

Spring Probe Connector makes the Connection to Digital X-Ray Detector

Application: ***X-Ray Detector Tether***

Smiths Interconnect had developed a custom docking connector for a leading manufacturer of digital x-ray detectors, which now required a tether cable to mate to the same target connector on their detectors. The tether cable allows the user to position the detector external to the x-ray system, for use in both medical and industrial applications. Since the tether cable would require much more flexibility to be used outside the system, and the original cable chosen by the manufacturer for their docking cables was too stiff for this application, a more flexible cable which would meet all the same electrical requirements, would be needed.

Solution: **Custom Spring Probe Connector:**

Smiths Interconnect worked with the manufacturer's design team to modify the design to provide additional alignment and retention of the magnet latch connectors for the medical detectors. Additionally, for their industrial detector applications a dual thumbscrew latch mechanism was developed, by simply changing the hardware, for a more robust attachment of the cable to the detector. Smiths also worked with its cable manufacturing partner to develop a custom cable to meet the flexibility and electrical requirements of this application.

Customer Advantage:

- Design Flexibility: Both magnet and thumbscrew latch hardware was developed for the connector for these applications and a custom cable bundle was designed to improve flexibility while maintaining the electrical performance of the stiffer docking cable
- Simplicity: Design of connector aligns the connectors while the detectors are being mated, while magnets provide passive latching while the detector is tethered, with the option of incorporating thumbscrew locks for more rugged applications
- Reliability: The spring probe contacts consistently perform over 1000's of mating cycles, extending the life of the system and increasing the MTBF (mean time between failures)
- Sealing: Target contact connector on the detector provide the required IP rating and can be easily wiped down without damage