

FORTIS Zd LRM

CONNECTOR SYSTEM

Rugged Next-Generation Packaging Made Flexible
with Lightweight, Modular System

FORTIS Zd LRM CONNECTOR SYSTEM

The Next Generation of Rugged, Flexible Embedded Computing



HIGH PERFORMANCE

- Performance to 12+ Gb/s
- Controlled impedance design
- Low crosstalk and excellent electrical characteristics
- Low noise board footprint

WEIGHT-SAVING MODULAR DESIGN

- Lightweight aluminum shell
- 3, 4, 8 or 9 bays standard, with other sizes possible
- Easy mixing and matching of modules

RUGGED RELIABILITY

- M55320 four-point box contact design
- High-temperature, space-compatible materials
- Shell's integral guide keys align and minimize micromotion between boards

FULL RANGE OF MODULES

- Single-ended signals
- Differential signals
- Power
- RF
- Fiber optics

The Fortis Zd LRM Connector System is an innovative modular connector system for rugged next-generation packaging, from avionics boxes to military ground vehicles. It features a rugged, lightweight, multibay shell that accepts high-speed digital signal, power, RF and optical modules.

Based on Well-Established Technology

Some of the latest tried and true technical solutions from TE Connectivity (TE) are brought together in this versatile package.

- M55320 box contacts, with four points of contact, provide electrical stability in high-vibration environments
- Compliant pin board attach for manufacturing efficiency, reparability, and superior electrical performance
- Precision guide hardware and shell features ensure reliable plug-in and excellent stability under extreme vibration
- Optical and RF modules are based on VITA 66 and 67

Flexible Configurations

The connector modules and shells are sold separately, for flexibility in design customization and component supply.

APPLICATIONS

- Avionics
- Electronic Warfare
- Radar Interface and Processing
- Communications Hubs and Processing
- Vehicle Mission Computers and Navigation
- Weapons Control and Targeting

MATERIALS

- **Contacts:** High-performance copper alloy, plated 50 μm gold in mated contact area. Tin-lead and RoHS-compliant finish options for press-fit tails.
- **Housings:** High-temperature thermoplastic
- **Shells:** Aluminum with trivalent chromate conversion coating

ENVIRONMENTAL

- **Operating Temperature:** -65°C to +125°C

MECHANICAL

- **Durability:** 500 mating cycles

TE SPECIFICATIONS AND TEST REPORTS

- **Instruction Sheet:** 408-10464
- **Product Specification:** 108-2474
- **Qualification Test Report:** 501-134028
- **Electrical Performance Report:** 505-1

APPLICATION TOOLING

- No special tooling required; flat rock tooling for press-fit mounting to pc board

TE Components . . . TE Technology . . . TE Know-how . . .

AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Polamco | Raychem | Rochester | DEUTSCH
SEACON Phoenix | L.L. Rowe | Phoenix Optix | SEACON

Get your product to market faster with a smarter, better solution.



Shells

Rugged and Lightweight

- Precision machined from aluminum for light weight
- Chromate finished

Modular Flexibility

- Identical bays for flexibility in mixing and matching modules and positioning them optimally

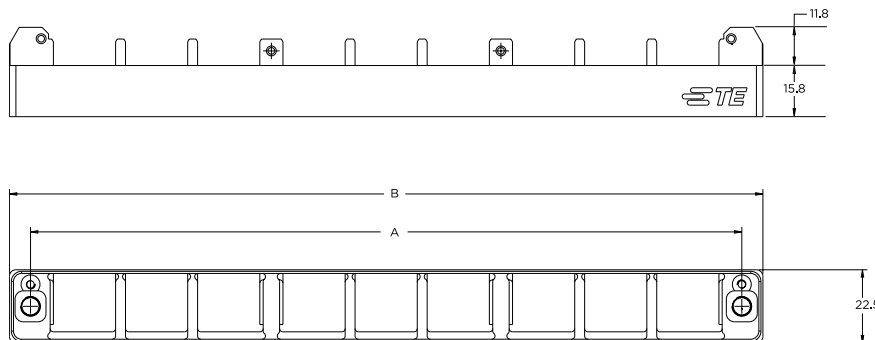
3U and 6U Solutions

- 3 and 4-bay shells support 3U boards
- 8 and 9-bay shells support 6U boards
- Other sizes can be made available
- Custom shell features possible, including integrated covers



