

# TCOM<sup>®</sup>-400 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-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

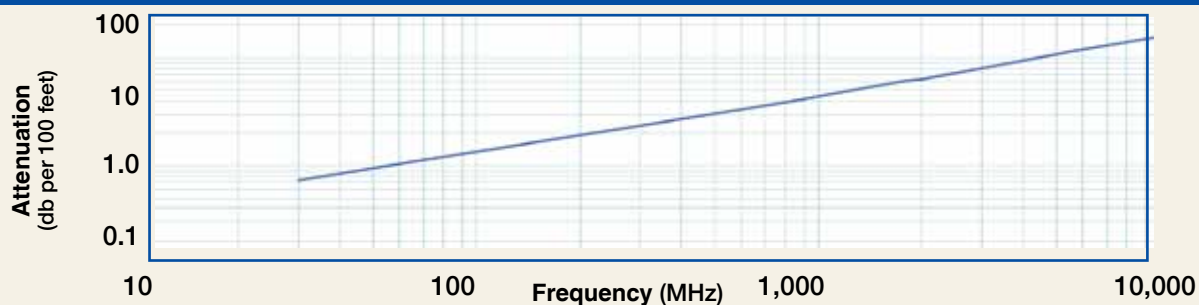
Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BCCAI	0.108	(2.74)
Dielectric	Foam PE	0.285	(7.24)
Outer Conductor	SPC Strip Braid	0.295	(7.49)
Overall Braid	TC Braid over Al tape	0.330	(8.38)
Jacket	(see table)	0.405	(10.29)

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](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)