

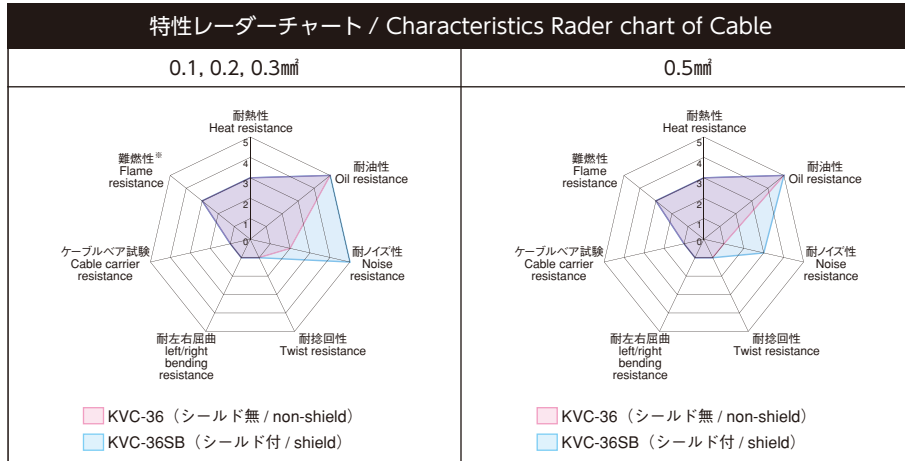
KVC-36 KVC-36SB

FO プレン

クラモ電子機器配線用ケーブル

KURAMO Electronic Equipment Connection Cable

UL AWM 2936/2576/2937/2935



※サイズによって難燃レベルが異なります。テクニカルデータの“難燃性”をご参照ください。
Flame resistance level of cable varies according to size. Refer to “Falame resistance” in [Technical data] given below.

用 途 / Use

- 工作機械の制御回路への配線
Wiring to machine tool's control circuits
- 油環境下での配線
Wiring in oil environment
- 耐ノイズ性要求箇所への配線 (シールド付タイプ: KVC-36SB)
Wiring to the portion requiring noise resistance (Shielded type: KVC-36SB)

特 長 / Features

- 耐ノイズ性 (シールド付タイプ: KVC-36SB)
Noise resistance (Shielded type: KVC-36SB)
- 柔軟性
Flexible
- 耐油性
Oil resistance
- UL・cUL 規格ケーブル
Cables designed to UL, cUL standards

認 証 / Approvals



使用温度範囲 / Temperature range

- 固定時 / Fixed: -40 ~ 80°C ※
- ※ 0°C以下でご利用の際は、衝撃・屈曲・振動等の外的力が加わらないようにしてください。
If you use it in temperature less than 0°C, you should be careful about shocks, flexure, vibration and so on.

曲げ半径 / Bending radius

- 固定時: ケーブル外径の4倍以上推奨
Fixed: 4 times or more of the cable diameter

RoHS 指令 / RoHS Directive

- 適合 / Conformity

テクニカルデータ / Technical data

| ケーブルタイプ / Cable designation | UL, cUL | | | |
|-----------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 適用サイズ / Adaptation size | 2, 3 × 0.1 ~ 0.3mm | 4 ~ 64 × 0.1 ~ 0.3mm | 2 ~ 4 × 0.5mm | 5 ~ 60 × 0.5mm |
| 定格電圧 / Voltage rating | 150V | | 300V | |
| 定格温度 / Temperature rating | 80°C | | | |
| 試験電圧 / Test voltage | AC1500V・1min | | AC2000V・1min | |
| 難燃性 / Flame resistance | FT2 | | VW-1, FT1 | |
| 適用規格 / Adaptation standard | UL AWM Style 2936 CSA C22.2 No.210 | UL AWM Style 2576 CSA C22.2 No.210 | UL AWM Style 2937 CSA C22.2 No.210 | UL AWM Style 2935 CSA C22.2 No.210 |

▲ KVC-36, KVC-36SB は電気用品安全法が適用されませんので、信号及び通信回路などの弱電流回路にご使用下さい。
KVC-36 and KVC-36SB are excluded to “Electrical Appliance and Material Safety Law”, for this reason, those cable should be used for cable connection to signal and communication circuits and other weak current elctrical circuits JAPAN.

