



HD^Q18

High Density Quantum

18 GHz Board-Level RF Connection System

Overview

The HDQ[®] Connection System is a board-level microwave interconnect solution for Quantum Computing.

Connecting Quantum Dilution Refrigerator and Cryostat cables to the processor board, the system advances RF density beyond standard installation sets.

Non-magnetic blindmate PkZ[®] Technology enables mass termination while ensuring constant impedance and consistent signal transfer for a comprehensive approach to RF transmission.

The HDQ-18 Connection System is the complete solution for dense board-level Quantum Computing requirements to **18 GHz**.

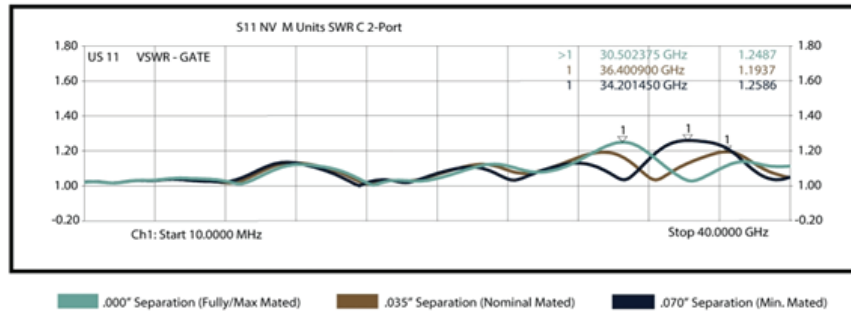
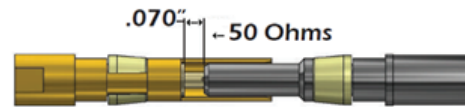
Features and Benefits

- High performance cable assemblies and contacts send and receive RF signals with accuracy and clarity
- Low mating force requirements enable smooth connection and disconnection, achievable by hand with precision jacking hardware
- The PkZ resolves expected system tolerance stack-up to provide constant 50 Ohm impedance whether fully or partially mated
- True contact design. The PkZ was expressly developed as a blindmate contact with special features incorporated to provide mechanical and electrical enhancements which cannot be matched by groups of individual connectors
- The Quantum-proven PkZ advances board-level RF density from small cryostats to large dilution refrigerators

PkZ® Technology

The PkZ is a high density blindmate microwave contact developed to maintain 50 Ohm impedance in multiport connectors by permitting expected system tolerance stack-up that disrupts standard contact performance. Invented by The Phoenix Company of Chicago and adopted globally by the cellular industry in the 1980s, the PkZ interface solves the challenge of partial mating within ganged RF housing applications. Over the past 30 years, PkZ technology has been adapted and refined for a range of special requirements including Quantum Computing.

The unique PkZ design provides constant impedance even as differences in mating profiles or gaps are created in the mating interface.



Once the processor board has been configured with PkZ contacts installed, the mating HDQ-18 system cable harness enables a single plug-in operation of up to 47 cables.

Customize your HDQ Connection System	
Select a Housing:	
* 14-Position Housing	
* 26-Position Housing	
* 47-Position Housing	
Select a Board Contact:	
* Receptacle, PC Mount; .040" L x .020" sq. Legs, .024" Diameter Center Conductor	
* Receptacle, PC Mount; .158" L x .020" sq. Legs, .024" Diameter Center Conductor	
* Receptacle, PC Mount; .025" L x .020" sq. Legs, .024" Diameter Center Conductor	
* Receptacle, PC Mount; .103" L x .020" sq. Legs, .024" Diameter Center Conductor	
Select a Cable Length:	
* HDQ Plug Cable Harness, .086 Conformable Cable, to Male SMA - Select Length: 8", 9", 12", 18", 24"	

*Alternate cable options and lengths are available upon request.

Connect with a Specialist!

The HDQ-18 Board-Level RF Connection System is supported by The Phoenix Company's full design Engineering staff, a vertically integrated factory, and a knowledgeable Sales team. Select from the options above and contact a team member to get started!