

Electric Wire and cable business

OKI Robot Cable Series

Highly bendable robot cable

ORP cable series

Fixed	Torsion
Swinging bending	Sliding bending

UL 758 Style 2464 80°C 300 V

Our unique special elastomer is used to insulate the core wire. Suitable for all robot moving parts.



Features

- Available in a wide range of types (sliding, swinging, and twisting) for all robot movements.
- Excellent flexibility, which makes routing easier.
- Quick delivery available for your desired volume starting from 10 m (1 m units).

Specifications

Material/configuration

Conductor	Tin-plated, soft copper, twisting cable
Insulator	Special elastomer
Insulator identification	By (Table 1)
Shielding	Tin-plated, soft copper cable; braided
Sheath material (sheath color)	Oil-proof PVC (black matte)

Usage environment

Application	Fixed and moving parts between equipment and within equipment indoors
Operation temperature range	-10 to 80°C

Line-up

Shielding	Twisted pair type
Without shielding	Conductor size: 0.2 to 0.5 sq. mm Number of pairs: 1 to 20
With shielding	Conductor size: 0.2 to 0.5 sq. mm Number of pairs: 1 to 20

Applicable standards

UL758 Style 2464 (Rating: 80°C, 300 V)

Build-to-order manufacturing of UL listing (CL 3) standard-compliant products is available.

Sheath labeling

ORP □ SQ △△ OKI ELECTRIC CABLE AWM 2464 80C 300V VW-1

□ : Conductor cross-sectional area (mm²) 0.2/0.3/0.5 △△ : Without shielding: No indication/With shielding: -SB

Special characteristics

Electrical performance

Conductor cross-sectional area	Conductor resistance Ω /km (20°C)	Insulator resistance MΩ -km (20°C)	Withstand voltage V·1 minute interval
0.2 sq. mm (AWG25)	105 or less	100 or more	AC 2000
0.3 sq. mm (AWG23)	72 or less	100 or more	AC 2000
0.5 sq. mm (AWG21)	44 or less	100 or more	AC 2000

Mobility

Mode	Performance	Test conditions
Sliding bending	100 million times or more	Bend radius R: about 6 times the outer diameter of the cable Sliding speed: 70 times per minute Movement distance: 350 mm
Swinging bending	20 million times or more	Bend radius R: about 8 times the outer diameter of the cable Bend angle: ±90° Bend speed: 40 times per minute Load: 4.9 N Count: one round trip is one count
Torsion	20 million times or more	Torsion angle: ±180° Torsion speed: 70 times per minute Interval X: 500 mm

Note. Under Oki test conditions and methods. For details, see page 3.
These values are for reference only and are not guaranteed values.

Line-up

Display of product name

- Without shielding: ORP (1) SQ × (2) P (2464)
- With shielding: ORP (1) SQ × (2) P (SB) (2464)

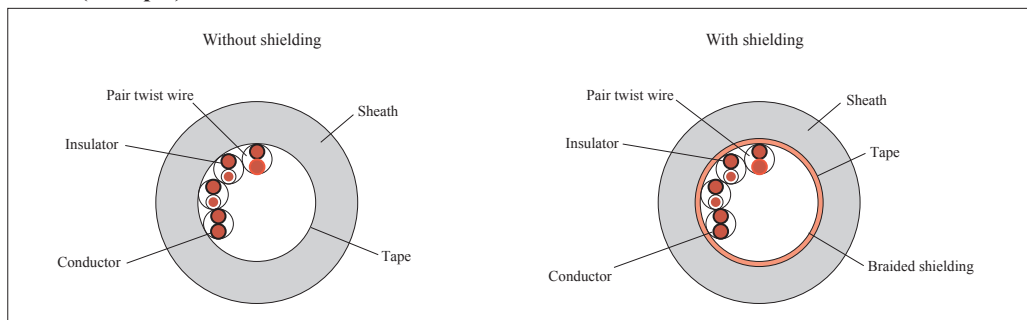
(1): Conductor sq. mm (mm²) (2): Number of pairs
(See the chart below.)

Construction

Conductor			Core wire diameter mm	(2) Number of pairs	Without shielding		With shielding		Permitted electric current* A (30°C)
(1) sq. mm	AWG size	Configuration			Outer diameter mm	Approximate weight kg/km	Outer diameter mm	Approximate weight kg/km	
0.2	25	40/0.08	1.0	1	3.9	19	4.4	26	4.0
				2	5.7	34	6.2	47	3.1
				3	6.2	43	6.7	56	2.7
				4	6.4	47	6.9	61	2.4
				5	7.2	59	7.7	77	2.2
				6	7.7	69	8.2	84	2.1
				8	8.8	90	9.3	110	1.9
				10	10.5	120	11.0	145	1.7
				15	11.0	145	11.5	170	1.5
				20	12.0	180	12.5	210	1.3
0.3	23	60/0.08	1.25	1	4.4	24	4.9	34	5.5
				2	6.6	45	7.1	60	4.3
				3	7.1	57	7.6	73	3.7
				4	7.9	71	8.4	89	3.3
				5	8.5	82	9.0	105	3.0
				6	9.3	98	9.8	125	2.8
				8	10.7	125	11.2	150	2.5
				10	12.2	155	12.7	185	2.4
				15	13.6	210	14.1	250	2.0
				20	15.2	260	15.7	300	1.8
0.5	21	100/0.08	1.5	1	5.0	32	5.5	46	7.8
				2	7.9	62	8.4	80	6.0
				3	8.5	84	9.0	110	5.2
				4	9.5	105	10.0	125	4.7
				5	10.6	125	11.1	150	4.3
				6	11.2	145	11.7	175	4.0
				8	13.4	195	13.9	230	3.6
				10	15.8	260	16.3	300	3.4
				15	16.7	320	17.2	360	2.9
				20	19.1	420	19.6	460	2.6

*The permitted electric current value is calculated with a straight installation in air. It is not a guaranteed value.

Cross-section view (example)



(Table 1) Wire-pair configuration table

Corresponding no.	Insulation body color		Corresponding no.	Insulation body color	
	No.1 core wire	No.2 core wire		No.1 core wire	No.2 core wire
1	Blue	White	11	Blue	Black
2	Yellow	Brown	12	Yellow	Gray
3	Green	Black	13	Green	Orange
4	Red	Gray	14	Red	White
5	Purple	Orange	15	Purple	Brown
6	Blue	Brown	16	Blue	Gray
7	Yellow	Black	17	Yellow	Orange
8	Green	Gray	18	Green	White
9	Red	Orange	19	Red	Brown
10	Purple	White	20	Purple	Black