

BS5308 Instrumentation Cable Part 1 Type 1

Eland Product Group **A3I**



Application

BS5308 cables are used to carry voice and data services, they also serve as the interconnection between electrical equipment and instruments, particularly in and around process plants, where transducer generated signals are transmitted through to panels, controllers and other devices.

Standards

BS5308 Part 1, BS EN/IEC 60228

Technical Data

Conductor

Class 1, 2 or 5 plain copper conductors to BS EN 60228:2005 (previously BS6360)

Pairing

Two insulated conductors uniformly twisted together with a lay not exceeding 100mm

Insulation

PE (Polyethylene) to BS6234 or XLPE (Cross Linked Polyethylene) to BS5308 or LSZH (Low Smoke Zero Halogen)

Drain Wire

Tinned copper

Filler Core

Unspecified material

Screen

Individually Screened Pairs:
Aluminium/Polyester tape is applied to each pair, metallic side down and in continuous contact with a 0.5mm² tinned copper drain wire

Collectively Screened Cables:

Aluminium/Polyester tape is applied over the laid up pairs metallic side down and in continuous contact with a 0.5mm² tinned copper drain wire

Sheath

PVC (Polyvinyl Chloride) to BS7655 or LSZH (Low Smoke Zero Halogen)

Sheath Colour

Blue or Black

Voltage Rating

300/500V

Temperature Rating

Fixed: -30°C to + 70°C
Flexing: -5°C to + 50°C

Pair Identification

See Pair Identification table on page 2

Note

These cables are not suitable for direct connection to the public mains supply

Dimensions

BS5308 PT1 TY1 Collectively Screened, Unarmoured

Eland Part Number	No. of Pairs x Nominal Cross Sectional Area # x mm ²	Nominal No. and Nominal Diameter of Strands #/mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
A3I0105CP1T1*	1 x 0.50	16/0.2	7.0	60
A3I0175CP1T1*	1 x 0.75**	24/0.2	7.3	75
A3I0110CP1T1*	1 x 1.00	1/1.13	7.4	85
A3I0115CP1T1*	1 x 1.50	7/0.53	8.3	100
A3I0205CP1T1*	2 x 0.50	16/0.2	7.9	80
A3I0275CP1T1*	2 x 0.75**	24/0.2	8.3	100
A3I0210CP1T1*	2 x 1.00	1/1.13	8.4	115
A3I0215CP1T1*	2 x 1.50	7/0.53	9.7	150
A3I0505CP1T1*	5 x 0.50	16/0.2	13.1	210
A3I0575CP1T1*	5 x 0.75**	24/0.2	14.3	250
A3I0510CP1T1*	5 x 1.00	1/1.13	14.2	290

Eland Part Number	No. of Pairs x Nominal Cross Sectional Area # x mm ²	Nominal No. and Nominal Diameter of Strands #/mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
A3I0515CP1T1*	5 x 1.50	7/0.53	16.4	360
A3I1005CP1T1*	10 x 0.50	16/0.2	17.2	340
A3I1075CP1T1*	10 x 0.75**	24/0.2	18.7	450
A3I1010CP1T1*	10 x 1.00	1/1.13	18.4	500
A3I1015CP1T1*	10 x 1.50	7/0.53	21.6	690
A3I2005CP1T1*	20 x 0.50	16/0.2	22.3	570
A3I2075CP1T1*	20 x 0.75**	24/0.2	24.5	920
A3I2010CP1T1*	20 x 1.00	1/1.13	24.4	950
A3I2015CP1T1*	20 x 1.50	7/0.53	28.5	1230
A3I3005CP1T1*	30 x 0.50	16/0.2	26.9	780
A3I3075CP1T1*	30 x 0.75**	24/0.2	29.5	980
A3I3010CP1T1*	30 x 1.00	1/1.13	29.0	1030
A3I3015CP1T1*	30 x 1.50	7/0.53	34.3	1560
A3I5005CP1T1*	50 x 0.50	16/0.2	33.9	1130
A3I5075CP1T1*	50 x 0.75**	24/0.2	37.4	1690
A3I5010CP1T1*	50 x 1.00	1/1.13	37.3	1750
A3I5015CP1T1*	50 x 1.50	7/0.53	43.6	2400

*Designates the sheath colour. For Black substitute * for BK and for Blue substitute * for BL

