

Power & Control Cable

IEC 60502-1

(2-, 3-, and 4-cores)

U₀/U 0.6 / 1 kV

PVC-Insulation, Armour
YYRY-fl

Application

For electricity supply and control in public networks and industrial plants; suitable for use in zone 1 and zone 2 group II classified areas (IEC 60079-14).

Recommended for direct burial. For indoor and outdoor installation in dry and wet locations, on racks, in conduits

Construction

Conductor plain annealed copper, class 1 or class 2 resp., acc. to IEC 60228,
≤ 35 mm²: circular solid (RE) or circular stranded (RM),
> 35 mm²: sector-shaped stranded (SM)

Insulation polyvinyl chloride PVC

Colour code ¹⁾ Two-core: blue, brown
Three-core: brown, black, grey
Four-core: blue, brown, black, grey

Laying up cores twisted in layers (if necessary with filling element(s))

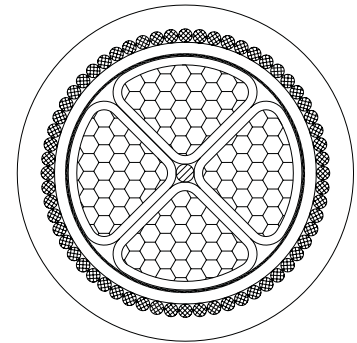
Wrapping at least 1 layer of plastic tape

Bedding extruded polyvinyl chloride PVC, black

Armour galvanized round steel wires

Outer Sheath extruded polyvinyl chloride PVC, black

Cable marking ELECTRIC CABLE 0.6/1 kV IEC 60502-1
KERPEN, YEAR, LENGTH, MARKING



Technical Data

Abbreviations

Flame retardancy: IEC 60332-1

Flame propagation: IEC 60332-3 cat. A

Outer Sheath:

Amount of halogen acid gas: max. 17 %
(IEC 60754-1)

Limiting Oxygen Index (LOI): min. 30 %
(IEC 60332-3 ann. B)

Temperatur Index (TI): min. 300 °C
(ASTM-D-2863)

Temperature range:
- 30 °C up to + 70 °C
(during operation)
- 5 °C up to + 50 °C
(during installation)
≤ 300 mm²: max. + 160 °C
> 300 mm²: max. + 140 °C
(under short circuit)

Min. bending radius:
8 x cable-Ø

Y insulation, bedding & outer sheath of PVC

R round steel wire armour

-fl reduced flame propagation

Electrical Data at 20 °C

	Character	Unit	Values
Conductor resistance	max.	Ω/km	acc. to IEC 60228
Test voltage U_{rms} core: core		V	3500
Test voltage U_{rms} core: armour		V	3500
Nominal voltage U₀ /U		V	600 / 1000
Highest system voltage U_m	max.	V	1200 (for three phase systems)

