

**BS5308 Part1 Instrumentation
Cable Polyethylene Insulated**

VDE Ref Code

PVC Sheath Version	RE-2Y(St)Y (Overall Screen)
	RE-2Y(St)Y PiMF(Individual Screen+Overall Screen)
	RE-2Y(St)Y-SWA(Overall Screen+Steel Wire Armour)
	RE-2Y(St)Y PiMF-SWA(Individual Screen+Overall Screen+Steel Wire Armour)
LSOH Sheath Version:	RE-2Y(St)H (Overall Screen)
	RE-2Y(St)HPiMF(Individual Screen+Overall Screen)
	RE-2Y(St)-SWA(Overall Screen+Steel Wire Armour)
	RE-2Y(St)HPiMF-SWA(Individual Screen+Overall Screen+ Steel Wire Armour)

Construction

Construction:	Annealed solid copper(Class 1),stranded(Class2), or fiexible(Class 5) to BS5360 .
Binder tape:	A 23 micron p.e.t.p.tape applied with a minimum 50% overlap.
Insulation:	Polyethylene to BS 6234 Type 03.
Collective screen:	Aluminium/p.e.t.p.laminated tape applied with the metallic side down in electrical contact with a 0.5mm 2 tinned copper drain wire over the p.e.t.p.binder tape.
Pair identification:	a)Collectively screened cables:Colour coded in accordance with Colour Code Chart 1 on page3 b)Individually screened pairs:One blue core and one black core in each pair.Pairs identified by numbered screen isolation tape.
Outer protection:	Type 1 Extruded flame retardant PVC sheath. Type 2 Extruded polyethylene bedding,alvanised steel wire armour,extruded flame retardant PVC sheath.
Pair screens:	Aluminium/p.e.t.p.Laminated tape applied with the metallic side down in electrical contact with a 0.5 mm 2 tinned copper drain wire. A 23 micron isolation tape is applied over the screening tape with a minimum 50% overlap.
Minimum bending radius:	Type 1: 8 x diameter. Type 2: 12xdiameter.
Voltage rating:	300 volt core to earth and 500 volt core to core at maximum temperature of 65°C

During Operation:-40°C+70°C

Temperature rating:

During Operation:-0°C+50°C

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

Electrical characteristics

Parameter	Note	Unit	Conductor size				
			0.5mm ² (1/0.8mm)	0.5mm ² (16/0.2mm)	0.75mm ² (24/0.2mm)	1.0mm ² (1/1.13mm)	1.5mm ² (7/0.53mm)
Conductor resistance	max.	Ω/Km	36.8	39.7	26.5	18.2	12.3
Insulation resistance	max.	GΩxKm	5	5	5	5	5
Mutual capacitance at 1 kHz -One pair and two pair(Quad)cables with collective screen and all cables with individually screened pairs -Cables with only collective screen except one pair and two pair(Quad)	max.	pF/m	115	115	115	115	115
Capacitance unbalance at 1 kHz	max.	pF/250m	250	250	250	250	250
Inductance/resistance ratio(L/R)	max.	μH/Ω	25	25	25	25	25
Test voltage	(Core:core)	V	1000	1000	1000	1000	1000
	(Core:core)	V	1000	1000	1000	1000	1000
Rated voltage	max.	V	300/500	300/500	300/500	300/500	300/500

**MULTIPAIR INSTRUMENTATION CABLES(UNARMoured)
TO BS 5308 PART 1-COLLECTIVELY SCREENED**

Conductor	Number of Pairs	Nominal Overall Dia(mm)	Approx Weight (kg/km)
1/0.8mm (0.5mm ²)	1	5.7	40
	2(Quad)	6.5	60
	5	11.0	130
	10	14.4	220
	20	18.8	380
	30	22.4	540
16/0.2mm (0.5mm ²)	1	6.4	60
	2(Quad)	7.3	80

	5	12.5	200
	10	16.6	340
	20	21.7	570
	30	26.3	790
24/0.2mm (0.75mm ²)	1	6.7	75
	2(Quad)	7.7	100
	5	13.7	250
	10	18.1	450
	20	23.9	800
	30	28.9	1130
1/1.13mm (1.0mm ²)	1	6.8	85
	2(Quad)	7.8	115
	5	13.7	290
	10	17.8	500
	20	23.8	950
	30	28.4	1330
7/0.53mm (1.5mm ²)	1	7.7	100
	2(Quad)	9.1	150
	5	15.8	360
	10	21.0	670
	20	27.9	1230
	30	33.7	1720