< 0.1, 0.2, 0.3mm >

■ 構造概略 / Construction

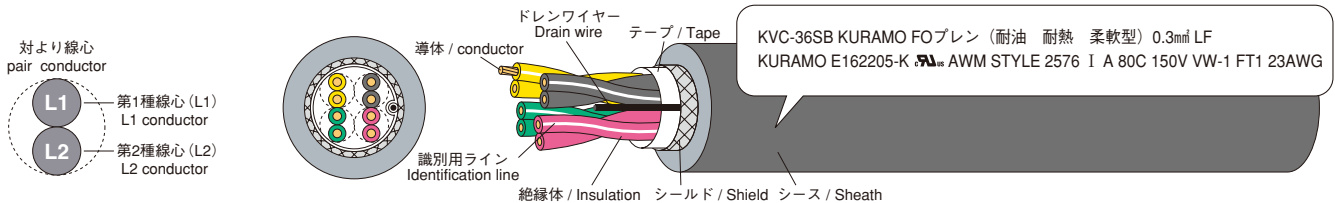
| 項目 / Item | 品名 / Code | | KVC-36 | | KVC-36SB | |
|---------------------------|--|--|--|---|--|---|
| | | | 0.1mm, 0.2mm | 0.3mm | 0.1mm, 0.2mm | 0.3mm |
| 導体 / Conductor | | | すずめっき軟銅より線 Strands of wire composed of tin-coated annealed copper | 軟銅集線 Strands of wire composed of annealed copper | すずめっき軟銅より線 Strands of wire composed of tin-coated annealed copper | 軟銅集線 Strands of wire composed of annealed copper |
| 絶縁体 / Insulation | 105°C耐熱性ビニル混合物 / 105°C heat resistant PVC | | | | | |
| 対より / Conductor stranding | 線心を対より / Twisted pair | | | | | |
| より合わせ / Pair strand | 対より線心を円形により合わせ / Strands of twisted pair in circular form | | | | | |
| テープ / Tape | 4心(2P)以上はテープを重ね巻き Tape wrap around cores if conductors are 4 (2P) or more | | | テープ重ね巻き / Tape wrap around cores | | |
| シールド / Shield | - | | | すずめっき軟銅線編組 / Tin coated annealed copper braid | | |
| シース / Sheath | 耐油・耐熱性ビニル混合物 (黒色) / Oil and heat resistant PVC (black) | | | | | |

■ 線心識別 / Conductors identification

| 対番号 / Pair No. | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | |
|--|-----------------------|-----------------------|------------------|--------------------|--------------------|---------------------|---------------------|---------------------|--------------------|---------------------|-------------------|--------------------|-------------------|--------------------|---------------------|----------------------|---------------------|----------------------|---------------------------|----------------------------|-------------------|-------------------|
| 線心番号 / Conductor No. | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| 絶縁体色 / 識別ライン色 Insulation Color Identification line Color | 黒 Black | 黒/白 Black White | 赤 Red | 赤/白 Red White | 緑 Green | 緑/白 Green White | 黄 Yellow | 黄/白 Yellow White | 茶 Brown | 茶/白 Brown White | 青 Blue | 青/白 Blue White | 灰 Gray | 灰/白 Gray White | 橙 Orange | 橙/白 Orange White | 紫 Purple | 紫/白 Purple White | 若草 Light Green | 若草/白 Light Green White | 桃 Pink | 桃/白 Pink White |
| 対番号 / Pair No. | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | | 18 | | 19 | | 20 | | 21 | | 22 | |
| 線心番号 / Conductor No. | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| 絶縁体色 / 識別ライン色 Insulation Color Identification line Color | 空 Sky Blue | 空/白 Sky Blue White | 白 White | 白/黒 White Black | 緑/黒 Green Black | 緑/赤 Green Red | 黄/黒 Yellow Black | 黄/赤 Yellow Red | 茶/黒 Brown Black | 茶/赤 Brown Red | 青/黒 Blue Black | 青/赤 Blue Red | 灰/黒 Gray Black | 灰/赤 Gray Red | 橙/黒 Orange Black | 橙/赤 Orange Red | 紫/黒 Purple Black | 紫/赤 Purple Red | 若草/黒 Light Green Black | 若草/赤 Light Green Red | 桃/黒 Pink Black | 桃/赤 Pink Red |
| 対番号 / Pair No. | 23 | | 24 | | 25 | | 26 | | 27 | | 28 | | 29 | | 30 | | 31 | | 32 | | | |
| 線心番号 / Conductor No. | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| 絶縁体色 / 識別ライン色 Insulation Color Identification line Color | 空/黒 Sky Blue Black | 空/赤 Sky Blue Red | 赤/黒 Red Black | 赤/緑 Red Green | 黒/緑 Black Green | 黒/黄 Black Yellow | 白/緑 White Green | 白/黄 White Yellow | 茶/緑 Brown Green | 茶/黄 Brown Yellow | 青/緑 Blue Green | 青/黄 Blue Yellow | 灰/緑 Gray Green | 灰/黄 Gray Yellow | 橙/緑 Orange Green | 橙/黄 Orange Yellow | 紫/緑 Purple Green | 紫/黄 Purple Yellow | 若草/緑 Light Green Green | 若草/黄 Light Green Yellow | | |

