

# LL40 Series Pre-Connectorized Cable Sets

## replacement for Corrugated and RG214



LL40 series cable sets are designed as superior alternative to corrugated cables and RG214 cables. Usable upto 6 GHz.

- Equivalent to RFS LCF14-50 and Andrews LDF1-50

### APPLICATIONS

- Long run antenna feeders
- Radars, ESM, ELINT systems
- Ideal 'flexible' replacement for corrugated cables like Heliac (same electrical properties)
- **Low Loss** : Loss is less than comparable size RG cables like RG214.
- **RF Shielding** is 90 dB. This is 30dB higher than 60dB (typical) for single shielded RG types.
- **Flexibility**: LL40 series are quite flexible as compared to comparable corrugated types. Whereas it is quite difficult to route and bend corrugated cables, LL40 series can be routed easily between connection points.
- Ideal replacement for corrugated types for advantage of **FLEXIBILITY**
- Lower Loss alternative to "RG214" types with the same mechanical size

### Electrical Specifications

Impedance	50 Ω
Frequency Range	DC ~ 6 GHz
Velocity of Propagation	84 %
Capacitance	80 pF/m
Shielding Effectiveness	> 85 dB
Operating Temperature	-40°C to +85°C

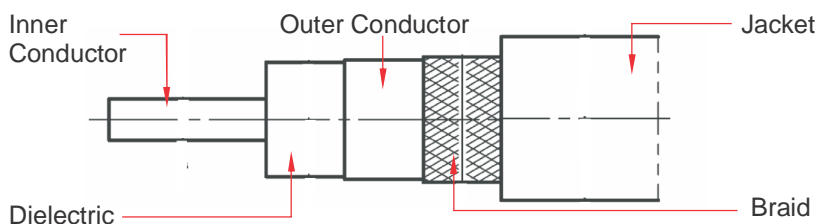
### Mechanical Specifications

Inner Conductor	Copper
Dielectric	PE, Foamed
Outer Conductor	Aluminium Foil
Braid	Cooper, Tinned
Jacket	Black PE, 10.3mm dia.
Bend Radius: installation	25.4 mm
Weight	0.121 kg/m

### Attenuation & Power Handling Data

Frequency (GHz)	0.01	0.1	0.5	1	1.5	2	2.5	3
Attenuation dB/100m	1.31	4.21	9.72	14.07	17.8	20.82	23.25	25.76
Average Power Watt	4500	1530	660	460	370	310	280	250

