2U µTCA Chassis with 12 AMC slots

VT880

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KEY FEATURES

- µTCA System Platform 19” x 2U x 14.2” deep
- Full redundancy with dual MicroTCA Carrier Hub (MCH), dual Cooling Units and dual Power Modules
- Up to twelve AMCs: four full-size and eight mid-size
- Dual star topology
- Radial I2C bus to each AMC
- High-speed routing on 26 layers
- High-speed µTCA connectors (12.5 GHz)
- Telco Alarm
- JTAG Switch Module (JSM) slot with front port access
- CLK1, CLK2 and CLK3
- Removable Air Filter, Power Module and Fan Tray
- 720W AC Universal dual redundant Power Modules
- No active components on the backplane
- ESD-Jack
- RoHS compliant

The VT880 is a 2U µTCA chassis that provides four AMC full-size and eight mid-size that can accept any AMC.1, AMC.2, AMC.3 and/or AMC.4. It provides CLK1, CLK2, and CLK3 to each slot in addition to the JTAG signals.

The VT880 has full redundancy. It’s capable of having redundant MCH, Power Modules, as well as redundant Cooling Units for high availability.

Option for redundant/non-redundant clock per µTCA specification. The CLK3 option can be configured for the Fabric clock as well as Telcom clock.

The chassis has a JTAG Switch Module (JSM) slot per µTCA specification. This provides transparent communication between the front JTAG port and the selected AMC device.The VT880 has a Telco Alarm as well as Redundant FRU information devices and carrier locator.

VadaTech can modify this product to meet special customer requirements without NRE (minimum order placement is required).

µTCA™

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2U µTCA Chassis with 12 AMC slots

SPECIFICATIONS

Architecture		
		Height 2U
Physical	**Dimensions**	Width: 19”
		Depth 14.2”
Type	**µTCA Chassis**	Twelve AMC.0 slots
Standards		
AMC	**Type**	AMC.0, AMC.1, AMC.2, AMC.3, and AMC.4
µTCA	**Type**	JSM, Telco Alarm, Dual MCH, Dual Power Module and Dual Intelligent Cooling units
Configuration		
Power	**VT880**	Dual Power Module (PM) Inserted from the rear
		720W AC Universal Input (110-240VAC with frequency from 47-63Hz) per Module
Environmental	**Temperature**	Operating Temperature: 0° to 55° C
		Storage Temperature: -40° to +70° C
	Altitude	10,000 ft. Operating
		40,000 ft. Non-Operating
	Relative Humidity	5 to 95 percent, non-condensing
Conformal Coating		Humiseal 1A33 Polyurethane
		Humiseal 1B31 Acrylic
Other		
MTBF	MIL Hand book 217-F@ TBD Hrs.	
Certifications	Designed to meet FCC, CE and UL certifications where applicable	
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards	
Compliance	RoHS and NEBS	
Warranty	Two (2) years	
Trademarks and Logos	The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedTCA™ and the AdvancedMC™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.	

Chassis Mechanical

The VT880 has 12 slots which consists of 4 Full-height AMC and 8 mid-height. The Chassis has dual MCH as well as Telco and JSAM slot. The VT880 has redundant cooling units as well as dual AC input power supply.

<table>
<tr><td rowspan="2">AMC 1
F-S*</td><td>AMC 3
M-S*</td><td rowspan="2">MCH 1</td><td>AMC 7
M-S</td><td rowspan="2">AMC 11
F-S</td></tr>
<tr><td>AMC 4
M-S</td><td>AMC 8
M-S</td></tr>
<tr><td rowspan="2">AMC 2
F-S</td><td>AMC 5
M-S</td><td rowspan="2">MCH 2</td><td>AMC 9
M-S</td><td rowspan="2">AMC 12
F-S</td></tr>
<tr><td>AMC 6
M-S</td><td>AMC 10
M-S</td></tr>
<tr><td colspan="2"></td><td>JSM</td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td>TELCO</td><td colspan="2"></td></tr>
</table>