KVC-36
KVC-36SB

■ 例示 / Example : KVC-36SB 8 (4P) × 0.3mm² (23AWG)



< 0.5mm >

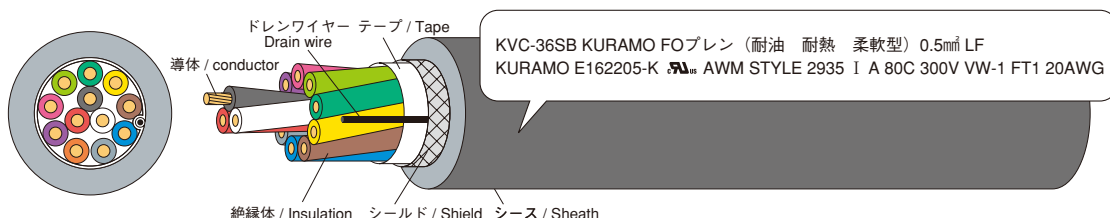
■ 構造概略 / Construction

| 項目 / Item | 品名 / Code | KVC-36 | KVC-36SB |
|------------------|-----------|---|---|
| 導体 / Conductor | | 軟銅集線 / Strands of wire composed of annealed copper | |
| 絶縁体 / Insulation | | 105°C耐熱性ビニル混合物 / 105°C heat resistant PVC | |
| より合わせ / Assembly | | 線心を円形により合わせ / Circular | |
| テープ / Tape | | 5心以上はテープを重ね巻き Tape wrap around cores if conductors are 5 or more | テープ重ね巻き / Tape wrap around cores |
| シールド / Shield | | - | すずめっき軟銅線編組 / Tin coated annealed copper braid |
| シース / Sheath | | 耐油・耐熱性ビニル混合物 (黒色) / Oil and heat resistant PVC (black) | |

■ 線心識別 / Conductors identification

| 線心数 / No. of conductors | 線心識別方式 / Conductors identification |
|-------------------------|--|
| 12心以下 / 12 or less | 絶縁体着色方式 Identification by color (黒、白、赤、緑、黄、茶、青、灰、橙、紫、桃、若草の順 in order of black, white, red, green, yellow, brown, blue, gray, orange, purple, pink and light green) |
| 13心以上 / 13 or more | ナンバリング No. 方式 Identification by number (白色絶縁体表面に 1、2、3、4・・・を連続表示 marked on white insulation surface in order of 1, 2, 3, 4 and so on) |

■ 例示 / Example : KVC-36SB 12 × 0.5mm² (20AWG)



