	0.70	0.57	0.40	0.28	0.21	0.19	0.18	0.16	0.10	0.07

Calculate Attenuation =

$(0.229148) \cdot \sqrt{\text{FMHz}} + (0.000331) \cdot \text{FMHz}$ (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

TCOM-240 Low Loss Low Passive Intermod 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)
1. BNC Male	Straight Plug	TC-240-BMC	3190-242	<1.25:1 (2.5)	Knurl	Solder	Clamp	S/G	1.7 (43)	0.56 (14.2)	0.040 (18.1)
2. BNC Male	Straight Plug	TC-240-BM-X	3190-2890	<1.25:1 (2.5)	Knurl	Solder	Crimp	A/G	1.7 (43)	0.56 (14.2)	0.043 (19.5)
3. BNC Male	Straight Plug	EZ-240-BM-X	3190-6120	<1.25:1 (4)	Knurl	Spring Finger	Crimp	A/G	1.2 (31.7)	0.60 (14.5)	0.045 (20.4)
4. BNC Male	Right Angle	EZ-240-BM-RA-X	3190-2868	<1.30:1 (4)	Knurl	Spring Finger	Crimp	A/G	1.3 (33.6)	1.19 (30.1)	0.091 (41.7)
5. BNC Male	Right Angle	TC-240-BM-RA-X	3190-2869	<1.30:1 (4)	Knurl	Solder	Crimp	A/G	1 (25.1)	1.04 (26.4)	0.091 (41.7)
6. Mini-UHF	Straight Plug	TC-240-MUHF	3190-445	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/G	1.1 (28)	0.45 (11.4)	0.014 (6.4)
7. N Male	Straight Plug	EZ-240-NMH-X	3190-2893	<1.25:1 (2.5)	Hex/Knurl	Spring Finger	Crimp	A/G	1.5 (38.1)	0.78 (19.8)	0.086 (39.0)
8. N Male	Straight Plug	TC-240-NMH-X	3190-2887	<1.25:1 (2.5)	Hex	Solder	Crimp	N/S	1.5 (38)	0.75 (19.1)	0.086 (39.0)
9. N Male	Right Angle	EZ-240-NMH-RA-X	3190-6143	<1.35:1 (6)	Hex	Spring Finger	Crimp	A/G	1 (25.1)	1.04 (26.4)	0.115 (52.0)
10. N Male	Straight Plug	TC-240-NMC	3190-244	<1.25:1 (2.5)	Knurl	Solder	Clamp	S/G	1.5 (38)	0.75 (19.1)	0.082 (37.2)
11. N Male	Right Angle	TC-240-NMH-RA-D	3190-2426	<1.35:1 (6)	Hex/Knurl	Solder	Crimp	A/G	1.2 (32.4)	1.22 (31.0)	0.091 (41.7)
12. N Female	Panel Jack	TC-240-NF-BHF(A)	3190-866	<1.25:1 (2.5)	NA	Solder	Crimp	A/G	1.7 (44)	1.00 (25.4)	0.115 (52.2)
13. N Female	Bulkhead Jack	TC-240-NF-BH-X	3190-2888	<1.25:1 (2.5)	NA	Solder	Clamp	A/G	1.8 (46)	0.88 (22.4)	0.145 (65.8)
14. N Female	Straight Jack	EZ-240-NF-X	3190-2795	<1.25:1 (6)	NA	Spring Finger	Crimp	A/G	1.4 (35.4)	0.62 (15.8)	0.040 (18.0)
15. SMA Female	Bulkhead Jack	TC-240-SFSS-BH-X	3190-2896	<1.25:1 (2.5)	NA	Solder	Crimp	SS/G	1.1 (29)	0.31 (7.9)	0.019 (8.6)
16. SMA Male	Straight Plug	TC-240-SM-SS-X	3190-2898	<1.25:1 (10)	Hex	Solder	Crimp	SS/G	1.0 (25)	0.32 (8.1)	0.016 (7.3)
17. SMA Male	Right Angle	TC-240-SM-RA-SS-X	3190-2900	<1.35:1 (6)	Hex	Solder	Crimp	SS/G	0.8 (20)	0.65 (16.5)	0.019 (8.6)
18. SMA Male	Reverse Polarity	TC-240-SM-RP	3190-326	<1.25:1 (2.5)	Hex	Solder	Crimp	SS/G	1.0 (25)	0.32 (8.1)	0.016 (7.3)
19. TNC Male	Straight Plug	EZ-240-TM	3190-1128	<1.25:1 (2.5)	Knurl	Spring Finger	Crimp	N/G	1.4 (34.3)	0.59 (15.0)	0.043 (19.5)
20. TNC Male	Straight Plug	TC-240-TM-X	3190-2797	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/S	1.7 (43)	0.59 (15.0)	0.043 (19.5)
21. TNC Male	Reverse Polarity	EZ-240-TM-RP	3190-970	<1.25:1 (2.5)	Knurl	Spring Finger	Crimp	A/G	1.4 (36)	0.59 (15.0)	0.043 (19.5)
22. TNC Female	Straight Jack	EZ-240-TF-X	3190-6204	<1.25:1 (6)	NA	Spring Finger	Crimp	A/G	1.1 (27.2)	0.87 (22.0)	0.033 (15.0)
23. TNC Female	Reverse Polarity	EZ-240-TF-RP-X	3190-6167	<1.35:1 (6)	NA	Spring Finger	Crimp	A/G	1.1 (27.2)	0.87 (22.0)	0.033 (15.0)
24. F Male	Straight Plug	TC-240-FM-X	3190-2891	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/G	1.1 (28)	0.45 (11.4)	0.014 (6.4)
25. QMA Male	Straight Plug	EZ-240-QM-X	3190-2894	<1.25:1 (6)	Knurl	Spring Finger	Crimp	N/G	1.2 (30.0)	0.41 (10.5)	0.014 (6.35)
26. QMA Male	Right Angle	EZ-240-QM-RA-X	3190-2895	<1.25:1 (<6)	Knurl	Spring Finger	Crimp	N/G	0.8 (20.3)	0.65 (16.5)	0.019 (8.62)

