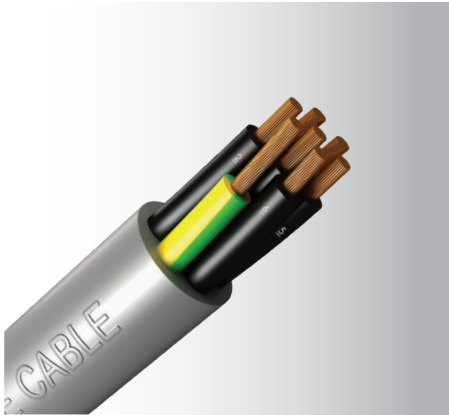


Flexible Control Cables

300/500V Multi-Core, YSLY
 PVC Insulated, PVC Sheathed Flexible Cable
 Description: CU/PVC/PVC
 Model Code: S05VV-F or S05VV5-F (Oil-resistant)



Application :	This cable is intended for the interconnection of manufacturing machines. It can be used in dry, humid, and moist environments when subjected to moderate mechanical loads.
Voltage rating :	300/500V
Construction :	Plain annealed copper (BS EN 60228 Class 5), PVC insulated, PVC sheathed (for S05VV-F), oil-resistant PVC sheathed (for S05VV5-F) cable
Insulation colour :	Without earth : Black (With white numbering) With earth : Black (With white numbering) + Green/Yellow
Sheath colour :	Grey
Specification :	BS EN 50525-2-51, IEC 60332-1-2
Operating temperature :	-20°C ~ 70°C
Certification :	CE, RoHS for oil-resistant type

No. of Core	Conductor	Insulation	S05VV-F	S05VV5-F	Approx. Overall Diam.	Approx. Weight
	Nominal Area (mm ²)	Thickness (mm)	Part No.	Part No.		
2	0.5	0.4	04023811	04023801	5.0	37
3			04033811	04033801	5.2	44
3G			04033812	04033802	5.2	44
4			04043811	04043801	5.7	53
4G			04043812	04043802	5.7	53
5			04053811	04053801	6.2	62
5G			04053812	04053802	6.2	62
6			04063811	04063801	6.9	75
6G			04063812	04063802	6.9	75
7			04073811	04073801	6.9	82
7G			04073812	04073802	6.9	82
10			04103811	04103801	8.8	120
10G			04103812	04103802	8.8	120
12G			04123812	04123802	9.1	135
16G			04163812	04163802	10.2	174
18G			04183812	04183802	10.8	192
21G			04213812	04213802	11.5	223
25G			04253812	04253802	12.9	270

Current rating
 Please refer to Table 3 (Page 43)
 For Rating Factors, please refer to Table 7 (Page 45)

Flexible Control Cables



tel (65) 6367 0107 fax (65) 6365 2963
www.keystone-cable.com

300/500V Multi-Core, YSLY
PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC

Model Code: S05VV-F or S05VV5-F (Oil-resistant)

No. of Core	Conductor	Insulation	S05VV-F	S05VV5-F	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Nominal Area	Thickness	Part No.	Part No.		
	(mm ²)	(mm)				
2	0.75	0.4	05023811	05023801	5.3	46
3			05033811	05033801	5.3	46
3G			05033812	05033802	5.7	55
4			05043811	05043801	6.4	71
4G			05043812	05043802	6.4	71
5			05053811	05053801	6.9	84
5G			05053812	05053802	6.9	84
6			05063811	05063801	7.5	97
6G			05063812	05063802	7.5	97
7			05073811	05073801	7.5	107
7G			05073812	05073802	7.5	107
10			05103811	05103801	9.9	161
10G			05103812	05103802	9.9	161
12G			05123812	05123802	10.2	182
16G			05163812	05163802	11.4	235
18G			05183812	05183802	12.0	259
21G			05213812	05213802	12.9	300
25G	05253812	05253802	14.4	363		
2	1	0.4	06023811	06023801	5.7	54
3			06033811	06033801	6.0	66
3G			06033812	06033802	6.0	66
4			06043811	06043801	6.8	84
4G			06043812	06043802	6.8	84
5			06053811	06053801	7.4	100
5G			06053812	06053802	7.4	100
6			06063811	06063801	8.2	119
6G			06063812	06063802	8.2	119
7			06073811	06073801	8.2	157
7G			06073812	06073802	8.2	157
9			06093811	06093801	10.1	173
9G			06093812	06093802	10.1	173
10			06103811	06103801	10.5	192
10G			06103812	06103802	10.5	192
12G			06123812	06123802	10.9	218
16G			06163812	06163802	12.2	282
18G	06183812	06183802	13.1	318		
21G	06213812	06213802	13.8	362		
25G	06253812	06253802	15.4	453		