ULus EAC
UL AWM
NFPA70
NFPA79
cUL/GSA
CE
CCC
TR-CU

■ 構造表 / Construction table

| 導体 / Conductor | | 絶縁 / Insulation | | 在庫 / Stocks | | シールド無し / Non-shield | | シールド付き / Shield | | 電気特性 / Electrical characteristics | | |
|--|---|-------------------------------------|-------------------------------|---------------------|-----------------|---|-----------------------------------|---|-----------------------------------|--------------------------------------|--|---|
| 公称断面積 Nominal cross sectional area | 外径 (約mm) Diameter (Approx.mm) 構成 (Construction) | 外径 (約mm) Diameter (Approx.mm) | 心数 Number of conductors | シールド無 Non-shield | シールド付 Shield | シース外径 (約mm) Sheath diameter (Approx.mm) | 概算重量 Approx.weight (kg/ km) | シース外径 (約mm) Sheath diameter (Approx.mm) | 概算重量 Approx.weight (kg/ km) | 許容電流 Allowable ampacity (A) | 導体抵抗 Conductor resistance 20°C (Ω / km) | 絶縁抵抗 Insulation resistance 20°C (M Ω km) |
| 0.1mm ² <28AWG> | 0.38 <7/0.127> | 0.88 | 2 (1P) | ○ | ○ | 2.8 | 8 | 3.6 | 18 | 3 | 231 以下 (Max 231) | 50 以上 (Min 50) |
| | | | 3 | ○ | ○ | 2.9 | 10 | 3.7 | 20 | 3 | | |
| | | | 4 (2P) | ○ | ○ | 4.7 | 21 | 5.3 | 35 | 3 | | |
| | | | 5 (2P+1) | | | 5.0 | 24 | 5.5 | 35 | 3 | | |
| | | | 6 (3P) | ○ | ○ | 5.1 | 25 | 5.6 | 40 | 2 | | |
| | | | 7 (3P+1) | | | 5.2 | 28 | 5.7 | 40 | 2 | | |
| | | | 8 (4P) | ○ | ○ | 5.5 | 29 | 5.8 | 45 | 2 | | |
| | | | 10 (5P) | | ○ | 5.9 | 35 | 6.2 | 50 | 2 | | |
| | | | 12 (6P) | ○ | | 6.3 | 40 | 6.7 | 55 | 2 | | |
| | | | 14 (7P) | | | 6.5 | 45 | 7.0 | 60 | 2 | | |
| | | | 15 (7P+1) | | | 6.6 | 46 | 7.1 | 65 | 2 | | |
| | | | 16 (8P) | | ○ | 6.9 | 50 | 7.4 | 65 | 2 | | |
| | | | 20 (10P) | ○ | | 7.8 | 60 | 8.1 | 75 | 2 | | |
| | | | 24 (12P) | | | 8.2 | 70 | 8.7 | 90 | 1 | | |
| | | | 30 (15P) | | | 8.5 | 75 | 9.3 | 105 | 1 | | |
| | | | 36 (18P) | | | 9.6 | 90 | 10.0 | 120 | 1 | | |
| | | | 40 (20P) | | | 9.8 | 95 | 10.5 | 130 | 1 | | |
| 50 (25P) | | | 11.0 | 125 | 11.5 | 150 | 1 | | | | | |
| 60 (30P) | | | 11.5 | 140 | 12.5 | 175 | 1 | | | | | |
| 64 (32P) | | | 12.0 | 155 | 12.5 | 180 | 1 | | | | | |
| 0.2mm ² <25AWG> | 0.54 <7/0.18> | 1.05 | 2 (1P) | ○ | ○ | 3.1 | 13 | 3.9 | 21 | 5 | 113 以下 (Max 113) | 50 以上 (Min 50) |
| | | | 3 | ○ | ○ | 3.3 | 16 | 4.1 | 24 | 4 | | |
| | | | 4 (2P) | ○ | ○ | 5.2 | 27 | 5.7 | 40 | 4 | | |
| | | | 5 (2P+1) | ○ | ○ | 5.3 | 29 | 5.8 | 45 | 4 | | |
| | | | 6 (3P) | ○ | ○ | 5.4 | 35 | 5.9 | 45 | 4 | | |
| | | | 7 (3P+1) | ○ | | 5.5 | 35 | 6.0 | 50 | 3 | | |
| | | | 8 (4P) | ○ | ○ | 5.9 | 40 | 6.4 | 55 | 3 | | |
| | | | 10 (5P) | ○ | ○ | 6.3 | 50 | 6.8 | 65 | 3 | | |
| | | | 12 (6P) | ○ | ○ | 7.0 | 55 | 7.5 | 75 | 3 | | |
| | | | 14 (7P) | ○ | ○ | 7.2 | 60 | 7.7 | 80 | 3 | | |
| | | | 15 (7P+1) | | | 7.3 | 65 | 7.8 | 80 | 3 | | |
| | | | 16 (8P) | ○ | ○ | 7.7 | 70 | 8.2 | 90 | 3 | | |
| | | | 20 (10P) | ○ | ○ | 8.5 | 85 | 9.0 | 105 | 2 | | |
| | | | 24 (12P) | ○ | ○ | 8.9 | 95 | 9.1 | 115 | 2 | | |
| | | | 30 (15P) | ○ | ○ | 9.7 | 115 | 10.0 | 140 | 2 | | |
| | | | 36 (18P) | ○ | ○ | 10.5 | 135 | 11.0 | 160 | 2 | | |
| | | | 40 (20P) | ○ | ○ | 11.0 | 145 | 11.5 | 170 | 2 | | |
| 50 (25P) | ○ | ○ | 12.5 | 175 | 12.5 | 205 | 2 | | | | | |
| 60 (30P) | ○ | | 13.5 | 205 | 14.0 | 245 | 2 | | | | | |
| 64 (32P) | ○ | ○ | 13.5 | 215 | 14.0 | 255 | 2 | | | | | |
| 0.3mm ² <23AWG> | 0.7 <12/0.18> | 1.3 | 2 (1P) | ○ | ○ | 3.7 | 20 | 4.6 | 28 | 7 | 62.3 以下 (Max 62.3) | 50 以上 (Min 50) |
| | | | 3 | ○ | ○ | 4.0 | 25 | 4.8 | 35 | 6 | | |
| | | | 4 (2P) | ○ | ○ | 5.7 | 35 | 6.2 | 50 | 6 | | |
| | | | 5 (2P+1) | ○ | ○ | 5.9 | 40 | 6.4 | 55 | 5 | | |
| | | | 6 (3P) | ○ | ○ | 6.6 | 50 | 7.1 | 70 | 5 | | |
| | | | 7 (3P+1) | | | 6.7 | 55 | 7.2 | 70 | 5 | | |
| | | | 8 (4P) | ○ | ○ | 7.3 | 65 | 7.8 | 85 | 5 | | |
| | | | 10 (5P) | ○ | ○ | 8.0 | 75 | 8.5 | 100 | 4 | | |
| | | | 12 (6P) | ○ | ○ | 8.8 | 90 | 9.3 | 115 | 4 | | |
| | | | 14 (7P) | ○ | ○ | 8.9 | 95 | 9.4 | 120 | 4 | | |
| | | | 15 (7P+1) | | | 9.0 | 100 | 9.5 | 125 | 4 | | |
| | | | 16 (8P) | ○ | ○ | 9.5 | 110 | 10.0 | 135 | 4 | | |
| | | | 20 (10P) | ○ | ○ | 11.0 | 140 | 11.5 | 170 | 4 | | |
| | | | 24 (12P) | ○ | ○ | 11.5 | 155 | 12.0 | 185 | 3 | | |
| | | | 30 (15P) | ○ | ○ | 12.5 | 185 | 13.0 | 215 | 3 | | |
| | | | 36 (18P) | ○ | ○ | 13.5 | 220 | 14.0 | 255 | 3 | | |
| | | | 40 (20P) | ○ | ○ | 14.0 | 235 | 14.5 | 275 | 3 | | |
| 50 (25P) | ○ | ○ | 15.5 | 295 | 15.5 | 335 | 3 | | | | | |
| 60 (30P) | ○ | ○ | 16.5 | 340 | 17.0 | 385 | 2 | | | | | |
| 64 (32P) | ○ | | 17.0 | 360 | 17.5 | 405 | 2 | | | | | |