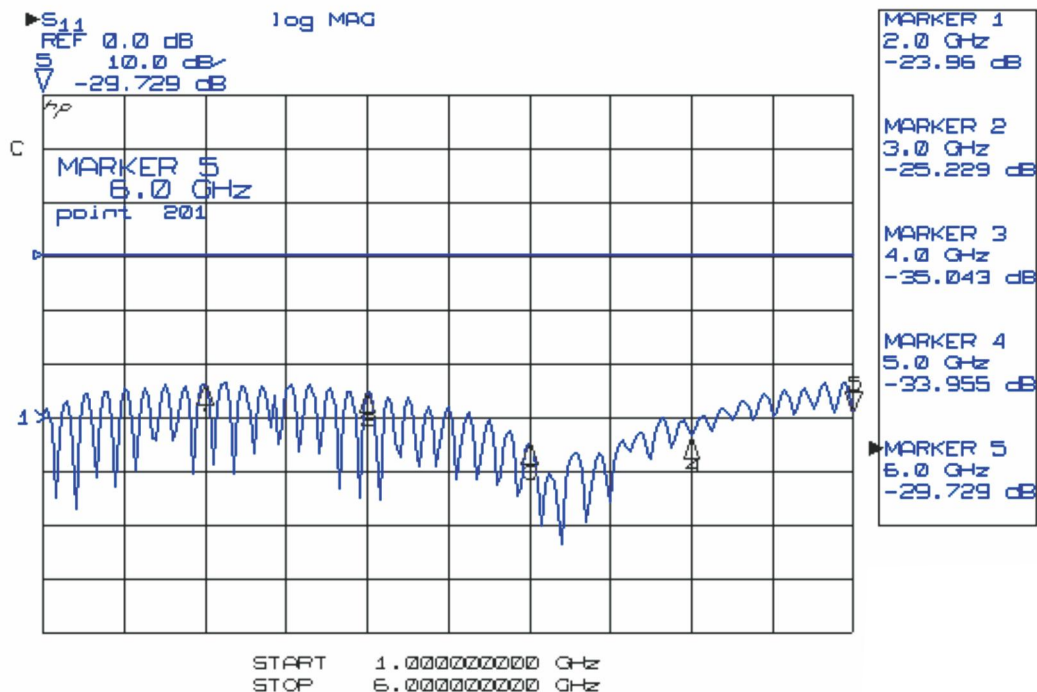
### CABLE CONSTRUCTION



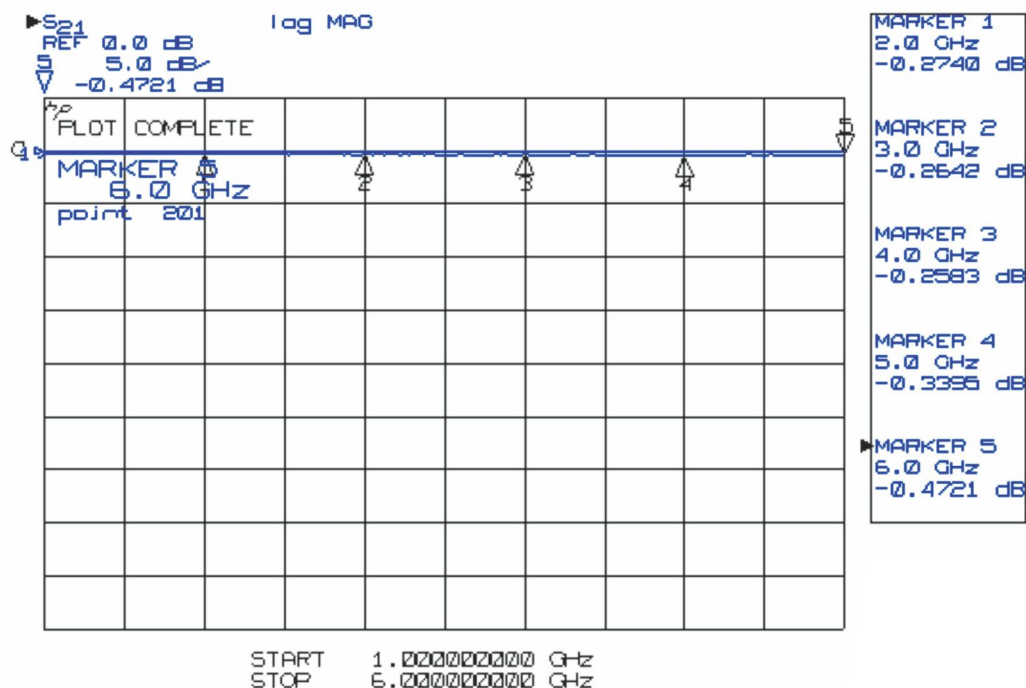
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### Return Loss of 1m, LL40 Cable Set with N(M) on both sides



### Insertion Loss of 1m, LL40 Cable Set with N(M) on both sides



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# LL40 Series Pre-Connectorized Cable Sets

replacement for Corrugated and RG214

## Connectors Specifications

Specifications	N Connectors	TNC Connectors
Outer Conductor	Brass, Nickel alloy plated	Brass, Nickel alloy plated
Center Conductor	Brass, Gold Plated	Brass, Gold Plated
Insulation	PTFE	PTFE
Gasket	Silicone Rubber	Silicone Rubber
Nominal Impedance	50 Ω	50 Ω
Frequency range	DC~6 GHz	DC~6 GHz
Mating/Unmating	500 operations	500 operations

## Ordering Codes Description

LL40 - (Length) (Connector 1) (Connector 2)  
 □ □ - (□ / □) □ - (□ / □) □ - □  
**L L 1 2 3 1 2 3 U**

