

Twinax and combo twinax single-ended flying lead assemblies Shielded and unshielded • plug or receptacle

GMMD TWINAX AND COMBO TWINAX JUMPERS AND PIGTAILS



Flying lead Twinax cable assemblies provide a flexible solution for easy on-site installation. Assemblies are supplied with GMMD plug or receptacle on one end in a choice of any Twinax or combo contact arrangement. Environmental seal options are available for plug connectors. Twinax cable may be ordered in 28 or 30 AWG, standard M22759/33 signal cable in 24 – 30 AWG. EMI shielded with five optional braid materials, including Glenair Signature weight-saving composite microfilament AmberStrand or microfilament stainless steel ArmorLite. Outer jacket options available for environmental and abrasion protection. Integral backshell, hardware, and wire exit direction all fully customizable. Consult factory for space-flight specific applications.

| HOW TO ORDER | |
|--|--|
| Sample Part Number | GMMD -FRP 4T15 -A N B D T S 4 -0 7 -500 -2 |
| Series | GMMD = Glenair Modular High-Speed Micro-D |
| Connector Type | FP = Flying-Lead Plug FPE = Flying-Lead Plug, Environmentally-Sealed FR = Flying Lead Receptacle FRP = Flying Lead Receptacle, Rear Panel Mount |
| Contact Arrangement | See Table. Consult factory for additional arrangements. |
| Twinax Cable | -A = 28AWG 100Ω Shielded Twinax -B = 30AWG 100Ω Shielded Twinax |
| Signal Cables* | L = 24AWG M22759/33 wire N = 28AWG M22759/33 wire M = 26AWG M22759/33 wire O = 30AWG M22759/33 wire |
| Shield Options | A = SnCu braid (100-001A) B = 100% AmberStrand (103-026) C = 100% ArmorLite (103-051) E = AgCu braid (100-002A) F = NiCu braid (100-003A) N = no braid |
| Jacket Options | D = Thin-Wall Heatshrink (VG 95343 part 5 type D) G = Monofilament PEEK braid (102-051) H = Nomex® Braid (103-013) J = LSZH Heatshrink (30°C to +105°C; VG 95343 part 5 type L) N = No Jacket |
| Backshell Type | T = Straight Backshell R = 90° Backshell F = 45° Backshell O = no backshell |
| Wire Exit Direction | L = in direction of long row of D-form S = in direction of short row of D-form (for straight or no backshell, L is the default) |
| Hardware Options | See Hardware Options Table |
| [no second connector] | 0 |
| Shell Material / Finish | -2 = Aluminum / Electroless Nickel -3 = Stainless Steel / Passivated -5 = Aluminum / Gold -6 = Aluminum / Alochromate -7 = Aluminum / Nickel-PTFE -8 = Aluminum / Zinc-Nickel, Black |
| Overall Length | mm (metric) |
| Gasket Material for FPE and FRP | -0 = No seal -1 = Fluorosilicone -2 = Passivated silver-plated aluminum-filled fluorosilicone -3 = Nickel-plated aluminum-filled fluorosilicone |
| * - Omit if not used | |

Twinax and combo twinax jumpers and pigtails Selection guide • plug backshell options • hardware

GMMD TWINAX AND COMBO TWINAX JUMPERS AND PIGTAILS

TWINAX AND COMBO TWINAX CABLE ASSEMBLY CONNECTOR SELECTION GUIDE

| | | | |
|------------------------------|--|------------------------------------|--|
| | | | |
| GMMD-FP Cable Plug | GMMD-FPE Cable Plug, Environmental | GMMD-FR Cable Receptacle | GMMD-FRP Rear Panel Mount Cable Receptacle |

