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Medical Product Selection Guide



ITT

We Connect

The future of medical solutions

For more than a century, ITT has developed innovative connector solutions for the world's most critical applications. With facilities in the United States, Germany, Italy, Mexico, China and Japan, each with its unique strengths, we offer our customers interconnect solutions that are truly engineered for life.

In addition to this global footprint, we offer highly specialized medical industry expertise. With half a century of global presence in the medical industry, we are a committed and proven partner to medical equipment manufacturers, bringing connector solutions to the market that enable our customers to deliver medical breakthroughs today and tomorrow.

Global interconnect solutions for today's medical markets

The ITT Cannon difference

Global capabilities & local support

Over three decades of proven medical application expertise

A century of interconnect leadership

A committed innovator & business partner

About ITT

ITT is a diversified leading manufacturer of highly engineered critical components and customized technology solutions for the energy, transportation and industrial markets. Building on its heritage of innovation, ITT partners with its customers to deliver enduring solutions to the key industries that underpin our modern way of life. Founded in 1920, ITT is headquartered in White Plains, N.Y., with employees in more than 35 countries and sales in a total of approximately 125 countries. For more information, visit www.itt.com.



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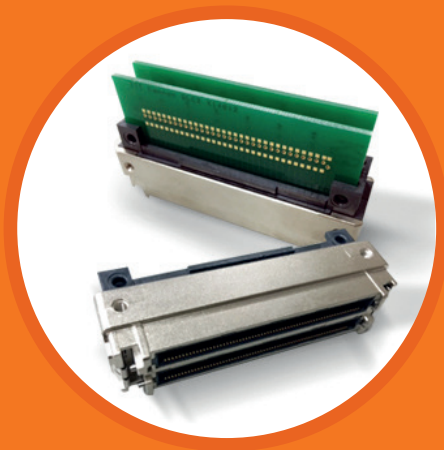
The future of medical solutions

Our engineers have developed both standard and custom interconnect solutions for the full breadth of medical applications. From ultrasound to patient monitoring and diagnostics, our teams have the capabilities, experience and reach to deliver the solution you need.

Whether showing a cancer survivor a clean scan or giving new parents the first glimpse of their unborn child, ITT Cannon helps you connect the world's most important information with those who need it most.

Solving your most critical challenges

With decades of experience and a trusted partner to the global medical market, we can deliver fully customized solutions for your most critical applications.



QLC Series



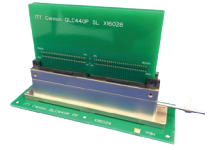
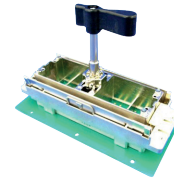
PL Push-Pull Series