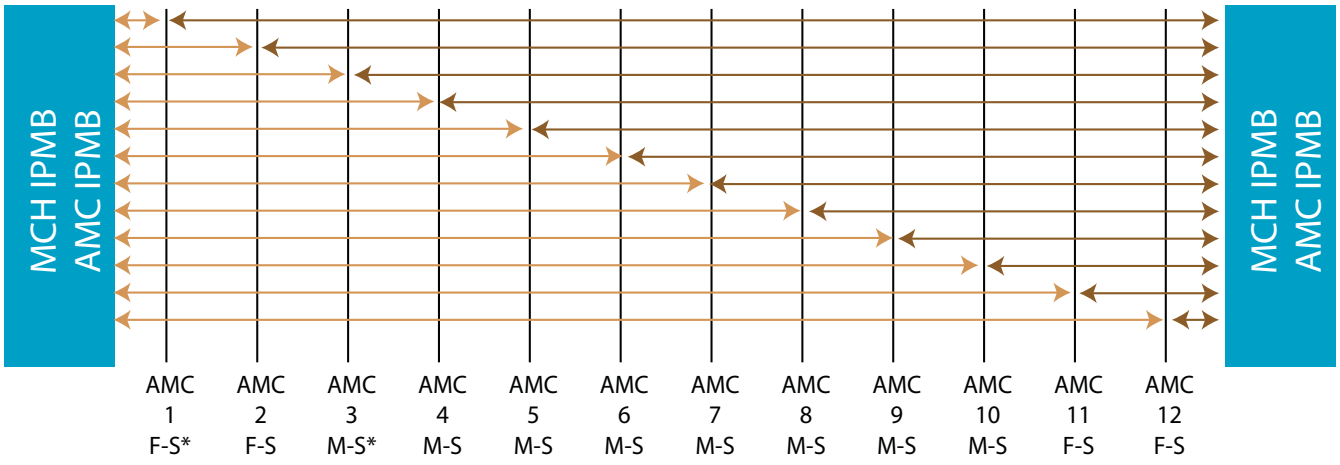
*F-S (Full-Size), *M-S (Mid-Size),

FIGURE 1. VT880 Slot numbering (front view)

FIGURE. Rear View

IPMB Bus

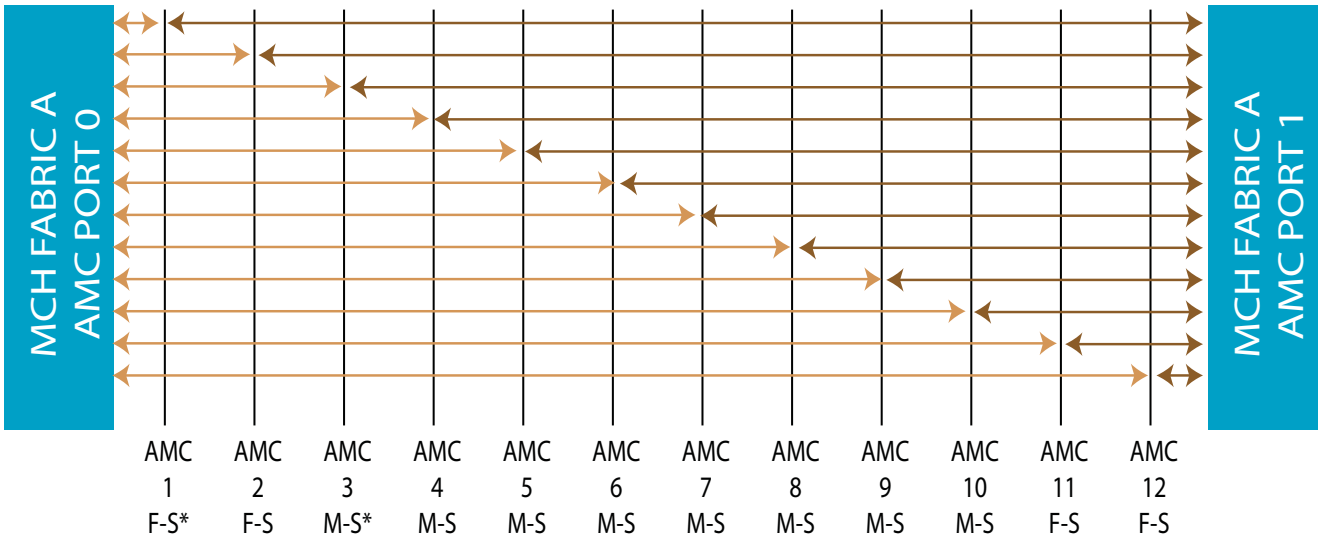
The I2C bus from each AMC is routed radially to each of the MCH.



