



**General Cables**





Our cables at:



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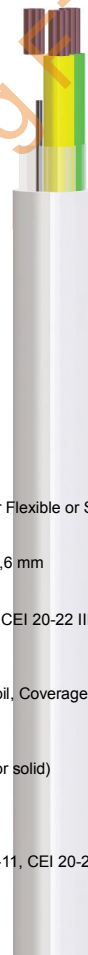
TRAMWAY PARIS



IPER PORTELLO

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## Flexible and Solid Cables for Alarm System



### Applications

Cables for security systems, burglary, theft, robbery assault for installation in dry or damp premises and in places with risk of fire, intrusion detection systems signals in indoor environments, which require a greater protection against interference (electrostatic polyester-aluminum tape). For fixed installation indoors and outdoors.

They can be installed on platforms, pipes, conduits and similar systems.

Ability to pose together with power cables with marking both 300/500 V 450/750 V used for systems with a nominal voltage to earth (U<sub>0</sub>) up to 400 V.

The sheath is made of fire retardant thermoplastic compound.

### Technical Data

<b>Nominal Voltage:</b>	350 V
<b>Test Voltage:</b>	2000 V
<b>Temperature Range:</b>	-10 °C + 80 °C
<b>Radiation Resistance:</b>	80 Mrad
<b>Min. Bending Radius:</b>	12xOverall Diameter
<b>Insulation Resistance:</b>	>150 MOhm x Km
<b>Conductor Resistance:</b>	< 120 Ohm/km (0,22 mmq) < 66 Ohm/km (0,50 mmq) < 55 Ohm/km (0,75 mmq)
<b>Capacitance:</b>	130 pF/m
<b>Printing:</b>	FLAME RETARDANT CE "Year" IEC 60332-3-24 CEI 20-22-III - CEI UNEL 36762 C-4 (U <sub>0</sub> =400V)

### Construction

- **Conductors:**  
Bare or Tinned Copper Flexible or Solid
- **Section:**  
0,22 mmq, 0,50 mm, 0,6 mm
- **Insulation:**  
PVC TI1 to CEI 20-11, CEI 20-22 III, IEC 60332
- **Screen:**  
Aluminium/Polyester foil. Coverage >100% - Overlap 25%
- **Drain Wire:**  
Bare Copper (flexible or solid)
- **Rip Cord**
- **Outer Sheath:**  
PVC type TM1 CEI 20-11, CEI 20-22 II, IEC 60332
- **Colour:**  
White RAL 9010

SHIELDED CABLES 0,22 mmq		
Ramcro Code	Description	Outer Diameter (mm)
SAS0222GCAAA	2x0,22 mmq	3,3 +/- 0,3
SAS0422GCAAA	4x0,22 mmq	3,7 +/- 0,3
SAS0522GCAAA	5x0,22 mmq	4,2 +/- 0,3
SAS0622GCAAA	6x0,22 mmq	4,4 +/- 0,3
SAS0722GCAAA	7x0,22 mmq	4,5 +/- 0,3
SAS0822GCAAA	8x0,22 mmq	4,7 +/- 0,3
SAS1022GCAAA	10x0,22 mmq	4,9 +/- 0,3
SAS1222GCAAA	12x0,22 mmq	5,5 +/- 0,3
SAS1422GCAAA	14x0,22 mmq	5,7 +/- 0,3
SAS2022GCAAA	20x0,22 mmq	7,0 +/- 0,3
SAS3022GCAAA	30x0,22 mmq	8,0 +/- 0,3
SAS4022GCAAA	40x0,22 mmq	8,9 +/- 0,3
SAC02500222GCAAB	2x0,50 + 2x0,22 mmq	4,2 +/- 0,3
SAC02500422GCAAB	2x0,50 + 4x0,22 mmq	4,7 +/- 0,3
SAC02500522GCAAB	2x0,50 + 5x0,22 mmq	4,9 +/- 0,3
SAC02500622GCAAB	2x0,50 + 6x0,22 mmq	5,0 +/- 0,3
SAC02500822GCAAB	2x0,50 + 8x0,22 mmq	5,4 +/- 0,3
SAC02501022GCAAB	2x0,50 + 10x0,22 mmq	5,8 +/- 0,3
SAC02501222GCAAB	2x0,50 + 12x0,22 mmq	6,4 +/- 0,3
SAC02501422GCAAB	2x0,50 + 14x0,22 mmq	6,7 +/- 0,3
SAC02750222GCAAB	2x0,75 + 2x0,22 mmq	4,6 +/- 0,3
SAC02750422GCAAB	2x0,75 + 4x0,22 mmq	4,9 +/- 0,3
SAC02750622GCAAB	2x0,75 + 6x0,22 mmq	5,6 +/- 0,3
SAC02750822GCAAB	2x0,75 + 8x0,22 mmq	5,8 +/- 0,3
SAC02751022GCAAB	2x0,75 + 10x0,22 mmq	6,5 +/- 0,3
SAC02751222GCAAB	2x0,75 + 12x0,22 mmq	6,7 +/- 0,3
SAC02752022GCAAB	2x0,75 + 20x0,22 mmq	7,8 +/- 0,3