MULTIPAIR INSTRUMENTATION CABLES(UNARMoured)

TO BS 5308 PART 1 TYPE 1-INDIVIDUAL PAIR AND COLLECTIVELY SCREENED

Conductor	Number of Pairs	Nominal Overall Dia(mm)	Approx Weight (kg/km)
1/0.8mm (0.5mm ²)	2	9.7	100
	5	12.9	190
	10	17.7	320
	20	22.9	570
	30	27.3	820
16/0.2mm (0.5mm ²)	2	11.4	160
	5	14.6	250
	10	20.5	480
	20	26.7	780
	30	31.7	1100
24/0.2mm (0.75mm ²)	2	12.2	190
	5	15.7	270
	10	21.8	550

	20	28.5	960
	30	33.7	1320
1/1.13mm (1.0mm ²)	2	12.2	190
	5	15.6	270
	10	22.0	480
	20	29.2	910
	30	34.8	1320
7/0.53mm (1.5mm ²)	2	13.7	250
	5	17.8	400
	10	25.2	800
	20	33.8	1400
	30	40.0	2040

**MULTIPAIR INSTRUMENTATION CABLES (ARMOURED)
TO BS 5308 PART 1 TYPE 2-COLLECTIVELY SCREENED**

Conductor	Number of Pairs	Nominal Dia under Armour (mm)	Nominal Overall Dia(mm)	Armour Wire Dia(mm)	Approx Weight (kg/km)
1/0.8mm (0.5mm ²)	1	5.3	10.1	0.9	225
	2(Quad)	6.1	10.9	0.9	250
	5	10.6	15.6	0.9	430
	10	14.0	20.1	1.25	730
	20	18.4	25.4	1.6	1200
	30	22.0	29.2	1.6	1500
16/0.2mm (0.5mm ²)	1	4.5	10.8	0.9	250
	2(Quad)	6.9	11.7	0.9	300
	5	9.9	17.3	0.9	560
	10	16.2	22.3	1.25	970
	20	22.3	28.5	1.6	1640
	30	32.9	33.3	1.6	2110
24/0.2mm (0.75mm ²)	1	6.3	11.1	0.9	280
	2(Quad)	7.3	12.3	0.9	330
	5	13.3	19.2	1.25	750
	10	17.7	24.7	1.6	1260
	20	23.5	30.7	1.6	1890
	30	28.5	36.9	1.6	2440
1/1.13mm (1.0mm ²)	1	6.4	11.2	0.9	290
	2(Quad)	7.4	12.4	0.9	345

	5	13.2	19.1	1.25	790
	10	17.4	23.7	1.25	1310
	20	23.3	30.6	1.6	2040
	30	28.0	35.6	1.6	2640
7/0.53mm (1.5mm ²)	1	7.3	12.3	0.9	330
	2(Quad)	13.3	13.7	0.9	420
	5	21.1	21.5	1.25	940
	10	27.4	27.8	1.25	1050
	20	27.5	35.1	1.6	2400
	30	27.8	41.9	1.6	3120

**MULTIPAIR INSTRUMENTATION CABLES(ARMOURED)
TO BS 5308 PART1TYPE 2-INDIVIDUAL PAIR AND COLLECTIVELY SCREENED**

Conductor	Number of Pairs	Nominal Dia under Armour (mm)	Nominal Overall Dia(mm)	Armour Wire Dia(mm)	Approx Weight (kg/km)
1/0.8mm (0.5mm ²)	2	10.1	14.3	0.9	411
	5	13.5	18.4	1.25	686
	10	18.3	23.6	1.25	1037
	20	23.5	29.7	1.6	1664
	30	27.9	34.3	1.6	2136
16/0.2mm (0.5mm ²)	2	12.0	15.8	0.9	460
	5	15.2	20.1	1.25	760
	10	21.1	27.0	1.6	1300
	20	27.3	33.3	1.6	1870
	30	32.3	39.6	2.0	2620
24/0.2mm (0.75mm ²)	2	12.8	16.8	0.9	500
	5	16.2	21.1	1.25	920
	10	22.6	28.6	1.6	1610
	20	29.8	37.0	2.0	2420
1/1.13mm (1.0mm ²)	2	12.8	17.0	0.9	515
	5	16.2	21.3	1.25	950
	10	22.6	28.8	1.6	1670
	20	29.8	37.2	2.0	2540
7/0.53mm (1.5mm ²)	2	14.7	19.5	1.25	730
	5	18.4	24.5	1.6	1180
	10	26.5	32.3	1.6	1820
	20	28.0	41.3	2.0	3030

