

600V EXT-X/2501 LF

Electronic equipment robot cable

- Heat resistance ★★★★★
 - Oil resistance ★★★★★
 - Noise resistance ★
 - Flame resistance ★★★★★
 - Torsion resistance ★★★★★
 - Flexibility resistance ★★★★★
 - Cable carrier ★★★★★★
- ※The characteristic is an aim.

>>> Meeting standard



| 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 | | | | | | 0.484 | 12.3 | 131(195) | | | | 31 |
| 3C | 12 | 441/0.10 | 2.7 | 0.173 | 4.4 | 0.512 | 13.0 | 165(245) | less than 5.79 | more than 50 | 2000 | 31 |
| 4C | (3.30mil) | (441/3.9mil) | (106mil) | | | 0.555 | 14.1 | 205(305) | | | | |
| 7C | | | | | | 0.709 | 18.0 | 336(500) | | | | 21 |
| 3C | 10 | 693/0.10 | 3.3 | 0.197 | 5.0 | 0.567 | 14.4 | 222(330) | less than 3.50 | more than 50 | 2000 | 43 |
| 4C | (5.26mil) | (693/3.9mil) | (130mil) | | | 0.618 | 15.7 | 279(415) | | | | |
| 3C | 8 | 350/0.18 | 4.3 | 0.303 | 7.7 | 0.795 | 20.2 | 403(600) | less than 2.33 | more than 50 | 2000 | 58 |
| 4C | (8.36mil) | (350/7.1mil) | (169mil) | | | 0.921 | 23.4 | 548(815) | | | | |
| 3C | 6 | 588/0.18 | 5.7 | 0.358 | 9.1 | 0.961 | 24.4 | 625(930) | less than 1.41 | more than 50 | 2000 | 79 |
| 4C | (13.3mil) | (588/7.1mil) | (224mil) | | | 1.055 | 26.8 | 793(1180) | | | | |

※3 cores or more 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 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 | |
| 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 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.

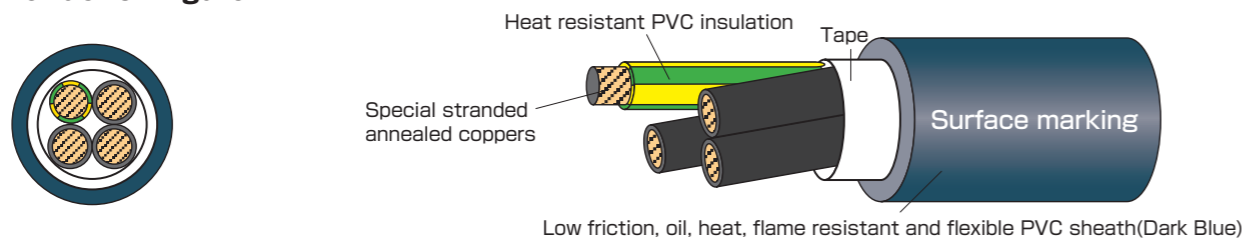
> Application

- Appropriate for cable chain wiring for high-speed moving.
- Cable chain test 50 million times or more. (or more ability 100 million times)
- Robot cable with UL and cUL at 600V 105°C. (Category : AVLV2, AVLV8)

> Feature

- Fine wire 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



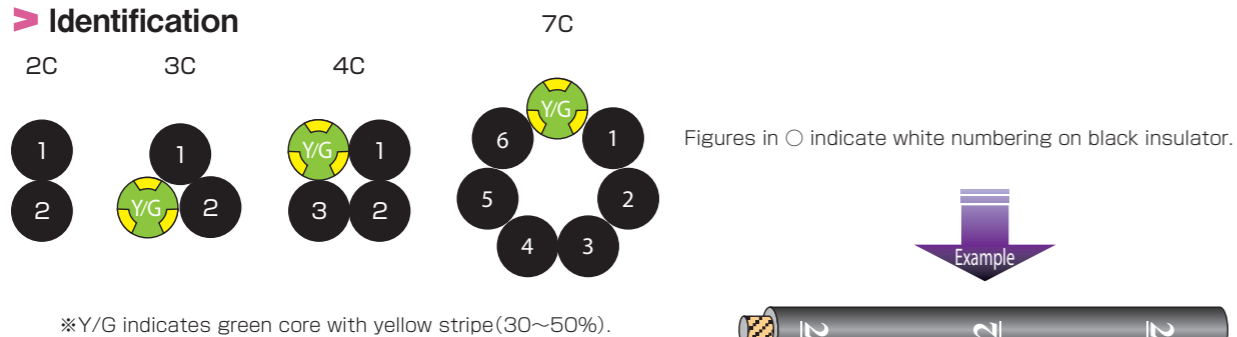
※10AWG or larger : annealed copper.

> 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.)