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



Hardware Accessories

Type	Part Number	Stock Code	Description
Ground Kit	GK-S240TT	GK-S240TT	Standard Ground Kit (each)



Installation Tools

Type	Part Number	Stock Code	Description
Crimp Tool	CT-240/200/195/100	3190-667	Crimp tool for LMR-100, 195, 200 and 240 connectors
Strip Tool	CST-240A	3192-152	Prep tool for LMR-240 connectors
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges
Cutting Tool	CCT-02	3192-165	Cable end flush cut tool
Replacement Blade	RB-02	3192-166	Replacement blade for cutting tool
Replacement Blade Kit	RB-CST	3192-086	Replacement blade kit for all CST strip tools

TCOM[®]-300 Low Loss Low Passive Intermod Coax

Ideal for...

- -155 dBc Intermodulation Distortion
- Low Loss UHF/Microwave Interconnect
- Wireless Base Station Interconnect
- Flexible for Easy Routing



Part Description					Stock
Part Number	Application	Jacket	Color	Code	Code
TCOM-300	Outdoor	PE	Black	55011	
TCOM-300-FR	Indoor-Riser CMR	FRPE	Black	55013	
TCOM-300-PUR-DB	Outdoor/Watertight	PUR	Black	55038	

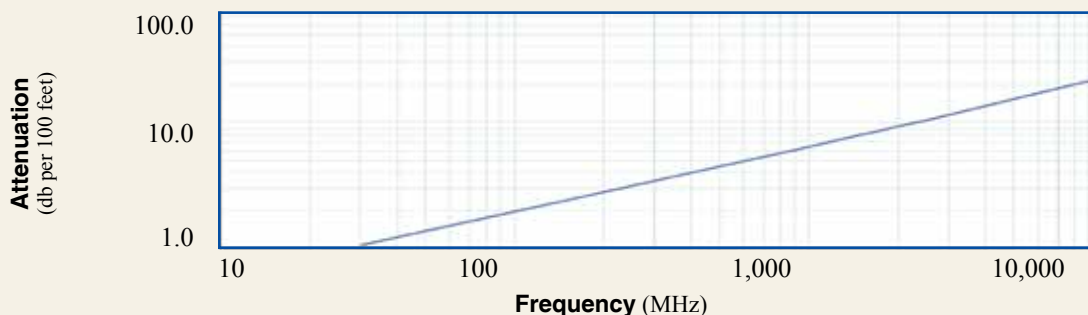
Environmental Specifications			
Performance Property	°F	°C	
Installation Temperature Range	-40/+185	-40/+85	
Storage Temperature Range	-94/+185	-70/+85	
Operating Temperature Range	-40/+185	-40/+85	