UNSHIELDED CABLES 0,22 mmq		
Ramcro Code	Description	Outer Diameter (mm)
SSS0222GCAAA	2x0,22 mmq	3,2 +/- 0,3
SSS0422GCAAA	4x0,22 mmq	3,6 +/- 0,3
SSS0522GCAAA	5x0,22 mmq	4,1 +/- 0,3
SSS0622GCAAA	6x0,22 mmq	4,3 +/- 0,3
SSS0722GCAAA	7x0,22 mmq	4,4 +/- 0,3
SSS0822GCAAA	8x0,22 mmq	4,6 +/- 0,3
SSS1022GCAAA	10x0,22 mmq	4,8 +/- 0,3
SSS1222GCAAA	12x0,22 mmq	5,4 +/- 0,3
SSS1422GCAAA	14x0,22 mmq	5,6 +/- 0,3
SSS2022GCAAA	20x0,22 mmq	7,1 +/- 0,3
SSS3022GCAAA	30x0,22 mmq	7,9 +/- 0,3
SSS4022GCAAA	40x0,22 mmq	8,8 +/- 0,3
SSC02500222GCAAB	2x0,50 + 2x0,22 mmq	4,1 +/- 0,3
SSC02500422GCAAB	2x0,50 + 4x0,22 mmq	4,6 +/- 0,3
SSC02500522GCAAB	2x0,50 + 5x0,22 mmq	4,8 +/- 0,3
SSC02500622GCAAB	2x0,50 + 6x0,22 mmq	4,9 +/- 0,3
SSC02500822GCAAB	2x0,50 + 8x0,22 mmq	5,3 +/- 0,3
SSC02501022GCAAB	2x0,50 + 10x0,22 mmq	5,7 +/- 0,3
SSC02501222GCAAB	2x0,50 + 12x0,22 mmq	6,3 +/- 0,3
SSC02750222GCAAB	2x0,75 + 2x0,22 mmq	4,5 +/- 0,3
SSC02750422GCAAB	2x0,75 + 4x0,22 mmq	4,8 +/- 0,3
SSC02750622GCAAB	2x0,75 + 6x0,22 mmq	5,5 +/- 0,3
SSC02750822GCAAB	2x0,75 + 8x0,22 mmq	5,7 +/- 0,3
SSC02751022GCAAB	2x0,75 + 10x0,22 mmq	6,4 +/- 0,3
SSC02751222GCAAB	2x0,75 + 12x0,22 mmq	6,6 +/- 0,3