*F-S (Full-Size), *M-S (Mid-Size),

FIGURE 2. VT880 Topology for AMC I2C Bus

Ports 0 and 1

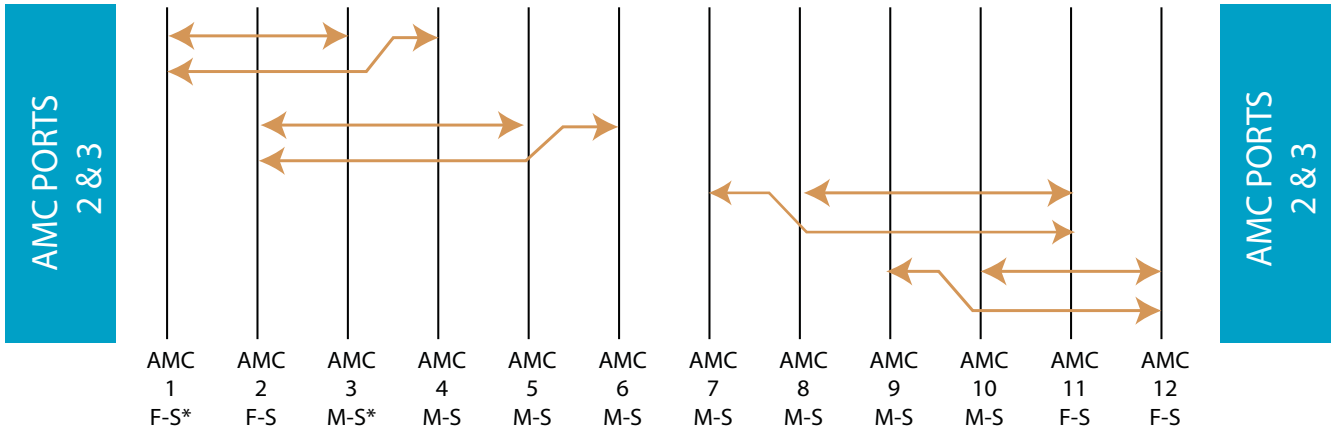


*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 3. VT880 Topology for AMC Ports 0 and 1

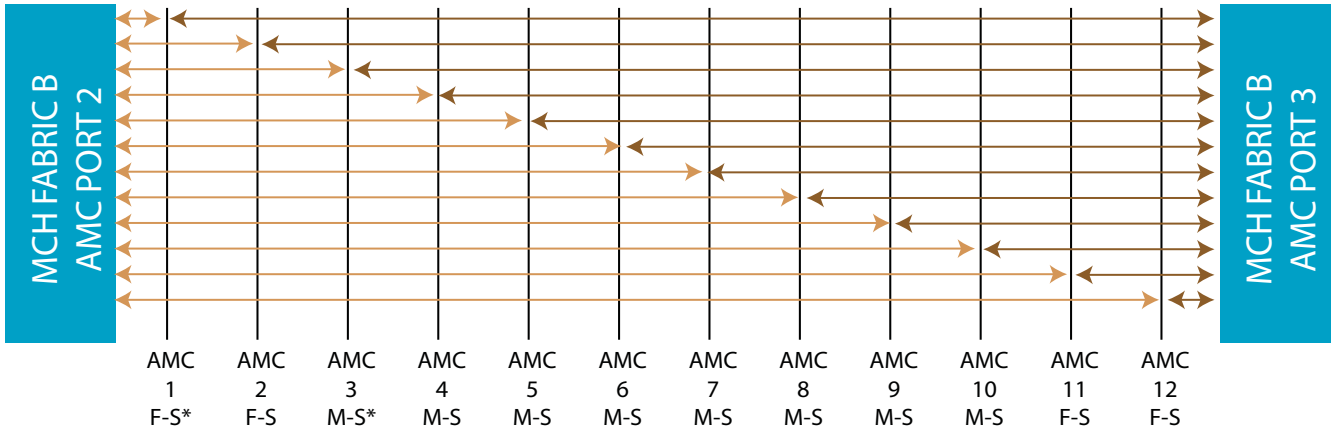
Ports 2 and 3

Topology for Ports 2 and 3 with direct connections among the slots (ordering option)



