

ULTREX® VN Unshielded Tray Cable

ULTREX® VN Unshielded Tray Cable 12 AWG

Contact

Industrial Cables
Phone: 845-469-2141
USA.IndustrialCable@nexans.com

Part Number: VN Unshielded

UL Type TC or TC-ER, THHN / THWN-2 Insulation, 600 V, rated 90°C wet and dry - RoHS Compliant - Exposed Run (ER) Rated

DESCRIPTION

Applications

Nexans 600 V ULTREX® VN Tray Cables are listed as type TC or TC-ER under UL 1277 Electrical Power and Control Cables. These cables may be installed in wet or dry locations; in cable trays, raceways and open air; and are suitable for exposure to weather, direct burial Class I, Div. 2 (also Zone 2) and Class II, Div. 2 hazardous locations, as well as Class III, Div. 1 & 2 hazardous locations per NEC. Cables with three or more conductors are UL listed for exposed runs (ER) when installed in accordance with NEC Article 336.10(7).

Construction

Conductor:

Bare, annealed copper conforming to ASTM B3 and Class B compressed stranded copper in accordance to ASTM B8.

Insulation:

Flame-retardant PVC/Nylon type THHN/THWN-2 per UL 83.

Assembly:

Cables with 3 or more conductors are cabled in concentric layers with interstices filled with suitable fillers, as required. Two-conductor cables are supplied in a flat/parallel configuration. Ground wires are sized as required by UL 1277 (refer to applicable product tables for the standard sizes provided). Where necessary, a binder tape of synthetic material assembles the core in a tight circular configuration.

Jacket:

UL listed sunlight and moisture resistant, sequentially marked, black, flame retardant polyvinyl chloride (PVC) material meeting the requirements of UL 1277. A Nylon ripcord is included for ease of jacket removal. Jacket surface is printed with required UL / NEC code information and sequential footage markings.

NEXANS-C ULTREX-VN 600V TC-ER 3/C-12 AWG THHN/THWN-2 SUN RES DIR BUR (UL) ROHS (mm/dd/yyyy)

Conductor Identification:

Color coded per Method #1-E2 per ICEA S-73-532

See details in Conductor Identification Charts.

Product Features:



STANDARDS

National ICEA S-73-532;
UL 1277; UL 83

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- Cables pass UL 1685 and IEEE 383 vertical tray fire tests at 70,000 BTU/hr.
- Cables are UL listed to IEEE 1202 and FT4 70,000 BTU/hr flame test.
- Can be used within industrial establishments where serviced by qualified personnel and not subject to physical damage.
- Can operate at continuous temperatures of 90°C dry and wet.
- Cold bend of -25°C per UL 1277.
- As indicated in UL 1277: The overall jackets of these cables are a “gas/vapor tight continuous sheath” as discussed in NEC Article 501.15(D) & (E).*
- As permitted for non-power-limited fire alarm circuits as defined in NEC Article 760.

CHARACTERISTICS

Dimensional characteristics

Conductor cross-section (AWG)

12

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UNSHIELDED ULTREX® VN TRAY CABLE - UL TYPE TC OR TC-ER, 600 V, 90°C DRY AND WET RATED – ROHS COMPLIANT

