# Ve-NET™ Automotive Multi-Gigabit Differential Connector System

## IDEAL FOR AUTOMOTIVE ETHERNET APPLICATIONS

Ve-NET™ Automotive Multi-Gigabit Differential Connector System designed for the automotive environment can transmit from 1000Mb/s to 10Gb/s according to 1000BASE-T1(IEEE 802.3bp), 10GBASE-T1(IEEE 802.3ch), MULTI-GIG(IEEE 802.3cy). This automotive-grade Ethernet connection system uses Shielded Twisted Pair / Shielded Parallel Pair cable to transmit data. Ve-NET™ is developed according to USCAR-2 and LV214 and Ethernet specifications and is available in various sealed / non-sealed configurations.

### TARGET MARKETS

- Automotive-grade Ethernet application
- Temperature range -40°C to +105°C in sealed and unsealed configurations
- Supports MULTI-GIG high data rate
- Configuration available with 1x1, 1x2, 2x2 and 2x3 ports
- USCAR-2 T2V1 compatible

| FEATURES | BENEFITS |
|---|---|
| Automotive-grade Ethernet application | Supports MULTI-GIG high data rate |
| Non-waterproof / waterproof type | Suitable for STP cables |
| Robust crimp design with primary and secondary lock | High cable retention force |
| Mechanical and visible color coding | Avoids mis-mating |
| Scope proof | No contact pin damage possible |
| Mechanical and robust design | Application flexibility |
| Optional Connector Positioning Assurance(CPA) | Ensures connector remain in the mated position |
| USCAR interface compatible | Standardized interface |

# TECHNICAL INFORMATION

## MATERIAL

- Housing: High Temperature Thermoplastic
- Contacts: Copper Alloy
- Holder: High Temperature Thermoplastic
- LID: Zinc Alloys/Copper Alloy
- Die Cast: Zinc Alloys

## MECHANICAL PERFORMANCE

- Mating Cycle: ≥ 25
- Retention force latch ≥ 110N
- Engagement Force:
  - ≤ 45N (1pos)
  - ≤ 75N (2/4pos)
  - ≤ 90N (6pos)

## ELECTRICAL PERFORMANCE

- Impedance: 100Ω
- Insulation Resistance: 100MΩ min
- Frequency Range Depending on Cable Type: 0.01GHz to 20GHz
- Contact Current Rating: 1.5A max.
- Test voltage : 250VAC
- Working Voltage: ≤60VDC

## PACKAGING

- Board Connector: Reel vacuum package

## SPECIFICATION

- Product Specification: S-VNT-00X
- Packaging Specification: PKSVNT0XX

## ENVIRONMENTAL

- Temperature Range: -40°C to +105°C
- Humidity: DIN EN 60068-2-30 @ +40°C
- Vibration: SAE/USCAR-2 Rev 7 V1, LV214 S1
- Thermal Shock: SAE/USCAR-2 Rev7 and LV214, -40°C to +125°C (cable dependent)
- Sealed Version IP Class (mated): IP69K
- RoHS

## APPROVALS AND CERTIFICATIONS

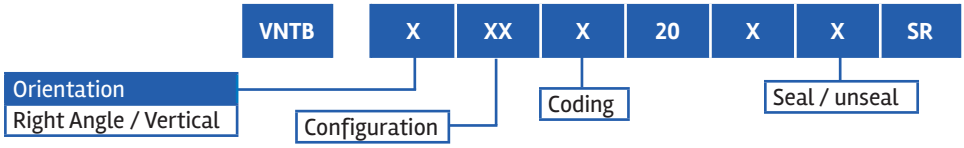
- IEEE 802.3bp 1000BASE-T1
- IEEE 802.3ch 10GBASE-T1
- IEEE 802.3cy MULTI-GIG
- Open Alliance TC9

## TARGET MARKETS/APPLICATIONS

BCU (Body Control Unit)
ZCU (Zone Control Unit)
LiDAR, Radar
Rear Seat Entertainment
Camera Systems (4k and beyond)
Advanced Driver Assistance Systems (ADAS)
Infotainment

Results may vary depend on design, application, types of cable, and assembly processes. Contact your local representatives if specific data sheets for particular products are required.