*F-S (Full-Size), *M-S (Mid-Size)

Topology for Ports 2 and 3 to MCH (ordering option with redundant CLK)



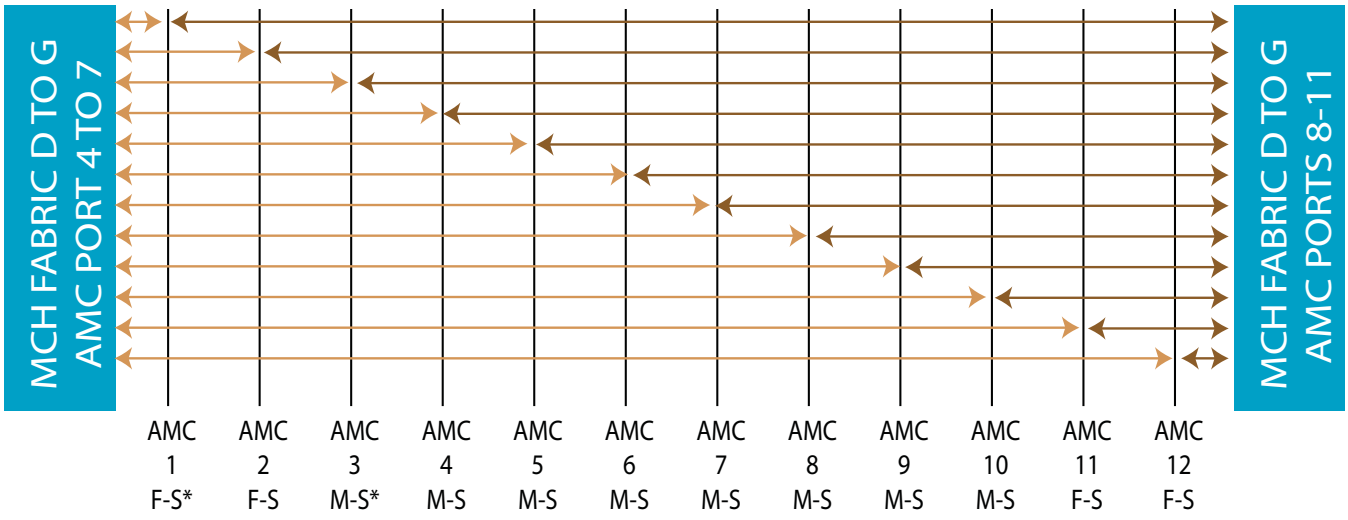
*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 4. VT880 Topology for AMC Ports 2 and 3

When CLK3 is non-redundant, Fabric B will be partially provided only on ports 1 to 6. CLK3 is routed on Fabric B on ports 7 to 12.