Current rating

Please refer to Table 3 (Page 43)

For Rating Factors, please refer to Table 7 (Page 45)

Flexible Control Cables

300/500V Multi-Core, YSLY
PVC Insulated, PVC Sheathed Flexible Cable

Description: CU/PVC/PVC

Model Code: S05VV-F or S05VV5-F (Oil-resistant)

No. of Core	Conductor	Insulation	S05VV-F	S05VV5-F	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
	Nominal Area	Thickness	Part No.	Part No.		
	mm ²	(mm)				
2	1.5	0.4	07023811	07023801	6.4	73
3			07033811	07033801	6.8	90
3G			07033812	07033802	6.8	90
4			07043811	07043801	7.4	110
4G			07043812	07043802	7.4	110
5			07053811	07053801	8.3	135
5G			07053812	07053802	8.3	135
6			07063811	07063801	9.0	157
6G			07063812	07063802	9.0	157
7			07073811	07073801	9.0	176
7G			07073812	07073802	9.0	176
9			07093811	07093801	11.4	235
9G			07093812	07093802	11.4	235
10			07103811	07103801	11.8	261
10G			07103812	07103802	11.8	261
12G			07123812	07123802	12.2	298
16G			07163812	07163802	13.7	385
18G			07183812	07183802	14.6	434
21G			07213812	07213802	15.4	495
25G	07253812	07253802	17.4	604		
2	2.5	0.5	08023811	08023801	7.8	110
3			08033811	08033801	8.5	142
3G			08033812	08033802	8.5	142
4			08043811	08043801	9.3	175
4G			08043812	08043802	9.3	175
5			08053811	08053801	10.4	215
5G			08053812	08053802	10.4	215
7			08073811	08073801	11.5	287
7G			08073812	08073802	11.5	287
12			08123811	08123801	15.5	482
12G	08123812	08123802	15.5	482		

Current rating

Please refer to Table 3 (Page 43)

For Rating Factors, please refer to Table 7 (Page 45)

Current Rating

PVC Insulated Cables
Multi-Core, With or without screen

Multi-Core Cables with PVC Insulation, PVC Outersheath 300/500V

Table 3 : Current-Carrying Capacities (Amp)

[S05VV-F, S05VV5-F or S05VC4V-K, S05VC4V5-K Cables]

Conductor Operating Temperature : 70°C
Ambient Temperature : 30°C

BS EN 50525-2-51

Conductor Cross-sectional Area	Single-Core (in free air)	2-Core and 3-Core upon or on surface (Method 1)
mm ²	A	A
0.5	12	9
0.75	15	12
1	19	15
1.5	24	18
2.5	32	26
4	42	34
6	54	44
10	73	61
16	98	82
25	129	108
35	158	135

Note : For rating factors of ambient temperature other than 30°C, please refer to Table 10 (Page 47)

Table 6 : Correction Factors for Ambient Temperature & Group Installation

Correction for groups of more than one circuit of single-core cables, or more than one multi-core cable.

Reference Methods of Installation		Correction Factor (Cg)													
		Number of Circuits or Multi-Core Cables													
		2	3	4	5	6	7	8	9	10	12	14	16	18	20
Enclosed (Method 3 or 4) or bunched and clipped to a non-metallic surface (Method 1)		0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.48	0.45	0.43	0.41	0.39	0.38
Single layer clipped to a non-metallic surface (Method 1)	Touching	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70	-	-	-	-	-	-
	Spaced*	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Single layer multi-core on a perforated metal cable tray (Method 11)	Touching	0.86	0.81	0.77	0.75	0.74	0.73	0.73	0.72	0.71	0.70	-	-	-	-
	Spaced*	0.91	0.89	0.88	0.87	0.87	-	-	-	-	-	-	-	-	-
Single layer single-core on a perforated metal cable tray, touching (Method 11)	Horizontal	0.90	0.85	-	-	-	-	-	-	-	-	-	-	-	-
	Vertical	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-
Single layer multi-core touching on ladder supports		0.86	0.82	0.80	0.79	0.78	0.78	0.78	0.77	-	-	-	-	-	-

* Space means a clearance between adjacent surfaces of at least one cable Diam. (D_e). Where the horizontal clearance between adjacent cables exceeds 2 D_e, no correction factor need to be applied.

Note : 1 The factors in the table are applicable to a group of cables of all the same sizes. The value of the current derived from application of the appropriate factors is the maximum continuous current to be carried by any of the cables in the group.

2 If, due to known operating conditions, a cable is expected to carry not more than 30% of its grouped rating, it may be ignored for the purpose of obtaining the rating factor for the rest of the group.