PLUG BACKSHELL OPTIONS

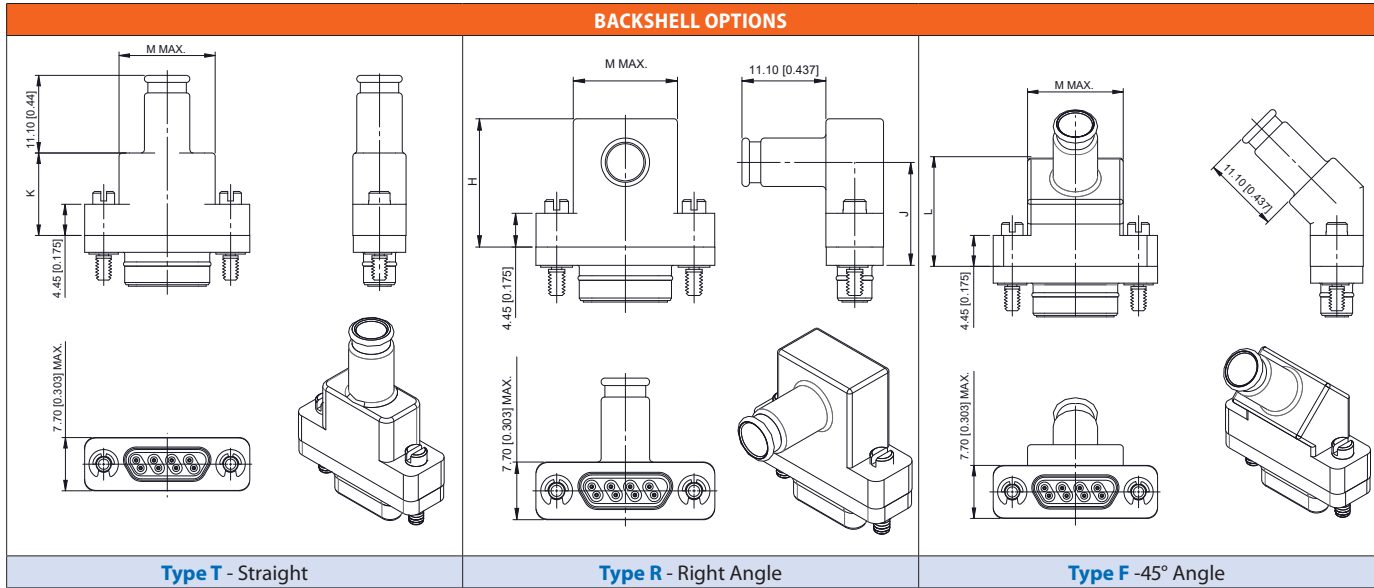
| | | |
|--------------------------------|--------------------------------|-------------------------------------|
| | | |
| GMMD-***-T Top Entry | GMMD-***-F 45° Entry | GMMD-***-R 90° Side Entry |

HARDWARE OPTIONS (BACKSHELLS SHOWN FOR REFERENCE ONLY)

| | | | |
|--|---|--|---|
| | | | |
| 1 - Circlip-Retained Jackscrew | Rear Panel Mount Jackpost Nut (specify letter for panel thickness) T=2.4 U=2.0 V=1.6 W=1.2 X=0.8 Y=0.6 | 3 - Clip-Retained Fillister Head Jackscrew | |
| | | | |
| 4 - Clip-Retained Socket Head Jackscrew | 5 - Clip-Retained Extended Jackscrew | S - Hexagonal Jackpost, Nut and Spring Washer | 7 - Circlip-retained socket head jackscrew |

