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## Telephone and Fire Warning Cables










## Telephone and Fire Warning Cables

As a supplier of underground cables such as telephone cables to be laid in- and outdoors as well as fire warning cables, HELUKABEL® can provide a short term delivery-readiness. Modern and powerful cutting machines ensure that even the demands for fixed lengths can be processed within a short time.

Due to our proximity to our customers (stock in Hemmingen/Stuttgart, Neuenhagen/Berlin, Pleiße/Chemnitz and Windsbach/Nuremberg) we can also deliver in a short time „on the spot“ to the **customer's construction site**.

On request we also deliver vehicles with lifting platform for easier loading and unloading.

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## A-2Y(L)2Y Bd telephone-outdoor cable, according to VDE 0816, laminated sheath, unfilled



### Technical data

- According to DIN VDE 0816
- **Temperature range**  
flexible -20 °C to +50 °C  
fixed installation to +70 °C
- **Loop resistance** at 20 °C  
0,6 mm = max. 130 Ohm/km  
0,8 mm = max. 73,2 Ohm/km
- **Operating voltage** (peak voltage)  
max. 225 V
- **Test voltage**  
core/core U eff. 500<sup>2)</sup>  
core/screen U eff. 2000 V
- **Insulation resistance**  
min. 5 GOhm x km
- **Line attenuation**  
of side circuits at 800 Hz  
0,6 mm = 1,04 dB/km  
0,8 mm = 0,78 dB/km
- **Impedance**  
of side circuits at 800 Hz  
0,6 mm = 720 Ohm  
0,8 mm = 520 Ohm
- **Minimum bending radius**  
approx. 10x cable ø
- **Radiation resistance**  
up to 80x10<sup>6</sup> cJ/kg (up to 80 Mrad)
- **Caloric load values**  
see Technical Informations

### Cable structure

- Bare copper conductor, solid, 0,6 and 0,8 mm ø
- PE (2Y) core insulation, wall-thickness as per DIN VDE 0816 table 4
- Core identification of quads marked with black rings
- 4 cores twisted to a star quad
- 5 star quads stranded to sub units, each 5 or 10 sub units stranded to main units and the sub or main units stranded to cable core
- Core wrapping with several plastic tapes
- Outer sheath, as laminated sheath (L)2Y, PE-coated aluminium tape spliced with PE (2Y) sheath
- PE-outer sheath colour black
- Sheath marking continuously with telephone-receiver, meter marking in white colour

### Properties

- These are not allowed for the power installation
- For fire and hazardous areas, this cable type with PE-sheath, the installation is not permitted without enough protective precaution

#### Mutual capacitance at 800 Hz

of all values 100%  
 0,6 mm - max. 52 nF/km  
 0,8 mm - max. 55 nF/km  
 of all values 95%  
 0,6 mm - max. 50<sup>3)</sup> nF/km  
 0,8 mm - max. 53<sup>3)</sup> nF/km  
 of all values 80%  
 0,6 mm - max. 48 nF/km  
 0,8 mm - max. 50 nF/km

**Capacitance unbalances** at 800 Hz  
 of all values k<sub>1</sub> 100% - max. 800<sup>1)</sup> pF/300 m  
 of all values k<sub>1</sub> 98% - max. 400 pF/300 m  
 of all values k<sub>9-12</sub> 100% - max. 300<sup>1)</sup> pF/300 m  
 of all values k<sub>9-12</sub> 98% - max. 100 pF/300 m

### Note

- <sup>1)</sup> But at least for 2 quads.
- <sup>2)</sup> Local cables with more than 100 pairs the test conductor/conductor is emitted.
- <sup>3)</sup> For cables up to 10 double cores is the 100 % value valid
- Conductor ø 0,4 mm on request.

### Application

These external subscriber telephone cables are installed as telecommunication connection cable for connecting the telephone extension to the telephone exchange or central offices and as well as for industrial plants.  
 These subscriber connecting cables are suitable for laying in under ground, in cable ducts and cable conduits - and also for indoor-laying. Both sides of PE-copolymer coated aluminium type (L), which is spliced with the outer PE-sheath ensures a **barrier against water vapour** and diagonally water-proof.  
 Black coloured PE-sheath is **UV-resistant**.  
 The Polyethelene material (PE 2Y) is **halogen-free**.

☑ The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34100	2 x 2 x 0,6	8,0	11,0	82,0
34101	4 x 2 x 0,6	10,0	23,0	127,0
34102	6 x 2 x 0,6	11,5	34,0	132,0
34103	10 x 2 x 0,6	12,5	57,0	171,0
34104	20 x 2 x 0,6	15,5	113,0	268,0
34105	30 x 2 x 0,6	17,5	170,0	358,0
34106	40 x 2 x 0,6	19,5	226,0	438,0
34107	50 x 2 x 0,6	21,0	283,0	531,0
34108	70 x 2 x 0,6	24,5	396,0	712,0
34109	100 x 2 x 0,6	28,0	565,0	950,0
34110	150 x 2 x 0,6	33,0	848,0	1348,0
34111	200 x 2 x 0,6	37,0	1131,0	1758,0
34112	250 x 2 x 0,6	40,5	1414,0	2137,0
34113	300 x 2 x 0,6	44,0	1696,0	2533,0
34114	350 x 2 x 0,6	47,5	1979,0	2954,0
34115	400 x 2 x 0,6	50,0	2262,0	3342,0

