



MULTI-STANDARD SC 2.1

USA: UL-listed (MTW), Canada: CSA (TEW), Europe: <HAR> H07V-K (depending on cross s.), tin-coated strands



Benefits

- For use in the most important global markets
- Reduction in technical documentation
- Easier storage; increases the cost-effectiveness of the production process
- Works with "Conductor end sleeves XL, insulated"

Application range

- Factory wiring
- Field wiring
- Internal wiring of devices
- Control cabinet wiring

Product features

- Flame-retardant according IEC 60332-1-2
- Flame-retardant according to UL VW1/CSA FT1
- Oil-resistant

Norm references / Approvals

- Multi-standard cables have conductor strands with nominal sizes in mm² or AWG/kcmil. The master size is mentioned in the table below, while the equivalent size of the other system can be found in the Appendix T 16 of this catalogue. For this related secondary size the cross-section of the conductor mostly works out to be greater than the specified nominal value.
- Cable type certifications: <HAR> H07V-K acc. EN 50525-2-31, UL AWM style 1015 (by UL acc. UL standard UL 758, U.I. Lapp GmbH's UL AWM file number: E63634), (UL) MTW (by UL acc. UL standard UL 1063, U.I. Lapp GmbH's (UL) MTW file number: E198296), CSA TEW (by CSA acc. CSA standard CSA C22.2 No. 127, CSA class 5835-01)

Product Make-up

- Fine-wire strand made of tinned-copper wires
- Special PVC-based core insulation

Info

- The all-rounder for many markets

Technical data

| | |
|--|--|
| | Classification ETIM 5.0 Class-ID: EC000993 ETIM 5.0 Class-Description: Single core cable |
| | Conductor stranding Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5 |
| | Minimum bending radius OD ≤ 8 mm: 4 x OD* / 2 x OD**; 8 < OD ≤ 12 mm: 5 x OD* / 3 x OD**; OD > 12 mm: 6 x OD* / 4 x OD** |
| | Nominal voltage HAR / IEC: U ₀ /U: 450/750 V; UL (AWM): U: 600 V; UL (MTW): U: 600 V; CSA (TEW): U: 600 V |
| | Temperature range Fixed installation: HAR/IEC: -40°C to +70°C; UL (AWM): -40°C to +105°C; UL (MTW): -40°C to +90°C; CSA (TEW): -40°C to +105°C |

| Conductor cross-section (mm ²) | Outer diameter (mm) | m/ring | m/box | Copper index (kg/km) | Weight (kg/km) | brown | black |
|--|---------------------|--------|-------|----------------------|----------------|----------|----------|
| 0.5 | 2.7 | 100 | | 4.8 | 11 | 4160103 | 4160101 |
| 0.5 | 2.7 | | 3000 | 4.8 | 11 | | 4160101K |
| 0.75 | 2.9 | 100 | | 7.2 | 14 | 4160203 | 4160201 |
| 0.75 | 2.9 | | 2500 | 7.2 | 14 | 4160203K | 4160201K |
| 1 | 3.1 | 100 | | 9.6 | 16 | 4160303 | 4160301 |
| 1 | 3.1 | | 2000 | 9.6 | 16 | 4160303K | 4160301K |
| 1.5 | 3.4 | 100 | | 14.4 | 22 | 4160403 | 4160401 |
| 1.5 | 3.4 | | 1500 | 14.4 | 22 | 4160403K | 4160401K |
| 2.5 | 4 | 100 | | 24 | 37 | 4160503 | 4160501 |
| 2.5 | 4 | | 900 | 24 | 37 | | 4160501K |
| 4 | 4.6 | 100 | | 38.4 | 49 | 4160603 | 4160601 |
| 4 | 4.6 | | 600 | 38.4 | 49 | | 4160601K |
| 6 | 5.1 | 100 | | 57.6 | 67 | 4160703 | 4160701 |
| 6 | 5.1 | | 400 | 57.6 | 67 | | 4160701K |
| 10 | 6.8 | 100 | | 96 | 120 | 4160803 | 4160801 |
| 16 | 9 | 100 | | 153.6 | 185 | 4160903 | 4160901 |
| 25 | 10.2 | 100 | | 240 | 260 | 4161003 | 4161001 |
| 35 | 11.7 | | | 336 | 360 | | 4161101 |
| 50 | 13.9 | | | 480 | 535 | | 4161201 |
| 70 | 16 | | | 672 | 735 | | 4161301 |
| 95 | 18.2 | | | 912 | 930 | | 4161401 |
| 120 | 19.8 | | | 1152 | 1160 | | 4161501 |