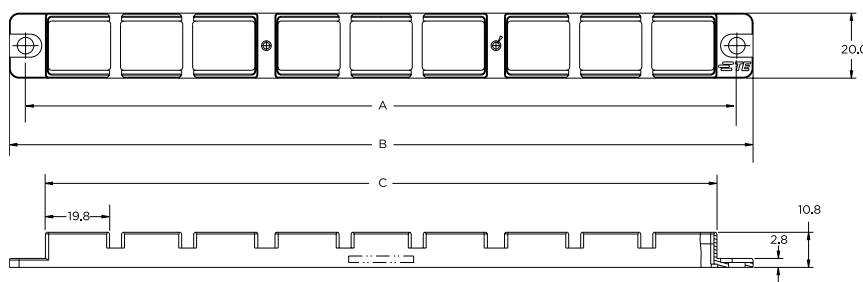
Size	Part No.	
	Daughtercard	Backplane
3 bay	2226783-1	2226784-1
4 bay	2226783-2	2226784-2
8 bay	2226783-4	2226784-4
9 bay	2226783-3	2226784-3

Daughtercard



Bays	A	B
3	77.6	90.7
4	99.8	112.9
8	192.7	205.7
9	219.0	232.0

Backplane



Bays	A	B	C
3	77.6	87.7	65.4
4	99.8	109.9	87.6
8	192.7	202.7	180.5
9	219.0	229.0	206.8



Signal Modules

Flexible

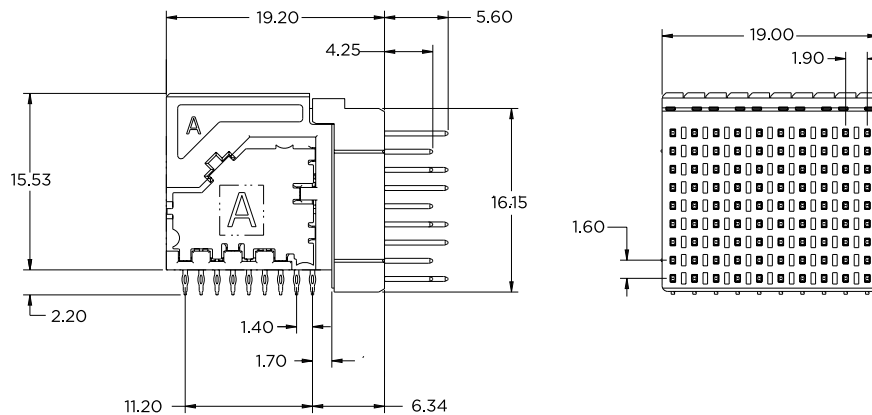
- Differential and single-ended signal daughtercard modules
- Universal backplane module for both differential and single-ended signals
- 90 contacts per module
- Differential module supports 30 pairs, with ground shields for isolation

Reliable

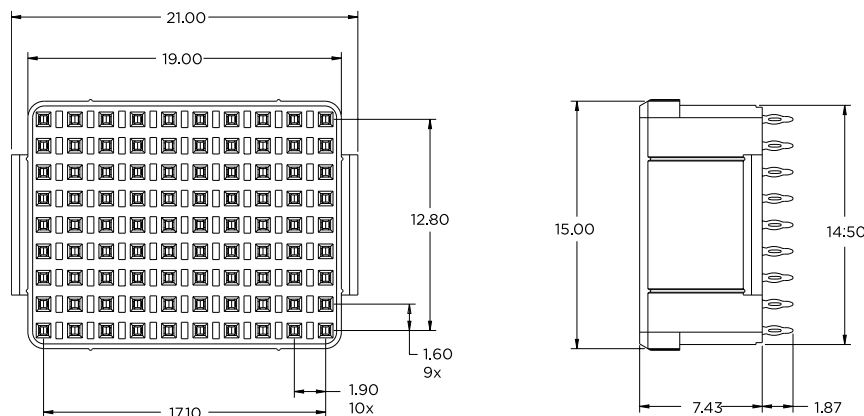
- Reliable box contacts with four points of contact
- RoHS compliant