| 導体 / Conductor | | 絶縁 / Insulation | | 在庫 / Stocks | | シールド無し / Non-shield | | シールド付き / Shield | | 電気特性 / Electrical characteristics | | |
|---------------------------------------|---|----------------------------------|----------------------------|---------------------|-----------------|--|--------------------------------|--|--------------------------------|-----------------------------------|---|--|
| 公称断面積 Nominal cross sectional area | 外径 (約mm) Diameter (Approx.mm) 構成 (Construction) | 外径 (約mm) Diameter (Approx.mm) | 心数 Number of conductors | シールド無 Non-shield | シールド付 Shield | シース外径 (約mm) Sheath diameter (Approx.mm) | 概算重量 Approx.weight (kg/ km) | シース外径 (約mm) Sheath diameter (Approx.mm) | 概算重量 Approx.weight (kg/ km) | 許容電流 Allowable ampacity (A) | 導体抵抗 Conductor resistance 20°C (Ω /km) | 絶縁抵抗 Insulation resistance 20°C (M Ωkm) |
| 0.5mm ² <20AWG> | 0.95 <22/0.18> | 1.65 | 2 | ○ | ○ | 4.8 | 28 | 5.6 | 45 | 10 | 34.3 以下 (Max 34.3) | 50 以上 (Min 50) |
| | | | 3 | ○ | ○ | 5.1 | 40 | 5.9 | 50 | 9 | | |
| | | | 4 | ○ | ○ | 5.5 | 45 | 6.3 | 60 | 8 | | |
| | | | 5 | ○ | ○ | 6.5 | 65 | 7.0 | 80 | 7 | | |
| | | | 6 | ○ | ○ | 7.2 | 75 | 7.7 | 95 | 7 | | |
| | | | 7 | ○ | ○ | 7.2 | 80 | 7.7 | 100 | 7 | | |
| | | | 8 | ○ | ○ | 7.7 | 90 | 8.2 | 115 | 6 | | |
| | | | 10 | ○ | ○ | 8.8 | 115 | 9.3 | 140 | 6 | | |
| | | | 12 | ○ | ○ | 9.1 | 125 | 9.6 | 150 | 6 | | |
| | | | 14 | ○ | ○ | 9.5 | 140 | 10.0 | 165 | 5 | | |
| | | | 15 | ○ | ○ | 9.7 | 150 | 10.5 | 175 | 5 | | |
| | | | 16 | ○ | ○ | 10.0 | 160 | 10.5 | 190 | 5 | | |
| | | | 20 | ○ | ○ | 11.0 | 195 | 12.0 | 225 | 5 | | |
| | | | 24 | ○ | ○ | 12.5 | 235 | 11.5 | 265 | 5 | | |
| | | | 25 | | | 12.5 | 240 | 13.0 | 275 | 4 | | |
| | | | 26 | | | 12.5 | 250 | 13.0 | 280 | 4 | | |
| | | | 30 | ○ | ○ | 13.0 | 280 | 13.5 | 310 | 4 | | |
| | | | 40 | ○ | ○ | 15.0 | 365 | 15.5 | 400 | 4 | | |
| 50 | ○ | ○ | 16.5 | 445 | 17.0 | 490 | 4 | | | | | |
| 60 | ○ | ○ | 17.5 | 530 | 18.0 | 580 | 3 | | | | | |