### Standard References

- BS 4737
- CEI 4676



SHIELDED CABLES Ø 0,50 mm BARE OR TINNED COPPER		
Ramcro Code	Description	Outer Diameter (mm)
SAS0422IDAAA	2x0,5 mm	3,3 +/- 0,3
SAS0622IDAAA	4x0,5 mm	3,7 +/- 0,3
SAS0822IDAAA	6x0,5 mm	4,4 +/- 0,3
SAS1022IDAAA	8x0,5 mm	4,7 +/- 0,3
SAS1222IDAAA	10x0,5 mm	4,9 +/- 0,3
SAC02500222IDAAB	12x0,5 mm	5,5 +/- 0,3
SAC02500422IDAAB	16x0,5 mm	5,7 +/- 0,3
SAC02500622IDAAB	24x0,5 mm	7,2 +/- 0,3

SHIELDED CABLES Ø 0,60 mm BARE OR TINNED COPPER		
Ramcro Code	Description	Outer Diameter (mm)
SAR0406GCAAA	4x0,5 mm	3,7 +/- 0,3
SAR0606GCAAA	6x0,5 mm	4,4 +/- 0,3
SAR0806GCAAA	8x0,5 mm	4,7 +/- 0,3
SAR1006GCAAA	10x0,5 mm	4,9 +/- 0,3
SAR1206GCAAA	12x0,5 mm	5,5 +/- 0,3
SAR1406GCAAA	14x0,5 mm	5,7 +/- 0,3
SAR2006GCAAA	20x0,5 mm	7,2 +/- 0,3
SAR3006GCAAA	30x0,5 mm	8,0 +/- 0,3

UNSHIELDED CABLES 0,20 mmq TINNED COPPER		
Ramcro Code	Description	Outer Diameter (mm)
SSS0222GCAAX-ULTRA	2x0,20 mm	3,0 +/- 0,3
SSS0422GCAAX-ULTRA	4x0,20 mm	3,2 +/- 0,3
SSS0622GCAAX-ULTRA	6x0,20 mm	4,0 +/- 0,3
SSS0822GCAAX-ULTRA	8x0,20 mm	4,2 +/- 0,3
SSS1222GCAAX-ULTRA	12x0,20 mm	5,2 +/- 0,3

SHIELDED CABLES 0,20 mmq TINNED COPPER		
Ramcro Code	Description	Outer Diameter (mm)
SAS0222GCAAX-ULTRA	2x0,20 mm	3,5 +/- 0,3
SAS0422GCAAX-ULTRA	4x0,20 mm	3,8 +/- 0,3
SAS0622GCAAX-ULTRA	6x0,20 mm	4,6 +/- 0,3
SAS0822GCAAX-ULTRA	8x0,20 mm	5,1 +/- 0,3
SAS1222GCAAX-ULTRA	12x0,20 mm	6,1 +/- 0,3

Colour Code for Flexible Cable						
0,50 mmq 0,75 mmq		0,22 mmq				
Red Black	1	White	11	Blue	21	White/Light Blue
	2	Red	12	Pink	22	White/Pink
	3	Yellow	13	White/Brown	23	White/Orange
	4	Green	14	White/Purple	24	Red/Grey
	5	Grey	15	White/Green	25	Red/Brown
	6	Orange	16	White/Blue	26	Red/Yellow
	7	Light Blue	17	White/Grey	27	Red/Light Blue
	8	Brown	18	White/Yellow	28	Red/Green
	9	Purple	19	White/Black	29	Red/Orange
	10	Black	20	White/Red	30	Red/Blue

Standard References

- BS 4737
- CEI 4676



**CEI UNEL 36762 C-4 ( $U_0=400\text{ V}$ )**

Flexible cables for alarm systems

**Applications**

Cables for security systems, burglary, theft, robbery assault for installation in dry or damp premises and in places with risk of fire, intrusion detection systems signals in indoor environments, which require a greater protection against interference (electrostatic polyester-aluminum tape). For fixed installation indoors and outdoors.

They can be installed on platforms, pipes, conduits and similar systems.