Ports 4-7 and 8-11

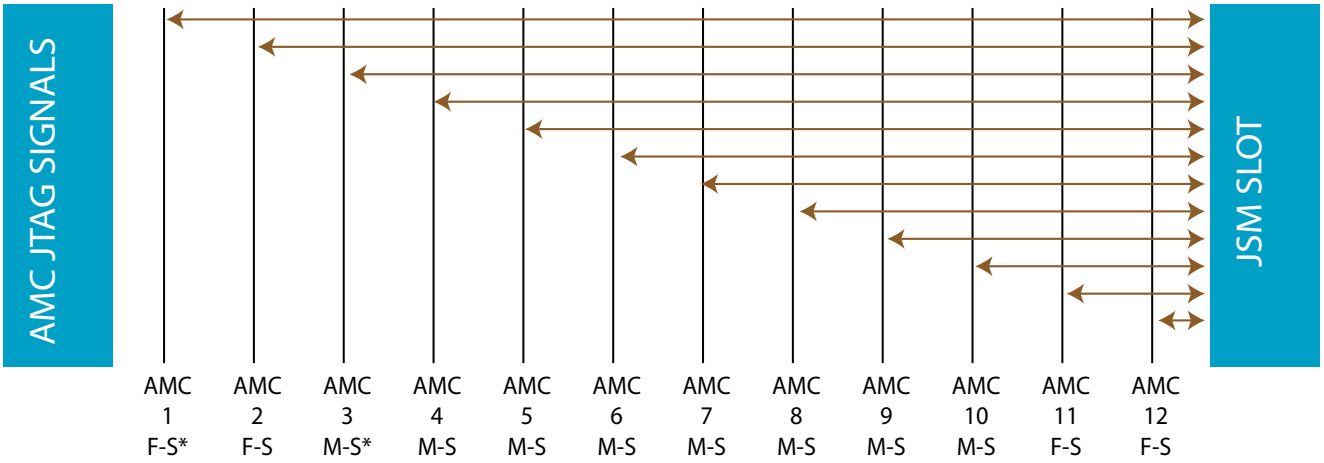
Ports 4-7 from each AMC is routed to first MCH and ports 8-11 are routed to the second MCH.



*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 5. VT880 Topology for AMC Ports 4-7 and 8-11

AMC JTAG Signals



*F-S (Full-Size), *M-S (Mid-Size)

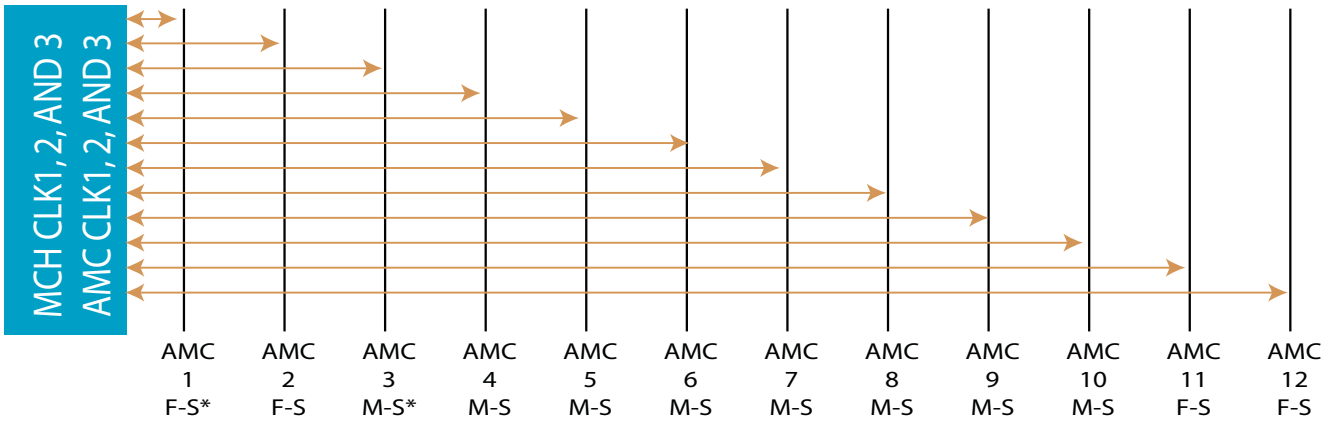
FIGURE 6. VT880 Topology for AMC JTAG Signals

The VT880 has a JSM slot. The JSM module is removable and allows the insertion of the VadaTech JSM module. The JSM module can be ordered with the Chassis.