| Conductor cross-section (mm ²) | Outer diameter (mm) | m/ring | m/box | Copper index (kg/km) | Weight (kg/km) | grey | blue |
|--|---------------------|--------|-------|----------------------|----------------|----------|----------|
| 0.5 | 2.7 | 100 | | 4.8 | 11 | 4160106 | 4160102 |
| 0.5 | 2.7 | | 3000 | 4.8 | 11 | 4160106K | 4160102K |
| 0.75 | 2.9 | 100 | | 7.2 | 14 | 4160206 | 4160202 |
| 0.75 | 2.9 | | 2500 | 7.2 | 14 | | 4160202K |
| 1 | 3.1 | 100 | | 9.6 | 16 | 4160306 | 4160302 |
| 1 | 3.1 | | 2000 | 9.6 | 16 | | 4160302K |
| 1.5 | 3.4 | 100 | | 14.4 | 22 | 4160406 | 4160402 |
| 1.5 | 3.4 | | 1500 | 14.4 | 22 | 4160406K | 4160402K |
| 2.5 | 4 | 100 | | 24 | 37 | 4160506 | 4160502 |
| 2.5 | 4 | | 900 | 24 | 37 | 4160506K | 4160502K |
| 4 | 4.6 | 100 | | 38.4 | 49 | 4160606 | 4160602 |
| 4 | 4.6 | | 600 | 38.4 | 49 | | 4160602K |
| 6 | 5.1 | 100 | | 57.6 | 67 | 4160706 | 4160702 |
| 6 | 5.1 | | 400 | 57.6 | 67 | | 4160702K |
| 10 | 6.8 | 100 | | 96 | 120 | 4160806 | 4160802 |
| 16 | 9 | 100 | | 153.6 | 185 | 4160906 | 4160902 |
| 25 | 10.2 | 100 | | 240 | 260 | 4161006 | 4161002 |
| 35 | 11.7 | | | 336 | 360 | | 4161102 |
| 50 | 13.9 | | | 480 | 535 | | 4161202 |
| 70 | 16 | | | 672 | 735 | | 4161302 |
| 95 | 18.2 | | | 912 | 930 | | 4161402 |
| 120 | 19.8 | | | 1152 | 1160 | | 4161502 |