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34130	2 x 2 x 0,8	11,0	20,0	102,0
34131	4 x 2 x 0,8	12,0	40,0	158,0
34132	6 x 2 x 0,8	13,0	60,0	179,0
34133	10 x 2 x 0,8	14,5	101,0	241,0
34134	20 x 2 x 0,8	18,0	201,0	393,0
34135	30 x 2 x 0,8	21,0	302,0	540,0
34136	40 x 2 x 0,8	23,0	402,0	675,0
34137	50 x 2 x 0,8	25,5	503,0	842,0
34138	70 x 2 x 0,8	29,0	704,0	1105,0
34139	100 x 2 x 0,8	34,0	1005,0	1524,0
34140	150 x 2 x 0,8	40,0	1508,0	2208,0
34141	200 x 2 x 0,8	46,5	2011,0	2915,0
34142	250 x 2 x 0,8	51,0	2514,0	3575,0
34143	300 x 2 x 0,8	53,0	3016,0	4232,0
34144	350 x 2 x 0,8	56,5	3519,0	4940,0
34145	400 x 2 x 0,8	60,0	4022,0	5565,0
34146	500 x 2 x 0,8	68,0	5027,0	6955,0
34147	600 x 2 x 0,8	73,0	6032,0	8240,0

Dimensions and specifications may be changed without prior notice. (RP01)

## A-2YF(L)2Y Bd telephone-outdoor cable, according to VDE 0816, laminated sheath, filled cable core, longitudinally water-proof



### Technical data

- According to DIN VDE 0816
- **Temperature range**  
flexible -20 °C to +50 °C  
fixed installation to +70 °C
- **Loop resistance** at 20 °C  
0,6 mm = max. 130 Ohm/km  
0,8 mm = max. 73,2 Ohm/km
- **Operating voltage** (peak voltage)  
max. 225 V
- **Test voltage**  
core/core U eff. 500 V<sup>2)</sup>  
core/screen U eff. 2000 V
- **Insulation resistance**  
min. 1,5 GOhm x km
- **Line attenuation**  
of side circuits at 800 Hz  
0,6 mm = 1,04 dB/km  
0,8 mm = 0,78 dB/km
- **Impedance** of side circuits  
at 800 Hz  
0,6 mm = 720 Ohm  
0,8 mm = 520 Ohm
- **Minimum bending radius**  
approx. 10x cable ø
- **Radiation resistance**  
up to 80x106 cJ/kg (up to 80 Mrad)
- **Caloric load values**  
see Technical Informations

### Cable structure

- Bare copper conductor, solid, 0,6 and 0,8 mm ø
- PE (2Y) core insulation, wall-thickness as per DIN VDE 0816 table 4
- Core identification of quads marked with black rings
- 4 cores twisted to a star quad
- 5 star quads stranded to sub units, each 5 or 10 sub units stranded to main units and the sub or main units stranded to cable core
- Core cavities continuously filled with petrol-jelly
- Core wrapping with paper tape
- Outer sheath, as laminated sheath (L)2Y, PE-coated aluminium tape spliced with PE (2Y) sheath
- PE-outer sheath colour black
- Sheath marking continuously with telephone-receiver, meter marking in white colour

### Properties

- These cables are not allowed for purposes of high current and power installation. These cables with outer PE-jacket are also not permitted for fire and explosive areas without any protective measure.

**Mutual capacitance** at 800 Hz  
of all values 100%

0,6 mm - max. 52 nF/km  
0,8 mm - max. 55 nF/km  
of all values 95%

0,6 mm - max. 50<sup>3)</sup> nF/km  
0,8 mm - max. 53<sup>3)</sup> nF/km  
of all values 80%

0,6 mm - max. 48 nF/km  
0,8 mm - max. 50 nF/km

**Capacitance unbalances** at 800 Hz  
of all values k<sub>1</sub> 100% - max. 800<sup>1)</sup> pF/300 m  
of all values k<sub>1</sub> 98% - max. 400 pF/300 m  
of all values k<sub>9-12</sub> 100%-max. 300<sup>1)</sup> pF/300 m  
of all values k<sub>9-12</sub> 98% - max. 100 pF/300 m

### Note

- 1) But at least for 2 quads.
- 2) Local cables with more than 100 pairs the test conductor/conductor is emitted.
- 3) For cables up to 10 double cores is the 100 % value valid
- Conductor ø 0,4 mm on request.

### Application

These external subscriber telephone cables are installed as telecommunication connection cable for connecting the telephone extension to the telephone exchange for transmitting signals.

These subscriber connecting cables are suitable for laying in under ground, in cable ducts and cable conduits.

According to DIN VDE 0800 part 1, these cables are allowed in all types of installation plants. The cavities of the cable core, filled continuously with viscous compound (F). Both sides of PE-copolymere coated aluminium type (L), which is spliced with the outer PE-sheath, ensures a barrier against water vapour and **crosswise and longitudinal water tightness**. Black coloured PE-sheath is **UV-resistant**. The Polyethylene material (PE 2Y) is **halogen-free**.