<b>LL</b>	Length	0.5 = 0.5 ; 1 = 1.0 ; 2 = 2.0
<b>1</b>	Connector Series	N = N ; TNC = TNC
<b>2</b>	Male/Female Designator	M = Male ; F = Female
<b>3</b>	Orientation of Connector	ST = Straight ; RA = Right Angle
<b>U</b>	Unit of Length	M = Meter ; F = Feet ; I = Inch

1 meter LL40 cable set with N(Male) on both sides = LL40-1.0-N(M/ST)-N(M/ST)-M

## Cable Set Ordering Codes

Ordering Code	Length	Insertion Loss (dB) Typical					
		500 GHz	1 GHz	2 GHz	3 GHz	4 GHz	5 GHz
<b>N (Male) Straight - N (Male) Straight (DC to 5 GHz)</b>							
LL40-0.5-N(M/ST)-N(M/ST)-M	0.5m	0.17	0.24	0.35	0.43	0.51	0.56
LL40-1.0-N(M/ST)-N(M/ST)-M	1m	0.24	0.33	0.48	0.58	0.68	0.76
LL40-2.0-N(M/ST)-N(M/ST)-M	2m	0.34	0.50	0.71	0.87	1.03	1.16
LL40-5.0-N(M/ST)-N(M/ST)-M	5m	0.67	0.98	1.41	1.76	2.06	2.34
LL40-10.0-N(M/ST)-N(M/ST)-M	10m	1.23	1.80	2.59	3.24	3.79	4.28
LL40-30.0-N(M/ST)-N(M/ST)-M	30m	3.46	5.05	7.30	9.15	10.78	12.1
LL40-50.0-N(M/ST)-N(M/ST)-M	50m	5.72	8.29	11.9	14.9	17.5	19.8
<b>TNC (Male) Straight - TNC (Male) Straight (DC to 5 GHz)</b>							
LL40-0.5-N(M/ST)-N(M/ST)-M	0.5m	0.19	0.26	0.37	0.45	0.53	0.58
LL40-1.0-N(M/ST)-N(M/ST)-M	1m	0.26	0.35	0.50	0.60	0.70	0.78
LL40-2.0-N(M/ST)-N(M/ST)-M	2m	0.36	0.52	0.73	0.89	1.05	1.18
LL40-5.0-N(M/ST)-N(M/ST)-M	5m	0.69	1.00	1.43	1.78	2.08	2.36
LL40-10.0-N(M/ST)-N(M/ST)-M	10m	1.25	1.82	2.61	3.26	3.81	4.30
LL40-30.0-N(M/ST)-N(M/ST)-M	30m	3.48	5.07	7.32	9.17	10.80	12.12
LL40-50.0-N(M/ST)-N(M/ST)-M	50m	5.74	8.31	11.92	14.92	17.52	19.82

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## Specifications for Flexible Pre-Connectorized RF Cable Sets

**Length                      Connector 1                      Connector 2**

- Should be flexible and bendable easily, routable and non-kink type
- Cable should conform to MIL-C-17, Connectors to MIL-PRF-39012

### Cable Electrical Specifications

- Frequency of Usage : DC~6 GHz
- Shielding Effectiveness : -90 dB or better
- Velocity of Propagation :  $\geq 84 \%$
- Impedance : 50 ohms
- Capacitance : 80 pF /m
- Power (Average) : > 290 Watt @ 2 GHz
- Loss : < 0.23 dB/meter @ 2 GHz  
: < 0.28 dB/meter @ 3 GHz  
: < 0.33 dB/meter @ 4 GHz
- VSWR : < 1.3 (DC~6 GHz) for straight connectors

### Cable Construction

- Centre conductor : Bare Copper
- Dielectric : Low Loss Foamed Polyethylene
- Outer conductor : Aluminium Tape
- Overall braid : Tinned Copper
- Jacket : Black Polyethylene
- Strain Relief : Reliable strain relief at the cable to connector joint should be provided. A double strain relief with progressive stress distribution is preferred

### Cable Mechanical/Environmental Specification

- Outer Diameter : < 10.4 mm
- Weight : < 0.121 (Kg/meter)
- Bend Radius : < 26 mm
- Working Temperature : -50°C to + 85°C

### Connectors Specifications

- Attachment Method : Inner Solder, Outer Crimp
- Frequency Range : DC~6 GHz
- Material : Brass with Nickel alloy plating