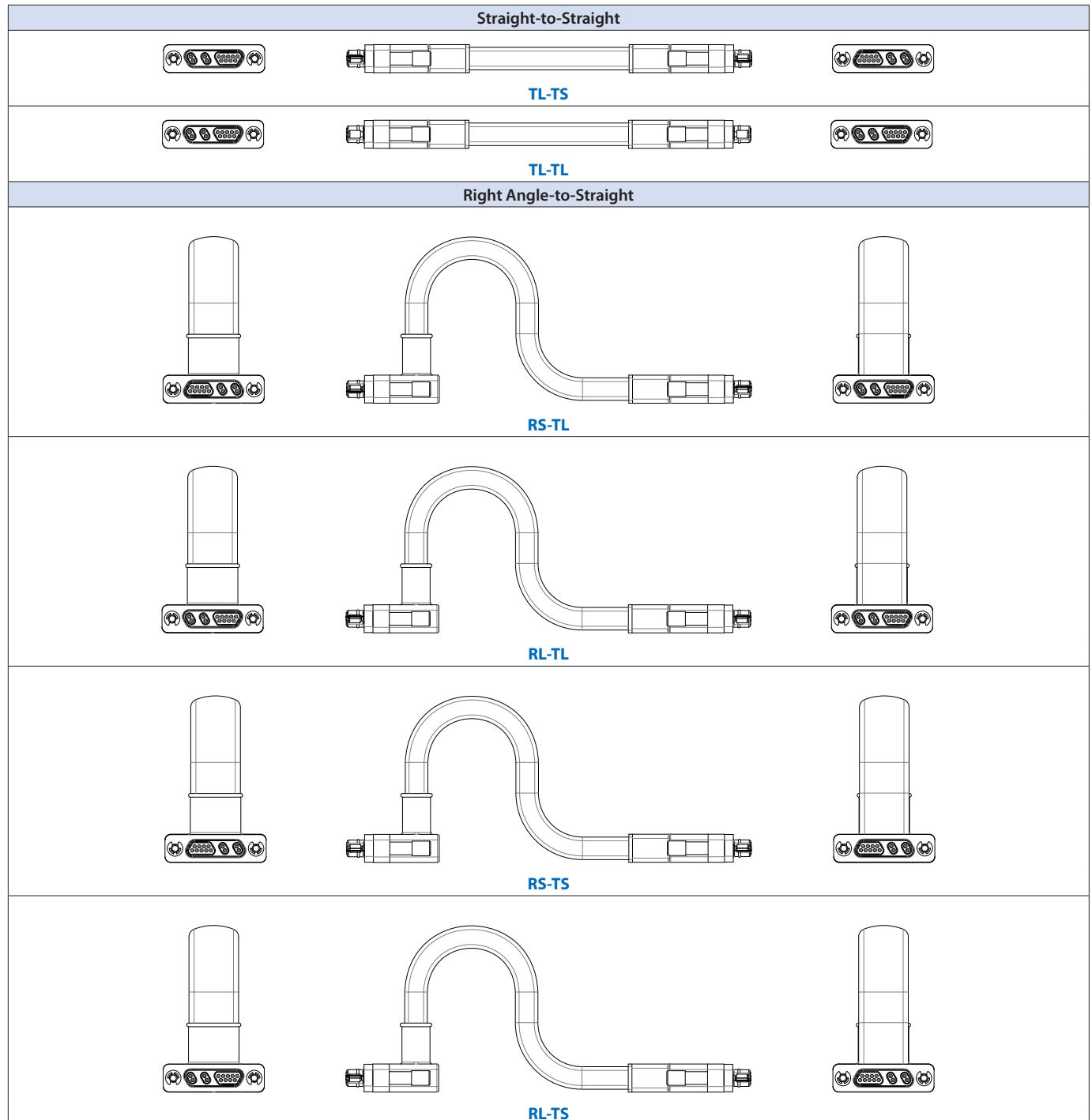
Twinax and combo twinax jumpers and pigtails
Backshell dimensional details

GMMD TWINAX AND COMBO TWINAX JUMPERS AND PIGTAILS



| PLUG AND BACKSHELL DIMENSIONS | | | | | |
|-------------------------------|--------|--------|--------|--------|--------|
| Shell size | H (mm) | J (mm) | K (mm) | L (mm) | M (mm) |
| 9 | 16.20 | 11.10 | 8.90 | 15.01 | 10.16 |
| 15 | 17.10 | 11.20 | 11.95 | 16.01 | 13.97 |
| 21 | 18.00 | 11.70 | 15.00 | 16.76 | 17.78 |
| 25 | 19.00 | 12.30 | 16.50 | 16.81 | 20.32 |
| 31 | 19.20 | 12.10 | 18.00 | 16.84 | 27.94 |
| 37 | 19.70 | 12.10 | 19.00 | 17.24 | 36.83 |
| 51-2 | 21.80 | 13.90 | 19.80 | 17.24 | 47.18 |
| 67 | 21.80 | 13.90 | 19.80 | 18.86 | 57.34 |