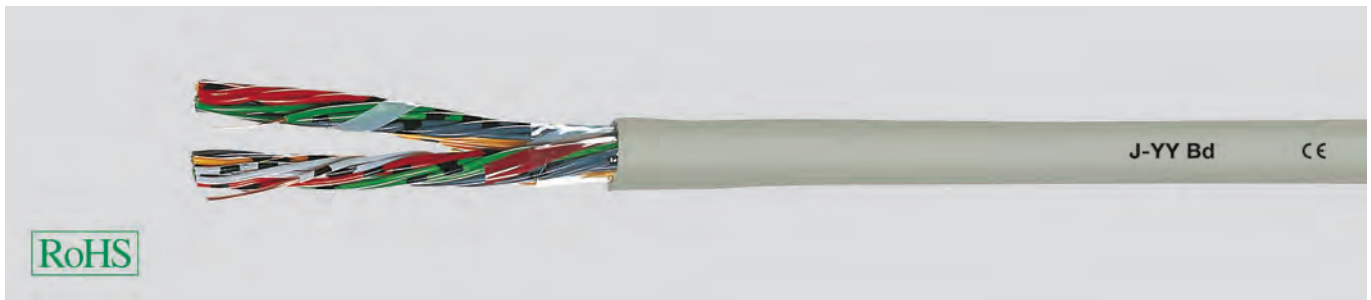
☞ The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34007	2 x 2 x 0,6	7,5	11,0	80,0
34008	4 x 2 x 0,6	9,0	23,0	140,0
34009	6 x 2 x 0,6	12,0	34,0	150,0
34010	10 x 2 x 0,6	13,5	57,0	190,0
34011	20 x 2 x 0,6	16,0	113,0	310,0
34012	30 x 2 x 0,6	19,0	170,0	430,0
34013	40 x 2 x 0,6	20,5	226,0	545,0
34014	50 x 2 x 0,6	23,0	283,0	660,0
34015	70 x 2 x 0,6	26,0	396,0	895,0
34016	100 x 2 x 0,6	31,5	565,0	1230,0
34017	150 x 2 x 0,6	37,5	848,0	1780,0
34018	200 x 2 x 0,6	42,5	1131,0	2320,0
34036	250 x 2 x 0,6	47,5	1414,0	2910,0
34037	300 x 2 x 0,6	51,5	1696,0	3490,0
34038	350 x 2 x 0,6	55,0	1979,0	3970,0
34039	400 x 2 x 0,6	60,5	2262,0	4480,0
34040	500 x 2 x 0,6	66,0	2827,0	5460,0

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34029	2 x 2 x 0,8	8,5	20,0	100,0
34030	4 x 2 x 0,8	10,0	40,0	180,0
34019	6 x 2 x 0,8	12,5	60,0	190,0
34020	10 x 2 x 0,8	15,0	101,0	280,0
34021	20 x 2 x 0,8	19,0	201,0	480,0
34022	30 x 2 x 0,8	23,0	302,0	670,0
34023	40 x 2 x 0,8	26,0	402,0	860,0
34024	50 x 2 x 0,8	29,0	503,0	1060,0
34025	70 x 2 x 0,8	33,0	704,0	1420,0
34026	100 x 2 x 0,8	39,0	1005,0	1980,0
34027	150 x 2 x 0,8	47,0	1508,0	2940,0
34028	200 x 2 x 0,8	51,0	2011,0	3780,0
34031	250 x 2 x 0,8	58,0	2514,0	4660,0
34032	300 x 2 x 0,8	62,5	3016,0	5570,0
34033	350 x 2 x 0,8	68,0	3519,0	6750,0
34034	400 x 2 x 0,8	73,0	4022,0	7630,0
34035	500 x 2 x 0,8	81,5	5027,0	9540,0

Dimensions and specifications may be changed without prior notice. (RP01)

## J-YY Bd telephone installation cable, according to VDE 0815



### Technical data

- Installation cable according to DIN VDE 0815
- **Temperature range**  
during operation -5 °C to +50 °C  
before and after installation  
-30 °C to +70 °C
- **Loop resistance**  
at 20 °C max. 130 Ohm/km
- **Nominal voltage**  
(peak voltage) 300 V
- **Test voltage** (50 Hz)  
core/core U eff. 800 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance**  
at 800 Hz max. 100<sup>1)</sup> nF/km
- **Capacitance unbalances** at 800 Hz  
k<sub>1</sub> max. 300<sup>2)</sup> pF/100 m  
k<sub>3...k12</sub> 100<sup>3)</sup> pF/100 m
- **Line attenuation**  
at 800 Hz 1,48 dB/km
- **Minimum bending radius**  
to DIN VDE 0891 part 5  
during delivery 7,5x cable ø  
single bending without tension  
2,5x cable ø  
repeated bending under tension  
7,5x cable ø
- **Radiation resistance**  
up to 80x10<sup>6</sup> cJ/kg (up to 80 Mrad)
- **Caloric load values**  
see Technical Informations

### Cable structure

- Bare copper conductor, solid, 0,6 mm ø
- PVC core insulation, compound type Y11 to DIN VDE 0207, insulation wall-thickness 0,2 mm to table 7
- Core and star quad identification to DIN VDE 0815
- The cores to a quad and each 5 quads to a unit and several units are stranded in layer
- Core wrapping with plastic tape
- PVC outer jacket grey, flame retardant, compound type YM1 to DIN VDE 0207 part 5, jacket wall-thickness to DIN VDE 0815 table 19

### Properties

- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

### Note

- <sup>1)</sup> This value may be extended by 20% with a make-up to 4 pairs.
- <sup>2)</sup> 20% of the values, but one value up to 500 pF is allowed.
- <sup>3)</sup> 10% of the values, but four values (relationship) up to 300 pF are allowed.