Mechanical Specifications			
Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	0.88	(22.2)
Bend Radius: repeated	in. (mm)	3.0	(76.2)
Bending Moment	ft-lb (N-m)	0.38	(0.52)
Weight	lb/ft (kg/m)	0.055	(0.08)
Tensile Strength	lb (kg)	120	(54.5)
Flat Plate Crush	lb/in. (kg/mm)	30	(0.54)

Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BC	0.070	(1.78)
Dielectric	Foam PE	0.190	(4.83)
Outer Conductor	SPC Strip Braid	0.200	(5.08)
Overall Braid	TC Braid over Al tape	0.234	(5.94)
Jacket	(see table)	0.300	(7.62)

Electrical Specifications			
Performance Property	Units	US	(metric)
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	(78.4)
Inductance	uH/ft (uH/m)	0.060	(0.20)
Shielding Effectiveness	dB	>100	
DC Resistance			
Inner Conductor	ohms/1000ft (/km)	2.12	(7.0)
Outer Conductor	ohms/1000ft (/km)	2.10	(6.9)
Voltage Withstand	Volts DC	2000	
Jacket Spark	Volts RMS	5000	
Peak Power	kW	10	
Passive Intermod	dBc	-155	

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800	10,000
Attenuation dB/100 ft	1.1	1.4	2.4	3.0	4.3	6.1	8.0	8.8	9.3	10.5	16.7	22.7
Attenuation dB/100 m	3.5	4.6	8.0	9.7	14.0	20.1	26.3	29.0	30.7	34.6	54.8	74.5
Avg. Power kW	2.07	1.60	0.91	0.75	0.52	0.36	0.28	0.25	0.24	0.21	0.13	0.10

Calculate Attenuation = $(0.194337) \cdot \sqrt{\text{FMHz}} + (0.000327) \cdot \text{FMHz}$ (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



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)
1. TNC Male	Straight Plug	TC-300-TM	3190-500	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/S	1.7 (43)	0.59 (15.0)	0.050 (22.7)
2. SMA Male	Straight Plug	TC-300-SM	3190-501	<1.25:1 (2.5)	Hex	Solder	Crimp	SS/G	1.0 (25)	0.35 (8.9)	0.018 (8.2)
3. SMA Female	Bulkhead Jack	TC-300-SF-BH	3190-590	<1.25:1 (2.5)	NA	Solder	Crimp	SS/G	1.1 (28)	0.31 (7.9)	0.022 (10.0)
4. N Male	Straight Plug	TC-300-NMH-X	3190-2861	<1.25:1 (6)	Hex/Knurl	Solder	Crimp	A/G	1.3 (33)	0.86 (21.8)	0.084(38.1)
5. N Male	Right Angle	TC-300-NMH-RA-D	3190-2761	<1.30:1 (2.5)	Hex/Knurl	Solder	Crimp	N/S	1.4 (35)	1.41 (35.8)	0.130 (59.0)
6. N Female	Straight Jack	EZ-300-NF-X	3190-3078	<1.25:1 (6)	NA	Spring Finger	Crimp	A/G	1.4 (36.5)	0.87 (22.0)	0.033 (18.0)

Hardware Accessories

Type	Part Number	Stock Code	Description
Ground Kit	GK-S300TT	GK-S300TT	Standard Ground Kit (each)



Install Tools

Type	Part Number	Stock Code	Description
Crimp Tool	CT-400/300	3190-666	Crimp tool for LMR 300 connectors
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges
Cutting Tool	CCT-02	3192-165	Cable end flush cut tool
Prep Tool	CST-300	3192-084	Prep tool for LMR-300 connectors
Replacement Blade	RB-02	3192-166	Replacement blade for cutting tool
Replacement Blade Kit	RB-CST	3192-086	Replacement blade kit for all strip tools



TCOM[®]-400 Low Loss Low Passive Intermod Coax

Ideal for...