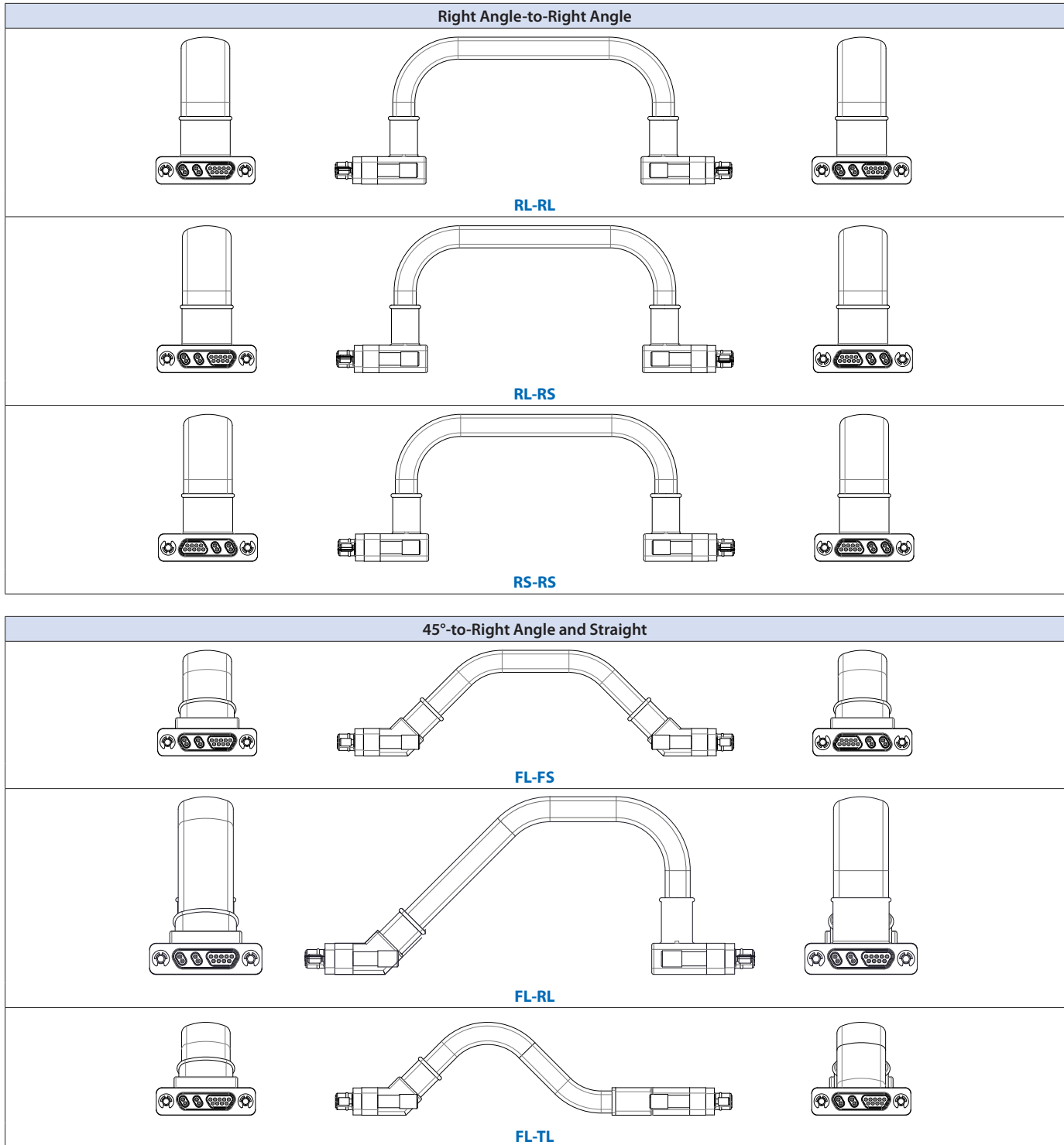
Twinax and combo twinax jumpers and pigtails Cable configurations



