

YY Control Cable

Application: YY Control is a flexible multi-core cable with class 5 flexible annealed plain copper conductors, PVC insulation, and a grey PVC sheath. YY Cable is used in fixed installations or flexible use in conditions with light mechanical stress. It can be used in dry and moist areas including outdoors when mechanically protected. YY is widely used on production lines, conveyor systems, machine tool manufacturing and air conditioning systems.

Technical Data:



1	Conductor	Class 5 flexible annealed plain copper conductor
2	Insulation	YY PVC: PVC (Polyvinyl Chloride) YY LSOH: XPLE (Cross-Linked Polyethylene)
3	Sheath	YY PVC: PVC (Polyvinyl Chloride) YY LSOH: LSZH

Voltage Rating 300/500V

Conductor Operating Temperature -15°C to +70°C

Core Identification

Black cores with white numbers and one green / yellow core
Coloured cores available.



Sizes and Dimensions - 2 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
2C.75YY	2	0.75	27.32	5.9	20S	3	50	26.0
2C1.0YY	2	1.0	30.17	6.2	20S	3	55	19.5
2C1.5YY	2	1.5	36.29	6.8	20S	3	80	13.3
2C2.5YY	2	2.5	55.38	8.4	20S	3	135	7.98
2C4.0YY	2	4.0	84.90	10.4	20S	4	197	4.95
2C6.0YY	2	6.0	113.04	12.0	20	5	225	3.30
2C10YY	2	10.0	171.94	14.8	25	6	460	1.91

Sizes and Dimensions - 3 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
3C.75YY	3	0.75	30.17	6.2	20S	3	60	26.0
3C1.0YY	3	1.0	33.16	6.5	20S	3	70	19.5
3C1.5YY	3	1.5	40.69	7.2	20S	3	95	13.3
3C2.5YY	3	2.5	62.17	8.9	20S	4	165	7.98
3C4.0YY	3	4.0	98.47	11.2	20	5	250	4.95
3C6.0YY	3	6.0	128.61	12.8	20	6	305	3.30
3C10YY	3	10.0	195.96	15.8	25	7	590	1.91
3C16YY	3	16	265.76	18.4	32	8	800	1.21
3C25YY	3	25	633.14	28.4	40	12	1400	0.780
3C35YY	3	35	798.82	31.9	40	14	1840	0.554
3C50YY	3	50	1115.71	37.7	50	16	2550	0.386

Sizes and Dimensions - 4 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
4C.75YY	4	0.75	35.23	6.7	20S	3	70	26.0
4C1.0YY	4	1.0	39.57	7.1	20S	3	85	19.5
4C1.5YY	4	1.5	51.50	8.1	20S	3	120	13.3
4C2.5YY	4	2.5	73.86	9.7	20S	4	200	7.98
4C4.0YY	4	4.0	130.63	12.9	20	6	300	4.95
4C6.0YY	4	6.0	160.52	14.3	25	6	390	3.30
4C10YY	4	10.0	243.16	17.6	25	7	720	1.91
4C16YY	4	16	329.89	20.5	32	9	1000	1.21
4C25YY	4	25	778.91	31.5	40	14	1800	0.780
4C35YY	4	35	978.18	35.3	50	14	2380	0.554
4C50YY	4	50	1365.02	41.7	63	18	3290	0.386

The information contained within this datasheet is for guidance only. Please note the actual cable dimensions may vary due to manufacturing tolerance.



Sizes and Dimensions - 5 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
5C.75YY	5	0.75	42.98	7.4	20S	3	88.5	26.0
5C1.0YY	5	1.0	46.54	7.7	20S	3	100	19.5
5C1.5YY	5	1.5	63.58	9.0	20S	4	150	13.3
5C2.5YY	5	2.5	91.56	10.8	20	5	255	7.98
5C4.0YY	5	4.0	147.33	13.7	20	6	355	4.95
5C6.0YY	5	6.0	191.03	15.6	25	7	470	3.30
5C10YY	5	10.0	298.49	19.5	32	7	865	1.91
5C16YY	5	16	404.50	22.7	40	9	1250	1.21
5C25YY	5	25	945.21	34.7	50	14	2220	0.780
5C35YY	5	35	1187.86	38.9	63	16	2790	0.554