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- Low Loss UHF/Microwave Interconnect
- Wireless Base Station Interconnect
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Part Description				Stock
Part Number	Application	Jacket	Color	Code
TCOM-400	Outdoor	PE	Black	55003
TCOM-400-FR	Indoor-Riser CMR	FRPE	Black	55016
TCOM-400-PUR	Indoor/Outdoor	PUR	Black	55015
TCOM-400-PUR-DB	Outdoor/Watertight	PUR	Black	55031

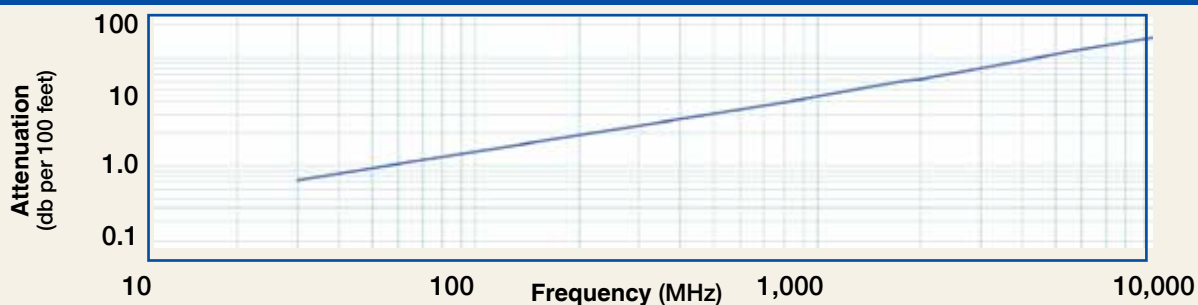
Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BCCAI	0.108	(2.74)
Dielectric	Foam PE	0.285	(7.24)
Outer Conductor	SPC Strip Braid	0.295	(7.49)
Overall Braid	TC Braid over Al tape	0.330	(8.38)
Jacket	(see table)	0.405	(10.29)

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)
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	(78.4)
Inductance	uH/ft (uH/m)	0.060	(0.20)
Shielding Effectiveness	dB	>100	
DC Resistance			
Inner Conductor	ohms/1000ft (/km)	1.39	(4.6)
Outer Conductor	ohms/1000ft (/km)	1.47	(4.8)
Voltage Withstand	Volts DC	2500	
Jacket Spark	Volts RMS	8000	
Peak Power	kW	16	
Passive Intermod	dBc	-155	

Mechanical Specifications			
Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	1.00	(25.4)
Bend Radius: repeated	in. (mm)	4.0	(101.6)
Bending Moment	ft-lb (N-m)	0.5	(0.68)
Weight	lb/ft (kg/m)	0.080	(0.12)
Tensile Strength	lb (kg)	160	(72.6)
Flat Plate Crush	lb/in. (kg/mm)	40	(0.71)

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800	10,000
Attenuation dB/100 ft	0.7	0.9	1.6	2.0	2.9	4.2	5.4	6.0	6.4	7.2	11.5	15.7
Attenuation dB/100 m	2.4	3.1	5.4	6.5	9.5	13.6	17.9	19.7	20.9	23.6	37.6	51.4
Avg. Power kW	3.12	2.41	1.38	1.13	0.78	0.54	0.41	0.37	0.35	0.31	0.19	0.14

1  EZ-400-4195M-X 3190-2969	2  TC-400-716FC 3190-376	3  TC-400-716MC 3190-279	4  TC-400-716M-X 3190-2597
5  TC-400-BM 3190-318	6  TC-400-BM-X 3190-6232	7  TC-400-MUHF 3190-520	8  TC-400-NFC 3190-299
9  EZ-400-NF-X 3190-2818	10  EZ-400-NF-BH 3190-518	11  TC-400-NFC-BH (A) 3190-872	12  SC-400-NM 3190-1454
13  TC-400-NMC 3190-277	14  EZ-400-NMH-X 3190-2590	15  TC-400-NMH-X 3190-2626	16  EZ-400-NMK 3190-661
17  EZ-400-NMH-RA-X 3190-2638	18  TC-400-NMC-RA (A) 3190-870	19  TC-400-NM-RP 3190-960	20  TC-400-SM 3190-439
21  TC-400-SF-X 3190-6174	22  EZ-400-TF-X 3190-3049	23  TC-400-TF-X 3190-3051	24  EZ-400-TF-RP 3190-795
25  EZ-400-TM-RP 3190-794	26  TC-400-TM-X 3190-2532	27  EZ-400-TM-X 3190-2533	28  TC-400-TM-RA-D 3190-2671

