

Electronic equipment robot cable

Multi core cable		Multi pair cable	
Heat resistance	★★★★	Heat resistance	★★★★
Oil resistance	★★★★★	Oil resistance	★★★★★
Noise resistance	★	Noise resistance	★★
Flame resistance	★★★★	Flame resistance	★★★★
Torsion resistance	★★★★★	Torsion resistance	★★★★★
Flexibility resistance	★★★★★	Flexibility resistance	★★★★★
Cable carrier	★★★★★	Cable carrier	★★★★★

※The characteristic is an aim.



Application

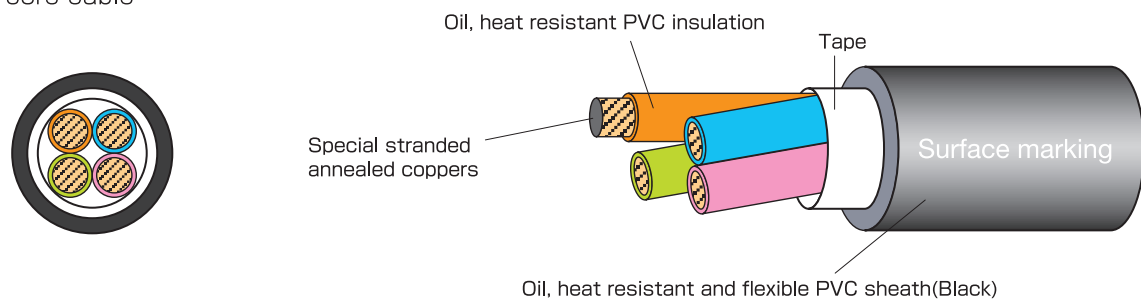
- Appropriate for cable bare wiring for high-speed moving.
- Cable Bear test 20 million times or more.
- Robot cable with UL and cUL at 30V 80°C. (Category : AVLV2, AVLV8)

Feature

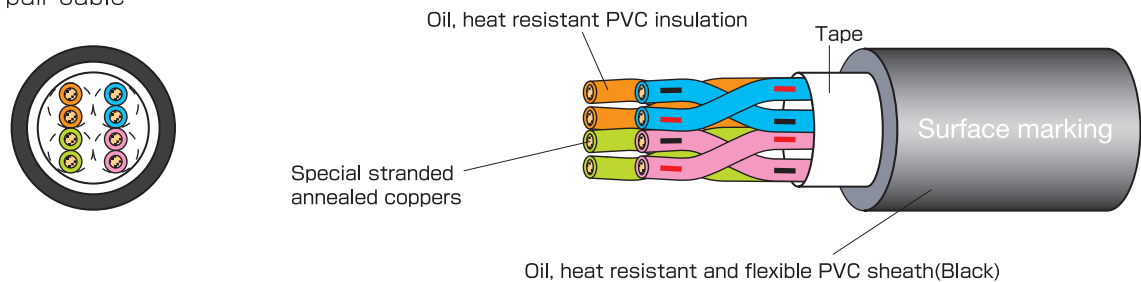
- Extremely fine conductor use.
- Oil and heat resistant PVC used for insulation.
- Oil and heat resistant PVC used for sheath.
- Flame resisting : UL VW-1, cUL FT1.

Construction figure

Multi core cable



Multi pair cable



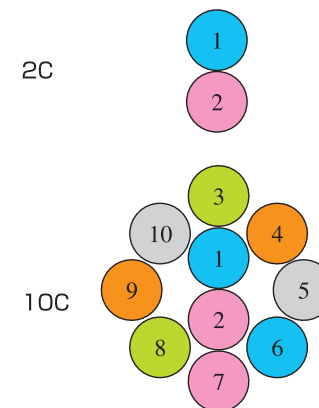
Surface marking



Certification	UL AWM	cUL AWM
Applicable standard	UL 758	CSA C22.2 No.210
Official symbol	UL STYLE 20276	CSA AWM IIA/B
Voltage rating	30V	30V
Temperature rating	80°C	80°C
Conductor	UL 758	CSA C22.2 No.210
Flame rating	VW-1	FT1