○は在庫品です。/ ○ : Stocks

KVC-36
KVC-36SB

■許容電流について / Allowable ampacity

- 許容電流値は周囲温度 30°C、空中 1 条敷設時の計算値を示し、保証値ではありません。
Allowable ampacity (A) for cable is based on calculation under aerial one-cable and temperature at 30°C , not representing a guaranteed value.
- 周囲温度 30°C 以上の場合は、次の電流減少係数を表の値に乗じて下さい。
Allowable ampacity cable at ambient temperature above 30°C is to be determined by multiplying the current value by the appropriate current reduction factor in the following table1.
- 許容電流の値は、JCS0168 により算出した値であって、保証値ではありません。
The allowable ampacity for cable are the calculated by JCS0168, but not guaranteed.

JCS0168…日本電線工業会規格 “33kV 以下電力ケーブルの許容電流計算”
“Calculation of the current rating of power cables for rated voltage up to and including 33kV”

■表 電流減少係数 / Table1 Current reduction factors

| 周囲温度 / Ambient temperature (°C) | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
|------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 電流減少係数 / Current reduction factors | 1.00 | 0.97 | 0.93 | 0.89 | 0.86 | 0.82 | 0.77 | 0.73 | 0.68 | 0.63 | 0.58 | 0.52 | 0.45 | 0.36 | 0.26 |

<P>E
UL AWM
NFPA70
NFPA79
cUL/CSA
CE
CCC
TR-CU