### Application

J-YY installation cables are preferably used as telephone cables in telephone stations and sub-extensions, suitable for installation in dry and damp environments in, on and under plaster as well as in the open air for fixed installation on outer walls of buildings. Telephone-Installation cables are not allowed for purposes of high current and power installation.

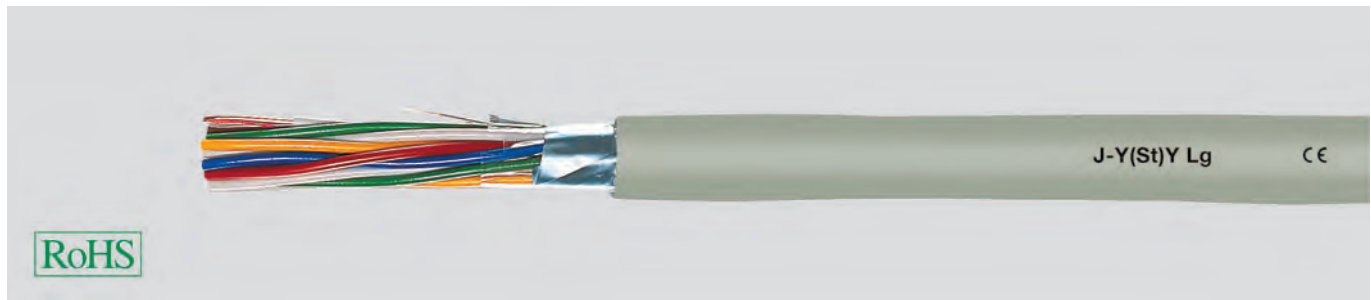
CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No. pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
33100	2 x 2 x 0,6	4,5	11,0	34,0
33101	4 x 2 x 0,6	6,5	23,0	59,0
33102	6 x 2 x 0,6	7,0	34,0	74,0
33103	10 x 2 x 0,6	8,5	57,0	111,0
33104	16 x 2 x 0,6	10,0	90,0	160,0
33105	20 x 2 x 0,6	11,0	113,0	200,0
33106	24 x 2 x 0,6	11,5	136,0	224,0

Part no.	No. pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
33107	30 x 2 x 0,6	13,0	170,0	284,0
33108	40 x 2 x 0,6	15,0	226,0	364,0
33109	50 x 2 x 0,6	16,5	283,0	451,0
33110	60 x 2 x 0,6	17,5	339,0	529,0
33111	80 x 2 x 0,6	20,3	452,0	700,0
33112	100 x 2 x 0,6	22,3	565,0	850,0

Dimensions and specifications may be changed without prior notice. (RP01)

## J-Y(St)Y Lg telephone installation cable, according to VDE 0815



### Technical data

- Installation cable according to DIN VDE 0815
- **Temperature range**  
during operation -5 °C to +50 °C  
before and after installation -30 °C to +70 °C
- **Loop resistance** at 20 °C  
0,6 mm - max. 130 Ohm/km  
0,8 mm - max. 73,2 Ohm/km
- **Nominal voltage** (peak voltage)  
(not for purposes of high current and power installation)  
0,6 mm - 300 V  
0,8 mm - 300<sup>3)</sup> V
- **Test voltage**  
core/core U eff. 800 V  
core/screen 800 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance** at 800 Hz  
max. 100<sup>1)</sup> nF/km
- **Capacitance unbalances** at 800 Hz  
k- max. 300<sup>2)</sup> pF/100 m
- **Line attenuation** at 800 Hz  
0,6 mm - 1,7 dB/km  
0,8 mm - 1,1 dB/km
- **Minimum bending radius**  
to DIN VDE 0891 part 5  
during delivery 7,5x cable ø  
single bending without tension 2,5x cable ø  
repeated bending under tension 7,5x cable ø
- **Radiation resistance**  
up to 80x10<sup>6</sup> cJ/kg (up to 80 Mrad)
- **Caloric load values**  
see Technical Informations

### Cable structure

- As per J-YY, but laid up in pairs and with electrostatic screen (St)
- Bare copper conductor, solid, 0,6 and 0,8 mm ø
- PVC core insulation, compound type YI1, to DIN VDE 0207, insulation wall-thickness 0,2 mm and 0,4 mm to table 7
- Core and pair identification to DIN VDE 0815
- Cores twisted to pairs and the pairs are stranded in layers
- Core wrapping with plastic tape
- Electrostatic screen (St) of plastic coated aluminium foil and drain wire
- PVC outer jacket grey, flame retardant, compound type YM1 to DIN VDE 0207 part 5, jacket wall-thickness to DIN VDE 0815 table 19

### Properties

- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

### Note

- <sup>1)</sup> This value may be extended by 20% with a make-up to 4 pairs.
- <sup>2)</sup> 20% of the values, but one value up to 500 pF is allowed.
- <sup>3)</sup> Short time operation (6 s/min) up to 600 V permitted.