Type	Signal Type	Part No.
Daughtercard	Differential	2102436-1
	Single Ended	2102436-2
Backplane	Either	2102438-1

Differential Pair Daughtercard Module 2102436-1



Backplane Module 2102438-1





High-Power Modules

High Current

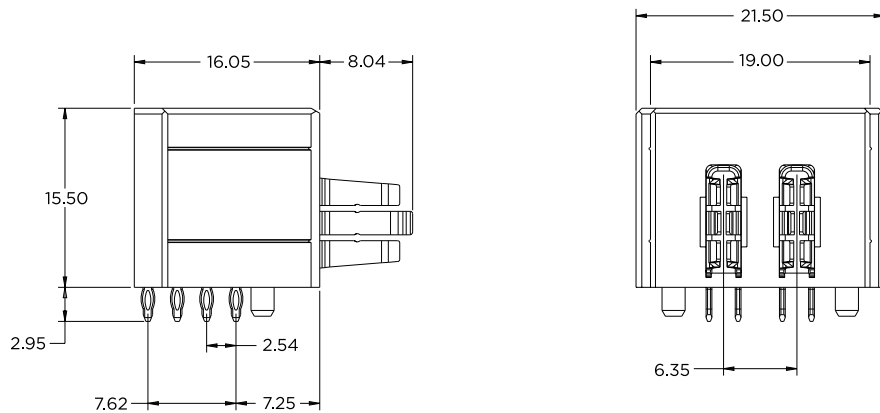
- 55 A contacts
- Two contacts per module
- 3-beam high-conductivity contacts
- Vented housing for thermal dissipation

Tried and True Technology

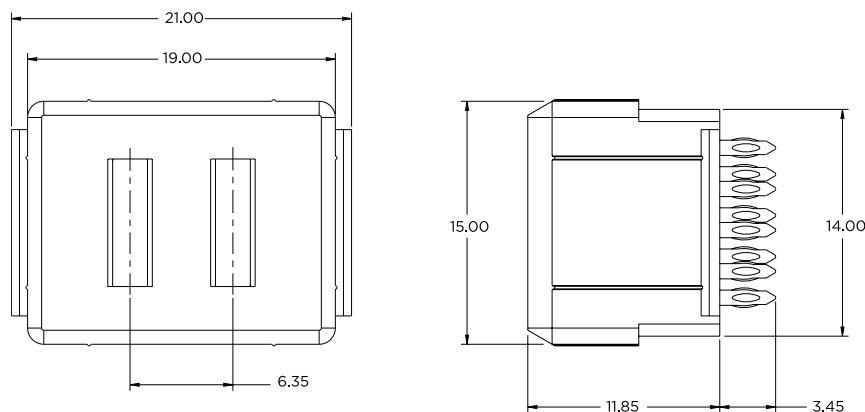
- Based on MULTI-BEAM XLE connector design
- Same interface as used in VITA 62 power supply modules for VPX

Type	Part No.
Daughtercard	2102440-1
Backplane	2102442-1

High-Power Daughtercard Module 2102440-1



High-Power Backplane Module 2102442-1





Low-Power Modules

Flexible Current Handling

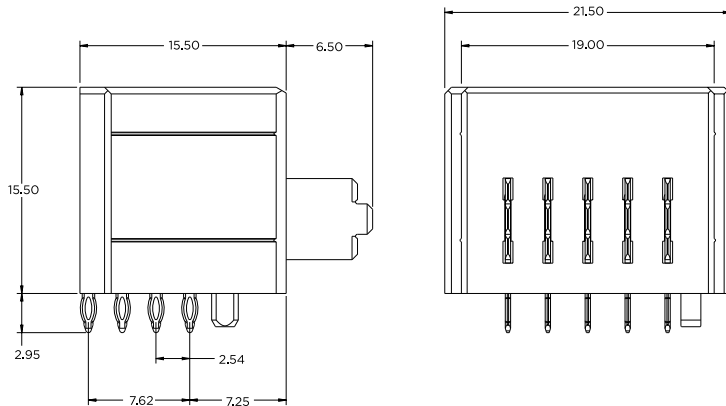
- 15 A contacts
- Five contacts per module