GMMD TWINAX AND COMBO TWINAX JUMPERS AND PIGTAILS

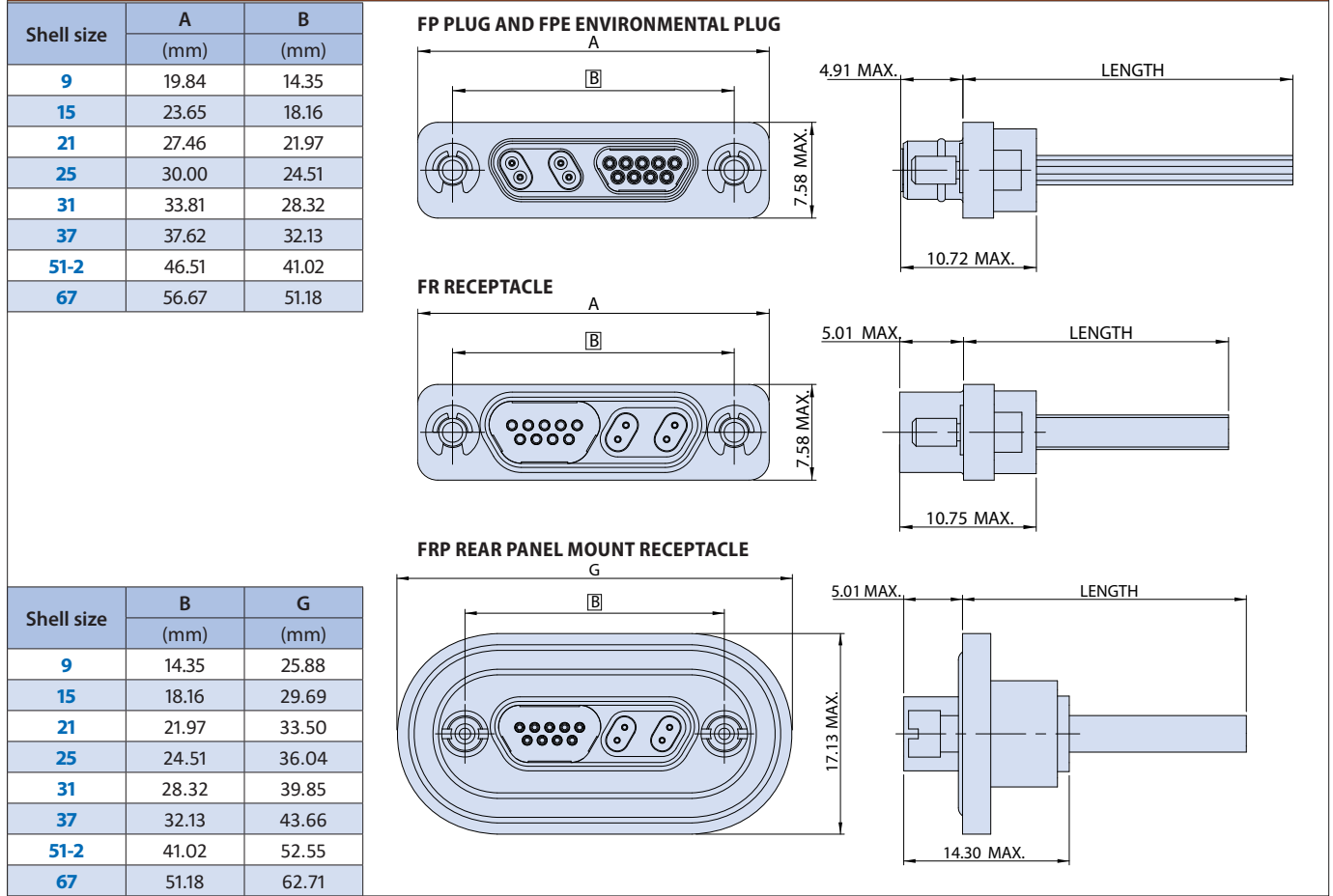
Twinax and combo twinax jumpers and pigtails Cable configurations

GMMD TWINAX AND COMBO TWINAX JUMPERS AND PIGTAILS



Twinax and combo twinax jumpers and pigtails
 Plug-to-plug • plug-to-receptacle • receptacle-to-receptacle

GMMD POINT-TO-POINT AND FLYING LEAD CABLE ASSEMBLY CONNECTOR DIMENSIONS



GMMD MODULAR HIGH-SPEED MICRO-D CONTACT ARRANGEMENTS (additional arrangements are available, consult factory)

| | | | | | |
|-------------------------------|-----------------------|----------------------------|-----------------------|--------------------------------|------------------------------|
| | | | | | |
| Contact Arrangement | 2T | 4T | 2T9 | 2T15 | 4T9 |
| Shell Size | 9 | 15 | 21 | 25 | 31 |
| No. / type of contacts | 2 Twinax | 4 Twinax | 2 Twinax, 9 #24 | 2 Twinax, 15 #24 | 4 Twinax, 9#24 |
| Example applications | SpFi | 10GbE, 2xSATA, SpW, 2xSpFi | USB 3.1, SATA + power | | HDMI, DP, DVI, 10GbE + power |
| | | | | | |
| Contact Arrangement | 5T9 | 8T | 4T15 | 8T15 | 4T31 |
| Shell Size | 31 | 31 | 37 | 51-2 | 51-2 |
| No. / type of contacts | 5 Twinax, 9 #24 | 8 Twinax | 4 Twinax, 15 #24 | 8 Twinax, 15 #24 | 4 Twinax, 31 #24 |
| Example applications | DP incl. Aux channels | 2x10GbE | | DP or HDMI + USB 3.1, dual DVI | |
| | | | | | |
| Contact Arrangement | 12T15 | 6T37 | 8T31 | 16T | |
| Shell Size | 67 | 67 | 67 | 67 | |
| No. / type of contacts | 12 Twinax, 15 #24 | 6 Twinax, 37 #24 | 8 Twinax, 31 #24 | 16 Twinax | |
| Example applications | | | | 4x10GbE | |

