

In-Building Distributed Antenna Systems (DAS) have become a critical part of both carrier cellular networks and enterprise infrastructure. Networks include cellular, enterprise small cell, off-air (repeater), base transceiver station (BTS), and first responder applications. These networks are often coupled with cables of long and irregular length that are largely terminated in the field, requiring special tooling. These cables are often run inside of building plenums, requiring special flame-retardant “plenum rated” cable sheaths that do not readily burn and emit toxic fumes. Moreover, these cables are of the air-core type, employing a multi-ribbed polymer spacer between outer and inner conductors to minimize dielectric loss over long stretches.

The need for special tooling to strip the cable sheath, corrugated metal shield, and polymer spacer to the exact dimensions to match those of the connector, presents a problem for operators in the field seeking an affordable field-termination solution. Gamma Electronics offers affordable bulk plenum cable, a cable stripping tool, and RF plenum connectors in a complete “Kit” solution for the most common DAS RF connectors (Type N and 4.3-10) and cable ($\frac{1}{2}$ " plenum cable). The figures show the male and female versions of Gamma’s 4.3-10 and Type N plenum connectors, which each consist of two halves. Once the cable has been properly stripped, the lower half of the connector can be slipped over the stripped cable end where it snaps into the corrugations of the metal shield. The upper half of the connector can then be slipped over the exposed, and chamfered, center conductor so that the threads of the two halves can be engaged and torqued together (see figures). The connectors are compatible with Radio Frequency Systems’ (RFS) plenum cables, Commscope’s $\frac{1}{2}$ " plenum and annular cables, and Gamma’s $\frac{1}{2}$ " plenum and annular cables (see Cable Compatibility Table below). For more information on the cable stripping tool, please see the separate applicable datasheet.



Male 4.3-10 Compression Connectors



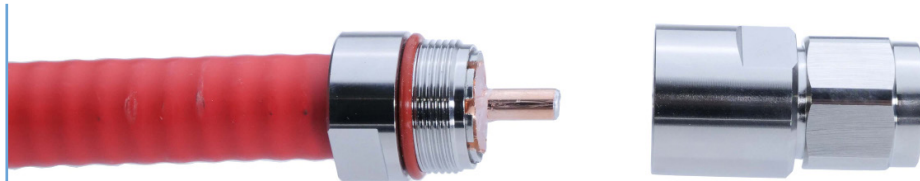
Female 4.3-10 Compression Connectors



Male Type N Compression Connectors



Female 4.3-10 Compression Connectors



Partially Installed Connector on Gamma Electronics 1/2" Plenum Cable



Fully Installed Connector on Gamma Electronics 1/2" Plenum Cable

Connector Materials and Finishing

Connector Types	Type N and 4.3-10
Center Conductor	Phosphor Bronze, Silver Plating
Insulator	PTFE
Body	Brass, Ternary Alloy Plating
Other Metal Parts	Brass, Ternary Alloy Plating
Gasket	Silicone

Connector Electrical Properties

Property	Standard Value
Impedance, Ohms	50
Operating Frequency Range, MHz	0-2700
VSWR	≤1.2
Return Loss, dB	≤-21

Cable Compatibility

Cable Brand (Type, Shield Material)	Part Number
RFS (Plenum, Copper)	ICA12-50JPL ICA12-50JPLW ICA12-50JPLR ICA12-50JPLB
RFS (Plenum, Aluminum)	ICA12-50JPLL ICA12-50JPLLW ICA12-50JPLLR ICA12-50JPLLB
Commscope (Plenum, Copper)	HL4RPV-50 HL4RPV-50B HL4RPV-50G
Commscope (Plenum, Aluminum)	AL4RPV-50 AL4RPV-50R
Gamma (Plenum, Copper)	PLN-CU-50-BLU PLN-CU-50-WHT PLN-CU-50-BLK PLN-CU-50-RED
Gamma (Plenum, Aluminum)	PLN-AL-50-BLU PLN-AL-50-WHT PLN-AL-50-BLK PLN-AL-50-RED
Gamma (Annular, Copper)	STF50-LSZH-1/2
Commscope (Annular, Copper)	LDF4-50A



RF Compression Connectors

4.3-10 & Type N Connectors

Ordering Information

Connector Types	Part Number
4.3-10 Male	4310M-50PLN
4.3-10 Female	4310F-50PLN
4.3-10 Right Angle Male	RA4310M-50PLN
Type N Male	NM-50PLN
Type N Female	NF-50PLN
Type N Right Angle Male	RANM-50PLN