VITALink®

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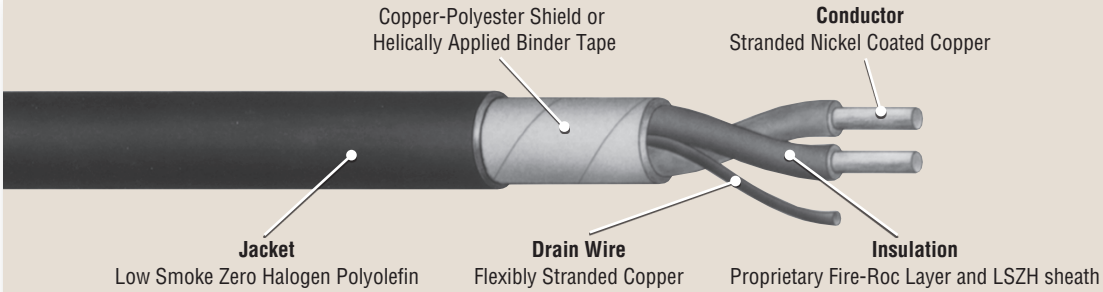
VITALink® TC/NCC
Fire Resistive Instrumentation Cable



90°C/75°C*, 600 Volt
NEC Type TC-ER
CEC Type CIC & TC

UL Listed
CUL Listed

RSS-5-158

Features

- Fire Rated
- Installed on steel tray with steel fittings
- Moisture Resistant
- Installed in steel raceway/conduit with steel fittings
- Low Smoke, Halogen free design
- Flexible for installation ease
- Easy stripability
- Available in long lengths
- No special tools, connectors, or procedures
- Easily pulled (low friction jacket)

Scope

VITALink® TC/NCC is a unique cable which offers absolute necessity to allow the operation of systems or superior fire endurance capabilities along with the well-established benefits and features associated with NEC Type TC-ER cable designs. This cable is suitable for use in circuits where the maintenance of circuit integrity is an equipment vital to life or safety under emergency conditions. It has applications in the petroleum industry for MOV instrumentation, communication systems and other critical functions where fire survivability is essential.

* 90°C dry, 75°C wet per NEC

Performance Standards

- Third party qualification for 30 minutes at 2000°F (1093°C) Rapid Rise test witnessed by UL, modified IEC 60331 with side bricks and light bulb load
- Passes IEC 60331-11 flame test modified to 3 hours @ 2000°F
- UL Listed, NEC Type TC in accordance with UL Standard No. 1277
- Approved and marked with the “Sunlight Resistant” designation
- Singles tested per UL44/CSA 22.2 No. 38 Section 5.4 Long Term Insulation Resistance in Water Test
- Singles UL Type RFHH-3
- Approved and marked with the “FT-4” flame test designation
- CUL Listed as CEC Type CIC in accordance with CSA Standard C22.2 No. 239
- CUL Listed as CEC Type TC in accordance with CSA Standard C22.2 No. 230
- ABS Recognized for marine shipboard
- -ER meets the crush and impact requirement of Type MC cable and can be used per NEC 336.10 (7) for extended runs

Construction

Conductor: Stranded, nickel coated copper

Insulation System: Proprietary Low Smoke Zero Halogen thermoset Fire-Roc layer and thermoset low smoke zero halogen covering

Circuit Identification: ICEA Method 3 Table E1: Black insulation with printed pair numbers and color names — black and white for pairs — black, white and red for triads. In addition, legs other than black have colored stripe in the named color.

Optional Shielding: Components and overall cable shields, if required, accomplished by copper polyester tape shield in contact with stranded copper drain wires.

Binder Tape: Helically applied binder tape applied over unshielded and multi-pair or multi-triad cable cores.

Jacket: Black Low-Smoke Zero Halogen Polyolefin (colors available on request)

RSCC® World Class Engineered Cable

MARMON

Marmon Engineered Wire & Cable LLC
A Berkshire Hathaway Company

600 Volt – Pairs

Size: 16 AWG – 19/29 nickel-coated copper, .030" low-smoke zero-halogen thermoset ceramifiable insulation and .015" black low-smoke zero-halogen thermoset conductor jacket (nominal diameter 0.151", 3.84 mm)

Product Code	Number of Pairs	Shields	Jacket Thickness (inch)	Jacket Thickness (mm)	Nominal Diameter (inch)	Nominal Diameter (mm)	Net Weight (lbs./1000 ft.)	Net Weight (kg/m)	Minimum Bending Radii[1] (inch)	Minimum Bending Radii[1] (cm)	Ampacity[2] (Amps)
VP02016-000	1	NS	.045	1.14	0.40	10.2	85	0.126	1.75	4.4	8
VP02016-001	1	SP	.045	1.14	0.41	10.4	97	0.144	3.50	8.9	8
VP04016-001	2	SP/OS	.060	1.52	0.71	18.0	264	0.393	5.75	14.6	6.4
VP04016-000	2	OS	.060	1.52	0.67	17.0	208	0.310	5.50	14.0	6.4
VP08016-001	4	SP/OS	.080	2.03	0.86	21.8	353	0.525	7.0	17.8	5.6
VP08016-002	4	OS	.060	1.52	0.75	19.1	282	0.420	6.0	15.2	5.6
VP16016-003	8	SP/OS	.080	2.03	1.12	28.5	598	0.89	9.0	22.9	4
VP16016-004	8	OS	.080	2.03	1.06	26.9	502	0.747	8.50	21.6	4
VP24016-010	12	SP/OS	.080	2.03	1.36	34.5	927	1.38	11.0	27.9	3.6
VP24016-000	12	OS	.080	2.03	1.2	32.5	682	1.015	9.75	24.8	3.6

600 Volt – Triads

Size: 16 AWG – 19/29 nickel-coated copper, .030" low-smoke zero-halogen thermoset ceramifiable insulation and .015" black low-smoke zero-halogen thermoset conductor jacket (nominal diameter 0.151", 3.84 mm)

Product Code	Number of Pairs	Shields	Jacket Thickness (inch)	Jacket Thickness (mm)	Nominal Diameter (inch)	Nominal Diameter (mm)	Net Weight (lbs./1000 ft.)	Net Weight (kg/m)	Minimum Bending Radii[1] (inch)	Minimum Bending Radii[1] (cm)	Ampacity[2] (Amps)
VP03016-000	1	NS	.045	1.14	0.43	10.9	104	0.155	3.50	8.9	8
VP03016-001	1	ST	.045	1.14	0.44	11.2	110	0.164	3.75	9.52	8

Shields: NS = not shielded. SP = shielded pair. ST = shielded triad. OS = overall shield.

Drain wires are 16 AWG 26/0.010" bare copper.

Maximum direct current resistance of each leg of one pair or triad cable is 6.3896 Ohms/1000 feet at 20°C.

[1] Minimum Bending Radii are instructive for permanent training.

[2] Ampacity based on API 14FZ for nickel-coated copper conductor (27% nickel), 75°C, 600V adjustment factors from NEC 2011 Table 310.15(b)(2)(a) for more than three current carrying conductors.

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