### Application

This cable type with electrostatic screening (St) protects the transmission circuits against external electrical interferences. Installation cables laid up in pairs are preferably used for indoor telecommunication installation in dry and damp places, in, on and under plaster but also in the open air for fixed installation on outer walls of buildings. These cables are suitable for telephone stations and sub-extensions, for signal and data transmission. Telephone-Installation cables are not allowed for purposes of high current and power installation.

CE – The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No. pairs x cross-sec. mm	Outer ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
33001	2 x 2 x 0,6	5,0	13,0	40,0
33002	3 x 2 x 0,6	6,3	18,0	50,0
33003	4 x 2 x 0,6	6,5	24,0	60,0
33004	5 x 2 x 0,6	7,2	30,0	70,0
33005	6 x 2 x 0,6	7,5	35,0	80,0
33006	8 x 2 x 0,6	8,0	46,0	90,0
33007	10 x 2 x 0,6	10,0	58,0	110,0
33008	12 x 2 x 0,6	10,2	71,0	130,0
33009	16 x 2 x 0,6	11,0	93,0	160,0
33010	20 x 2 x 0,6	12,0	116,0	190,0
33011	24 x 2 x 0,6	13,0	139,0	220,0
33012	30 x 2 x 0,6	14,0	172,0	280,0
33013	40 x 2 x 0,6	15,0	220,0	350,0
33014	50 x 2 x 0,6	17,0	286,0	430,0
33015	60 x 2 x 0,6	19,0	342,0	500,0
33016	80 x 2 x 0,6	21,0	455,0	640,0
33017	100 x 2 x 0,6	24,0	568,0	850,0

Part no.	No. pairs x cross-sec. mm	Outer ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
33018	2 x 2 x 0,8	7,0	21,0	60,0
33019	3 x 2 x 0,8	8,5	31,0	80,0
33020	4 x 2 x 0,8	9,0	41,0	100,0
33021	5 x 2 x 0,8	9,5	52,0	120,0
33022	6 x 2 x 0,8	11,0	62,0	140,0
33023	8 x 2 x 0,8	11,5	82,0	170,0
33024	10 x 2 x 0,8	13,2	102,0	220,0
33025	12 x 2 x 0,8	14,2	123,0	250,0
33026	16 x 2 x 0,8	16,0	164,0	320,0
33027	20 x 2 x 0,8	17,0	204,0	380,0
33028	24 x 2 x 0,8	19,0	244,0	460,0
33029	30 x 2 x 0,8	20,8	304,0	560,0
33030	40 x 2 x 0,8	23,0	405,0	710,0
33031	50 x 2 x 0,8	26,0	505,0	900,0
33032	60 x 2 x 0,8	28,0	606,0	1050,0
33033	80 x 2 x 0,8	31,5	807,0	1400,0
33034	100 x 2 x 0,8	33,0	1008,0	1750,0

Dimensions and specifications may be changed without prior notice. (RP01)

## J-Y(St)Y Lg fire warning installation cable



### Technical data

- Installation cable adapted to DIN VDE 0815
- **Temperature range**  
during operation -5 °C to +50 °C  
before and after installation  
-30 °C to +70 °C
- **Loop resistance**  
at 20 °C max. 73,2 Ohm/km
- **Nominal voltage**  
(peak voltage) 300<sup>3)</sup> V  
(not for purposes of high current and power installation)
- **Test voltage** (50 Hz)  
core/core U eff. 800 V  
core/screen 800 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance**  
at 800 Hz max. 100<sup>1)</sup> nF/km
- **Capacitance unbalances**  
at 800 Hz k - max. 300<sup>2)</sup> pF/100 m
- **Line attenuation**  
at 800 Hz 1,1 dB/km
- **Minimum bending radius**  
to DIN VDE 0891 part 5  
during delivery 7,5x cable ø  
single bending without tension  
2,5x cable ø  
repeated bending under tension  
7,5x cable ø
- **Radiation resistance**  
up to 80x10<sup>6</sup> cJ/kg (up to 80 Mrad)

### Cable structure

- Solid plain copper wire 0,8 mm ø
- PVC core insulation Y11, to DIN VDE 0207 part 4
- Cores twisted in pairs Pairs stranded in layer
- Plastic coated aluminium foil static screening (St)
- Tinned copper drain wire PVC outer sheath YM1, to DIN VDE 0207 part 5
- Red PVC outer jacket with imprint "Brandmeldekabel"

### Properties

- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

### Note

- <sup>1)</sup> This value may be extended by 20% with a make-up to 4 pairs.
- <sup>2)</sup> 20% of the values, but one value up to 500 pF is allowed.
- <sup>3)</sup> Short time operation (6 s/min) up to 600 V permitted.

### Application

This cable type with electrostatic screening (St) protects the transmission circuits against external electrical interferences. Installation cables laid up in pairs are preferably used for indoor telecommunication installation in dry and damp places, in, on and under plaster but also in the open air for fixed installation on outer walls of buildings. These cables are suitable for telephone stations and sub-extensions, for signal and data transmission. Telephone-Installation cables are not allowed for purposes of high current and power installation.