Customized Cable Assemblies

Fully Proven | Highly Innovative | Ultra Reliable

STANDARD PRODUCTS



| | | DL | DLM | DLP 136 - 272 | DLP 408 | QLC Series |
|---------------------------------------|--|---|---|-----------------------|-------------------------------------|---|
| GENERAL | Primary Application | Ultrasonic | Ultrasonic | Ultrasonic | Ultrasonic | Ultrasonic |
| | Secondary Applications | Test & Measurement | Test & Measurement | Test & Measurement | Test & Measurement | Test & Measurement |
| | Number of Circuits | 60, 96, 156 and 260 ways | 60, 96, 156, 260 and 360 ways | 136, 204 and 272 ways | 408 ways | 260 and 440 ways |
| ELECTRICAL | Max Operating Voltage | AC300V rms | AC250V rms | AC200V rms | AC300Vp-p | AC100V |
| | Dielectric Withstanding Voltage (at sea level) | AC1200Vrms | AC1000Vrms | AC500V rms | AC500V rms | AC1000v rms |
| | Max Current Rating @40C (MAX) | 5A (Dependent on contact type) | 5A (Dependent on contact type) | 0.5A | 0.3 A / 1.0A (Dependent on circuit) | 0.5A |
| | EMI / RFI Shielding | No | Yes | Yes | Yes | Yes |
| MECHANICAL | Wire Gauge Range AWG | AWG 18-40 | AWG 18-40 | N/A | N/A | N/A |
| | Power and Signal layouts | 60, 96, 156 and 260 ways | 60, 96, 156, 260 and 360 ways | 136, 204 and 272 ways | 408 ways | 260 and 440 ways |
| | Mating cycles (min) | 10000 | 10000 | 10000 | 10000 | 20000 |
| | Type of Coupling | Rotating Shaft | Rotating Shaft | Rotating Shaft | Rotating Shaft | Rotating Latch |
| | Mechanical Coding | Yes | Yes | Yes | Yes | Yes |
| ENVIRONMENTAL SEALING (MATING) | Environmental Sealing (mating) | N/A | N/A | N/A | N/A | N/A |
| | Operating Temperature | -55°C to 105°C | -55°C to 105°C | -55°C to 85°C | -55°C to 85°C | -55°C to 85°C |
| | Shock Test (g's) | 50 g's | 50 g's | 50 g's | 50 g's | 50 g's |
| | Max Vibration Resistance | 10-2000Hz, 1.52mm (Dependent on connector type) | 10-2000Hz, 1.52mm (Dependent on connector type) | 10-55Hz, 1.52mm | 10-55Hz, 1.52mm | 10-55Hz, 1.52mm |
| | Shell Material | Thermoplastic | Aluminum | Aluminum | Zinc Alloy | Zinc Alloy |
| CONTACTS | Contact plating | Gold | Gold | Gold | Gold | Gold |
| | Crimp machined | No | No | No | No | N/A |
| | Crimp stamped | Yes | Yes | No | No | N/A |
| | Solder | Yes | Yes | Yes | Press-Fit for REC | Yes (With press-fit option on receptacle) |
| | Coax | No | No | No | No | No |
| | Fiber Optic | No | No | No | No | No |
| | First-make-last-break | No | No | No | No | No |



| | QLC Solderless Plug | QLC PRESS FIT Receptacle | PL Push-Pull | Universal Contact | D-Sub | |
|---------------------------------------|--|--------------------------|---------------------------|--------------------|-----------------------------------|---|
| GENERAL | Primary Application | Ultrasonic | Ultrasonic | Medical device | Handheld devices | Ultrasonic |
| | Secondary Applications | Test & Measurement | Test & Measurement | Test & Measurement | Healthcare Wearable | Test & Measurement |
| | Number of Circuits | 260 and 440 ways | 260 and 440 ways | 2 to 14 ways | Single or in custom module | 2 to 104 ways |
| ELECTRICAL | Max Operating Voltage | AC100V | AC100V | DC0.3 to 0.6 kV | N/A (Dependent on DWV) | Up to 250 VDC |
| | Dielectric Withstanding Voltage (at sea level) | AC1000v rms | AC1000v rms | 0.6 to 1.2 kV rms | N/A (Dependent on PCB layout) | 1250 VAC |
| | Max Current Rating @40C (MAX) | 0.5A | 0.5A | 2 to 10A | 1.5A (Dependent on type) | 7.5A for Signal; Up to 65 A for Power |
| | EMI / RFI Shielding | Yes | Yes | No | N/A | Yes / No (Dependent on Shell Style) |
| MECHANICAL | Wire Gauge Range AWG | N/A | N/A | AWG 20-28 | 1.3mm to 4.5mm free height | AWG 30-8 |
| | Power and Signal layouts | 260 and 440 ways | 260 and 440 ways | 2 to 14 ways | single or in custom module | Yes (Combo-D) |
| | Mating cycles (min) | 20000 | 20000 | 2000 | 3000 | 50 |
| | Type of Coupling | Rotating Latch | Rotating Latch | Push-Pull | N/A | None (Require Locking/ Coupling Hardware) |
| ENVIRONMENTAL SEALING (MATING) | Mechanical Coding | Yes | Yes (With flange version) | Yes | Pre-load contact | Yes on Customs/Specials Only |
| | Environmental Sealing (mating) | N/A | N/A | IP50 | N/A | Up to IP67 (Grommet-D & Environmental-D) |
| | Operating Temperature | -55°C to 85°C | -55°C to 85°C | -50°C to 150°C | -40°C to 85°C | -55°C - +125°C (+175°C For Specials) |
| | Shock Test (g's) | 50 g's | 50 g's | 50 g's | IEC 68-2-27, 100 g's | Dependent on product sub-family |
| | Max Vibration Resistance | 10-55Hz, 1.52mm | 10-55Hz, 1.52mm | 10-2000Hz, 1.52mm | IEC 68-2-36 | Dependent on product sub-family |
| | Shell Material | Zinc Alloy | Zinc Alloy | Plastic | N/A (Custom type has plastic HSG) | Steel, Copper Alloy, Aluminum & Stainless Steel |
| | Contact plating | Gold | Gold | Gold | Gold | Gold (silver for HEP) engaging end / gold or tin (silver for HEP) termination end |
| CONTACTS | Crimp machined | N/A | N/A | Optional | No | Yes |
| | Crimp stamped | N/A | N/A | Optional | No | Yes |
| | Solder | No | Press-fit | Yes | No | Yes |
| | Coax | No | No | No | No | Yes |
| | Fiber Optic | No | No | No | No | Yes |
| | First-make-last-break | No | No | Optional | Yes | No |