Ability to pose together with power cables with marking both 300/500 V 450/750 V used for systems with a nominal voltage to earth ( $U_0$ ) up to 400 V.

The sheath is made of fire retardant thermoplastic compound

**Technical Data**

<b>Nominal Voltage:</b>	350 V
<b>Test Voltage:</b>	2000 V
<b>Temperature Range:</b>	-10 °C + 80 °C
<b>Radiation Resistance:</b>	80 Mrad
<b>Min. Bending Radius:</b>	12xOverall Diameter
<b>Insulation Resistance:</b>	>150 MOhm x Km
<b>Conductor Resistance:</b>	< 120 Ohm/km (0,22 mmq) < 66 Ohm/km (0,50 mmq) < 55 Ohm/km (0,75 mmq)
<b>Capacitance:</b>	130 pF/m
<b>Printing:</b>	FLAME RETARDANT CE "Year" IEC 60332 - CEI 20-22-III - CEI UNEL 36762 C-4 ( $U_0=400\text{V}$ )

**Construction**

- **Conductors:**  
Bare or Tinned Copper Flexible or Solid
- **Section:**  
0,22 mmq, 0,50 mm, 0,6 mm
- **Insulation:**  
PVC TI1 to CEI 20-11, CEI 20-22 III, IEC 60332
- **Screen:**  
Aluminium/Polyester foil. Coverage >100% - Overlap 25%
- **Drain Wire:**  
Bare Copper (flexible or solid)
- **Rip Cord**
- **Outer Sheath:**  
PVC type TM1 CEI 20-11, CEI 20-22 III, IEC 60332
- **Colour:**  
White RAL 9010

SHIELDED CABLES 0,22 mmq		
Ramcro Code	Description	Outer Diameter (mm)
SAS0222GCAAA	2x0,22 mmq	3,3 +/- 0,3
SAS0422GCAAA	4x0,22 mmq	3,7 +/- 0,3
SAS0522GCAAA	5x0,22 mmq	4,2 +/- 0,3
SAS0622GCAAA	6x0,22 mmq	4,4 +/- 0,3
SAS0722GCAAA	7x0,22 mmq	4,5 +/- 0,3
SAS0822GCAAA	8x0,22 mmq	4,7 +/- 0,3
SAS1022GCAAA	10x0,22 mmq	4,9 +/- 0,3
SAS1222GCAAA	12x0,22 mmq	5,5 +/- 0,3
SAS1422GCAAA	14x0,22 mmq	5,7 +/- 0,3
SAS2022GCAAA	20x0,22 mmq	7,0 +/- 0,3
SAS3022GCAAA	30x0,22 mmq	8,0 +/- 0,3
SAS4022GCAAA	40x0,22 mmq	8,9 +/- 0,3
SAC02500222GCAAB	2x0,50 + 2x0,22 mmq	4,2 +/- 0,3
SAC02500422GCAAB	2x0,50 + 4x0,22 mmq	4,7 +/- 0,3
SAC02500522GCAAB	2x0,50 + 5x0,22 mmq	4,9 +/- 0,3
SAC02500622GCAAB	2x0,50 + 6x0,22 mmq	5,0 +/- 0,3
SAC02500822GCAAB	2x0,50 + 8x0,22 mmq	5,4 +/- 0,3
SAC02501022GCAAB	2x0,50 + 10x0,22 mmq	5,8 +/- 0,3
SAC02501222GCAAB	2x0,50 + 12x0,22 mmq	6,4 +/- 0,3
SAC02501422GCAAB	2x0,50 + 14x0,22 mmq	6,7 +/- 0,3
SAC02750222GCAAB	2x0,75 + 2x0,22 mmq	4,6 +/- 0,3
SAC02750422GCAAB	2x0,75 + 4x0,22 mmq	4,9 +/- 0,3
SAC02750622GCAAB	2x0,75 + 6x0,22 mmq	5,6 +/- 0,3
SAC02750822GCAAB	2x0,75 + 8x0,22 mmq	5,8 +/- 0,3
SAC02751022GCAAB	2x0,75 + 10x0,22 mmq	6,5 +/- 0,3
SAC02751222GCAAB	2x0,75 + 12x0,22 mmq	6,7 +/- 0,3
SAC02752022GCAAB	2x0,75 + 20x0,22 mmq	7,8 +/- 0,3