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APPENDIX

| Conductor cross-section (mm ²) | Outer diameter (mm) | m/ring | m/box | Copper index (kg/km) | Weight (kg/km) | green/yellow | orange |
|--|---------------------|--------|-------|----------------------|----------------|--------------|----------|
| 0.5 | 2.7 | 100 | | 4.8 | 11 | 4160100 | 4160109 |
| 0.5 | 2.7 | | 3000 | 4.8 | 11 | | 4160109K |
| 0.75 | 2.9 | 100 | | 7.2 | 14 | 4160200 | 4160209 |
| 0.75 | 2.9 | | 2500 | 7.2 | 14 | | 4160209K |
| 1 | 3.1 | 100 | | 9.6 | 16 | 4160300 | 4160309 |
| 1 | 3.1 | | 2000 | 9.6 | 16 | 4160300K | 4160309K |
| 1.5 | 3.4 | 100 | | 14.4 | 22 | 4160400 | 4160409 |
| 1.5 | 3.4 | | 1500 | 14.4 | 22 | 4160400K | 4160409K |
| 2.5 | 4 | 100 | | 24 | 37 | 4160500 | 4160509 |
| 2.5 | 4 | | 900 | 24 | 37 | 4160500K | 4160509K |
| 4 | 4.6 | 100 | | 38.4 | 49 | 4160600 | 4160609 |
| 4 | 4.6 | | 600 | 38.4 | 49 | 4160600K | 4160609K |
| 6 | 5.1 | 100 | | 57.6 | 67 | 4160700 | 4160709 |
| 6 | 5.1 | | 400 | 57.6 | 67 | 4160700K | 4160709K |
| 10 | 6.8 | 100 | | 96 | 120 | 4160800 | 4160809 |
| 16 | 9 | 100 | | 153.6 | 185 | 4160900 | 4160909 |
| 25 | 10.2 | 100 | | 240 | 260 | 4161000 | 4161009 |
| 35 | 11.7 | | | 336 | 360 | 4161100 | |
| 50 | 13.9 | | | 480 | 535 | 4161200 | |
| 70 | 16 | | | 672 | 735 | 4161300 | |
| 95 | 18.2 | | | 912 | 930 | 4161400 | |
| 120 | 19.8 | | | 1152 | 1160 | 4161500 | |

| Conductor cross-section (mm ²) | Outer diameter (mm) | m/ring | m/box | Copper index (kg/km) | Weight (kg/km) | dark blue | white |
|--|---------------------|--------|-------|----------------------|----------------|-----------|----------|
| 0.5 | 2.7 | 100 | | 4.8 | 11 | 4160114 | 4160105 |
| 0.5 | 2.7 | | 3000 | 4.8 | 11 | 4160114K | |
| 0.75 | 2.9 | 100 | | 7.2 | 14 | 4160214 | 4160205 |
| 0.75 | 2.9 | | 2500 | 7.2 | 14 | 4160214K | |
| 1 | 3.1 | 100 | | 9.6 | 16 | 4160314 | 4160305 |
| 1 | 3.1 | | 2000 | 9.6 | 16 | 4160314K | 4160305K |
| 1.5 | 3.4 | 100 | | 14.4 | 22 | 4160414 | 4160405 |
| 1.5 | 3.4 | | 1500 | 14.4 | 22 | 4160414K | 4160405K |
| 2.5 | 4 | 100 | | 24 | 37 | 4160514 | 4160505 |
| 2.5 | 4 | | 900 | 24 | 37 | 4160514K | 4160505K |
| 4 | 4.6 | 100 | | 38.4 | 49 | 4160614 | 4160605 |
| 6 | 5.1 | 100 | | 57.6 | 67 | 4160714 | 4160705 |
| 6 | 5.1 | | 400 | 57.6 | 67 | 4160714K | |
| 10 | 6.8 | 100 | | 96 | 120 | 4160814 | 4160805 |
| 16 | 9 | 100 | | 153.6 | 185 | 4160914 | 4160905 |

| Conductor cross-section (mm ²) | Outer diameter (mm) | m/ring | m/box | Copper index (kg/km) | Weight (kg/km) | green | yellow |
|--|---------------------|--------|-------|----------------------|----------------|---------|----------|
| 0.5 | 2.7 | 100 | | 4.8 | 11 | 4160111 | 4160110 |
| 0.75 | 2.9 | 100 | | 7.2 | 14 | | 4160210 |
| 1 | 3.1 | 100 | | 9.6 | 16 | 4160311 | 4160310 |
| 1.5 | 3.4 | 100 | | 14.4 | 22 | 4160411 | 4160410 |
| 2.5 | 4 | 100 | | 24 | 37 | 4160511 | 4160510 |
| 4 | 4.6 | 100 | | 38.4 | 49 | 4160611 | 4160610 |
| 4 | 4.6 | | 600 | 38.4 | 49 | | 4160610K |
| 6 | 5.1 | 100 | | 57.6 | 67 | 4160711 | 4160710 |
| 10 | 6.8 | 100 | | 96 | 120 | 4160811 | 4160810 |
| 16 | 9 | 100 | | 153.6 | 185 | 4160911 | 4160910 |
| 25 | 10.2 | 100 | | 240 | 260 | 4161011 | 4161010 |
| 35 | 11.7 | | | 336 | 360 | 4161111 | |
| 50 | 13.9 | | | 480 | 535 | 4161211 | |