Calculate Attenuation =

$(0.130555) \cdot \sqrt{\text{FMHz}} + (0.000262) \cdot \text{FMHz}$ (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

TCOM-400

Low Loss Low Passive Intermod 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)		
1. 4.1-9.5 mini DIN Male	Straight Plug	EZ-400-4195M-X	3190-2969	<1.25:1 (6)	Hex	Spring Finger	Crimp	A/G	1.5 (38.1)	0.89 (22.6)	0.103 (46.8)		
2. 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)		
3. 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)		
4. 7-16 DIN Male	Straight Plug	TC-400-716M-X	3190-2597	<1.25:1 (6)	Hex	Solder	Crimp	A/S	1.6 (39.5)	1.42 (36.0)	0.320 (145.0)		
5. 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)		
6. BNC Male	Straight Plug	TC-400-BM-X	3190-6232	<1.30:1 (4)	Knurl	Solder	Crimp	A/G	1.8 (46.8)	0.60 (14.5)	0.630 (28.6)		
7. 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)		
8. 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)		
9. N Female	Straight Jack	EZ-400-NF-X	3190-2818	<1.25:1 (2.5)	NA	Spring Finger	Crimp	N/G	1.8 (45)	0.66 (16.8)	0.105 (47.6)		
10. N Female	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)		
11. N Female	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)		
12. 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)		
13. N Male	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)		
14. N Male	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)		
15. N Male	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)		
16. N Male	Straight Plug	EZ-400-NMK	3190-661	<1.25:1 (10)	Knurl	Spring Finger	Crimp	S/G	1.5 (38)	0.89 (22.6)	0.113 (51.3)		
17. N Male	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)		
18. N Male	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)		
19. N Male	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)		
20. 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)		
21. SMA Female	Straight Jack	TC-400-SF-X	3190-6174	<1.35:1 (6)	NA	Solder	Crimp	A/G	1.2 (29.7)	0.50 (12.7)	0.026 (12.0)		
22. TNC Female	Straight Jack	EZ-400-TF-X	3190-3049	<1.25:1 (6)	NA	Solder	Crimp	A/G	1.8 (45.0)	0.55 (14.0)	0.074 (33.6)		
23. TNC Female	Straight Jack	TC-400-TF-X	3190-3051	<1.25:1 (6)	Knurl	Solder	Crimp	A/G	1.8 (46.8)	0.60 (14.5)	0.630 (28.6)		
24. TNC Female	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)		
25. TNC Male	Reverse Polarity	EZ-400-TM-RP	3190-794	<1.25:1 (2.5)	NA	Spring Finger	Crimp	A/G	1.7 (43)	0.59 (15.0)	0.074 (33.6)		
26. 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)		
27. TNC Male	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)		
28. TNC Male	Right Angle	TC-400-TM-RA-D	3190-2671	<1.35:1 (6)	Hex/Knurl	Solder	Crimp	A/G	1.4 (35)	1.41 (35.8)	0.130 (59.0)		
29. TNC Male	Reverse Polarity	TC-400-TM-RP-RA-D	3190-6147	<1.35:1 (6)	Hex	Solder	Crimp	A/G	1.4 (36.0)	1.20 (30.3)	0.130 (59.0)		
30. UHF Male	Straight Plug	EZ-400-UM	3190-997	<1.25:1 (2.5)	Knurl	Spring Finger	Crimp	N/G	1.9 (48)	0.80 (20.3)	0.090 (40.8)		
31. QN Female	Straight Jack	EZ-400-QNF-X	3190-2980	<1.25:1 (6)	NA	Spring Finger	Crimp	A/G	1.8 (45.0)	0.66 (16.8)	0.105 (47.6)		
32. QN Male	Straight Plug	EZ-400-QNM-X	3190-2979	<1.25:1 (6)	Hex	Spring Finger	Crimp	A/G	1.5 (38.1)	0.89 (22.6)	0.103 (46.8)		
33. QN Male	Right Angle	EZ-400-QNM-RA-X	3190-2981	<1.25:1 (6)	Hex	Spring Finger	Crimp	A/G	1.9 (47.0)	1.42 (36.0)	0.177 (80.2)		
34. QN Male	Straight Plug	TC-400-QNM-X	3190-6212	<1.25:1 (6)	Hex	Solder	Crimp	A/G	2.0 (50.2)	0.74 (18.9)	0.103 (46.8)		