Identification

Multi core cable

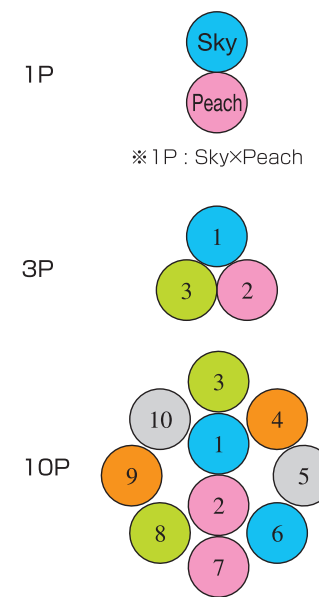


Identification table 1

Line number	Color of insulation	Dot mark
1	Sky	
2	Peach	
3	Grass	
4	Orange	
5	Gray	
6	Sky	■
7	Peach	■
8	Grass	■
9	Orange	■
10	Gray	■
11	Sky	■ ■
12	Peach	■ ■
13	Grass	■ ■
14	Orange	■ ■
15	Gray	■ ■
16	Sky	■ ■ ■
17	Peach	■ ■ ■
18	Grass	■ ■ ■
19	Orange	■ ■ ■
20	Gray	■ ■ ■

Figures ○ indicate core number in the identification table 1.
 ※A short point is 1mm, the length point is 2mm, the interval is 1mm, and the pitch is about 12mm.

Multi pair cable

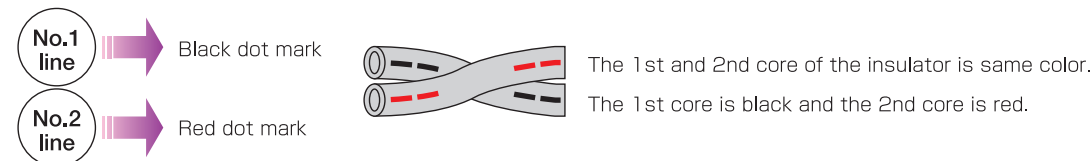


Identification table 2

Pair number	Color of insulation	Dot mark
1	Sky	■ ■
2	Peach	■ ■
3	Grass	■ ■
4	Orange	■ ■
5	Gray	■ ■
6	Sky	■ ■ ■
7	Peach	■ ■ ■
8	Grass	■ ■ ■
9	Orange	■ ■ ■
10	Gray	■ ■ ■
11	Sky	■ ■ ■ ■
12	Peach	■ ■ ■ ■
13	Grass	■ ■ ■ ■
14	Orange	■ ■ ■ ■
15	Gray	■ ■ ■ ■

Figures ○ indicate pair number in the identification table 2.
 ※A short point is 1mm, the length point is 2mm, the interval is 1mm, and the pitch is about 12mm.