| Multiconductor 12 AWG Type THHN / THWN-2 Insulation Thickness: 15 mils / 0.38mm PVC, 4 mils / 0.10 mm Nylon Covering | | | | | | | | |
|---|-----------------|------------------|------|------------------------------|-------------|------------------------------|-------|--------------|
| Part Number | # of Conductors | Jacket Thickness | | Nominal Diameter over Jacket | | Approximate Net Cable Weight | | Ampacity |
| | | mils | mm | inches | mm | lb/kft | kg/km | amps |
| 696955 | 2 Flat | 45 | 1.14 | .225 x .359 | 5.72 x 9.12 | 77 | 115 | 30.0 |
| 696963 | 3 | 45 | 1.14 | 0.376 | 9.56 | 105 | 156 | 30.0 |
| 696971 | 4 | 45 | 1.14 | 0.408 | 10.36 | 126 | 188 | 24.0/30.0(1) |
| 697292 | 5 | 45 | 1.14 | 0.448 | 11.39 | 166 | 247 | 24.0 |
| ----- | 6 | 45 | 1.14 | 0.488 | 12.40 | 196 | 292 | 24.0 |
| 697300 | 7 | 45 | 1.14 | 0.488 | 12.40 | 215 | 320 | 21.0 |
| ----- | 8 | 45 | 1.14 | 0.559 | 14.20 | 253 | 377 | 21.0 |
| 696989 | 9 | 60 | 1.52 | 0.601 | 15.27 | 296 | 440 | 21.0 |
| 696997 | 10 | 60 | 1.52 | 0.641 | 16.28 | 328 | 488 | 15.0 |
| ----- | 11 | 60 | 1.52 | 0.650 | 16.51 | 357 | 531 | 15.0 |
| 697003 | 12 | 60 | 1.52 | 0.670 | 17.02 | 376 | 560 | 15.0 |
| ----- | 13 | 60 | 1.52 | 0.682 | 17.31 | 414 | 616 | 15.0 |
| ----- | 14 | 60 | 1.52 | 0.704 | 17.88 | 443 | 659 | 15.0 |
| ----- | 15 | 60 | 1.52 | 0.723 | 18.35 | 470 | 700 | 15.0 |
| 697001 | 16 | 60 | 1.52 | 0.742 | 18.86 | 490 | 729 | 15.0 |
| 697318 | 19 | 60 | 1.52 | 0.782 | 19.86 | 573 | 853 | 15.0 |
| 697029 | 20 | 60 | 1.52 | 0.806 | 20.47 | 582 | 866 | 15.0 |
| 697037 | 25 | 80 | 2.03 | 0.945 | 24.00 | 778 | 1158 | 13.5 |
| 688770 | 30 | 80 | 2.03 | 1.008 | 25.61 | 915 | 1362 | 13.5 |
| 627455 | 37 | 80 | 2.03 | 1.086 | 27.58 | 1107 | 1647 | 12.0 |
| ----- | 40 | 80 | 2.03 | 1.127 | 28.62 | 1216 | 1810 | 12.0 |
| ----- | 45 | 80 | 2.03 | 1.193 | 30.30 | 1358 | 2021 | 10.5 |
| ----- | 50 | 80 | 2.03 | 1.238 | 31.44 | 1497 | 2228 | 10.5 |

Bend Radius: 5 x overall diameter installed /7.5 x overall diameter during installation pull-in.

Notes:

- Dimensions and weights shown are nominal values, subject to standard industry tolerances.
- Cables with different conductor counts and bare or insulated grounds are also available.
- Cables with 3 or more conductors are UL listed for exposed runs (ER) when installed in accordance with NEC Article 336.10(7).
- Ampacities are in accordance with NEC Table 310.15(B)(16) for conductors in a raceway or direct buried at 30°C ambient temperature and 90°C rated conductors. Ampacities for cables having more than three conductors have been derated per NEC Table 310.15(B)(3)(a).
- For load diversity of 50%, refer to NEC Table B.310.15(B)(2)(11).
- For correction factors for different ambient temperatures and ampacities at different conductor temperature ratings see NEC Table 310.15(B)(16).
- NEC Article 240.4(D) requires that overcurrent protection not exceed 20 amperes for 12 AWG copper conductors after any correction factors for ambient temperature and number of conductors have been applied. Exceptions to this may be covered in NEC Article 240.4(E) through (G).

(1)Where the 4th conductor is the neutral of a balanced 3 phase system.

All drawings, designs, specifications, plans and particulars of weights, size and dimensions contained in the technical or commercial documentation of Nexans is indicative only and shall not be binding on Nexans or be treated as constituting a representation on the part of Nexans.

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SELLING INFORMATION

Options

The following constructions can be provided on special orders:

- * Dow Construction
- * DuPont Construction
- * Composite Cable Construction
- * Insulated Green Ground
- * Different conductor identification methods

* Use in Hazardous locations:

Please note that no investigation of these cables has been performed regarding the transmission of gases or vapors through the core. When these cables are used in hazardous locations they should be sealed properly as required by the NEC.