¹⁾ other colours on request

further details see appendix

Power & Control Cable								IEC 60502-1	
(2-, 3-, and 4-cores)								U ₀ /U 0.6 / 1 kV	
PVC-Insulation, Armour YYRY-fl									
Geometrical Data									
No. of cores and cross-section (nom.) n / mm ²	Radial thickness of insulation (nom.) mm	Diameter over bedding (approx.) mm	Armour wire diameter (nom.) mm	Radial thickness of outer sheath (nom.) mm	Overall Diameter (approx.) mm	Weight of cable (approx.) kg / km	Part number		
2 x 1.5 RE	0.8	7.7	0.8	1.8	13.1	320	20300006		
2 x 1.5 RM	0.8	8.2	0.8	1.8	13.6	340	20300007		
2 x 2.5 RE	0.8	8.5	0.8	1.8	13.9	360	20300008		
2 x 2.5 RM	0.8	9.0	0.8	1.8	14.4	380	20300009		
2 x 4 RE	1.0	10.3	0.8	1.8	15.7	450	20300010		
2 x 4 RM	1.0	11.0	0.8	1.8	16.4	490	20300011		
2 x 6 RE	1.0	11.3	1.25	1.8	17.4	610	20300012		
2 x 6 RM	1.0	12.0	1.25	1.8	18.1	650	20300013		
2 x 10 RE	1.0	12.8	1.25	1.8	18.9	750	20300014		
2 x 10 RM	1.0	13.8	1.25	1.8	19.9	790	20300015		
2 x 16 RE	1.0	14.7	1.25	1.8	20.8	930	20300016		
2 x 16 RM	1.0	16.0	1.25	1.8	22.1	1020	20300017		
2 x 25 RM	1.2	19.5	1.6	1.8	26.3	1400	-		
2 x 35 RM	1.2	21.7	1.6	1.8	28.5	1700	-		
2 x 50 SM	1.4	20.8	1.6	1.9	27.8	2050	20300020		
2 x 70 SM	1.4	23.8	2.0	2.0	31.8	2740	20300021		
2 x 95 SM	1.6	27.7	2.0	2.2	36.1	3640	20300022		
2 x 120 SM	1.6	29.4	2.0	2.3	38.0	4150	20300023		
2 x 150 SM	1.8	32.6	2.5	2.4	42.4	5300	20300024		
2 x 185 SM	2.0	37.0	2.5	2.6	47.2	6390	20300025		
2 x 240 SM	2.2	41.5	2.5	2.8	52.1	7920	20300026		
2 x 300 SM	2.4	48.6	2.5	2.9	59.4	9950	20300180		
3 x 1.5 RE	0.8	8.2	0.8	1.8	13.6	360	20300029		
3 x 1.5 RM	0.8	8.7	0.8	1.8	14.1	370	20300030		
3 x 2.5 RE	0.8	9.1	0.8	1.8	14.5	400	20300150		
3 x 2.5 RM	0.8	9.6	0.8	1.8	15.0	430	20300031		
3 x 4 RE	1.0	10.9	1.25	1.8	17.0	610	20300032		
3 x 4 RM	1.0	11.7	1.25	1.8	17.8	660	20300033		
3 x 6 RE	1.0	12.0	1.25	1.8	18.1	730	20300034		
3 x 6 RM	1.0	12.8	1.25	1.8	18.9	780	20300035		
3 x 10 RE	1.0	13.7	1.25	1.8	19.8	910	20300036		
3 x 10 RM	1.0	15.0	1.25	1.8	21.1	990	20300037		
3 x 16 RE	1.0	15.8	1.25	1.8	21.9	1160	20300038		
3 x 16 RM	1.0	17.3	1.25	1.8	23.4	1280	20300039		
3 x 25 RM	1.2	20.8	1.6	1.8	27.6	1890	-		

RE: circular solid • RM: circular stranded • SM: sector shaped stranded

Power & Control Cable

IEC 60502-1

(2-, 3-, and 4-cores)

