

## CABLE ASSEMBLY SOLUTIONS FOR SMARTSKY FLAGSHIP SYSTEM

PIC Wire & Cable offers custom cable assemblies that are specifically designed for use with SmartSky Networks® enhanced air-to-ground (ATG) connectivity for the entire aircraft. SmartSky makes airborne connectivity as effortless at 35,000 feet as on the ground. Its Flagship system powers SmartSky's innovative connectivity solution that includes transmission symmetry to deliver data to and from the aircraft at the same rate utilizing 60 MHz of broadband spectrum in the unlicensed band. This enables use of applications requiring two way data flow, from cloud-based business applications, video conferencing, and live streaming for the back of the aircraft. The crew and aircraft operations can exchange and access real-time situational awareness information as well as performance and maintenance data. A reliable interconnect assembly is required to ensure the system's continuous connectivity with a dedicated connection for each aircraft that is stable, responsive and secure. PIC's assemblies are customizable and designed to meet an application's unique loss, length, weight and flexibility requirements.

Proper cable assembly is critical to optimizing the full benefits of interconnect technology. PIC provides certified and tested assembly sets to streamline the system installation process. Engineering drawings are available to simplify the US Federal Aviation Administration® (FAA) submission process for part modifications and installations.

### CABLE OPTIONS

PIC offers a variety of RFMATES® and RFMATES ULTRALITE® cable solutions that meet or exceed SmartSky Flagship system performance requirements for RF loss and VSWR. These high-performance cables were specially designed with low loss characteristics that ensure signal reliability. The RFMATES ULTRALITE line is engineered with additional shielding protection and optimized for applications that require lightweight, flexible cables.

All RFMATES and RFMATES ULTRALITE cables have undergone a variety of EWIS tests, such as flammability and immersion fluid testing, including Skydrol®. EWIS test reports are available upon request.

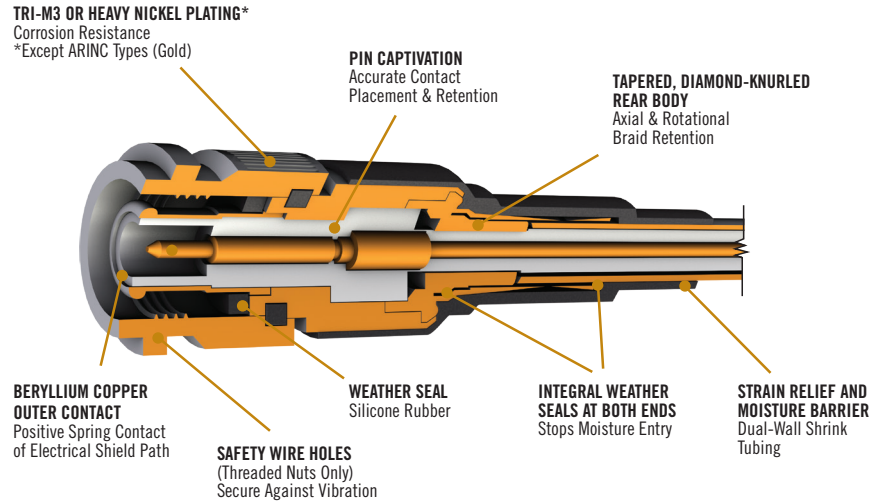
### CABLE LENGTH AND LOSS

Cable P/N	Physical Characteristics		Maximum Cable Length (Inches) by Application				Cable Loss db/ft	
	Weight lbs/100 ft (kg/100 m)	Bend Radius in (mm)	ABR to FDQ Tx (2.483 GHz) Max Loss 3.0 dB	ABR to FDQ Rx (2.483 GHz) Max Loss 4.0 dB	ABR to HPB Rx (2.483 GHz) Max Loss 6.0 dB	ABR to AGA (1.6 GHz) Max Loss 4.0 dB	1.6 GHz	2.483 GHz
UH25107	12.0 (17.9)	2.50 (63.50)	609	843	1311	1096	0.040	0.051
UH22089	7.2 (10.7)	1.70 (43.18)	506	700	1089	893	0.049	0.062
UH67163	3.4 (5.1)	1.20 (30.48)	285	395	614	503	0.087	0.109
UH44193	1.9 (2.9)	0.80 (20.32)	168	232	361	296	0.148	0.186
S22089	18.0 (26.8)	2.50 (63.50)	502	695	1082	890	0.049	0.062
S55122	8.3 (12.4)	1.55 (39.37)	345	478	743	610	0.072	0.090
S33141	6.5 (9.7)	1.40 (35.56)	263	365	568	464	0.094	0.118
S44191	4.3 (6.4)	1.00 (25.40)	147	203	316	261	0.167	0.212
S86208	2.0 (2.9)	0.65 (16.51)	126	175	273	222	0.197	0.246

## CONNECTOR OPTIONS

PIC Wire & Cable has matching TNC connectors for its RF and RF ULTRALITE cables that are designed per MIL-PRF-39012 standard. See Figure 1 for a connector illustration detailing the construction elements that ensure signal integrity while protecting against fluid and vibration.

Cable P/N	TNC Str. Plug	TNC 90° Plug
UH25107	190408	190409
UH22089	150408	150409
UH67163	150508	150509
UH44193	150108	150109
S22089	190408	190409
S55122	190608	190609
S33141	190308	190309
S44191	190108	190109
S86208	190808	190809



## ASSEMBLY PART NUMBER BUILDER

Easily build a part number with design details that meet the application's specific length and connector requirements. Ready to use engineering drawings are available to streamline the US Federal Aviation Administration (FAA) submission process for part modifications and installations.

SmartSky cable assembly drawings are accessible for download at [www.picwire.com/assemblies/assembly-worksheets](http://www.picwire.com/assemblies/assembly-worksheets).

Sample Part Number: 11012-4890- **A** **B** **C** **DDDD**

A = Assembly Application			B = Cable				C = Connector Configuration			DDDD = Assembly Length	
A	End A (From)	End B (To)	B	P/N	B	P/N	C	End A (ABR)	End B (FDQ & HPB or AGA)	DDDD	Length (in)
1	ABR P9	FDQ P2-BLUE	1	UH25107	6	S55122	1	TNC Straight	TNC 90	0001	1"
2	ABR P4	FDQ P3-YELLOW	2	UH22089	7	S33141	2	TNC 90	TNC Straight	....	....
3	ABR P5	HPB-BLU	3	UH67163	8	S44191	3	TNC 90	TNC 90	1311	1311"
4	ABR P3	HPB-RED	4	UH44193	9	S86208	4	TNC Straight	TNC Straight		
5	ABR P7	HPB-YEL									
6	ABR P6	AGA									

Table 3