



Electronics

# MULTI-BEAM XL Cable Plug Assemblies

## DESCRIPTION

MULTI-BEAM XL cable assemblies allow designers freedom to connect power supplies and power distribution subassemblies in a wide variety of applications. The newest addition to the MULTI-BEAM XL cable assemblies are the cable mounted plugs. Produced with modular molds, the connectors can be made in a wide variety of sizes.



The pcb mounted MULTI-BEAM XL plugs are typically rigidly mounted to both hot-swappable power supplies and the systems they connect with. If both mating halves are rigidly mounted then a poorly aligned system can cause the connector to become a lever to align the power supply. Depending on the chassis design, this can cause a binding of the mechanical chassis, or worse, a misaligned connector. The "floating blind-mate drawer connector" design of the MULTI-BEAM XL cable connectors eliminates the concern of an inadequately aligned chassis. The connector can accept mating parts misaligned by as much as 3mm (+/- 1.5mm), and still mate without applying stress to solder or compliant pin terminations.

The MULTI-BEAM XL cable plugs can terminate 8-14 AWG and 22-26 AWG wires all in one connector, without using adapter circuit boards. The use of high temperature glass filled housing materials, redundant contact retention and high conductivity contact materials allows the use of this connector in very high current density applications. The features work together to result in a highly durable and compact power connector which offers minimum millivolt drop through the connection.

The cable assemblies are all designed to specific customer requirements and manufactured in Tyco Electronics' internal cable assembly manufacturing facilities.

## FOR MORE INFORMATION

Internet

<http://tycoelectronics.com>

Product information available at:

<http://mbxl.tycoelectronics.com>

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Technical Support Center

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Tyco Electronics Power Interconnect Catalog #1308662

# MULTI-BEAM XL Cable Plug Assemblies

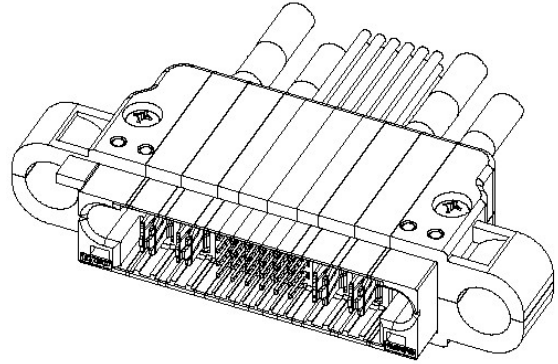
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## CONNECTOR STYLES

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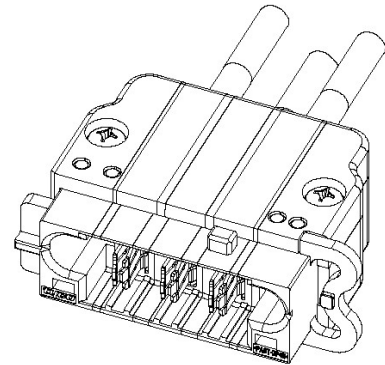
### PMT (Panel Mount) for true X,Y,Z Floating

- Single-piece contact design - eliminates multiple contact interfaces
- Insulation crimp on all contacts
- Installation to panel provides float in X, Y and Z directions



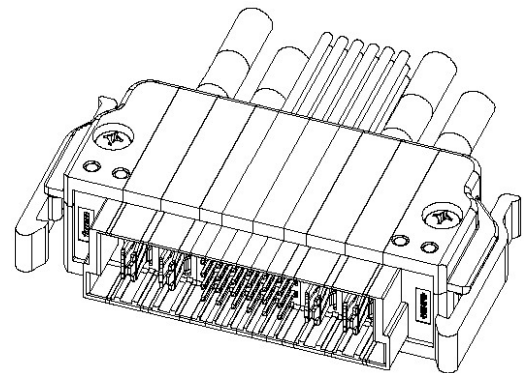
### STL (Slide-to-Lock) - most economical – still offering X and Y Floating

- Single-piece contact design - eliminates multiple contact interfaces
- Insulation crimp on all contacts
- Installation to panel provides float in X, Y and Z directions



### STR (Squeeze-to-Release) – to connect sub-assemblies

- Single-piece contact design - eliminates multiple contact interfaces
- Insulation crimp on all contacts
- Installation to panel provides float in X, Y and Z directions

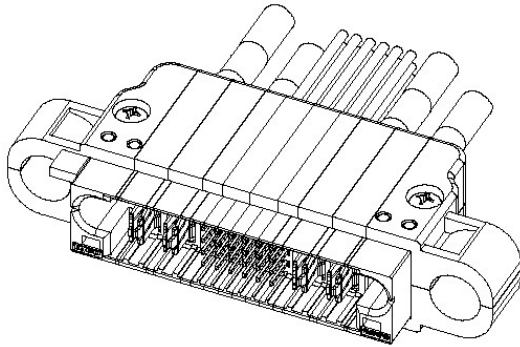


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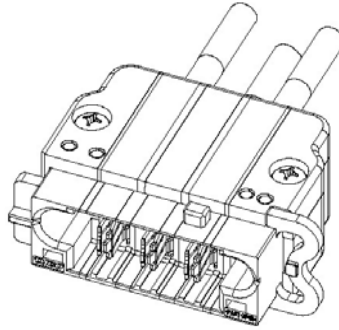
*Intermateable with Tyco Electronics MULTI-BEAM XL pcb mounted receptacles*