U₀/U 0.6 / 1 kV

PVC-Insulation, Armour

YYRY-fl

Geometrical Data

No. of cores and cross-section (nom.) n / mm ²	Radial thickness of insulation (nom.) mm	Diameter over bedding (approx.) mm	Armour wire diameter (nom.) mm	Radial thickness of outer sheath (nom.) mm	Overall diameter (approx.) mm	Weight of cable (approx.) kg / km	Part number
3 x 35 RM	1.2	23.2	1.6	1.8	30.0	2260	-
3 x 50 SM	1.4	24.5	1.6	2.0	31.7	2740	20300042
3 x 70 SM	1.4	27.9	2.0	2.1	36.1	3790	20300043
3 x 95 SM	1.6	31.2	2.0	2.2	39.6	4780	20300044
3 x 120 SM	1.6	33.7	2.0	2.3	42.3	5710	20300045
3 x 150 SM	1.8	38.0	2.5	2.5	48.0	7200	20300046
3 x 185 SM	2.0	42.9	2.5	2.7	53.3	8710	20300047
3 x 240 SM	2.2	48.7	2.5	2.9	59.5	11030	20300048
3 x 300 SM	2.4	56.1	2.5	3.2	67.5	13760	20300049
3 x 400 SM	2.6	62.8	3.15	3.4	75.9	17780	20300050
4 x 1.5 RE	0.8	9.0	0.8	1.8	14.4	410	20300151
4 x 1.5 RM	0.8	9.5	0.8	1.8	14.9	430	20300051
4 x 2.5 RE	0.8	9.9	0.8	1.8	15.3	470	20300052
4 x 2.5 RM	0.8	10.5	0.8	1.8	15.9	500	20300053
4 x 4 RE	1.0	12.0	1.25	1.8	18.1	700	20300054
4 x 4 RM	1.0	12.9	1.25	1.8	19.0	780	20300055
4 x 6 RE	1.0	13.2	1.25	1.8	19.3	850	20300056
4 x 6 RM	1.0	14.1	1.25	1.8	20.2	900	20300057
4 x 10 RE	1.0	15.2	1.25	1.8	21.2	1030	20300058
4 x 10 RM	1.0	16.6	1.25	1.8	22.7	1180	20300059
4 x 16 RE	1.0	17.8	1.6	1.8	24.6	1580	20300060
4 x 16 RM	1.0	19.5	1.6	1.8	26.3	1710	20300061
4 x 25 RM	1.2	23.0	1.6	1.8	29.8	2140	-
4 x 35 RM	1.2	25.7	1.6	1.9	32.7	2650	-
4 x 50 SM	1.4	28.7	2.0	2.1	36.9	3710	20300064
4 x 70 SM	1.4	31.7	2.0	2.2	40.1	4720	20300065
4 x 95 SM	1.6	36.1	2.5	2.4	45.5	6320	20300066
4 x 120 SM	1.6	39.1	2.5	2.5	49.1	7630	20300067
4 x 150 SM	1.8	43.1	2.5	2.7	53.5	9050	20300068
4 x 185 SM	2.0	49.0	2.5	2.8	59.6	11010	20300069
4 x 240 SM	2.2	55.5	2.5	3.1	66.7	13940	20300070
4 x 300 SM	2.4	62.0	3.15	3.3	74.9	18090	20300071
4 x 400 SM	2.6	72.7	3.15	3.6	86.2	22600	20300072

RE: circular solid • RM: circular stranded • SM: sector shaped stranded

KERPEN's Focus:

Competence - Flexibility - Quality - Service

Competence

- cable engineering to over 150 national, international and customer standards
- specification service based on electrical, mechanical, environmental and other customer/site requirements
- more than 30.000 designs
- key supplier to oil, gas, petrochemical and chemical industry
- consulting service for design

Power & Control Cable

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(Multicores)

U₀/U 0.6 / 1 kV

PVC-Insulation, Armour

YYRY-fl

Application

For electricity supply and control in public networks and industrial plants; suitable for use in zone 1 and zone 2 group II classified areas (IEC 60079-14).

Recommended for direct burial. For indoor and outdoor installation in dry and wet locations, on racks, in conduits

Construction

Conductor plain annealed copper, class 1 or class 2 resp., acc. to IEC 60228
 class 1: circular solid (RE)
 class 2: circular stranded (RM)

Insulation polyvinylchlorid PVC

Colour code black, continuously numbered

Laying up cores twisted in layers (if necessary with filling element(s))

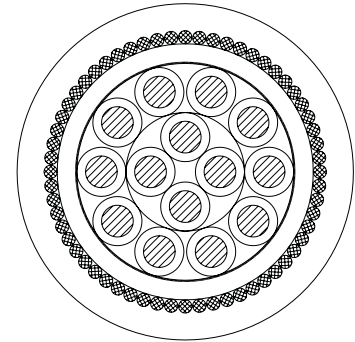
Wrapping at least 1 layer of plastic tape

Bedding extruded polyvinyl chloride PVC, black

Armour galvanized round steel wires

Outer Sheath extruded polyvinyl chloride PVC, black

Cable marking ELECTRIC CABLE 0.6/1 kV IEC 60502-1
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Technical Data

Abbreviations

Flame retardancy: IEC 60332-1

Flame propagation: IEC 60332-3 cat. A

Outer Sheath:

Amount of halogen acid gas: max. 17 %
 (IEC 60754-1)

Limiting Oxygen Index(LOI): min. 30 %
 (IEC 60332-3 ann.B)

Temperature Index (TI): min. 300 °C
 (ASTM-D-2863)

Temperature range:
 - 30 °C up to + 70 °C
 (during operation)
 - 5 °C up to + 50 °C
 (during installation)
 max. + 160 °C
 (under short circuit)