Tried and True Technology

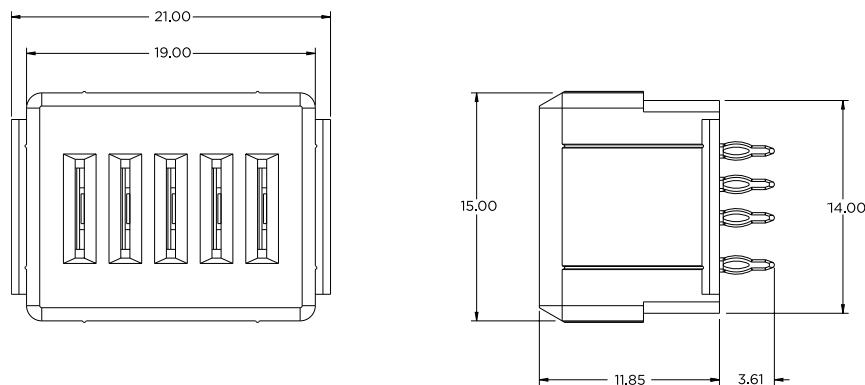
- Based on TE's Universal Power Module

Type	Part No.
Daughtercard	2102444-1
Backplane	2102446-1

Low-Power Daughtercard Module 2102444-1



Low-Power Backplane Module 2102446-1





RF Modules

Rugged Performance

- Excellent RF performance to 40 GHz
- Float-mounted contacts ensure mated contacts bottom, for excellent isolation and low VSWR

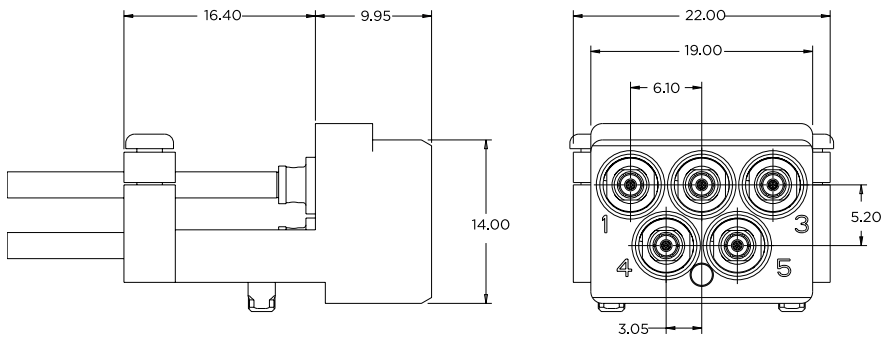
Tried and True Technology

- Based on TE's VITA 67 modules for VPX
- SMPM contacts
- Five position modules

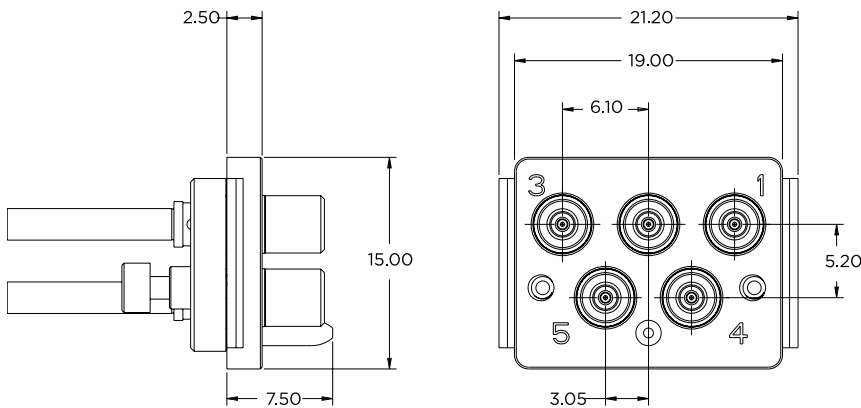
Item	Cable Type	Backplane	Daughtercard
Module	—	2226512-1	2226511-1
SMPM Contacts	.047" Semi-Rigid or Flex Equivalent	2157248-1	1996771-1
	.086" Semi-Rigid or Flex Equivalent	2101012-1	1996390-1

Contact TE for RF cable assembly requirements. Custom module configurations are also possible.