CUSTOM PRODUCTS



| | | All-in-one Medical combo | Pogo Pin | Stackable | Plastic non-magnetic CIR push-pull | DL Cable Assembly |
|--------------------------------|--|-----------------------------------|--------------------|--------------------|------------------------------------|-----------------------|
| GENERAL | Primary Application | Handheld Devices | Portable X-ray | Hi-end Wheelchair | MRI | Ultrasonic |
| | Secondary Applications | Healthcare Wearable | Endoscope | X-ray | Endoscope | Test & Measurement |
| | Number of Circuits | Single or in custom module | 19 to 50 ways | 7 to 15 ways | Custom | Custom |
| ELECTRICAL | Max Operating Voltage | N/A (Dependent on DW V) | 300V | 500V | 300V | AC250V rms / 300V rms |
| | Dielectric Withstanding Voltage (at sea level) | N/A (Dependent on PCB layout) | 500V | 300V | 500V | AC1000V rms |
| | Max Current Rating @40C (MAX) | 1.5A (Dependent on type) | 1A | 15A | 5A | 5A Max |
| | EMI / RFI Shielding | N/A | Yes | N/A | Yes | Yes |
| MECHANICAL | Wire Gauge Range AWG | 1.3mm to 4.5mm free height | AWG 22-24 | AWG 16-24 | AWG 22 | AWG 28-42 |
| | Power and Signal layouts | Yes | Signal only | Yes | Yes | Yes |
| | Mating cycles (min) | 3000 | 10000 | 1000 | 5000 | 10000 |
| | Type of Coupling | N/A | Breakaway Pogo | Holding Clips | Push-Pull | Rotating Latch |
| | Mechanical Coding | Pre-load contact | Yes | Yes | Yes | Yes |
| ENVIRONMENTAL SEALING (MATING) | Environmental Sealing (mating) | N/A | IP55 | IP67 | IP55 | N/A |
| | Operating Temperature | -40°C to 85°C | -20°C to 70°C | -20°C to 70°C | -15°C to 30°C | -55°C to 85°C |
| | Shock Test (g's) | IEC 68-2-27, 100 g's | 20 g's | 20 g's | 20 g's | 50 g's |
| | Max Vibration Resistance | IEC 68-2-36 | 9 to 200HZ, 0.5g's | 9 to 200HZ, 0.5g's | 9 to 200HZ, 0.5g's | 10 to 55Hz, 1.52g's |
| | Shell Material | N/A (Custom type has plastic HSG) | Thermoplastic | Thermoplastic | White Plastic Later 4G/30-VO | Aluminum Alloy |
| CONTACTS | Contact plating | Gold | Gold | Gold | Gold | Gold |
| | Crimp machined | No | Yes | Yes | Yes | No |
| | Crimp stamped | No | No | Yes | No | Yes |
| | Solder | No | Yes | Yes | Yes | Yes |
| | Coax | No | Yes | No | Yes | Yes |
| | Fiber Optic | No | No | No | Yes | Yes |
| | First-make-last-break | Yes | Yes | No | Yes | No |

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Amazing things
happen when great
things connect



Connect with your ITT Cannon representative today
or visit us at www.ittcannon.com

Connect with the experts

ITT Cannon is a world leader in the design and manufacture of highly engineered solutions for global medical markets.



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