UNSHIELDED CABLES 0,22 mmq		
Ramcro Code	Description	Outer Diameter (mm)
SSS0222GCAAA	2x0,22 mmq	3,2 +/- 0,3
SSS0422GCAAA	4x0,22 mmq	3,6 +/- 0,3
SSS0522GCAAA	5x0,22 mmq	4,1 +/- 0,3
SSS0622GCAAA	6x0,22 mmq	4,3 +/- 0,3
SSS0722GCAAA	7x0,22 mmq	4,4 +/- 0,3
SSS0822GCAAA	8x0,22 mmq	4,6 +/- 0,3
SSS1022GCAAA	10x0,22 mmq	4,8 +/- 0,3
SSS1222GCAAA	12x0,22 mmq	5,4 +/- 0,3
SSS1422GCAAA	14x0,22 mmq	5,6 +/- 0,3
SSS2022GCAAA	20x0,22 mmq	7,1 +/- 0,3
SSS3022GCAAA	30x0,22 mmq	7,9 +/- 0,3
SSS4022GCAAA	40x0,22 mmq	8,8 +/- 0,3
SSC02500222GCAAB	2x0,50 + 2x0,22 mmq	4,1 +/- 0,3
SSC02500422GCAAB	2x0,50 + 4x0,22 mmq	4,6 +/- 0,3
SSC02500522GCAAB	2x0,50 + 5x0,22 mmq	4,8 +/- 0,3
SSC02500622GCAAB	2x0,50 + 6x0,22 mmq	4,9 +/- 0,3
SSC02500822GCAAB	2x0,50 + 8x0,22 mmq	5,3 +/- 0,3
SSC02501022GCAAB	2x0,50 + 10x0,22 mmq	5,7 +/- 0,3
SSC02501222GCAAB	2x0,50 + 12x0,22 mmq	6,3 +/- 0,3
SSC02750222GCAAB	2x0,75 + 2x0,22 mmq	4,5 +/- 0,3
SSC02750422GCAAB	2x0,75 + 4x0,22 mmq	4,8 +/- 0,3
SSC02750622GCAAB	2x0,75 + 6x0,22 mmq	5,5 +/- 0,3
SSC02750822GCAAB	2x0,75 + 8x0,22 mmq	5,7 +/- 0,3
SSC02751022GCAAB	2x0,75 + 10x0,22 mmq	6,4 +/- 0,3
SSC02751222GCAAB	2x0,75 + 12x0,22 mmq	6,6 +/- 0,3

**Standard References**

- CEI 20-22 II
- CEI 20-37
- CEI 46-5



SHIELDED CABLES Ø 0,50 mm BARE OR TINNED COPPER		
Ramcro Code	Description	Outer Diameter (mm)
SAS0422IDAAA	2x0,5 mm	3,3 +/- 0,3
SAS0622IDAAA	4x0,5 mm	3,7 +/- 0,3
SAS0822IDAAA	6x0,5 mm	4,4 +/- 0,3
SAS1022IDAAA	8x0,5 mm	4,7 +/- 0,3
SAS1222IDAAA	10x0,5 mm	4,9 +/- 0,3
SAC02500222IDAAB	12x0,5 mm	5,5 +/- 0,3
SAC02500422IDAAB	16x0,5 mm	5,7 +/- 0,3
SAC02500622IDAAB	24x0,5 mm	7,2 +/- 0,3

