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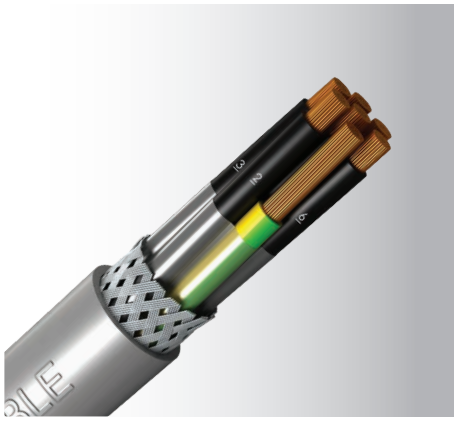
300/500V Multi-Core, YSLCY
PVC Insulated, Braided Screen, PVC Sheathed Flexible Cable

Description: CU/PVC/TCWB/PVC

Model Code: S05VC4V-K or S05VC4V5-K (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, polyester tape wrapping, tinned copper wire braided screen, PVC sheathed (for S05VC4V-K), oil-resistant PVC sheathed (for S05VC4V5-K) 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	

No. of Core	Conductor Nominal Area (mm²)	Insulation Thickness (mm)	S05VC4V-K Part No.	S05VC4V5-K Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
2	0.5	0.4	**04023861**	**04023821**	5.6	54
3G			**04033862**	**04033822**	5.9	62
4G			**04043862**	**04043822**	5.9	62
5G			**04053862**	**04053822**	7.0	88
7G			**04073862**	**04073822**	7.6	107
12G			**04123862**	**04123822**	10.0	173
18G			**04183862**	**04183822**	11.7	237
2	0.75	0.4	**05023861**	**05023821**	6.2	68
3G			**05033862**	**05033822**	6.6	79
4G			**05043862**	**05043822**	7.1	94
5G			**05053862**	**05053822**	7.8	112
7G			**05073862**	**05073822**	8.4	138
10G			**05103862**	**05103822**	10.5	196
12G			**05123862**	**05123822**	11.1	224
18G			**05183862**	**05183822**	12.9	308

Current rating

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

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Description: CU/PVC/TCWB/PVC

Model Code: S05VC4V-K or S05VC4V5-K (Oil-resistant)

No. of Core	Conductor Nominal Area (mm²)	Insulation Thickness (mm)	S05VC4V-K Part No.	S05VC4V5-K Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
2	1	0.4	**06023861**	**06023821**	6.6	78
3			**06033861**	**06033821**	6.9	91
3G			**06033862**	**06033822**	6.9	91
4			**06043861**	**06043821**	7.5	108
4G			**06043862**	**06043822**	7.5	108
5G			**06053862**	**06053822**	8.3	130
7G			**06073862**	**06073822**	8.9	162
12G			**06123862**	**06123822**	12.0	270
18G			**06183862**	**06183822**	14.1	375
25G			**06253862**	**06253822**	16.5	510
2	1.5	0.4	**07023861**	**07023821**	7.1	96
3			**07033861**	**07033821**	7.5	114
4			**07043861**	**07043821**	8.3	141
4G			**07043862**	**07043822**	8.3	141
5G			**07053862**	**07053822**	9.0	165
7G			**07073862**	**07073822**	9.9	213
12G			**07123862**	**07123822**	13.1	348
18G			**07183862**	**07183822**	15.7	511
2	2.5	0.5	**08023861**	**08023821**	8.7	143
3			**08033861**	**08033821**	9.2	173
3G			**08033862**	**08033822**	9.2	173
4G			**08043862**	**08043822**	10.2	214
5G			**08053862**	**08053822**	11.2	258
7G			**08073862**	**08073822**	12.2	328
12G			**08123862**	**08123822**	16.5	564
2	4	0.5	**09023861**	**09023821**	10.0	196
3			**09033861**	**09033821**	10.6	240
4G			**09043862**	**09043822**	11.7	299
5G			**09053862**	**09053822**	12.9	361
7G			**09073862**	**09073822**	14.4	486
2	6	0.6	**10023861**	**10023821**	11.8	276
4G			**10043862**	**10043822**	13.8	425
5G			**10053862**	**10053822**	15.5	531
4G	10	0.7	**11043862**	**11043822**	18.4	746
4G	16	0.7	**12043862**	**12043822**	21.5	1059
4G	25	0.8	**13043862**	**13043822**	26.0	1579
4G	35	0.8	**14043862**	**14043822**	30.0	2102

Current rating
Please refer to Table 3 (Page 43)
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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)

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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 continous 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 Cg applied to the tabulated Lt. However, if M cables in the group carry loads which are not greater than 0.3Cg Lt 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 4mm^2, 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 $I_{z1c} = I_{t2c} \times C_{gN}$ 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_{t2c} is the tablulated 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 $0.3 \times I_{t2c} \times C_{gN}$, the current-carrying capacity can be obtained by using the correction factor corresponding to (N-M) cores.

The 'not greater than $0.3 \times I_{t2c} \times C_{gN}$' 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 $I_{z1c} \geq I_n$ or I_b / C

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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