# MULTI-BEAM XL Cable Plug Assemblies

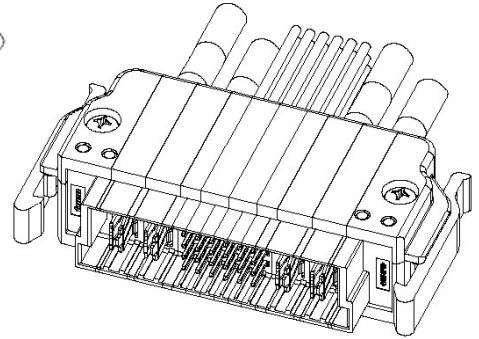
## CONFIGURATIONS / PART NUMBERS



**PMT**

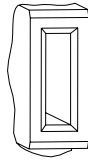


**STL**

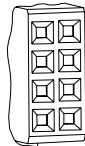


**STR**

Power Module Widths:  
0.300" (ACP)  
0.250" (P)  
0.200" (HDP)



Signal Module Width  
0.200" (8 Contacts)



Module Designation	Maximum Wire Size		Max. Insulation Dia.	
	AWG	(mm <sup>2</sup> )	inches	(mm)
300 (ACP)	8	(10.5)	0.272	(6.91)
250 (P)	10	(6.6)	0.215	(5.46)
200 (HDP)	12	(2.6)	0.156	(3.96)

Module Designation	Wire Range		Insulation Range	
	AWG	(mm <sup>2</sup> )	inches	(mm)
Signals	22 - 26	(0.14 - 0.32)	0.036 - 0.054	(0.91 - 1.37)

Configuration	PMT Series Plug	STL Series Plug	Mating Receptacles*		STR Series Plug	Mating Receptacles* Vertical
			Vertical	R/A		
3 ACP		1761421-1	6450543-6	6450173-1		
4 P		1761421-3	6450543-5		1600814-2	
5 ACP		1761421-2				
1P/16S/1P	1600236-5	1600820-2		2-6450170-0	1600238-4	6450740-4
1P/24S/1P	1600236-4	1600820-1	6450540-1	6450160-3	1600238-3	6450740-5
2P/24S/2P	1600236-6	1600820-3		2-6450170-1	1600238-5	6450740-6
3ACP/24S/3ACP	1600236-7	1600820-4	4-6450550-1	2-6450170-2	1600238-6	6450740-7

PMT Series - Panel Mount with total 3mm float in X,Y and Z directions  
 STL Series - Panel Mount with total 1.5mm float in X and Y directions only  
 STR Series - Squeeze-to-Release for removable Cable-to-Board / I/O Applications

\* Specifications on mating pcb mountable receptacles:  
 • Product Specification # 108-1973  
 • Application Specification # 114-13038

# MULTI-BEAM XL Cable Plug Assemblies

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## CONNECTOR FEATURES

- High-strength housing materials allow use in demanding applications
- High conductivity copper alloy – maximizes performance capabilities
- Hot-Plug design provides sacrificial contact to preserve low contact resistance of separable interface
- Float-mount option provides +/- 1.5mm float in X, Y, and Z directions
- Slide-to-Lock option provides economical mounting to panel while maintaining +/- 0.75mm float
- Squeeze-to-Release option provides easy-to-mate cable connection to live receptacles.
- Integral Cable Clamp – supports contacts and provides strain relief in minimum amount of space
- Pre-assembled, made-to-order cable assemblies
- Modular mold design provides configuration flexibility

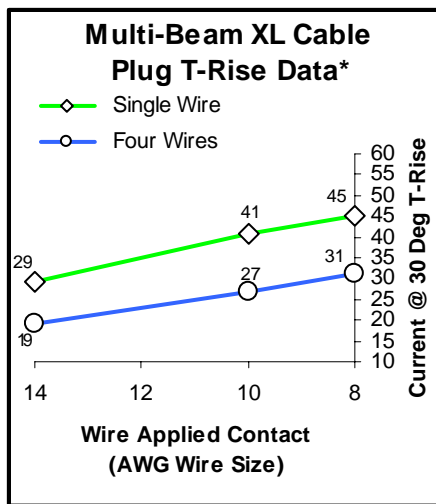
## SPECIFICATIONS

- Wire Range – 8AWG – 14 AWG
  - Current Carrying Capacity
    - Power Contacts – 45 Amps\* on single 8 AWG wire
    - Signal Contacts – 4 Amps on single 22 AWG wire
  - 1.5mm float in X, Y and Z Direction\*\*
- \* Based on End-Of-Design-Life Qualification Tests.  
\*\* Mated to Tyco Electronics MULTI-BEAM XL headers only

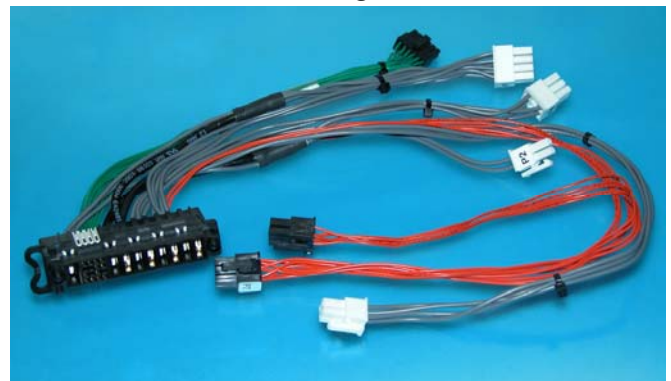
- Sequenced Mating – 3 Levels
  - Pwr/Gnd, Pwr & Signal, Signal
- 250 Cycle Durability
- Temperature Range – 40°C - 105°C
- RoHS Compliant
- UL, CSA, VDE Approvals Pending

[Product Specification 108-2157-1](#)

[Application Specification 114-13164](#)



- Offered as pre-assembled, fully tested cable assemblies, as shown below
- Combines multiple power and signal connectors into a single Power I/O Connector



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