GMMD TWINAX AND COMBO TWINAX CONNECTORS

GMMD DIFFERENTIAL TWINAX Modular High-Speed Micro-D Connectors



Coax and combo coax contact arrangements
materials and finishes • panel cutouts

GMMD COAX AND COMBO COAX CONNECTORS

| GMMD COAX AND COMBO COAX CONTACT ARRANGEMENTS (additional arrangements are available, consult factory) | | | |
|--|-------------------------|--------------------------|--------------------------|
| | | | |
| Contact Arrangement | 2C | 4C | 6C |
| Shell Size | 9 | 21 | 25 |
| No. / type of contacts | 2 X 50Ω Coax | 4X 50Ω Coax | 6X 50Ω Coax |
| | | | |
| Contact Arrangement | 8C | 16C | |
| Shell Size | 37 | 67 | |
| No. / type of contacts | 8 X 50Ω Coax | 16X 50Ω Coax | |
| | | | |
| Contact Arrangement | 2C9 | 1V9 | 2V9 |
| Shell Size | 21 | 21 | 31 |
| No. / type of contacts | 2X 50Ω Coax, 9 X #24 | 1 X 75Ω Coax, 9 X #24 | 2 X 75Ω Coax, 9 X #24 |
| | | | |
| Contact Arrangement | | | 4V |
| Shell Size | | | 21 |
| No. / type of contacts | | | 4 X 75Ω Coax |

| GMMD MODULAR HIGH-SPEED MICRO-D STANDARD MATERIALS AND FINISHES | |
|---|--|
| Connector Shell, Metal | Aluminum Alloy 6061 IAW SAE AMS-QQ-A-250/11: Plating code 2: electroless nickel IAW ASTM B733 / Plating code 5: gold plated IAW ASTM B488 over electroless nickel IAW ASTM B733-90. / Plating code 6: chem film IAW MIL-C-5541 Class 3 Stainless Steel, 300 Series: Plating Code 3: Passivated IAW SAE AMS 2700 |
| #24 Insulator and organizer tray | High-grade, high-temperature thermoplastic |
| Interfacial Seal (where applicable) | Fluorosilicone rubber IAW MIL-R-25988 |
| #24 Pin Contact (TwistPin) | Beryllium copper, gold plated IAW ASTM B 488 Type II Class 1.27 (50 Min minimum) Code C, over nickel underplate IAW SAE AMS-QQ-N-290, class 2, (50-150 μin). |
| #24 Socket Contact | Phos bronze IAW ASTM 139 gold plated IAW ASTM B 488 Type II Class 1.27 (50 Min minimum) Code C, over nickel underplate IAW SAE-AMS-QQ-N-290, Class 2, (50-150 μin). |
| Twinax #30 pin contacts | Spring Temper Gold alloy, unplated, per ASTM B477 and ASTM B541 |
| Twinax #30 socket contacts | Gold alloy, unplated, per ASTM B477 and ASTM B541 |
| Coax isolating bush | High-grade thermoplastic |
| Encapsulant | High-temperature potting |
| Jackscrews, Jackposts, Float Mounts | Stainless steel, 300 series, passivated IAW SAE AMS 2700 |

| RECOMMENDED PANEL CUTOUT | | | | | | | | |
|--------------------------|------------------|--------|---------------|---------------|---------------|---------------|-----------------------|---------------|
| Layout Diagram | | Layout | A | B | C | D | E | F |
| Front Panel Mount | Rear Panel Mount | | mm. ± 0.08 | mm. ± 0.05 | mm. ± 0.05 | mm. ± 0.05 | mm. + 0.13, - 0.00 | mm. ± 0.05 |
| | | 9 | 14.35 | 10.41 | 2.31 | 7.04 | 6.50 | 3.20 |
| | | 15 | 18.16 | 14.22 | 2.31 | 7.04 | 6.50 | 3.20 |
| | | 21 | 21.97 | 18.03 | 2.31 | 7.04 | 6.50 | 3.20 |
| | | 25 | 24.51 | 20.57 | 2.31 | 7.04 | 6.50 | 3.20 |
| | | 31 | 28.32 | 24.38 | 2.31 | 7.04 | 6.50 | 3.20 |
| | | 37 | 32.13 | 28.19 | 2.31 | 7.04 | 6.50 | 3.20 |
| | | 51-2 | 41.02 | 37.08 | 2.31 | 7.04 | 6.50 | 3.20 |
| | | 67 | 51.18 | 47.19 | 2.31 | 7.04 | 6.50 | 3.20 |