**0.75mm² conductor generally to BS5308 Part 1

BS5308 PT1 TY1 Individually and Collectively Screened, Unarmoured

Eland Part Number	No. of Pairs x Nominal Cross Sectional Area # x mm ²	Nominal No. and Nominal Diameter of Strands #/mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
A3I0205IP1T1*	2 x 0.50	16/0.2	12.0	100
A3I0275IP1T1*	2 x 0.75**	24/0.2	12.8	190
A3I0210IP1T1*	2 x 1.00	1/1.13	12.8	200
A3I0215IP1T1*	2 x 1.50	7/0.53	14.7	250
A3I0505IP1T1*	5 x 0.50	16/0.2	15.2	250
A3I0575IP1T1*	5 x 0.75**	24/0.2	16.3	270
A3I0510IP1T1*	5 x 1.00	1/1.13	16.2	290
A3I0515IP1T1*	5 x 1.50	7/0.53	18.8	460
A3I1005IP1T1*	10 x 0.50	16/0.2	21.1	480
A3I1075IP1T1*	10 x 0.75**	24/0.2	22.6	550
A3I1010IP1T1*	10 x 1.00	1/1.13	22.6	580
A3I1015IP1T1*	10 x 1.50	7/0.53	26.5	760
A3I2005IP1T1*	20 x 0.50	16/0.2	27.3	780
A3I2075IP1T1*	20 x 0.75**	24/0.2	29.8	960
A3I2010IP1T1*	20 x 1.00	1/1.13	29.8	1010
A3I2015IP1T1*	20 x 1.50	7/0.53	34.4	1350
A3I3005IP1T1*	30 x 0.50	16/0.2	32.3	1020
A3I3075IP1T1*	30 x 0.75**	24/0.2	35.9	1100
A3I3010IP1T1*	30 x 1.00	1/1.13	35.4	1430
A3I3015IP1T1*	30 x 1.50	7/0.53	41.0	1900
A3I5005IP1T1*	50 x 0.50	16/0.2	41.7	1680
A3I5075IP1T1*	50 x 0.75**	24/0.2	45.0	2210
A3I5010IP1T1*	50 x 1.00	1/1.13	44.9	2360
A3I5015IP1T1*	50 x 1.50	7/0.53	52.2	3060

*Designates the sheath colour. For Black substitute * for BK and for Blue substitute * for BL

**0.75mm² conductor generally to BS5308 Part 1

Electrical Characteristics

Mutual Capacitance (picofarads per metre) and Resistance Values (ohms per kilometre)

Nominal Cross Sectional Area mm ²	Capacitance at 1kHz pF/m		Maximum Resistance of Conductor at 20°C ohms/Km	L/R Ratio Maximum Value microH/ohm
	Cables with only Collective Screens (Except One Pair and Two Pair)	One Pair and Two Pair Cables Collectively Screened and all Cables with Individually Screened Pairs		
0.50	75	115	39.0	25
0.75*	75	115	24.5	25
1.00	75	115	18.1	25
1.50	85	115	12.1	40

*0.75mm² conductor generally to BS5308 Part 1

Pair Identification

Pair Number	Element A	Element B	Pair Number	Element A	Element B	Pair Number	Element A	Element B
1	Black	Blue	19	Brown	Orange	36	Yellow	Grey
2	Black	Green	20	White	Orange	37	Black	Violet
3	Blue	Green	21	Red	Orange	38	Blue	Violet
4	Black	Brown	22	Black	Yellow	39	Green	Violet
5	Blue	Brown	23	Blue	Yellow	40	Brown	Violet
6	Green	Brown	24	Green	Yellow	41	White	Violet
7	Black	White	25	Brown	Yellow	42	Red	Violet
8	Blue	White	26	White	Yellow	43	Orange	Violet
9	Green	White	27	Red	Yellow	44	Yellow	Violet
10	Brown	White	28	Orange	Yellow	45	Grey	Violet
11	Black	Red	29	Black	Grey	46	Black	Turquoise
12	Blue	Red	30	Blue	Grey	47	Blue	Turquoise
13	Green	Red	31	Green	Grey	48	Green	Turquoise
14	Brown	Red	32	Brown	Grey	49	Brown	Turquoise
15	White	Red	33	White	Grey	50	White	Turquoise
16	Black	Orange	34	Red	Grey	Single Quad (2 Pairs)	Black, Blue, Green, Brown	
17	Blue	Orange	35	Orange	Grey			
18	Green	Orange						

Note: Two pair cables shall be supplied in Quad formation and colour coded: Black, Blue, Green and Brown. All other cables up to 50 pairs shall conform to the coding in the table above.

The information contained within this datasheet is for guidance only. When selecting accessories such as cleats, glands, etc please note that actual cable dimensions may vary due to manufacturing tolerances.