

600V EXT-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.

Meeting standard



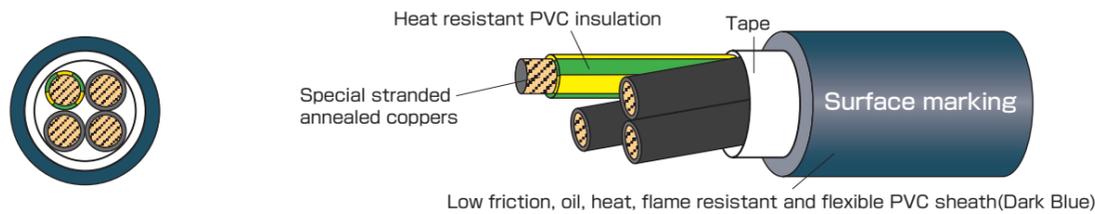
Application

- Appropriate for drag chain wiring for high-speed moving.
- Drag chain test 50 million times or more. (or more ability 100 million times)
- Robot cable with UL and cUL at 600V 105°C. (Category : AVL2, AVL8)

Feature

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

Construction figure

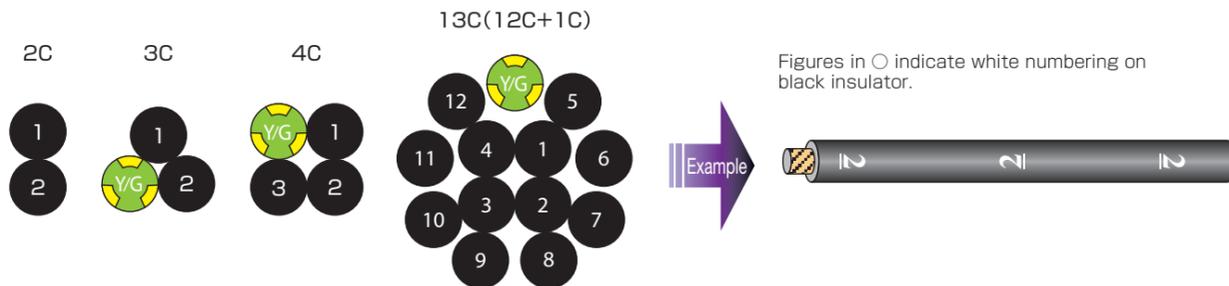


Surface marking



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

Identification



※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.)

| Certification | UL AWM | cUL AWM |
|---------------------|---------------|------------------|
| Applicable standard | UL 758 | CSA C22.2 No.210 |
| Official symbol | UL STYLE 2501 | CSA AWM II A/B |
| Voltage rating | 600V | 600V |
| Temperature rating | 105°C | 105°C |
| Conductor | UL 758 | CSA C22.2 No.210 |
| Flame rating | VW-1 | FT1 |

Construction table

| No. of cores | Conductor | | | Heat-resistant PVC insulation | | Low friction, 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 (MΩ km20°C) | Electrical strength (V/1min.) | | | | | |
| 2C | | | | | | | | 0.378 | 9.6 | 67(100) | | 13 | | | | |
| 3C | | | | | | | | 0.398 | 10.1 | 81(120) | | 13 | | | | |
| 4C | | | | | | | | 0.429 | 10.9 | 94(140) | | 11 | | | | |
| 6C+1C | 18 (0.823mm) | 168/0.08 (168/3.2mil) | 1.31 (52mil) | 0.118 | 3.0 | | | 0.547 | 13.9 | 161(240) | less than 24.0 | more than 50 | 2000 | 9.5 | | |
| 8C+1C | | | | | | | 0.618 | 15.7 | 198(295) | 8.7 | | | | | | |
| 10C+1C | | | | | | | 0.650 | 16.5 | 222(330) | | | | | | 8.0 | |
| 12C+1C | | | | | | | 0.681 | 17.3 | 245(365) | | | | | | | 7.5 |
| 20C+1C | | | | | | | 0.819 | 20.8 | 373(555) | | | | | | | |
| 30C+1C | | 0.996 | 25.3 | 544(810) | 5.5 | | | | | | | | | | | |
| 2C | | | | | | | | 0.406 | 10.3 | 81(120) | | 17 | | | | |
| 3C | | | | | | | | 0.425 | 10.8 | 97(145) | | 17 | | | | |
| 4C | | | | | | | | 0.461 | 11.7 | 118(175) | | 15 | | | | |
| 6C+1C | 16 (1.30mm) | 266/0.08 (266/3.2mil) | 1.64 (65mil) | 0.130 | | 3.3 | | | 0.583 | 14.8 | 192(285) | less than 15.5 | more than 50 | 2000 | 12 | |
| 10C+1C | | | | | | | 0.697 | 17.7 | 269(400) | 10 | | | | | | |
| 12C+1C | | | | | | | 0.732 | 18.6 | 309(460) | | 9.6 | | | | | |
| 20C+1C | | | | | | | 0.933 | 23.7 | 497(740) | | | | | | | 8.1 |
| 30C+1C | | | | | | | 1.079 | 27.4 | 692(1030) | | | | | | | |
| 40C+1C | | 1.197 | 30.4 | 874(1300) | 6.3 | | | | | | | | | | | |
| 2C | | | | | | | | 0.437 | 11.1 | 97(145) | | | 23 | | | |
| 3C | | | | | | | | 0.461 | 11.7 | 121(180) | | 23 | | | | |
| 4C | | | | | | | | 0.500 | 12.7 | 148(220) | | 20 | | | | |
| 7C | 14 (2.08mm) | 420/0.08 (420/3.2mil) | 2.07 (81mil) | 0.150 | | 3.8 | | | 0.634 | 16.1 | 242(360) | less than 9.75 | more than 50 | 2000 | 16 | |
| 11C | | | | | | | 0.760 | 19.3 | 343(510) | 13 | | | | | | |
| 13C | | | | | | | 0.795 | 20.2 | 393(585) | | 12 | | | | | |
| 21C | | | | | | | 1.024 | 26.0 | 652(970) | | | | | | | 10 |

Ground core

| Size (AWG) | Conductor | | Heat-resistant PVC insulation | |
|------------|------------------------|-----------------------|-------------------------------|-----------------------|
| | Construction (Line/mm) | Outside diameter (mm) | Thickness (mm) | Outside diameter (mm) |
| 14 | 420/0.08 | 2.07 | 0.85 | 3.8 |

- ※Core number mark "+1C" has the [Y/G] ground core of 14AWG size.
- ※3 or 4 and 14AWG size has the [Y/G] ground core of an equal size.

※The test of 2000V/5 minute besides the withstand voltage test on above mentioned UL standard and the CSA standard is applied.

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.
- 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 Rotary bending | Bending | U-shaped turn-back | 90° bending | Twist | | *)2 Move bending |
|-----------------------|---------|--------------------|-------------|----------|---------|---------------------|
| | | | | Straight | Bending | |
| A | A | SS | A | A | A | C |

Examination's time:
SS= More than 50 million times B= More than 5 million times
S= More than 20 million times C= More than 3 million times
A= More than 10 million times D= More than 1 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.

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.