Sizes and Dimensions - 7 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
7C.75YY	7	0.75	48.99	7.9	20S	4	105	26.0
7C1.0YY	7	1.0	54.07	8.3	20S	4	125	19.5
7C1.5YY	7	1.5	75.39	9.8	20S	4	185	13.3
7C2.5YY	7	2.5	109.30	11.8	20	5	305	7.98

Sizes and Dimensions - 12 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
12C.75YY	12	0.75	86.54	10.5	20	5	175	26.0
12C1.0YY	12	1.0	109.30	11.8	20	5	220	19.5
12C1.5YY	12	1.5	132.66	13.0	20	6	305	13.3
12C2.5YY	12	2.5	193.49	15.7	25	7	535	7.98

Sizes and Dimensions - 18 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
18C.75YY	18	0.75	132.66	13.0	20	6	280	26.0
18C1.0YY	18	1.0	153.86	14.0	25	6	350	19.5
18C1.5YY	18	1.5	188.59	15.5	25	7	460	13.3
18C2.5YY	18	2.5	336.36	20.7	32	9	760	7.98

The information contained within this datasheet is for guidance only. Please note the actual cable dimensions may vary due to manufacturing tolerance.



Sizes and Dimensions - 25 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
25C.75YY	25	0.75	171.94	14.8	25	6	335	26.0
25C1.0YY	25	1.0	208.56	16.3	25	7		19.5
25C1.5YY	25	1.5	260.02	18.2	32	8	650	13.3
25C2.5YY	25	2.5	386.87	22.2	32	9	1070	7.98

Sizes and Dimensions - 34 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
34C.75YY	34	0.75	251.52	17.9	32	8	530	26.0
34C1.0YY	34	1.0	304.65	19.7	32	8	660	19.5
34C1.5YY	34	1.5	376.49	21.9	32	9	880	13.3
34C2.5YY	34	2.5	615.44	28.0	40	12	1350	7.98

Sizes and Dimensions - 50 core

Part No.	No. Cores	Conduct or Cross Section Area (mm ²)	Cable Cross Section Area (mm ²)	Overall Diameter (mm)	Gland Size	Cleat Size	Nominal Weight (kg/km)	Resistance of Copper Conductor (Ω/Km) at 20°C
50C.75YY	50	0.75	336.36	20.7	32	9	680	26.0
50C1.0YY	50	1.0	383.40	22.1	32	9	830	19.5
50C1.5YY	50	1.5	486.70	24.9	40	10	1200	13.3
50C2.5YY	50	2.5	720.70	30.3	40	14	2000	7.98

The information contained within this datasheet is for guidance only. Please note the actual cable dimensions may vary due to manufacturing tolerance.



Table 4F3A - Flexible Cables Non Armoured (Copper Conductors)

CURRENT CARRYING CAPACITY (amperes) and MASS SUPPORTABLE (kg)

Conductor Cross Sectional Area	Current Carrying Capacity		Maximum mass Supportable by twin flexible cable (see regulations (522.7.2 and 559.6.1.5))
	Single-phase a.c.	Three-phase a.c.	
(mm ²)	(A)	(A)	(kg)
0.5	3	3	2
0.75	6	6	3
1	10	10	5
1.25	13	-	5
1.5	16	16	5
2.5	25	20	5
4	32	25	5

This table above is in accordance with Table 4F3A of the 17th Edition of IET Wiring Regulations

Rating Factors for Ambient Temperature

60°C thermoplastic or thermosetting insulated cable					
Ambient Temperature	35°C	40°C	45°C	50°C	55°C
Rating Factor	0.91	0.82	0.71	0.58	0.41

90°C thermoplastic or thermosetting insulated cable					
Ambient Temperature	35 to 50°C	55°C	60°C	65°C	70°C
Rating Factor	1.0	0.96	0.83	0.67	0.47

150°C Flexible Cable						
Ambient Temperature	35 to 120°C	125°C	130°C	135°C	140°C	145°C
Rating Factor	1.0	0.96	0.82	0.74	0.60	0.42

Glass Fibre Flexible Cable						
Ambient Temperature	35 to 150°C	155°C	160°C	165°C	170°C	175°C
Rating Factor	1.0	0.92	0.82	0.71	0.57	0.40