Hardware Accessories

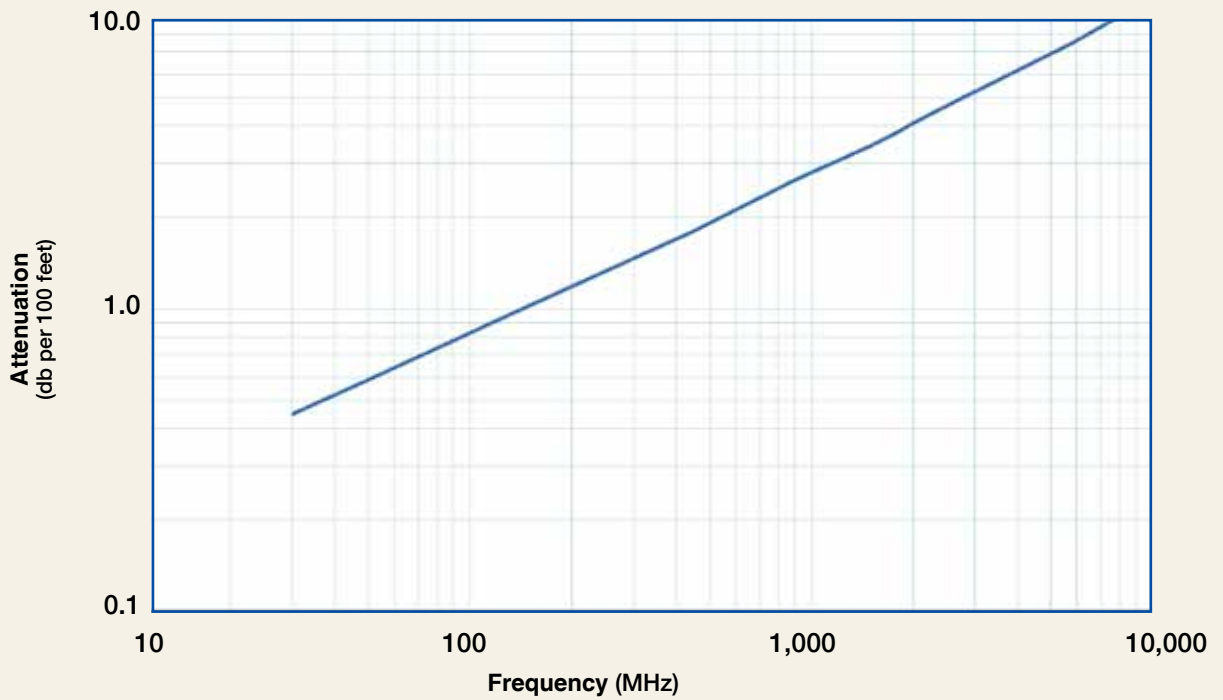
Type	Part Number	Stock Code	Description
Ground Kit	GK-S400TT	GK-S400TT	Standard Grounding Kit (each)
Hoisting Grip	HG-400T	HG-400T	Laced Type (each)



Install Tools

Type	Part Number	Stock Code	Description
Crimp Tool	CT-U	3192-181	Crimp Handle (Dies Required)
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)
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges
Cutting Tool	CCT-02	3192-165	Cable end flush cut tool
Strip Tool	CST-400	3192-004	Combination prep tool for TCOM-400 crimp and clamp style connectors
Replacement Blades	RB-02	3192-166	Replacement blades for cutting tool
Replacement Blade Kit	RB-CST	3192-086	Replacement blade kit for all CST strip tools
Tool Kit	TK-400EZ	3190-1602	Tool kit for crimp and clamp style connectors (includes CCT-02, CST-400, CT-400/300, Tool Pouch)