SMPM Daughtercard Module 2226511-1



SMPM Backplane Module 2226512-1





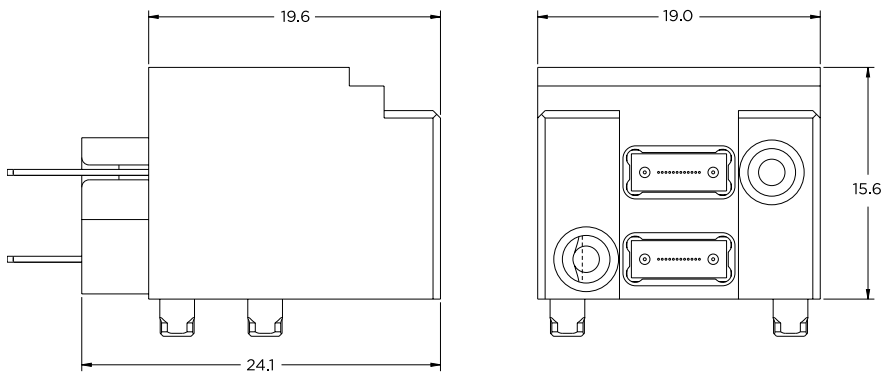
Optical Modules

Tried and True Technology

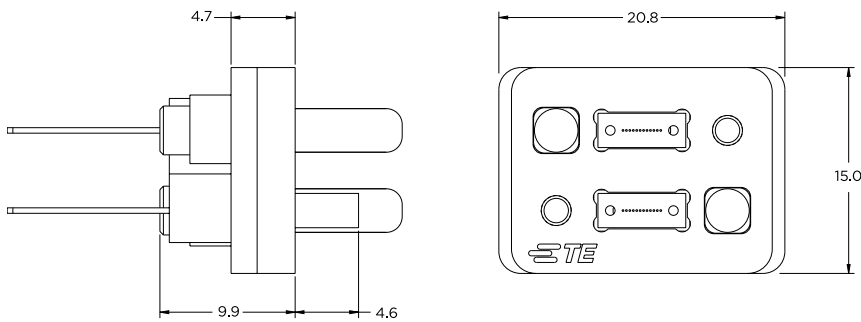
- MT ferrule inserts
- Up to 24 fibers (12 per ribbon)
- Based on VITA 66

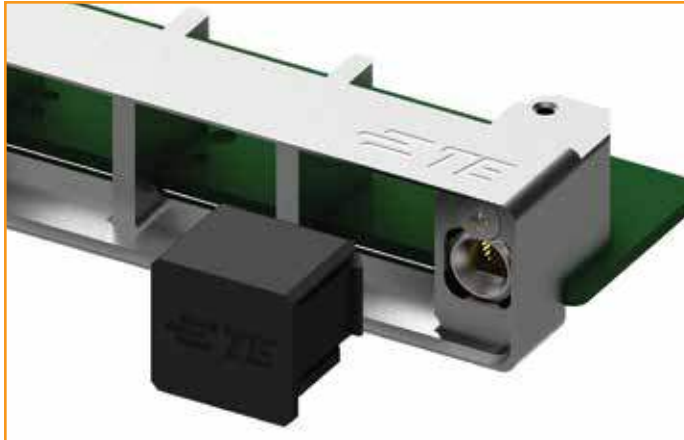
Type	Part No.
Daughtercard	2226790-1
Backplane	2226789-1

Optical Daughtercard Module 2226790-1



Optical Backplane Module 2226789-1



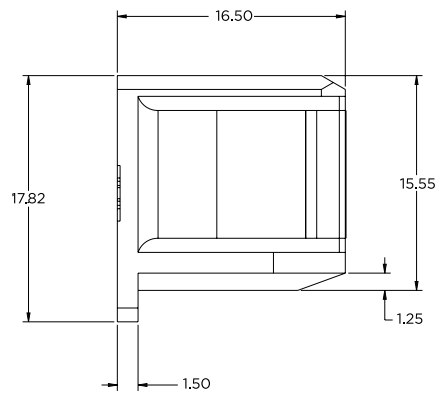
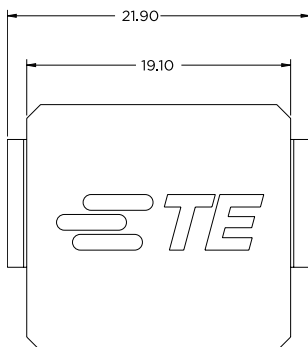