COLOUR CODE CHART 1

(For Multipair PE insulated Collective Screened Cables to BS 5308 Part1.)

Two-pair unshielded cables are cabled in quad formation and colour coded in clockwise order of rotation, black,blue,green,brown.

All other cables up to 50 pairs conform to the following coding:

Pair No.	'A' Wire	'B' Wire	Pair No.	'A' Wire	'B' Wire
1	Black	Blue	26	White	Yellow
2	Black	Green	27	Red	Yellow
3	Blue	Green	28	Orange	Yellow
4	Black	Brown	29	Black	Grey
5	Blue	Brown	30	Blue	Grey
6	Green	Brown	31	Green	Grey
7	Black	White	32	Brown	Grey
8	Blue	White	33	White	Grey
9	Green	White	34	Red	Grey
10	Brown	White	35	Orange	Grey
11	Black	Red	36	Yellow	Grey
12	Blue	Red	37	Black	Violet
13	Green	Red	38	Blue	Violet
14	Brown	Red	39	Green	Violet
15	White	Red	40	Brown	Violet
16	Black	Orange	41	White	Violet
17	Blue	Orange	42	Red	Violet
18	Green	Orange	43	Orange	Violet
19	Brown	Orange	44	Yellow	Violet
20	White	Orange	45	Grey	Violet
21	Red	Orange	46	Black	Turquoise
22	Black	Yellow	47	Blue	Turquoise
23	Blue	Yellow	48	Green	Turquoise
24	Green	Yellow	49	Brown	Turquoise
25	Brown	Yellow	50	White	Turquoise

ORDERING OPTIONS:

- 1) Conductor: Bare or Tinned Conductor
- 2) Conductor Size: Solid or Stranded (to IEC 228 Class 2 or 5 or 6)

Size	Class1	Class2	Class5	Class6
0.5mm ²	1/0.8mm	7/0.3mm	16/0.2mm	28/0.15mm
0.75mm ²		7/0.43mm	24/0.2mm	42/0.15mm
1.0mm ²	1/1.13mm	7/0.44mm	32/0.2mm	56/0.15mm
1.5mm ²		7/0.53mm	30/0.25mm	84/0.15mm

2.5mm ²		7/0.67mm	50/0.25mm	140/0.15mm
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3)Insulation:PE/XLPE/LSF/LSOH

4)Screening:Aluminium Tape/Copper Braiding

5)Cabling:Multicore/Multipair/Multitriple

6)Bedding&Sheathing Material:PE/PVC/LSF/LSOH

7)Armouring:Steel Tape Armouring/Steel Wire Armouring

8)Fire Performance:

IEC 332-1(For Flame Retardant PVC sheath)

IEC 332-3C(For Flame Retardant PVC or LSOH sheath)

IEC 1034 Part 1&2 (For LSOH sheath)

IEC 754 Part 1&2 (5%-15% for LSF sheath & 0.5% for LSOH sheath)

Oxygen Index(32%-40% depending on different LSOH compound)

Temperature Index(250 °C to 300 °C,depending on different LSOH compound)