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800	10,000
Attenuation dB/100 ft	0.4	0.6	1.0	1.2	1.8	2.6	3.5	3.9	4.1	4.6	7.6	10.6
Attenuation dB/100 m	1.5	1.9	3.3	4.1	6.0	8.6	11.4	12.7	13.4	15.2	24.9	34.7
Avg. Power kW	5.20	4.01	2.28	1.86	1.28	0.88	0.66	0.60	0.56	0.50	0.30	0.22

Calculate Attenuation =

$(0.080075) \cdot \sqrt{\text{FMHz}} + (0.000256) \cdot \text{FMHz}$ (interactive calculator available at http://www.timesmicrowave.com/cable_calculators)

Attenuation:

VSWR=1.0 ; Ambient = +25°C (77°F)

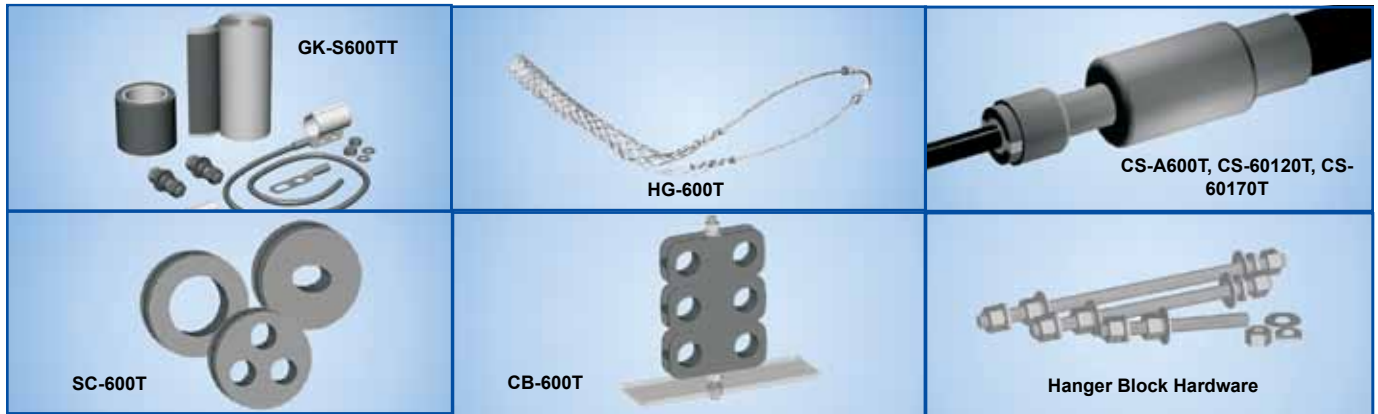
Power:

VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F); Sea Level; dry air; atmospheric pressure; no solar loading

