

Instrument Signal / Shielded Cables



Applications :

For transmission of analogue and digital signals in instruments and control systems without any external interference.

Classification :

- Paired element Signal cables (4 to 20 mili amps)
- Triad element Signal cables (RTD application)
- Quad element Signal cables
- Pentad element Signal cables
- 4 pair unit elements Signal cables
- Multi-pair Analog / Digital Signal cables up to 128 pairs
- Customer Specification

Confirming to Standards specification like IS 1554(Pt-1), BS 5308 (Pt-1_) IEC 189 (Pt-1 & 2) VDE 0815 & 0816

Typical Constructions for Instrument Signal Shielded Cables

Conductor : Electrolytic grade annealed bare / tinned copper, either Solid / Stranded / Multi stranded conductors.

Range : 0.5/0.75/1.0/1.5/2.5 Sq.mm

Voltage grade : (300v/500v 4 to 20 mili amps)

Insulation : General Purpose PVC/ Heat Resistant PVC/ LDPE / XLPE / ZHLS

Identification : code / No. Printed tapes over pairs/ Ring marked/ Dual color extruded. Color

Screening : Individual and / or overall with Aluminium-Polyster tape with tinned copper drain wire / Bare/Tinned Copper Wire Braid / Copper Tape with drain wire.

Inner Sheath : PVC/HRPVC/FRPVC/ FRLS PVC/ ZHLS

Armor : Hot Dip Galvanized Steel Round Wire / Strip.

Outer Sheath : PVC/HRPVC/FRPVC/ FRLS PVC/ ZHLS

Max. Mutual Capacitance Requirements as per BS:5308 Part-1

		0.5 SQ.MM	1.0 SQ.MM	1.5 SQ.MM
Cable without screen	nF/Km	75	75	85
Cables with only collective screen (except 1 & 2 pair)	nF/Km	75	75	85
1 Pair & 2 Pair w'th collective screen & all cable with individual pair screen	nF/Km	115	115	120

NOTE : The given picture of the product may differ to actual in construction/colour.



No.	Properties	Character	Unit	Values				
				0.5 Sq.mm	0.75 Sq.mm	1.0 Sq.mm	1.5 Sq.mm	2.5 Sq.mm
1	Conductor Resistance	Max.	Ω/KM	39	26	18.74	12.3	7.41
2	Insulation Resistance (PVC)	Min.	MΩ/KM	100	100	100	100	100
	Insulation Resistance (LDPE/XLPE)	Min.	MΩ/KM	5000	5000	5000	5000	5000
3	Inductance	Max.	mH/km	1	1	1	1	1
4	Mutual Capacitance at 0.8 resp.1 kHz	Max.	nF/km	250	250	250	250	250
5	Capacitance between any core or screen at 1 kHz	Max.	pF/m	400	400	400	400	400
6	L/R ratio	Max.	μH/Ω	25	25	25	40	60
7	Electrostatic noise rejection ratio	Min.	db	76	76	76	76	76

PROPERTIES COVERED		TYPES							
Properties	Ref.Standard	FR Flame Retardant		FRLS Flame Retardant Low Smoke		ZHLS Zero Halogen Low Smoke		Flame Spread Resistant	
		Applicable	Limit	Applicable	Limit	Applicable	Limit	Applicable	Limit
Oxygen Index	ASTMD-2863	√	29% (Min.)	√	29% (Min.)	√	29% (Min.)	√	29% (Min.)
Temperature Index	ASTMD-2863	√	250°C (Min.)	√	250°C (Min.)	√	250°C (Min.)	√	250°C (Min.)
Smoke Density Rating	ASTMD-2843			√	40% (Max.)	√	20% (Max.)		
Halogen Acid Gas	IEC : 60754-1			√	20% (Max.)	√	0.5% (Max.)		
Flame Test on Single cable	IEC : 60332-1	√	As per specification	√	As per specification	√	As per specification	√	As per specification
Fire Test on Bunched cable	IEC : 60332-3					√	As per specification	√	As per specification