For example, a group of N loaded cables would normally require a group reduction factor of C_g applied to the tabulated I_t. However, if M cables in the group carry loads which are not greater than 0.3C_g I_t amperes, the other cables can be sized by using the group rating factor corresponding to (N-M) cables.

Table 7 : Correction Factor for Cables with More Than 4 Loaded Cores

No. of Loaded Cores	5	6	7	10	12	14	19
Correction Factor	0.72	0.67	0.63	0.56	0.53	0.51	0.45
No. of Loaded Cores	24	27	30	37	44	46	48
Correction Factor	0.42	0.40	0.39	0.36	0.34	0.33	0.33

Note: 1. The current-carrying capacity for a cable in the size range 1.5 to 4mm², having more than 4 loaded cores, is obtained by multiplying the current-carrying capacity of a 2-core, having the same installation type, by the factor selected from this table. The current-carrying for the 2-core cable is that for the installation condition to be used for the multi-core cable.

2. If due to known operating conditions, a core is expected to carry not more than 30% of its current-carrying capacity in the multi-core cable, it may be ignored for the purpose of obtaining the correction factor for the number of loaded cores.

3. If due to known operating conditions, a core is expected to carry not more than 30% of its rating, after applying the correction factor for the total number of current-carrying cores, it may be ignored for the purpose of obtaining the correction factor for the number of loaded cores.

For example, the current-carrying capacity of a cable having N loaded cores would normally be obtained by multiplying the current-carrying capacity of a 2-core, having the same insulation type, by the factor selected from this table for N cores. That is $I_{z1c} = I_{z2c} \times C_{gN}$ where:

I_{z1c} is the current-carrying capacity for the multi-core cable after applying the correction factor for the total number of current-carrying cores.

I_{z2c} is the tabulated current-carrying capacity of a 2-core cable, having the same insulation type as the multi-core cable.

C_{gN} is the correction factor from Table 7 for the total number of current-carrying cores.

However, if M cores in the cable carry loads which are not greater than $0.3 \times I_{z2c} \times C_{gN}$, the current-carrying capacity can be obtained by using the correction factor corresponding to (N-M) cores.

The 'not greater than $0.3 \times I_{z2c} \times C_{gN}$ ' calculation should be applied before the adjacent multi-core cable grouping factor, if applicable, from Table 6 from BS 7671. The 30% rule should not be further applied to any adjacent cable grouping factor calculations.

I_{z1c} should be greater than or equal to I_n or I_b as appropriate, divided by the relevant correction factor(s) C, that is $I_{z1c} \geq I_n / C$ or I_b / C

Table 10 : Correction Factor for Ambient Air Temperature Other than 30°C to be Applied to the Current-Carrying Capacities for Cables in Free Air

Insulation	Ambient Temperature (°C)															
	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
PVC (70°C)	1.22	1.17	1.12	1.06	1.00	0.94	0.87	0.79	0.71	0.61	0.50	0.35	-	-	-	-
XLPE (90°C)	1.15	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41	0.29
PVC (90°C)	-	-	-	1.03	1.00	0.97	0.94	0.91	0.87	0.84	0.80	0.76	0.71	0.61	0.50	0.35

Table 11 : UL 2464 Colour Code for Paired & Multi-Core Cables

Pair						Multi-Core (Method 1)		Multi-Core (Method 2)			
No.	A Wire	B Wire	No.	A Wire	B Wire	No.	Colour	No.	Colour	No.	Colour
1	Black	Red	16	Green	Yellow	1	Black	1	Black	16	Black-red
2	Black	White	17	Green	Brown	2	White	2	White	17	White-red
3	Black	Green	18	Green	Orange	3	Red	3	Red	18	Orange-red
4	Black	Blue	19	White	Blue	4	Green	4	Green	19	Blue-red
5	Black	Yellow	20	White	Yellow	5	Brown	5	Orange	20	Red-green
6	Black	Brown	21	White	Brown	6	Blue	6	Blue		
7	Black	Orange	22	White	Orange	7	Orange	7	White-black		
8	Red	White	23	Blue	Yellow	8	Yellow	8	Red-black		
9	Red	Green	24	Blue	Brown	9	Purple	9	Green-black		
10	Red	Blue	25	Blue	Orange	10	Grey	10	Orange-black		
11	Red	Yellow				11	Pink	11	Blue-black		
12	Red	Brown				12	Tan	12	Black-white		
13	Red	Orange						13	Red-white		
14	Green	White						14	Green-white		
15	Green	Blue						15	Blue-white		

Table 12 : Colour Code for RS 485 Cables

Pair	A Wire	B Wire
1	White-blue stripe	Blue-white stripe
2	White-orange stripe	Orange-white stripe
3	White-green stripe	Green-white stripe
4	White-brown stripe	Brown-white stripe
5	White-grey stripe	Grey-white stripe