TCOM-600 Low Loss Low Passive Intermod 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	Weight (g)
1. 7-16 DIN Female	Straight Jack	TC-600-716-FC	3190-375	<1.25:1 (2.5)	NA	Solder	Clamp	S/S	1.1 (28)	1.00 (25.4)	0.249 (112.9)	
2. 7-16 DIN Male	Straight Plug	EZ-600-716-MH	3190-503	<1.25:1 (2.5)	Hex	Spring Finger	Crimp	S/S	2.0 (51)	1.30 (33.0)	0.254 (115.2)	
3. 7-16 DIN Male	Straight Plug	TC-600-716-MC	3190-502	<1.25:1 (2.5)	Hex	Solder	Clamp	S/S	2.0 (51)	1.30 (33.0)	0.347 (157.4)	
4. 7-16 DIN Male	Right Angle	TC-600-716M-RA	3190-395	<1.35:1 (2.5)	Hex	Solder	Crimp	S/S	1.4 (36)	1.40 (35.6)	0.354 (160.8)	
5. N Female	Bulkhead Jack	EZ-600-NF-BH	3190-616	<1.25:1 (2.5)	NA	Spring Finger	Crimp	S/G	2.4 (61)	0.88 (22.4)	0.195 (88.5)	
6. N Female	Bulkhead Jack	TC-600-NF-BH	3190-589	<1.25:1 (2.5)	NA	Solder	Crimp	S/G	2.4 (61)	0.88 (22.4)	0.195 (88.5)	
7. N Female	Bulkhead Jack	TC-600-NFC-BH	3190-466	<1.25:1 (2.5)	NA	Solder	Clamp	S/G	2.2 (56)	0.94 (23.9)	0.214 (97.1)	
8. N Male	Straight Plug	EZ-600-NMH-X	3190-2627	<1.25:1 (8.0)	Hex/Knurl	Spring Finger	Crimp	A/G	2.1 (53)	0.92 (23.4)	0.164 (74.4)	
9. N Male	Straight Plug	EZ-600-NMC-2-D	3190-2641	<1.25:1 (6)	Hex/Knurl	Spring Finger	Clamp	A/G	2.1 (53)	0.92 (23.4)	0.202 (91.6)	
10. N Male	Straight Plug	TC-600-NMC	3190-357	<1.25:1 (2.5)	Hex	Solder	Clamp	S/G	2.1 (53)	0.92 (23.4)	0.208 (93.4)	
11. N Male	Right Angle	TC-600-NMC-RA	3190-233	<1.35:1 (2.5)	Hex	Solder	Clamp	S/G	2.1 (53)	0.92 (23.4)	0.280 (127.0)	
12. TNC Male	Straight Plug	EZ-600-TM	3190-418	<1.25:1 (2.5)	Knurl	Spring Finger	Crimp	S/G	1.7 (43)	0.59 (15.0)	0.112 (50.8)	
13. TNC Male	Straight Plug	TC-600-TM-X	3190-2530	<1.25:1 (6)	Hex/Knurl	Solder	Crimp	A/G	2.3 (57.6)	0.75 (19.0)	0.100 (45.6)	
14. TNC Male	Straight Plug	EZ-600-TM-X	3190-2531	<1.25:1 (6)	Hex/Knurl	Spring Finger	Crimp	A/G	2.3 (57.6)	0.75 (19.0)	0.100 (45.6)	
15. BNC Male	Right Angle	TC-600-BM-RA	3190-2734	<1.30:1 (4)	Knurl	Solder	Crimp	A/G	1.8 (45.5)	1.54 (39.0)	0.164 (74.3)	
16. UHF Male	Straight Plug	EZ-600-UM	3190-615	<1.25:1 (2.5)	Knurl	Spring Finger	Crimp	S/G	1.7 (43)	0.88 (22.4)	0.164 (74.4)	
17. UHF Male	Straight Plug	TC-600-UMC	3190-213	<1.25:1 (2.5)	Knurl	Solder	Clamp	S/G	1.7 (43)	0.88 (22.4)	0.198 (89.8)	



Accessories

Type	Part Number	Stock Code	Description
Ground Kit	GK-S600TT	GK-S600TT	Standard Grounding Kit (each)
Hoisting Grip	HG-600T	HG-600T	Split/Laced Type (each)
Cold Shrink	CS-A600T	CS-A600T	Cable to Antenna Junction (each)
Cold Shrink	CS-60120T	CS-60120T	LMR-600 to -1200 Junction (each)
Cold Shrink	CS-60170T	CS-60170T	LMR-600 to -1700 Junction (each)
Standard Entry Port Cushion	SC-600T-3	SC-600T-3	Three Cables (each)
Standard Entry Panels			Full Range of Port Styles/Combinations Available
Hanger Blocks	CB-600T	CB-600T	Dual Cable Support Block (kit of 10)
Hanger Block Supporting Hardware			Complete Range of Supporting Hardware & Adapters Available



Install Tools

Type	Part Number	Stock Code	Description
Crimp Tool	CT-600	3192-170	Crimp tool for LMR-600 connectors
Crimp Tool	CT-U	3192-181	Crimp Handle (Dies Required)
Crimp Dies	Y1720	3190-203	Standard .610" Hex
Cutting Tool	CCT-02	3192-165	Cable and flush cut tool
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges
Replacement Blade Kit	RB-CST	3192-086	Replacement blade kit for all CST strip tools
Wrench	WR600	3190-1435	15/16" Box Wrench (2 required for EZ-600-NMC-2)
Strip Tool	CST-600	3192-052	Combination prep tool for T-COM 600 crimp/clamp connectors
Tool Kit	TK-600EZ	3190-1602	Tool kit for crimp/clamp connectors (includes CCT-02, CST-600, CT-600, Tool Pouch)