



# Caledonian

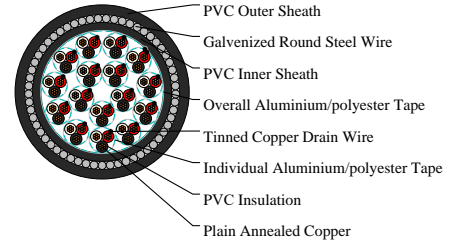
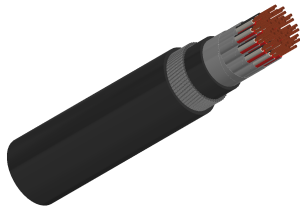
EN 50288-7 XLPE, PE & PVC Insulated PVC Sheathed Instrumentation Cables

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## PVC Insulated, PVC Sheathed, Individual & Overall Screened, Armoured Instrumentation Cables (Multitriples)

RE-Y(St)YSWAY-TiMF 70°C / 300V 16T1.5



### APPLICATIONS

For transmission of analogue and digital signals in instrument and control systems; allowed for use in zone 1 and zone 2, group II, classified areas (IEC 79-14), not allowed for direct connection to low impedance sources, e.g. public mains electricity supply. Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations. Recommended for use as fire protection measure for people and important material assets.

### STANDARDS

Basic design to EN 50288-7

### FIRE PERFORMANCE

|   |  |
|---|--|
| Flame Retardance (Single Vertical Wire Test)                                | EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*            |
| Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)*** | EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4 |
| Halogen Free  | IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*  |
| No Corrosive Gas Emission   | IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*  |
| Minimum Smoke Emission  | IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*  |
| No Toxic gases  | NES 02-713; NF C 20-454  |

### VOLTAGE RATING

300V

### CABLE CONSTRUCTION



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Conductor: Annealed copper solid or plain copper stranded to IEC 60228 Class 2.

Insulation: PVC compound as per EN 50290. 2-21.

Triple: Three conductors twisted to form a triple.

Individual Screen: Aluminium/polyester tape is applied over each triple metallic side down in contact with tinned copper drain wire, 0.5mm<sup>2</sup>.

Lay-up: TiMF laid up in layers of optimum pitch.

Overall Screen: Aluminium/polyester tape with tinned copper drain wire, 0.5mm<sup>2</sup>.

Inner Sheath: Thermoplastic PVC compound.

Armour: Galvanized round steel wire, EN 10257-1.

Outer Sheath: Thermoplastic PVC compound as per EN 50290-2-22. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

#### COLOUR CODE

Insulation: Black/White/Red, continuously numbered on white core(1, 2..)for multitruples

Outer Sheath: Black, blue for intrinsically safe systems

#### PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +70°C

Temperature Range During Installation (Mobile State): -5°C – +50°C

Minimum Bending Radius: 10 X Overall Diameter

Sunlight Resistance: UL 1581 section 1200

Oil Resistance: ICEA S-73-532(Test temperature +60°C, duration 4h. Retention: min 60% of tensile strength/ min.60% of elongation)

#### Electrical Properties

Conductor Area Size:1.5 mm<sup>2</sup>

Insulation Thickness (Nominal) :0.45 mm

Conductor Resistance (20°C) :12.3 Ω/km

Insulation Resistance (20°C):5000 MΩ.km(Min.)

Mutual Capacitance (1 kHz):115 pF/m(Max.)

Capacitance unbalance(1 kHz):500 pF/500 m (Max.)

L / R (ratio) (max.):40 μH/Ω

Inductance:1 mH/km(Max.)

Operating Voltage:300 V

Test Voltage Urms(Core to Core):1500 V

Test Voltage Urms(Core to Screen):1500 V

#### DIMENSION AND PARAMETERS



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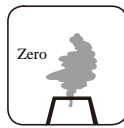
| Caledonian Cable Code             | No. of Triples x 3 x Cross Section | Nominal Insulation Thickness | Nominal Inner Sheath Thickness | Diameter Over Inner Sheath | Nominal Armour Wire Diameter | Nominal Outer Sheath Thickness |
|-----------------------------------|------------------------------------|------------------------------|--------------------------------|----------------------------|------------------------------|--------------------------------|
|                                   | No. × 3 × mm <sup>2</sup>          | mm                           | mm                             | mm                         | mm                           | mm                             |
| RE-Y(St)Y<br>SWAY-<br>TiMF 16T1.5 | 16x3x1.5                           | 0.45                         | 1.6                            | 28.4                       | 1.6                          | 1.9                            |



EN 50288-7



Flame Retardant  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50266-2-1



Halogen Free  
IEC 60754-1



Low Corrosivity  
IEC60754-2/EN50266-2.2/3  
NF C32-074/NF C20-453



Low Smoke Emission  
IEC 61034-2 / EN 50266-2  
NF C32-073/NF C 20-902



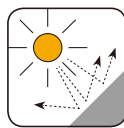
Low Toxicity  
NES 02-713/NF C 20-454



Oil Resistant



Reduced Fire Propagation  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-3-4



Sunlight Resistance  
UL 1581 section 1200