☞ The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
33035	1 x 2 x 0,8	4,5	11,0	38,0
33036	2 x 2 x 0,8	7,0	21,0	60,0
33037	3 x 2 x 0,8	8,5	31,0	80,0
33038	4 x 2 x 0,8	9,0	41,0	100,0
33039	5 x 2 x 0,8	9,5	52,0	120,0
33040	6 x 2 x 0,8	11,0	62,0	140,0
33041	8 x 2 x 0,8	11,5	82,0	170,0
33042	10 x 2 x 0,8	13,2	102,0	220,0
33043	12 x 2 x 0,8	14,2	123,0	250,0
33044	14 x 2 x 0,8	14,6	145,0	280,0

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
33045	16 x 2 x 0,8	16,0	164,0	320,0
33046	20 x 2 x 0,8	17,0	204,0	380,0
33047	24 x 2 x 0,8	19,0	244,0	460,0
33048	30 x 2 x 0,8	20,8	304,0	560,0
33049	40 x 2 x 0,8	23,0	405,0	710,0
33050	50 x 2 x 0,8	26,0	505,0	900,0
33051	60 x 2 x 0,8	28,0	606,0	1050,0
33052	80 x 2 x 0,8	31,5	807,0	1400,0
33053	100 x 2 x 0,8	33,0	1008,0	1750,0

Dimensions and specifications may be changed without prior notice. (RP01)



## S-YY Lg switchboard cable according to VDE 0813



### Technical data

- Switchboard cable according to DIN VDE 0813
- **Temperature range** during operation  
-5 °C to +50 °C  
before and after installation  
-30 °C to +70 °C
- **Electrical characteristics** according to VDE 0813 at 20 °C
- **Conductor resistance**  
0,5 mm - max. 96 Ohm/km  
0,6 mm - max. 65 Ohm/km  
1,0 mm - max. 23,4 Ohm/km
- **Nominal voltage**  
0,5 mm - max. 375 V  
0,6 mm - max. 375 V  
1,0 mm - max. 400 V
- **Test voltage** core/core  
0,5 mm - 2000 V  
0,6 mm - 2500 V  
1,0 mm - 2500 V
- **Insulation resistance**  
min. 100 MOhm x km
- Min. permissible **bending radius** according to DIN VDE 0891 part 3 during operation max. 7,5x cable ø

### Cable structure

- Bare copper conductor, solid PVC core insulation, Y11 to DIN VDE 0207 part 4
- Core identification to DIN VDE 0813
- Cores stranded in layers
- Core wrapping with plastic tape
- PVC outer jacket, YM1 to DIN VDE 0207 part 5
- Jacket colour grey (RAL 7032)

### Properties

- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

### Application

In DIN VDE 0800 the operational areas are defined, where the application of switchboard cables permit. These are preferred for the transmission of data signals of telecommunication and control processings i. e. in interlocking installations, to connect the outdoor cables with relay groups as well as for fixed installation to interconnect the racks and distributor frames. This type is not allowed for the installation of heavy current operation.

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No. cores x cond. Ø mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34300	30 x 1 x 0,5	9,6	59,0	128,0
34301	60 x 1 x 0,5	11,9	118,0	233,0
34302	10 x 1 x 0,6	7,9	28,0	98,0
34303	20 x 1 x 0,6	9,6	57,0	132,0
34304	30 x 1 x 0,6	11,1	85,0	183,0
34305	60 x 1 x 0,6	15,4	170,0	344,0
34306	80 x 1 x 0,6	18,3	226,0	445,0
34307	20 x 1 x 1	14,5	157,0	292,0
34308	24 x 1 x 1	15,2	188,0	328,0
34309	32 x 1 x 1	16,3	251,0	430,0
34310	40 x 1 x 1	17,8	314,0	515,0
34311	60 x 1 x 1	22,2	471,0	710,0

Dimensions and specifications may be changed without prior notice. (RP01)

# J-H(St)H Bd installation cable, halogen-free, according to VDE 0815



## Technical data

- Flame retardant, halogen-free installation cable to DIN VDE 0815
- **Temperature range**  
flexing -5 °C to +50 °C  
fixed installation -30 °C to +70 °C
- **Loop resistance** at 20 °C  
max. 130 Ohm/km at 0,6 mm<sup>2</sup>  
max. 73,2 Ohm/km at 0,8 mm<sup>2</sup>
- **Operating top level voltage**  
300 V (not for purposes of high current and power installation)
- **Test voltage**  
core/core U eff. 800 V  
core/screen 800 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance** at 800 Hz  
max. 120<sup>1)</sup> nF/km
- **Capacitance unbalances** at 800 Hz  
K<sub>1</sub> max. 300<sup>2)</sup> pF/100 m  
K<sub>9</sub>-K<sub>12</sub> max. 100<sup>3)</sup> pF/100 m
- **Line attenuation** at 800 Hz  
approx. 1,5 dB/km
- **Minimum bending radius**  
during delivery 7,5x cable ø  
single bending without tension  
= 2,5x cable ø  
repeated bending under tension  
= 7,5x cable ø
- **Radiation resistance**  
up to 100x10<sup>6</sup> cJ/kg (up to 100 Mrad)
- **Caloric load values**  
see technical informations

## Cable structure

- Bare copper conductor, solid, 0,6 mm ø and 0,8 mm ø
- Core insulation of halogen-free compound type HI2, to DIN VDE 0207 part 23 insulation wall thickness 0,3 or 0,4 mm
- Core and star-quad identification to DIN VDE 0815
- Cores twisted in quads
- The cores to quads and the quads are stranded to units
- Core wrapping with plastic tape
- Drain wire solid
- Electrostatic screen (St) of plastic coated aluminium foil
- Halogen-free outer jacket type HM2 to DIN VDE 0207 part 24
- Jacket colour grey
- **LSOH** = Low Smoke Zero Halogen-free.