Filler Modules

- Helps protect unused bays from dust or contamination
- Snaps into place on daughtercard shell

Type	Part No.
Daughtercard Filler Module	2102449-1

Filler Module 2102449-1









Guide Hardware

Precision Machined

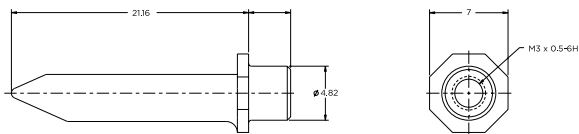
- Tightly tolerated to minimize micromotion between boards
- Lightweight aluminum

Flexible Keying

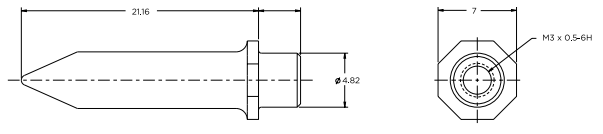
- 8 key orientations per pin
- 64 key combinations per assembly
- ESD springs in daughtercard shell's guide sockets

			Part No.
Backplane Guide Pins		Keyed	2102502-2
		Non-Keyed	2102502-4
Daughtercard Guide Sockets		Keyed	2102503-2
		Non-Keyed	2102503-4

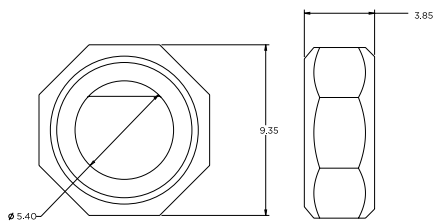
2102502-2 Backplane Guide Pin Keyed



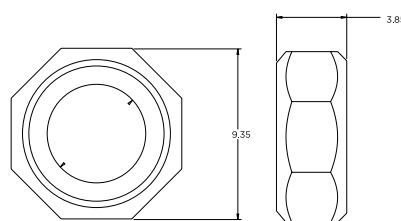
2102502-4 Backplane Guide Pin Non-Keyed



2102503-2 Daughtercard Guide Socket Keyed



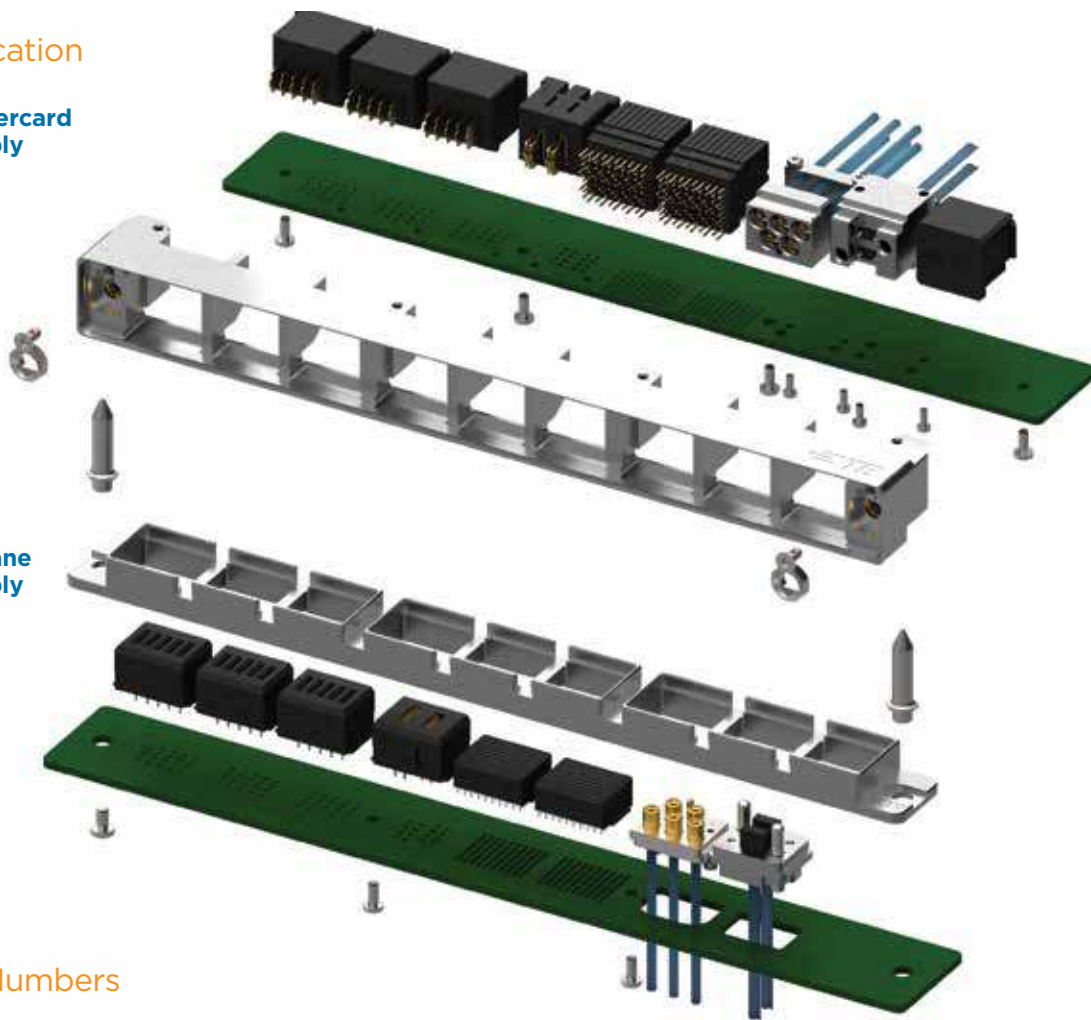
2102503-4 Daughtercard Guide Socket Non-Keyed