Table 4F3B

VOLTAGE DROP (per ampere per meter) Conductor Operating Temperature: 60°C

Conductor Cross Sectional Area (mm ²)	d.c. or single - phase a.c. (mV/A/m)	Three-phase a.c. (mV/A/m)
0.5	93	80
0.75	62	54
1	46	40
1.25	37	-
1.5	32	27
2.5	19	16
4	12	10

This table above is in accordance with Table 4F3B of the 17th Edition of IET Wiring Regulations

NOTE: *The tabulated values above are for 60°C thermoplastic or thermosetting insulated flexible cables and for other types of flexible cable they are to be multiplied by the following factors:

For	90°C thermoplastic or thermosetting insulated	1.09
	150°C	1.31
	185°C glass fibre	1.43



Table 4F1A

Ambient temperature: 30°C

Conductor operating temperature: 60°C

CURRENT CARRYING CAPACITY (amperes)

Conductor Cross Sectional Area (mm ²)	Single - phase a.c or d.c (A)	Three - phase a.c. (A)	Single - phase a.c. or d.c. (A)
4	30	26	-
6	39	34	-
10	51	47	-
16	73	63	-
25	97	83	-
35	-	102	140
50	-	124	175
70	-	158	126
95	-	192	258
120	-	222	302
150	-	255	347
185	-	291	394
240	-	343	471
300	-	394	541
400	-	-	644
500	-	-	738
600	-	-	861

Notes:

1. The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface. If the cables is to be wound on a drum on load the ratings should be reduced in accordance with NOTE 2 below and for cables which may be covered, NOTE 3 below.

2. Flexible cables wound on reeling drums

The current ratings of cables used on reeling drums are to be reduced by the following factors:

a) Radial type drum

Ventilated: 85%

Unventilated: 75%

b) Ventilated cylindrical type drum

1 layer of cable: 85%

2 layers of cable: 65%

3 layers of cable: 45%

4 layers of cable: 35%

A radial type drum is one where spiral layers of cable are accommodated between closely spaced flanges; if fitted with solid flanges the ratings given above should be reduced and the drum is described as non-ventilated. If the flanges have suitable apertures the drum is described as ventilated.

A ventilated cylindrical cable drum is one where layers of cable are accommodated between widely spaced flanges and the drum and end flanges have suitable ventilating apertures.

3. Where cable may be covered over or coiled up whilst on load, or the air movement over the cable restricted, the current rating should be reduced.

It is not possible to specify the amount of reduction but the table of rating factors for reeling drums can be used as guide.

Conductor cross sectional area (mm ²)	Two-core cable, d.c. (mV/A/m)	Two-core cable, single-phase a.c. (mV/A/m)			1 three-core, four-core or five-core, three phase a.c. (mV/A/m)			2 single core cables, touching			
								d.c		Single-phase a.c.*	
4	12	12			10			-	-		
6	7.8	7.8			6.7			-	-		
10	4.6	4.6			4.0			-	-		
16	2.9	2.9			2.5			-	-		
		r	x	z	r	x	z		r	x	z
25	1.80	1.80	0.175	1.85	1.55	0.150	1.55	-	-	-	-
35	-	-	-	-	1.10	0.150	1.15	1.31	1.31	0.21	1.32
50	-	-	-	-	0.83	0.145	0.84	0.91	0.91	0.21	0.93
70	-	-	-	-	0.57	0.140	0.58	0.64	0.64	0.20	0.67
95	-	-	-	-	0.42	0.135	0.44	0.49	0.49	0.195	0.53
120	-	-	-	-	0.33	0.135	0.36	0.38	0.38	0.190	0.43
150	-	-	-	-	0.27	0.130	0.30	0.31	0.31	0.190	0.36
185	-	-	-	-	0.22	0.130	0.26	0.25	0.25	0.190	0.32
240	-	-	-	-	0.170	0.130	0.21	0.190	0.195	0.185	0.27
300	-	-	-	-	0.135	0.125	0.185	0.150	0.155	0.180	0.24
400	-	-	-	-	-			0.115	0.120	0.175	0.21
500	-	-	-	-	-			0.090	0.099	0.170	0.20
630	-	-	-	-	-			0.068	0.079	0.170	0.185

This table above is in accordance with Table 4E4B of the 17th Edition of IET Wiring Regulations