## Properties

- Not for purposes of high current and power installation as well as underground laying.
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

## Tests

- Flame test to VDE 0482-332-3, BS 4066 part 3/ DIN EN 60332-3/ IEC 60332-3 (equivalent DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases according to VDE 0482 part 267/ DIN EN 50267-2-2/ IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Smoke density according to VDE 0482 part 1034-1+2 / IEC 61034-1+2 / DIN EN 61034-1+2 / BS 7622 part 1+2 (equivalent DIN VDE 0472 part 816)

## Note

- <sup>1)</sup> This value may be extended by 20% with make-up up to 4 pairs.
- <sup>2)</sup> 20% of the values, but one value up to 500 pF is allowed.
- <sup>3)</sup> 10% of the values, but four values (relationship) up to 300 pF are allowed.

## Application

The halogen-free installation cables with improved characteristics in the case of fire are used for the telephone transmission, measurement and control technology.

The static screen protects the transmission circuits against outer electrical interferences. A fire propagation is prevented through high oxygen index of the insulation material and produce no corrosive gases in case of fire. Those cables are preferably used for telecommunication indoor installations and in special cases the outdoor installation is permitted under protection against sunlight. These cables are suitable for fixed installation in areas with danger of fire, in dry and damp environments as well as on, in and under plaster.

☑ The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34050	2 x 2 x 0,6	5,8	14,0	50,0
34051	4 x 2 x 0,6	8,6	25,0	91,0
34052	6 x 2 x 0,6	9,0	37,0	100,0
34053	10 x 2 x 0,6	10,3	59,0	147,0
34054	20 x 2 x 0,6	15,5	116,0	308,0
34055	30 x 2 x 0,6	16,5	172,0	350,0
34056	40 x 2 x 0,6	18,6	229,0	465,0
34057	50 x 2 x 0,6	20,7	286,0	571,0
34058	60 x 2 x 0,6	22,8	342,0	662,0
34059	80 x 2 x 0,6	26,6	455,0	877,0
34060	100 x 2 x 0,6	28,2	568,0	1055,0

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34061	2 x 2 x 0,8	6,8	25,0	70,0
34062	4 x 2 x 0,8	10,5	45,0	135,0
34063	6 x 2 x 0,8	10,9	65,0	151,0
34064	10 x 2 x 0,8	13,1	106,0	230,0
34065	20 x 2 x 0,8	20,4	206,0	507,0
34066	30 x 2 x 0,8	21,5	307,0	600,0
34067	40 x 2 x 0,8	24,5	407,0	788,0
34068	50 x 2 x 0,8	27,1	508,0	972,0
34069	60 x 2 x 0,8	29,4	608,0	1120,0
34070	80 x 2 x 0,8	33,2	809,0	1475,0
34071	100 x 2 x 0,8	37,2	1010,0	1804,0

Dimensions and specifications may be changed without prior notice. (RP01)

## J-H(St)H Bd fire warning installation cable, halogen-free



### Technical data

- Flame retardant, halogen-free installation cable adapted to DIN VDE 0815
- **Temperature range**  
flexing -5 °C to +50 °C  
fixed installation -30 °C to +70 °C
- **Loop resistance** at 20 °C  
max. 73,2 Ohm/km
- **Operating voltage** (peak value)  
300 V  
(not for purposes of high current and power installation)
- **Test voltage**  
core/core U eff. 800 V  
core/screen 800 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance** at 800 Hz  
max. 120<sup>1)</sup> nF/km
- **Capacitance unbalances** at 800 Hz  
K<sub>1</sub> max. 300<sup>2)</sup> pF/100 m  
K<sub>9</sub>-K<sub>12</sub> max. 100<sup>3)</sup> pF/100 m
- **Line attenuation** at 800 Hz  
approx. 1,5 dB/km
- **Minimum bending radius**  
during delivery = 7,5x cable ø  
single bending without tension  
= 2,5x cable ø  
repeated bending under tension  
= 7,5x cable ø
- **Radiation resistance**  
up to 100x10<sup>6</sup> cJ/kg (up to 100 Mrad)
- **Caloric load values**  
see Technical Informations

### Cable structure

- Bare copper conductor, solid, 0,8 mm ø
- Core insulation of halogen-free compound type HI2, to DIN VDE 0207 part 23 insulation wall thickness 0,3 or 0,4 mm
- Core and star-quad identification to DIN VDE 0815
- Cores twisted in quads
- The cores to quads and the quads are stranded to units
- Core wrapping with plastic tape
- Drain wire solid
- Electrostatic screen (St) of plastic coated aluminium foil and drain wire
- Halogen-free outer jacket type HM2 to DIN VDE 0207 part 24
- Jacket colour red with imprint "BRANDMELDEKABEL"
- **LSOH** = Low Smoke Zero Halogen-free.