Application

Daughtercard Assembly

Backplane Assembly



Part Numbers

Part	Type	Part No.	
		Daughtercard	Backplane
Connector Shells	3 bay	2226783-1	2226784-1
	4 bay	2226783-2	2226784-2
	9 bay	2226783-3	2226784-3
	8 bay	2226783-4	2226784-4
Modules	Differential Pair	2102436-1	2102438-1
	Single Ended	2102436-2	2102438-1
	Low-Power Module	2102444-1	2102446-1
	High-Power Module	2102440-1	2102442-1
	RF (SMPM) Module	2226511-1	2226512-1
	Optical (MT) Module	2226790-1	2226789-1
Guide Hardware	Filler	2102449-1	—
	Guide Socket, Keyed	2102503-2	—
	Guide Socket, Non-Keyed	2102503-4	—
	Screw, Guide Module, Phillips Head	208021-1	—
	Screw, Guide Module, Torx	2226170-1	—
	Guide Pin, Keyed	—	2102502-2
Guide Pin, Non-Keyed	—	2102502-4	

For More Information

TE Technical Support Center

North America	+1 800 522 6752
Asia Pacific	+86 0 400 820 6015
Austria	+43 1 905 601 228
Baltic Regions	+46 8 5072 5000
Benelux	+31 73 6246 999
Czech Republic	+420 800 701 462
France	+33 1 34 20 86 86
Germany	+49 6251 133 1999
Hungary	+36 809 874 04
Italy	+39 011 401 2632
Nordic	+46 8 5072 5000
Poland	+48 800 702 309
Russia	+7495 790 790 2
Spain/Portugal	+34 93 2910366
Switzerland	+41 52 633 66 26
United Kingdom	+44 800 267 666

Follow us on Twitter for all the latest product news
@TEConnectivity, and on Facebook, TEConnectivity.

te.com/fortiszdlrm

© 2015 TE Connectivity Ltd. family of companies. All Rights Reserved.

1-1773857-2 ADM/RRD 2.5M 06/2015

Fortis Zd, TE, TE Connectivity, TE connectivity (logo) and TE (logo) are trademarks of the TE Connectivity group of companies and its licensors.

Other products, logos, and company names mentioned herein may be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information herein, nothing herein constitutes any guarantee that such information is error-free, or any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. The TE entity issuing this publication reserves the right to make any adjustments to the information contained herein at any time without notice. All implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose are expressly disclaimed. The dimensions herein are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice.

Consult TE for the latest dimensions and design specifications.