Min. bending radius:
 8 x cable-Ø

Y insulation, bedding & outer sheath of PVC

R round steel wire armour

-fl reduced flame propagation

Electrical Data at 20 °C

	Character	Unit	Values
Conductor resistance	max.	Ω/km	acc. to IEC 60228
Test voltage U _{rms} core: core		V	3500
Test voltage U _{rms} core: armour		V	3500
Nominal voltage U ₀ /U		V	600/1000
Highest system voltage U _m	max.	V	1200 (for three phase systems)

For further electrical details see appendix

Power & Control Cable							IEC 60502-1
(Multicores)							U ₀ /U 0.6 / 1 kV
PVC-Insulation, Armour YYRY-fl							
Geometrical Data							
No. of cores and cross-section (nom.) n / mm ²	Radial thickness of insulation (nom.) mm	Diameter over bedding (approx.) mm	Armour wire diameter (nom.) mm	Radial thickness of outer sheath (nom.) mm	Overall diameter (approx.) m	Weight of cable (approx.) kg / km	Part number
5 x 1.5 RE	0.8	9.8	0.8	1.8	15.2	450	20300084
7 x 1.5 RE	0.8	10.7	0.8	1.8	16.1	520	20300085
10 x 1.5 RE	0.8	13.7	1.25	1.8	19.8	790	20300086
12 x 1.5 RE	0.8	14.1	1.25	1.8	20.2	850	20300087
19 x 1.5 RE	0.8	17.1	1.6	1.8	23.9	1260	20300090
27 x 1.5 RE	0.8	20.6	1.6	1.8	27.4	1610	20300093
37 x 1.5 RE	0.8	23.1	1.6	1.9	30.1	1950	20300096
48 x 1.5 RE	0.8	26.5	1.6	2.0	33.7	2380	20300100
5 x 1.5 RM	0.8	10.4	0.8	1.8	15.8	480	20300101
7 x 1.5 RM	0.8	11.4	0.8	1.8	16.8	560	20300102
10 x 1.5 RM	0.8	14.5	1.25	1.8	20.6	850	20300103
12 x 1.5 RM	0.8	15.1	1.25	1.8	21.2	910	20300104
19 x 1.5 RM	0.8	18.3	1.6	1.8	25.1	1360	20300107
27 x 1.5 RM	0.8	21.9	1.6	1.8	28.7	1730	20300110
37 x 1.5 RM	0.8	24.6	1.6	1.9	31.6	2040	20300113
48 x 1.5 RM	0.8	28.7	2.0	2.0	36.7	2810	20300117
5 x 2.5 RE	0.8	10.9	0.8	1.8	16.3	540	20300152
7 x 2.5 RE	0.8	11.9	1.25	1.8	18.0	690	20300118
10 x 2.5 RE	0.8	15.2	1.25	1.8	21.3	950	20300119
12 x 2.5 RE	0.8	15.7	1.25	1.8	21.8	1030	20300120
19 x 2.5 RE	0.8	19.1	1.6	1.8	25.9	1560	20300123
27 x 2.5 RE	0.8	23.0	1.6	1.9	30.0	2010	20300125
37 x 2.5 RE	0.8	25.8	1.6	2.0	33.0	2450	20300128
48 x 2.5 RE	0.8	30.1	2.0	2.1	38.3	3330	20300132
5 x 2.5 RM	0.8	11.6	0.8	1.8	17.0	570	20300133
7 x 2.5 RM	0.8	12.6	1.25	1.8	18.7	770	20300134
10 x 2.5 RM	0.8	16.2	1.25	1.8	22.3	1010	20300135
12 x 2.5 RM	0.8	16.8	1.25	1.8	22.9	1110	20300136
19 x 2.5 RM	0.8	20.4	1.6	1.8	27.2	1650	20300139
27 x 2.5 RM	0.8	24.5	1.6	1.9	31.5	2130	20300142
37 x 2.5 RM	0.8	27.6	1.6	2.0	34.8	2630	20300145
48 x 2.5 RM	0.8	32.1	2.0	2.1	40.3	3550	20300149

RE: circular solid • RM: circular stranded • SM: sector shaped stranded