2.BS5308 Part 2

BS5308 Part2 Instrumentation Cable PVC Insulated

VDE Ref Code	
PVC Sheath Version	RE-Y(St)Y (Overall Screen)
	RE-Y(St)Y PiMF(Individual Screen+Overall Screen)
	RE-Y(St)Y-SWA(Overall Screen+Steel Wire Armour)
	RE-Y(St)Y PiMF-SWA(Individual Screen+Overall Screen+Steel Wire Armour)
LSOH Sheath Version:	RE-H (St)H(Overall Screen)
	RE-H(St)HPiMF(Individual Screen+Overall Screen)
	RE-H(St)-H-SWA(Overall Screen+Steel Wire Armour)
	RE-H(St)HPiMF-SWA(Individual Screen+Overall Screen+ Steel Wire Armour)
Construction	
Conductor	Annealed solid copper(Class 1),stranded(Class2), or flexible(Class 5) to BS5360.
Core/Pair identification	Multicore cables:Up to 40 cores-yellow cores with black numbers 41-80 cores-black cores with black numbers
	Multipair cables:Colour coded in accordance with Colour Code Chart 2 on page 6
Pair screens	Aluminium/p.e.t.p.Laminated tape applied with the metallic side down in electrical contact with a 0.5 mm ² tinned copper drain wire.
	A 23 micron isolation tape is applied over the screening tape with a minimum 50% overlap.
Voltage rating	300 volt core to earth and 500 volt core to core at maximum temperature of 65 °C
Binder tape	A 23 micron p.e.t.p.tape applied with the metallic side down in electrical contact with a 0.5 0.5mm ² tinned copper drain wire over the p.e.t.p.binder tape.
Collective screen	Aluminium/p.e.t.p.laminated tape applied with the metallic side down in electrical contact with a 0.5mm ² tinned copper drain wire over the p.e.t.p.binder tape.

Outer protection	Type 1 Extruded flame retardant PVC sheath. Type 2 Extruded PVC Type TM1 ,galvanised steel wire armour,extruded flame retardant PVC sheath.
Minimum bending radius	Type 1 8 x diameter. Type 2 12xdiameter.
Temperature rating	During Operation:-40 °C+70°C During Installation:-0 °C+50°C

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

Electrical characteristics

Parameter	Note	Unit	Conductor size			
			0.5mmsq (16/0.2mm)	0.75mmsq (24/0.2mm)	1.5mmsq (7/0.53mm)	
Conductor resistance	Multicore	max.	Ω/Km	39	26	12.1
	Multipair			39.7	26.5	12.3
Insulation resistance	max.	GΩxKm	25	25	25	
Mutual capacitance at 1 kHz	max.	pF/m	250	250	250	
Mutual capacitance of the pairs or adjacent cores						
Capacitance between any core or screen	max.	pF/250m	450	450	450	
Inductance/resistance ratio(L/R)	max.	μH/Ω	25	25	40	
Test voltage	(Core:core)	-	V	1000	1000	1000
	(Core:core)			1000	1000	1000
Rated voltage	max.	V	300/500	300/500	300/500	

MULTICORE INSTRUMENTATION CABLES (UNARMoured)

TO BS 5308 PART 2-COLLECTIVELY SCREENED

Part No.	Conductor	Number of Pairs	Nominal Dia(mm)	Overall	Approx (kg/km)	Weight
BS5308-PVC-MC-CS- 16*0.2mm	16/0.2mm (0.5mm ²)	2	6.4		60	
		3	6.7		72	
		4	7.3		80	
		6	8.7		110	
		10	11.3		176	
		20	14.3		310	
		40	19.5		568	
BS5308-PVC-MC-CS- 24*0.2mm	24/0.2mm (0.5mm ²)	2	6.7		75	
		3	7.1		90	
		4	7.7		100	
		6	9.3		138	

		10	12.1	220
		20	15.4	388
		40	21.1	710
BS5308-PVC-MC-CS- 7*0.53mm	7/0.53mm (1.0mm ²)	2	7.7	103
		3	8.3	135
		4	9.1	150
		6	11.1	205
		10	14.1	330
		20	18.1	580
		40	24.0	1065

**MULTIPAIR INSTRUMENTATION CABLES (UNARMOURED) TO BS 5308
PART 2 TYPE 1- COLLECTIVELY SCREENED**

Conductor	Number of Pairs	Nominal Overall Dia(mm)	Approx Weight (kg/km)
16/0.2mm (0.5mm ²)	1	6.4	60
	2(Quad)	7.3	80
	5	12.5	200
	10	16.6	340
	20	21.7	570
	30	26.3	790
24/0.2mm (0.75mm ²)	1	6.7	75
	2(Quad)	7.7	100
	5	13.7	250
	10	18.1	450
	20	23.9	800
	30	28.9	1130
7/0.53mm (1.5mm ²)	1	7.7	100
	2(Quad)	9.1	150
	5	15.8	360
	10	21.0	670
	20	27.9	1230
	30	33.7	1720