SHIELDED CABLES Ø 0,60 mm BARE OR TINNED COPPER		
Ramcro Code	Description	Outer Diameter (mm)
SAR0406GCAAA	4x0,5 mm	3,7 +/- 0,3
SAR0606GCAAA	6x0,5 mm	4,4 +/- 0,3
SAR0806GCAAA	8x0,5 mm	4,7 +/- 0,3
SAR1006GCAAA	10x0,5 mm	4,9 +/- 0,3
SAR1206GCAAA	12x0,5 mm	5,5 +/- 0,3
SAR1406GCAAA	14x0,5 mm	5,7 +/- 0,3
SAR2006GCAAA	20x0,5 mm	7,2 +/- 0,3
SAR3006GCAAA	30x0,5 mm	8,0 +/- 0,3

UNSHIELDED CABLES 0,20 mmq TINNED COPPER		
Ramcro Code	Description	Outer Diameter (mm)
SSS0222GCAAX-ULTRA	2x0,20 mm	3,0 +/- 0,3
SSS0422GCAAX-ULTRA	4x0,20 mm	3,2 +/- 0,3
SSS0622GCAAX-ULTRA	6x0,20 mm	4,0 +/- 0,3
SSS0822GCAAX-ULTRA	8x0,20 mm	4,2 +/- 0,3
SSS1222GCAAX-ULTRA	12x0,20 mm	5,2 +/- 0,3

SHIELDED CABLES 0,20 mmq TINNED COPPER		
Ramcro Code	Description	Outer Diameter (mm)
SAS0222GCAAX-ULTRA	2x0,20 mm	3,5 +/- 0,3
SAS0422GCAAX-ULTRA	4x0,20 mm	3,8 +/- 0,3
SAS0622GCAAX-ULTRA	6x0,20 mm	4,6 +/- 0,3
SAS0822GCAAX-ULTRA	8x0,20 mm	5,1 +/- 0,3
SAS1222GCAAX-ULTRA	12x0,20 mm	6,1 +/- 0,3

Colour Code for Flexible Cable						
0,50 mmq 0,75 mmq		0,22 mmq				
Red Black	1	White	11	Blue	21	White/Light Blue
	2	Red	12	Pink	22	White/Pink
	3	Yellow	13	White/Brown	23	White/Orange
	4	Green	14	White/Purple	24	Red/Grey
	5	Grey	15	White/Green	25	Red/Brown
	6	Orange	16	White/Blue	26	Red/Yellow
	7	Light Blue	17	White/Grey	27	Red/Light Blue
	8	Brown	18	White/Yellow	28	Red/Green
	9	Purple	19	White/Black	29	Red/Orange
	10	Black	20	White/Red	30	Red/Blue

Standard References

- CEI 20-22 II
- CEI 20-37
- CEI 46-5



## CEI UNEL 36762 C-4 ( $U_0=400$ V) Double Sheath

Flexible cables for alarm systems

### Applications

Cables for security systems, burglary, theft, robbery assault for installation in dry or damp premises and in places with risk of fire, intrusion detection systems signals in indoor environments, which require a greater protection against interference (electrostatic polyester-aluminum tape). For fixed installation indoors and outdoors.

They can be installed on platforms, pipes, conduits and similar systems.

Ability to pose together with power cables with marking both 300/500 V 450/750 V used for systems with a nominal voltage to earth ( $U_0$ ) up to 400 V.