# PART NUMBER SELECTOR




# PART NUMBERS

| Part Numbers | Description | Data Rate | Code |
|---|---|---|---|
| VNTBV11A2001SR | Ve-NET™, 1X1, VT, UNSEAL, A CODE | 1G/10G | A |
| VNTBV11B2001SR | Ve-NET™, 1X1, VT, UNSEAL, B CODE | 1G/10G | B |
| VNTBV11C2001SR | Ve-NET™, 1X1, VT, UNSEAL, C CODE | 1G/10G | C |
| VNTBV11D2001SR | Ve-NET™, 1X1, VT, UNSEAL, D CODE | 1G/10G | D |
| VNTBV11Z2001SR | Ve-NET™, 1X1, VT, UNSEAL, Z CODE | 1G/10G | Z |
| VNTBV12A2001SR | Ve-NET™, 1X2, VT, UNSEAL, A CODE | 1G/10G | A |
| VNTBV12B2001SR | Ve-NET™, 1X2, VT, UNSEAL, B CODE | 1G/10G | B |
| VNTBV12C2001SR | Ve-NET™, 1X2, VT, UNSEAL, C CODE | 1G/10G | C |
| VNTBV12D2001SR | Ve-NET™, 1X2, VT, UNSEAL, D CODE | 1G/10G | D |
| VNTBV12Z2001SR | Ve-NET™, 1X2, VT, UNSEAL, Z CODE | 1G/10G | Z |
| VNTBV23A2001SR | Ve-NET™, 2X3, VT, UNSEAL, A CODE | 1G/10G | A |
| VNTBV23B2001SR | Ve-NET™, 2X3, VT, UNSEAL, B CODE | 1G/10G | B |
| VNTBV23C2001SR | Ve-NET™, 2X3, VT, UNSEAL, C CODE | 1G/10G | C |
| VNTBV23D2001SR | Ve-NET™, 2X3, VT, UNSEAL, D CODE | 1G/10G | D |
| VNTBV23Z2001SR | Ve-NET™, 2X3, VT, UNSEAL, Z CODE | 1G/10G | Z |
| VNTBR11A2003SR | Ve-NET™, 1X1, RA, 180° UNSEAL, A CODE | 1G/10G | A |
| VNTBR11B2003SR | Ve-NET™, 1X1, RA, 180° UNSEAL, B CODE | 1G/10G | B |
| VNTBR11C2003SR | Ve-NET™, 1X1, RA, 180° UNSEAL, C CODE | 1G/10G | C |
| VNTBR11D2003SR | Ve-NET™, 1X1, RA, 180° UNSEAL, D CODE | 1G/10G | D |
| VNTBR11Z2003SR | Ve-NET™, 1X1, RA, 180° UNSEAL, Z CODE | 1G/10G | Z |
| VNTBR11A2001SR | Ve-NET™, 1X1, RA, UNSEAL, A CODE | 1G/10G | A |
| VNTBR11B2001SR | Ve-NET™, 1X1, RA, UNSEAL, B CODE | 1G/10G | B |
| VNTBR11C2001SR | Ve-NET™, 1X1, RA, UNSEAL, C CODE | 1G/10G | C |
| VNTBR11D2001SR | Ve-NET™, 1X1, RA, UNSEAL, D CODE | 1G/10G | D |
| VNTBR11Z2001SR | Ve-NET™, 1X1, RA, UNSEAL, Z CODE | 1G/10G | Z |
| VNTBR12A2001SR | Ve-NET™, 1X2, RA, UNSEAL, A CODE | 1G/10G | A |
| VNTBR12B2001SR | Ve-NET™, 1X2, RA, UNSEAL, B CODE | 1G/10G | B |
| VNTBR12C2001SR | Ve-NET™, 1X2, RA, UNSEAL, C CODE | 1G/10G | C |
| VNTBR12D2001SR | Ve-NET™, 1x2, RA, Unseal, D code | 1G/10G | D |
| VNTBR12Z2001SR | Ve-NET™, 1x2, RA, Unseal, Z code | 1G/10G | Z |
| VNTBR22A2011SR | Ve-NET™, 2x2, RA, Unseal, A code | 1G/10G | A |
| VNTBR22B2011SR | Ve-NET™, 2x2, RA, Unseal, B code | 1G/10G | B |

Note: *For more coding availabilities and Ve-NET™ cable assemblies, email Tech.Support@amphenol-icc.com or contact your local Amphenol representative.

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| Part Numbers | Description | Data Rate | Code |
|---|---|---|---|
| VNTBR22C2011SR | Ve-NET™, 2X2, RA, UNSEAL, C CODE | 1G/10G | C |
| VNTBR22D2011SR | Ve-NET™, 2X2, RA, UNSEAL, D CODE | 1G/10G | D |
| VNTBR22Z2011SR | Ve-NET™, 2X2, RA, UNSEAL, Z CODE | 1G/10G | Z |
| VNTBR23A2001SR | Ve-NET™, 2X3, RA, UNSEAL, A CODE | 1G/10G | A |
| VNTBR23B2001SR | Ve-NET™, 2X3, RA, UNSEAL, B CODE | 1G/10G | B |
| VNTBR23Z2001SR | Ve-NET™, 2X3, RA, UNSEAL, Z CODE | 1G/10G | Z |
| VNTBR11A2000SR | Ve-NET™, 1X1, RA, SEALED, A CODE | 1G/10G | A |
| VNTBR11B2000SR | Ve-NET™, 1X1, RA, SEALED, B CODE | 1G/10G | B |
| VNTBR11Z2000SR | Ve-NET™, 1X1, RA, SEALED, Z CODE | 1G/10G | Z |
| VNTBR22A2000SR | Ve-NET™, 2X2, RA, SEALED, A CODE | 1G/10G | A |
| VNTBR22B2000SR | Ve-NET™, 2X2, RA, SEALED, B CODE | 1G/10G | B |
| VNTBR22Z2000SR | Ve-NET™, 2X2, RA, SEALED, Z CODE | 1G/10G | Z |

Note: *For more coding availabilities and Ve-NET™ cable assemblies, email Tech.Support@amphenol-icc.com or contact your local Amphenol representative.

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