### Properties

- Not for purposes of high current and power installation as well as underground laying
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

### Tests

- Flame test to DIN VDE 0482-332-3, BS 4066 part 3/ DIN EN 60332-3/ IEC 60332-3 (equivalent DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases according to DIN VDE 0482 part 267/ EN 50267-2-2/ IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Smoke density according to VDE 0482 part 1034-1+2 / IEC 61034-1+2 / DIN EN 61034-1+2 / BS 7622 part 1+2 (equivalent DIN VDE 0472 part 816)

### Note

- 1) This value may be extended by 20% with make-up up to 4 pairs.
- 2) 20% of the values, but one value up to 500 pF is allowed.
- 3) 10% of the values, but four values (relationship) up to 300 pF are allowed.

### Application

The halogen-free installation cables with improved characteristics in the case of fire are used for the telephone transmission, measurement and control technology.

The static screen protects the transmission circuits against outer electrical interferences. A fire propagation is prevented through high oxygen index of the insulation material and produce no corrosive gases in case of fire. Those cables are preferably used for telecommunication indoor installations and in special cases the outdoor installation is permitted under protection against sunlight.

These cables are suitable for fixed installation in areas with danger of fire, in dry and damp environments as well as on, in and under plaster.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34116	2 x 2 x 0,8	6,8	25,0	70,0
34117	4 x 2 x 0,8	10,5	45,0	135,0
34118	6 x 2 x 0,8	10,9	65,0	151,0
34119	10 x 2 x 0,8	13,1	106,0	230,0
34120	20 x 2 x 0,8	20,4	206,0	507,0
34121	30 x 2 x 0,8	21,5	307,0	600,0

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34122	40 x 2 x 0,8	24,5	407,0	788,0
34123	50 x 2 x 0,8	27,1	508,0	972,0
34124	60 x 2 x 0,8	29,4	608,0	1120,0
34125	80 x 2 x 0,8	33,2	809,0	1475,0
34126	100 x 2 x 0,8	37,2	1010,0	1804,0

Dimensions and specifications may be changed without prior notice. (RP01)

## J-2Y(St)H St III Bd 16 Mbits/s (Kat.3) ISDN/EDV (Z = 100 Ohm), halogen-free



### Technical data

- Special core insulation of PE
- Adapted to DIN VDE 0815 and 0816
- **Conductor loop-resistance**  
max. 130 Ohm/km
- **Temperature range**  
flexing -5 °C to +70 °C  
fixed installation -30 °C to +70 °C
- **Operating peak voltage** 300 V  
(not for purposes of high current and power installation)
- **Test voltage** 800 V
- **Insulation resistance**  
min. 5 GOhm x km
- **Mutual capacitance** 48 nF/km
- **Characteristic impedance (Z)**  
at 4-16 MHz: 100 Ohm ±15%
- **Capacitance unbalance**  
K<sub>1</sub> max. 400 pF/300 m  
K<sub>9</sub>-K<sub>12</sub> max. 100 pF/300 m
- **Rel. velocity ratio** approx. 0,66
- **Attenuation** at  
1 MHz: 28 dB/km  
4 MHz: 47 dB/km  
5 MHz: 51 dB/km  
10 MHz: 65 dB/km  
15 MHz: 76 dB/km  
16 MHz: 78 dB/km  
20 MHz: 89 dB/km
- **Cross-talk attenuation**  
from 4 MHz up to 16 MHz  
for 2 pairs: min. 40 dB  
4 pairs and above: min. 25 dB
- **Minimum bending radius**  
stationary approx. 10x cable ø

### Cable structure

- Bare, solid copper conductor 0,6 mm ø
- Core insulation of PE (2Y)
- Colour coding to DIN VDE 0815
- Conductors twisted to quads
- 5 quads twisted to units
- Static screen of plastics coated alu foil with drain wire 0,6 mm ø
- Outer jacket flame retardant, halogen-free polymer-compound
- Jacket colour grey

### Properties

- Outer jacket  
Flame test to VDE 0482-332-3, BS 4066 part 3/ DIN EN 60332-3/ IEC 60332-3 (equivalent DIN VDE 0472 part 804 test method C)
- These cables are not allowed for purposes of high current and power installation
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

### Application

Used as data transmission and connection cable suitable for fixed installation in and under plaster, for data transmission applications, for periphery instrument data processing computers.

Suitable for transmission of analog- and digital signals up to 16 Mbit/s. High cross-talk attenuation values.

Suitable as connecting cable for periphery equipment, data processing systems, monitors, Printers and cash register systems.

The static screen (St) screen assures a disturbance-free data and signal transmission for measuring and control systems.

CE The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34166	2 x 2 x 0,6	5,8	13,0	44,0
34167	4 x 2 x 0,6	9,2	24,0	80,0
34168	6 x 2 x 0,6	9,3	35,0	86,0
34169	8 x 2 x 0,6	9,5	46,0	105,0
34170	10 x 2 x 0,6	9,8	58,0	112,0
34171	20 x 2 x 0,6	12,7	116,0	218,0

Part no.	No.pairs x cross-sec. mm	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
34172	30 x 2 x 0,6	15,0	172,0	302,0
34173	40 x 2 x 0,6	16,8	229,0	376,0
34174	50 x 2 x 0,6	18,5	266,0	480,0
34175	60 x 2 x 0,6	20,2	342,0	560,0
34176	80 x 2 x 0,6	23,0	455,0	748,0
34177	100 x 2 x 0,6	25,2	588,0	940,0

Dimensions and specifications may be changed without prior notice. (RP01)