

TTC-II/2501 LF

Electronic equipment robot cable

Heat resistance	★★★★★
Oil resistance	★★★★★
Noise resistance	★
Flame resistance	★★★★★
Torsion resistance	★★★★★
Flexibility resistance	★★★★★
Drag chain	★★★★★

※The characteristic is an aim.

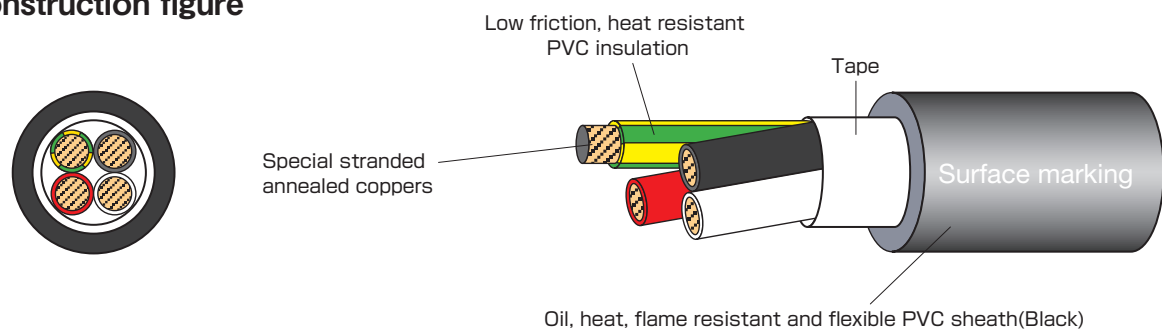
> Application

- Appropriate for drag chain wiring for high-speed moving.
- Drag chain test 10 million times or more.
- Robot cable with UL and cUL at 600V 105°C. (Category : AVLV2, AVLV8)

> Feature

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

> Construction figure



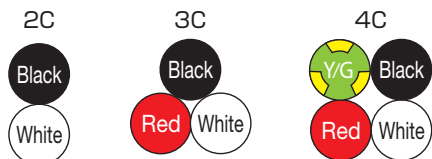
> Surface marking



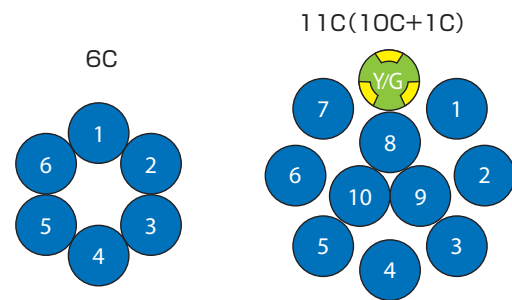
※R15 indicates "Compliant with RoHS Directive 2011/65/EU and Directive (EU) 2015/863 (10 substances)".

> Identification

・2C~4C



・6 cores or more is identified by numbering



Figures in ○ indicate white numbering on blue insulation.

※ More than six core of 14AWG and 12AWG has black insulation.



※Y/G indicates green core with yellow stripe(30~50%).

> Standard sales length

100m
(Sales by short length is available for large sizes. Please contact us which sizes are available.)

>>> Meeting standard



> Construction table

No. of cores	Conductor			Heat-resistant PVC insulation		Oil, heat, flame 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.)	
2C								0.378	9.6	67(100)		13
3C								0.398	10.1	81(120)		11
4C								0.429	10.9	97(145)		11
6C								0.496	12.6	131(195)		9.2
8C								0.571	14.5	171(255)		8.5
10C+1C	18 (0.823mm)	168/0.08 (168/3.2mil)	1.31 (52mil)	0.118	3.0	0.650	16.5	222(330)	less than 24.0	more than 50	2000	8.0
12C+1C						0.681	17.3	252(375)				7.5
16C+1C						0.748	19.0	306(455)				6.8
20C+1C						0.819	20.8	370(550)				6.3
30C+1C						0.996	25.3	554(825)				5.5
40C+1C						1.102	28.0	699(1040)				4.9
2C						0.406	10.3	81(120)				17
3C						0.425	10.8	97(145)				14
4C						0.461	11.7	118(175)				14
6C						0.535	13.6	161(240)				11
8C						0.618	15.7	215(320)				10
10C+1C	16 (1.30mm)	266/0.08 (266/3.2mil)	1.64 (65mil)	0.130	3.3	0.697	17.7	272(405)	less than 15.5	more than 50	2000	10
12C+1C						0.732	18.6	309(460)				9.6
16C+1C						0.807	20.5	386(575)				8.7
20C+1C						0.933	23.7	511(760)				8.1
30C+1C						1.079	27.4	712(1060)				7.0
2C						0.437	11.1	101(150)				23
3C						0.461	11.7	124(185)				19
4C						0.500	12.7	151(225)				19
7C	14 (2.08mm)	420/0.08 (420/3.2mil)	2.07 (81mil)	0.150	3.8	0.634	16.1	245(365)	less than 9.75	more than 50	2000	16
11C						0.760	19.3	349(520)				13
21C						1.024	26.0	662(985)				10
4C						0.555	14.1	205(305)				27
7C	12 (3.30mm)	441/0.10 (441/3.9mil)	2.7 (106mil)	0.173	4.4	0.709	18.0	333(495)	less than 5.79	more than 50	2000	21

※Core number mark "+1C" has the [Y/G] ground core of 14AWG size.

※4 or more cores of 14AWG, 12AWG size has the [Y/G] ground core of an equal size.

●Ground core

Size (AWG)	Conductor		Heat-resistant PVC insulation
	Construction (mm)	Outside diameter(mm)	Thickness (mm)
14 (2.08mm ²)	420/0.08	2.07	0.85
12 (3.30mm ²)	441/0.10	2.7	0.85

> 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 JCSO168.
- ・Allowable ampacity is calculated excluding grounding conductor.
- ・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	0.93	0.86	0.77	0.68	0.58	0.45	0.26

> Movement characteristic

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

Examination's time:

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 drag chain is dependent on the travel distance.
Please consult our Sales Department when wiring a travel distance of 5m or greater.