Clock Options

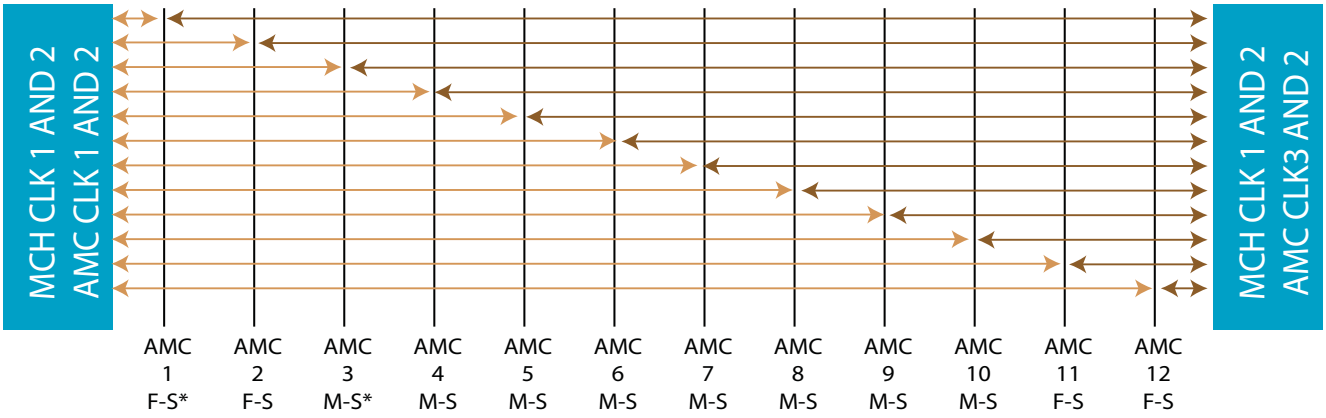
The µTCA specifies three clocks: CLK1, CLK2, and CLK3. It defines non-redundant and redundant clock networks. The non-redundant clock network connects CLK1, CLK2 and CLK3 of one MCH point-to-point to CLK1, CLK2 and CLK3 of the AMCs. CLK3 can follow the Telco clock or become the Fabric clock per AMC.1 specification. Fabric B will be partially provided only on ports 1 to 6 CLK3 is routed on Fabric B on ports 7 to 12.

The redundant clock network option connects the CLK1 of MCH1 and CLK1 of MCH2 point-to-point to each of the CLK1 and CLK3 respectively of each AMC.



*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 7. VT880 non-redundant clock Topology, CLK3 can run as Fabric Clock (i.e. PCIe clock)



*F-S (Full-Size), *M-S (Mid-Size)

FIGURE 8. VT880 redundant clock Topology

Power Module

The VT880 has an option for Dual Power Module (PM). The PM slots are in the rear with universal AC input.

Cooling and Temp Sensors

The VT880 has Dual intelligent Cooling Units. This redundancy allows fail-safe operation in case one of the cooling units becomes non-operational. The cooling airflow is from right to left. The removable Air Filter has a switch to detect its presence and can be monitored for when it needs to be replaced.

There are a total of 12 Temperature sensors in the chassis that monitor the intake and the outtake air temperature throughout the chassis.

Telco Alarm

The VT880 provides Telco Alarm functionality to alert about any anomaly within the chassis. The Telco Alarm is provide via a Micro DB-9 as well as LED's in the front to show any anomaly. The Telco Alarm has its own dedicated slot.

FRU Information and Carrier Locator

The VT880 has dual redundant FRU information and Carrier Locators. The Carrier Locator is assigned by mechanical dip switches which are easily accessible. The MCH reads the Locator via it's private I2C bus.

No active components

With respect to other µTCA chassis in the market, the VT880 has no active components on its back plane. This allows ease of serviceability.

End to End Integrated Solution

VadaTech has the entire µTCA infrastructure: MicroTCA Carrier Hub (product UTC001, UTC002 or UTC004), Power Module (UTC010, ~800W), JSM, etc.. Please consult the appropriate data sheet to obtain more information.

VadaTech can integrate any of its over 90 AMC modules, customer AMCs, as well as other third party AMCs into the chassis and deliver a complete system for deployment. Please contact VadaTech Sales for more information.

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ORDERING OPTIONS

VT880 - ABC - 00F - 00J*

A = Power Module

1 = Single AC supply
2 = Dual AC supply

B = Ports 2 and 3

0 = All slots to MCH
1 = Per Fig. 4

C = CLK3

1 = Non-redundant (Telco)
2 = Non-redundant (Fabric CLK)
3 = Redundant

F = JSM

0 = Not installed
1 = Installed

J = Conformal Coating

0 = None
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

*VadaTech has MCH (UTC001, UTC002 and UTC004) and well over 90 AMC modules. Contact your sales representative for an end-to-end integrated solution.

Back view

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