| Conductor cross-section (mm ²) | Outer diameter (mm) | m/ring | m/box | Copper index (kg/km) | Weight (kg/km) | violet | red |
|--|---------------------|--------|-------|----------------------|----------------|---------|----------|
| 0.5 | 2.7 | 100 | | 4.8 | 11 | 4160107 | 4160104 |
| 0.5 | 2.7 | | 3000 | 4.8 | 11 | | 4160104K |
| 0.75 | 2.9 | 100 | | 7.2 | 14 | 4160207 | 4160204 |
| 1 | 3.1 | 100 | | 9.6 | 16 | 4160307 | 4160304 |
| 1 | 3.1 | | 2000 | 9.6 | 16 | | 4160304K |
| 1.5 | 3.4 | 100 | | 14.4 | 22 | 4160407 | 4160404 |
| 1.5 | 3.4 | | 1500 | 14.4 | 22 | | 4160404K |
| 2.5 | 4 | 100 | | 24 | 37 | 4160507 | 4160504 |
| 2.5 | 4 | | 900 | 24 | 37 | | 4160504K |
| 4 | 4.6 | 100 | | 38.4 | 49 | | 4160604 |
| 6 | 5.1 | 100 | | 57.6 | 67 | | 4160704 |
| 6 | 5.1 | | 400 | 57.6 | 67 | | 4160704K |
| 10 | 6.8 | 100 | | 96 | 120 | | 4160804 |
| 16 | 9 | 100 | | 153.6 | 185 | | 4160904 |
| 25 | 10.2 | 100 | | 240 | 260 | | 4161004 |
| 35 | 11.7 | | | 336 | 360 | | 4161104 |

| Conductor cross-section (mm ²) | Outer diameter (mm) | m/ring | m/box | Copper index (kg/km) | Weight (kg/km) | blue/white | pink |
|--|---------------------|--------|-------|----------------------|----------------|------------|---------|
| 0.5 | 2.7 | 100 | | 4.8 | 11 | 4160126 | |
| 0.75 | 2.9 | 100 | | 7.2 | 14 | 4160226 | |
| 0.75 | 2.9 | | 2500 | 7.2 | 14 | 4160226K | |
| 1 | 3.1 | 100 | | 9.6 | 16 | 4160326 | 4160308 |
| 1 | 3.1 | | 2000 | 9.6 | 16 | 4160326K | |
| 1.5 | 3.4 | 100 | | 14.4 | 22 | 4160426 | 4160408 |
| 1.5 | 3.4 | | 1500 | 14.4 | 22 | 4160426K | |
| 2.5 | 4 | 100 | | 24 | 37 | 4160526 | |
| 4 | 4.6 | 100 | | 38.4 | 49 | 4160626 | |
| 6 | 5.1 | 100 | | 57.6 | 67 | 4160726 | |
| 10 | 6.8 | 100 | | 96 | 120 | 4160826 | |