**MULTICORE INSTRUMENTATION CABLES(ARMOURED)
TO BS 5308 PART 2 TYPE 2-COLLECTIVELY SCREENED**

Conductor	Number of Pairs	Nominal Dia under Armour (mm)	Nominal Overall Dia (mm)	Armour Wire Dia(mm)	Approx Weight (kg/km)
16/0.2mm (0.5mm ²)	2	6.0	10.8	0.9	255
	3	6.3	11.1	0.9	280

	4	6.9	11.7	0.9	305
	6	8.3	13.3	0.9	360
	10	10.9	16.1	0.9	510
	20	13.9	20.0	1.25	860
	40	19.1	26.1	1.6	1440
24/0.2mm (0.75mm ²)	2	6.3	11.1	0.9	280
	3	6.7	11.5	0.9	305
	4	7.3	12.3	0.9	335
	6	8.9	13.9	0.9	400
	10	11.7	16.9	0.9	565
	20	15.0	21.1	1.25	950
	40	20.7	27.9	1.6	1590
7/0.53mm (1.5mm ²)	2	7.3	12.3	0.9	330
	3	7.9	12.9	0.9	380
	4	8.7	13.7	0.9	420
	6	10.7	15.7	0.9	540
	10	13.7	19.8	0.9	750
	20	17.7	24.7	1.25	1260
	40	23.6	31.0	1.6	2140

**MULTIPAIR INSTRUMENTATION CABLES(ARMOURED)TO
BS 5308 PART2TYPE 2- COLLECTIVELY SCREENED**

Conductor	Number of Pairs	Nominal Dia under Armour (mm)	Nominal Overall Dia (mm)	Armour Wire Dia(mm)	Approx Weight (kg/km)
16/0.2mm (0.5mm ²)	1	6.0	6.0	10.8	255
	2(Quad)	7.85	7.85	11.7	305
	5	12.1	12.1	17.3	610
	10	16.2	16.2	22.3	1060
	20	22.6	22.6	28.5	1800
	30	26.4	26.4	33.3	2320
24/0.2mm (0.75mm ²)	1	6.5	6.5	11.1	305
	2(Quad)	7.4	7.4	12.3	360
	5	17.3	17.3	19.2	820
	10	17.7	17.7	24.7	1380
	20	23.0	23.0	30.7	2080
	30	29.7	29.7	36.9	2660
7/0.53mm (1.5mm ²)	1	7.5	12.3	0.9	360
	2(Quad)	8.7	13.7	0.9	460

	5	16.7	21.5	1.25	1040
	10	21.1	27.8	1.6	1160
	20	28.0	35.1	2.0	2630

ORDERING OPTIONS:

1) Conductor: Bare or Tinned Conductor

2) Conductor Size: Solid or Stranded (to IEC 228 Class 2 or 5 or 6)

Size	Class1	Class2	Class5	Class6
0.5mm ²	1/0.8mm	7/0.3mm	16/0.2mm	28/0.15mm
0.75mm ²		7/0.43mm	24/0.2mm	42/0.15mm
1.0mm ²	1/1.13mm	7/0.44mm	32/0.2mm	56/0.15mm
1.5mm ²		7/0.53mm	30/0.25mm	84/0.15mm
2.5mm ²		7/0.67mm	50/0.25mm	140/0.15mm

3) Insulation: PE/XLPE/LSF/LSOH

4) Screening: Aluminium Tape/Copper Braiding

5) Cabling: Multicore/Multipair/Multitrip

6) Bedding & Sheathing Material: PVC/LSF/LSOH

7) Armouring: Steel Tape Armouring/Steel Wire Armouring

8) Fire Performance:

IEC 332-1 (For Flame Retardant PVC sheath)

IEC 332-3C (For Flame Retardant PVC or LSOH sheath)

IEC 1034 Part 1&2 (For LSOH sheath)

IEC 754 Part 1&2 (5%-15% for LSF sheath & 0.5% for LSOH sheath)

Oxygen Index (32%-40% depending on different LSOH compound)

Temperature Index (250 °C to 300 °C, depending on different LSOH compound)