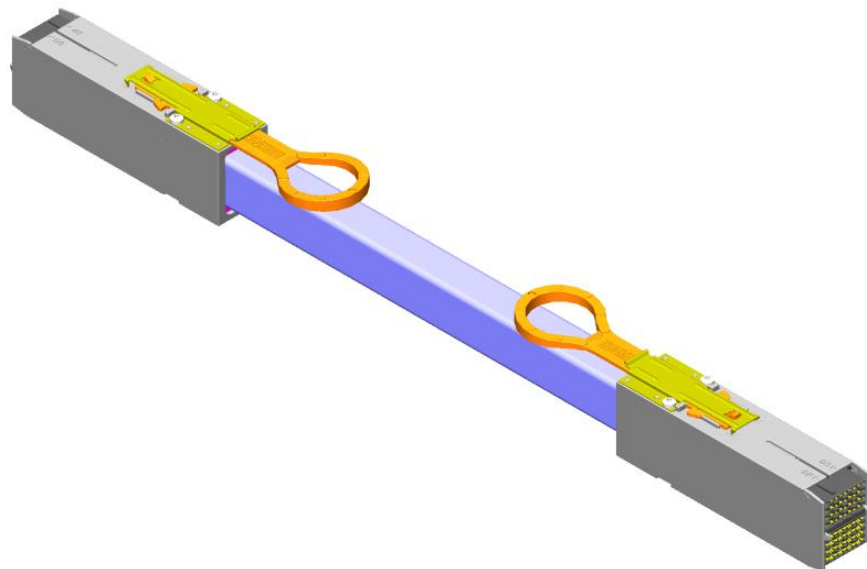
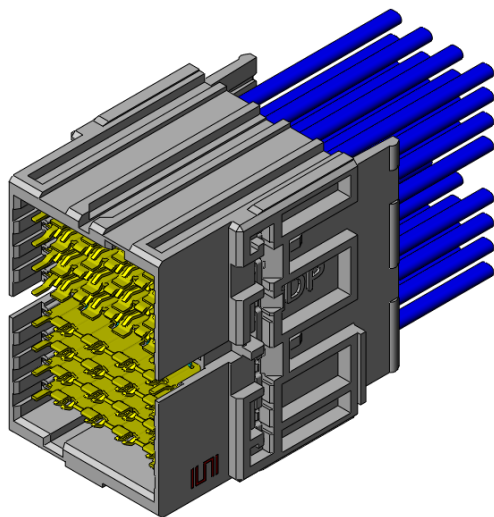


**Series:** NVACE / NVACP NovaRay® I/O Extreme Performance Panel Mount I/O Assembly – 8 Row Only

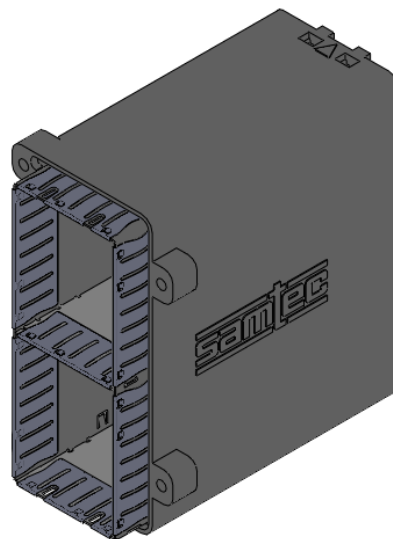
## NVACE Series – I/O Cable Assembly



## NVACP Series –Panel Mount Cable Assembly



## NVC- Panel Cage



## Other configurations available for:

NVACP (End 2): Accelerate (ARC6), NovaRay (NVAC), Si-Fly (CPC)

NVC: 8 Row x 2 Port, 8 Row x 4 Port

See [www.samtec.com](http://www.samtec.com) for more information.



**Series:** NVACE / NVACP NovaRay ® I/O Extreme Performance Panel Mount I/O Assembly – 8 Row Only

### 1.0 SCOPE

- 1.1** This specification covers performance, testing and quality requirements for Samtec NVACE/NVACP Novaray ® I/O Extreme Performance Panel Mount I/O assembly. Testing and rating information in this specification is applicable to 8-Row NVACE series cable mated to a NVACP series cable.

### 2.0 DETAILED INFORMATION

- 2.1** Product prints, footprints, catalog pages, test reports and other specific, detailed information can be found at  
NVACE: <https://www.samtec.com/products/nvace>  
NVACP: <https://www.samtec.com/products/nvacp>  
NVC: <https://www.samtec.com/products/nvc>
- 2.2** For installation & removal procedures, please reference the “NVACE/NVACP Mated View” Document.