| Conductor cross-section (mm ²) | Outer diameter (mm) | m/ring | m/box | Copper index (kg/km) | Weight (kg/km) | white-blue |
|--|---------------------|--------|-------|----------------------|----------------|------------|
| 0.5 | 2.7 | | 3000 | 4.8 | 11 | 4160144K |
| 0.75 | 2.9 | 100 | | 7.2 | 14 | 4160244 |
| 0.75 | 2.9 | | 2500 | 7.2 | 14 | 4160244K |
| 1 | 3.1 | 100 | | 9.6 | 16 | 4160344 |
| 1 | 3.1 | | 2000 | 9.6 | 16 | 4160344K |
| 1.5 | 3.4 | 100 | | 14.4 | 22 | 4160444 |
| 2.5 | 4 | 100 | | 24 | 37 | 4160544 |
| 2.5 | 4 | | 900 | 24 | 37 | 4160544K |
| 4 | 4.6 | 100 | | 38.4 | 49 | 4160644 |
| 6 | 5.1 | 100 | | 57.6 | 67 | 4160744 |
| 10 | 6.8 | 100 | | 96 | 120 | 4160844 |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
 Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.
 Packaging size: Coil ≤ 30 kg, otherwise drum
 Photographs are not to scale and do not represent detailed images of the respective products.
 Non-harmonised, nominal cross-sections: 0.5 mm², 0.75 mm², 1 mm², 16 mm²
 *for conventional use, **for careful bending; "OD" = outer diameter
 The outer diameters stated in the part number table are maximum values.

Similar products

- H07V-K <HAR> refer to page 207
- MULTI-STANDARD SC 2.2 refer to page 214

Accessories

- DIN-assorted boxes conductor end sleeves refer to page 1011
- Conductor end sleeves XL, insulated refer to page 1012
- PEW 8.87 crimping pliers refer to page 1016



MULTI-STANDARD SC 2.2

UL-listed (MTW), CSA (TEW), <HAR> H07V2-K: max. +90°C, UL (AWM): U_{max} = 1 kV, tinned-copper strands



Info

- Higher maximum conductor temperature - H07V2-K: +90 °C according to EN 50525-2-31
- Higher voltage range according to UL

Benefits

- For use in the most important global markets
- Reduction in technical documentation
- Easier storage; increases the cost-effectiveness of the production process
- Works with "Conductor end sleeves XL, insulated"

Application range

- Factory wiring
- Field wiring
- Frequency converter power supply
- Internal wiring of devices and in control cabinets
- Protected installation in and on lighting equipments

Product features

- Flame-retardant according IEC 60332-1-2
- Flame-retardant according to UL VW1/CSA FT1
- Oil-resistant

Norm references / Approvals

- Multi-standard cables have conductor strands with nominal sizes in mm² or AWG/kcmil. The master size is mentioned in the table below, while the equivalent size of the other system can be found in the Appendix T16 of this catalogue. For this related secondary size the cross-section of the conductor mostly works out to be greater than the specified nominal value.
- Cable type certifications: <HAR> H07V2-K acc. EN 50525-2-31, UL AWM style 10269 (by UL acc. UL standard UL 758, U.I. Lapp GmbH's UL AWM file number: E63634), (UL) MTW (by UL acc. UL standard UL 1063, U.I. Lapp GmbH's (UL) MTW file number: E198296), CSA TEW (by CSA acc. CSA standard CSA C22.2 No. 127, CSA class 5835-01)

Product Make-up

- Fine-wire strand made of tinned-copper wires
- Special PVC-based core insulation

Technical data



Classification

ETIM 5.0 Class-ID: EC000993
 ETIM 5.0 Class-Description: Single core cable



Conductor stranding

Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5



Minimum bending radius

OD ≤ 8 mm: 4 x OD*/2 x OD**;
 8 < OD ≤ 12 mm: 5 x OD*/3 x OD**;
 OD > 12 mm: 6 x OD*/4 x OD**



Nominal voltage

HAR / IEC: U₀/U: 450/750 V;
 UL (AWM): U: 1000 V;
 UL (MTW): U: 600 V;
 CSA (TEW): U: 600 V



Temperature range

Fixed installation:
 HAR/IEC: -40°C to +90°C;
 UL (AWM): -40°C to +105°C;
 UL (MTW): -40°C to +90°C;
 CSA (TEW): -40°C to +105°C