Example of pair



Electronic equipment robot cable



> Construction table

No. of cores No. of pairs	Conductor			Oil, heat resistant PVC insulation		Oil, heat resistant flexible PVC sheath		Approx. weight (lbs/1000ft) (kg/km)	Electrical Characteristics			Allowable ampacity (A)
	Size (AWG)	Construction (Line/mm)	Outside diameter (mm)	Outside diameter (inch)	Outside diameter (mm)	Overall diameter approx. (inch)	Overall diameter approx. (mm)		Conductor resistance (Ω/km20°C)	Insulation resistance (MΩkm20°C)	Electrical strength (V/1min.)	
1P						0.157	4.0	12(18)				2.8
3C						0.161	4.1	14(21)				2.3
2P						0.197	5.0	20(30)				2.2
3P						0.220	5.6	24(36)				1.9
4P						0.236	6.0	27(40)				1.7
5P	26 (0.128mm)	30/0.08 (30/3.2mil)	0.63 (25mil)	0.041	1.03	0.256	6.5	32(47)	less than 146	more than 10	500	1.5
6P						0.276	7.0	37(55)				1.5
7P						0.295	7.5	44(65)				1.4
8P						0.315	8.0	47(70)				1.3
10P						0.319	8.1	54(80)				1.2
12P					0.354	9.0	64(95)				1.2	
15P					0.390	9.9	74(110)				1.1	
20P					0.429	10.9	94(140)				1.0	
25P					0.488	12.4	121(180)				0.95	
2C						0.165	4.2	15(22)				4.2
3C						0.173	4.4	16(24)				3.5
4C						0.185	4.7	19(29)				3.2
5C						0.201	5.1	23(34)				3.0
6C	24 (0.204mm)	44/0.08 (44/3.2mil)	0.67 (26mil)	0.046	1.17	0.213	5.4	26(39)	less than 105	more than 10	500	2.8
8C						0.240	6.1	34(50)				2.5
10C						0.260	6.6	37(55)				2.4
12C						0.268	6.8	44(65)				2.2
16C						0.291	7.4	54(80)				2.0
20C					0.319	8.1	67(100)				1.8	
30C					0.390	9.9	97(145)				1.6	
40C					0.425	10.8	131(195)				1.5	
2C						0.181	4.6	17(26)				6.0
3C						0.189	4.8	20(30)				5.0
4C						0.201	5.1	24(36)				4.5
5C						0.217	5.5	29(43)				4.2
6C	22 (0.324mm)	68/0.08 (68/3.2mil)	0.83 (33mil)	0.052	1.33	0.232	5.9	34(50)	less than 57.5	more than 10	500	3.9
8C						0.264	6.7	44(65)				3.6
10C						0.283	7.2	50(75)				3.3
12C						0.291	7.4	57(85)				3.1
16C						0.323	8.2	71(105)				2.8
20C					0.354	9.0	87(130)				2.6	
30C					0.433	11.0	131(195)				2.3	
40C					0.472	12.0	175(260)				2.1	
2C						0.197	5.0	24(35)				7.9
3C						0.209	5.3	26(39)				6.7
4C						0.224	5.7	32(48)				6.0
5C						0.240	6.1	40(60)				5.5
6C						0.260	6.6	47(70)				5.2
8C	20 (0.518mm)	112/0.08 (112/3.2mil)	1.07 (42mil)	0.062	1.57	0.299	7.6	60(90)	less than 36.2	more than 10	500	4.8
10C						0.323	8.2	71(105)				4.5
12C						0.331	8.4	77(115)				4.1
16C						0.366	9.3	101(150)				3.7
20C						0.402	10.2	124(185)				3.5
24C					0.441	11.2	148(220)				3.3	
30C					0.500	12.7	188(280)				3.1	
40C					0.547	13.9	245(365)				2.8	

※Please contact us which sizes are available.

> Allowable ampacity

The allowable ampacity of this catalog is a value at one in the air construction and the ambient temperature 30°C.

Allowable ampacity is calculated based on JCS0168.

Please multiply the following adjustment factors by the ambient temperature.

● Adjustment factors(at ambient temperature)

Ambient temperature(°C)	30	40	50	60	70	80	90	100
Adjustment factors	1.00	0.89	0.77	0.63	0.45	—	—	—

> Movement characteristic

*) 1 Bending	Bend	U-shaped turn-back	90° bending	Twist		*) 2 Move bending
				Straight	Bending	
A	A	S	A	A	A	C

Examination's time:

S= More than 20 million times
A= More than 10 million times
B= More than 5 million times
C= More than 3 million times
D= More than 1 million times
E= More than 0.5 million times

*) 1 It is C when overall diameter of the cable is 20mm or more, and D when overall diameter of the cable is 30mm or more.

*) 2 When overall diameter of the cable is 20mm or less.

※The longevity of the cable inside a cable bearing is dependent on the travel distance. Please consult our Sales Department when wiring a travel distance of 5m or greater.

> Oil resistance

Insulating oil	Lubricating oil	Cutting oil I	Cutting oil II	Hydraulic oil	Grease
A	A	B	B	B	B

※A~C in the table indicate the characteristics below.

A: There is no problem on practical use at all.

B: Deterioration slightly no problem almost on practical use.

C: It is sometimes deteriorated to some degree, and not possible to use it.