### 3.0 TESTING

- 3.1 Current Rating:** -DP Option: 0.59 A (All [64] Contacts Powered), -SE Option: .39 A (All [64] Contacts Powered)
- 3.2 Voltage Rating:** 100 VAC
- 3.3 Operating Temperature Range:** -40°C to 105°C
- 3.4 Operating Humidity Range:** up to 95% (Per EIA-364-31)
- 3.5 Electrical**

| ITEM                      | TEST CONDITION                                     | REQUIREMENT                                 | RESULT |
|---------------------------|----------------------------------------------------|---------------------------------------------|--------|
| Withstanding Voltage      | EIA-364-20 (No Flashover, Sparkover, or Breakdown) | 299 VAC                                     | Pass   |
| Insulation Resistance     | EIA-364-21 (5000 MΩ minimum)                       | 1,000 MΩ                                    | Pass   |
| Contact Resistance (LLCR) | EIA-364-23                                         | Δ 15 mΩ maximum (Samtec defined)/ No damage | Pass   |

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### 3.6 Mechanical

| ITEM             | TEST CONDITION                                                                                                                                            | REQUIREMENT                                                                           | RESULT |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------|
| Durability       | EIA-364-09C                                                                                                                                               | 100 cycles                                                                            | Pass   |
| Random Vibration | EIA-364-28 Condition V,<br>Letter B 7.56 G 'RMS',<br>50 to 2000 Hz, 2 hours per axis, 3 axis total,<br>PSD 0.04 Nanosecond Event Detection:<br>EIA-364-87 | Visual Inspection: No<br>Damage LLCR: $\Delta$ 15 m $\Omega$<br>Maximum,<br>No Events | Pass   |
| Mechanical Shock | EIA-364-27 30G, 6 milliseconds, Half Sine<br>wave, 12.3 fps, 3 shocks/direction, 3 axis (18<br>total shocks) Nanosecond Event Detection:<br>EIA-364-87    | Visual Inspection: No<br>Damage LLCR: $\Delta$ 15 m $\Omega$<br>No Events             | Pass   |
| Normal Force     | EIA-364-04                                                                                                                                                | 30 grams minimum for<br>gold interface                                                | Pass   |

### 3.7 Environmental:

| ITEM                         | TEST CONDITION                                                                                                                                 | REQUIREMENT                                                                                            | RESULT |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------|
| Thermal Shock                | EIA-364-32 Thermal<br>Cycles: 100 (30 minute dwell)<br>Hot Temp: +85°C Cold<br>Temp: -40°C Hot/Cold<br>Transition: Immediate                   | Visual Inspection: No Damage<br>LLCR: $\Delta$ 15 m $\Omega$<br>DWV: 630 VAC IR:<br>>45,000 M $\Omega$ | Pass   |
| Thermal Aging<br>(Temp Life) | EIA-364-17 Test<br>Condition 4 @ 105°C Condition B<br>for 250 hours                                                                            | Visual Inspection: No Damage<br>LLCR: $\Delta$ 15 m $\Omega$                                           | Pass   |
| Cyclic Humidity              | EIA-364-31<br>Test Temp: 25°C to 65°C<br>Relative Humidity: 90 to 95%<br>Test Duration: 240 hours                                              | Visual Inspection: No Damage<br>LLCR: $\Delta$ 15 m $\Omega$<br>DWV: 630 VAC IR:<br>>45,000 M $\Omega$ | Pass   |
| Gas Tight                    | EIA-364-36<br>Gas Exposure: Nitric Acid Vapor<br>Duration: 60 min.<br>Drying Temp.: 50°C +/- 3°C<br>Measurements: Within 1 hour of<br>Exposure | LLCR: $\Delta$ 15 m $\Omega$                                                                           | Pass   |

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## 4.0 HIGH SPEED PERFORMANCE

### 4.1 Channel Simulation - Channel Performance Metric (CPM)



**Note:** CPM is a channel simulation-based approach to understanding connector performance. For further information on CPM please visit [Introducing Channel Performance](#).

CPM is simulated using a Samtec specific channel. Connector performance may improve based on specific applications. Please email the Samtec Signal Integrity Group [SIG@samtec.com](mailto:SIG@samtec.com) to determine performance in your system.

### 4.2 System Impedance: 100 Ohm for differential pair

## 5 ADDITIONAL RESOURCES

- 5.1 For additional mechanical testing or product information, contact our Customer Engineering Support Group at [CES@samtec.com](mailto:CES@samtec.com)
- 5.2 For additional information on high speed performance testing, contact our Signal Integrity Group at [SIG@samtec.com](mailto:SIG@samtec.com)
- 5.3 For additional processing information, contact our Interconnect Processing Group at [IPG@samtec.com](mailto:IPG@samtec.com).
- 5.4 For RoHS, REACH or other environmental compliance information, contact our Product Environmental Compliance Group at [PEC@samtec.com](mailto:PEC@samtec.com)



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### USE OF PRODUCT SPECIFICATION SHEET

This Product Specification Sheet ("PSS") is a brief summary of information related to the Product identified. As a summary, it should only be used for the limited purpose of considering the purchase/use of Product. For specific, detailed information, including but not limited to testing and Product footprint, refer to Section 2.0 of this document and the links there provided to test reports and prints. This PSS is the property of Samtec, Inc. ("Samtec") and contains proprietary information of Samtec, our various licensors, or both. Samtec does not grant express or implied rights or license under any patent, copyright, trademark or other proprietary rights and the use of the PSS for building, reverse engineering or replication is strictly prohibited. By using the PSS, the user agrees to not infringe, directly or indirectly, upon any intellectual property rights of Samtec and acknowledges that Samtec, our various licensors, or both own all intellectual property therein. The PSS is presented "AS IS". While Samtec makes every effort to present excellent information, the PSS is only provided as a guideline and does not, therefore, warrant it is without error or defect or that the PSS contains all necessary and/or relevant information about the Product. The user agrees that all access and use of the PSS is at its own risk. **NO WARRANTIES EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY KIND WHATSOEVER ARE PROVIDED.**