The sheath is made of fire retardant thermoplastic compound

### Technical Data

<b>Nominal Voltage:</b>	50 V
<b>Test Voltage:</b>	2000 V
<b>Temperature Range:</b>	-10 °C + 80 °C
<b>Radiation Resistance:</b>	80 Mrad
<b>Min. Bending Radius:</b>	12xOverall Diameter
<b>Insulation Resistance:</b>	>150 MOhmXKm
<b>Conductor Resistance:</b>	< 120 Ohm/km (0,22 mmq) < 66 Ohm/km (0,50 mmq) < 55 Ohm/km (0,75 mmq)
<b>Capacitance:</b>	130 pF/m
<b>Printing:</b>	FLAME RETARDANT CE "Year" IEC 60332 - CEI 20-22-III - CEI UNEL 36762 C-4 ( $U_0=400$ V)

### Construction

- **Conductors:**  
Flexible Conductor
- **Section:**  
0,22 mmq, 0,50 mmq, 0,75 mmq
- **Insulation:**  
PVC T11 to CEI 20-11, CEI 20-22 III, IEC 60332
- **Screen:**  
Aluminium/Polyester foil, Coverage >100% - Overlap 25% Flexible Drain Wire
- **Rip Cord**
- **Outer Sheath:**  
PVC type TM1 CEI 20-11, CEI 20-22 III, IEC 60332
- **Colour:**  
Blue RAL 5015



SHIELDED CABLES 0,22 mmq

Ramcro Code	Description	Outer Diameter (mm)
SAS0422IDAAA	4x0,22 mmq	4,8 +/- 0,3
SAS0622IDAAA	6x0,22 mmq	5,4 +/- 0,3
SAS0822IDAAA	8x0,22 mmq	5,8 +/- 0,3
SAS1022IDAAA	10x0,22 mmq	6,4 +/- 0,3
SAS1222IDAAA	12x0,22 mmq	6,6 +/- 0,3
SAC02500222IDAAB	2x0,50 + 2x0,22 mmq	5,4 +/- 0,3
SAC02500422IDAAB	2x0,50 + 4x0,22 mmq	6,0 +/- 0,3
SAC02500622IDAAB	2x0,50 + 6x0,22 mmq	6,5 +/- 0,3
SAC02500822IDAAB	2x0,50 + 8x0,22 mmq	7,2 +/- 0,3
SAC02501022IDAAB	2x0,50 + 10x0,22 mmq	7,4 +/- 0,3
SAC02501222IDAAB	2x0,50 + 12x0,22 mmq	7,5 +/- 0,3
SAC02501422IDAAB	2x0,50 + 14x0,22 mmq	7,8 +/- 0,3
SAC02750222IDAAB	2x0,75 + 2x0,22 mmq	6,0 +/- 0,3
SAC02750422IDAAB	2x0,75 + 4x0,22 mmq	6,3 +/- 0,3
SAC02750622IDAAB	2x0,75 + 6x0,22 mmq	6,7 +/- 0,3
SAC02750822IDAAB	2x0,75 + 8x0,22 mmq	7,6 +/- 0,3
SAC02751022IDAAB	2x0,75 + 10x0,22 mmq	7,7 +/- 0,3
SAC02751222IDAAB	2x0,75 + 12x0,22 mmq	8,1 +/- 0,3
SAC02752022IDAAB	2x0,75 + 20x0,22 mmq	9,7 +/- 0,3

### Standard References

- CEI 20-22 II
- CEI 20-37
- CEI 46-5
- Capitolato Telecom 1279
- Capitolato Telecom 1285



# Telephone cables for indoor use



Flexible cables for alarm systems

## Applications

TRR and TRHR cables are suitable for telephonic connections in phone and data transmissions inside indoor systems.

- TR-R: suitable for civil or industrial connection systems.
- TR-HR: suggested for installations where there are electromagnetic interferences which may disturb the low power signal

All the telephone cables can be order with the following armor:

- SWA: Single Wire Armor
- STA: Steel Tape Armor
- SWB: Single Wire Braid

## Technical Data

<b>Nominal Voltage:</b>	50 V
<b>Test Voltage:</b>	75 V
<b>Temperature Range:</b>	-10 °C + 80 °C
<b>Radiation Resistance:</b>	80 Mrad
<b>Min. Bending Radius:</b>	12xOverall Diameter
<b>Insulation Resistance:</b>	PVC >200 MOhmXKm
<b>Conductor Resistance:</b>	< 70 Ohm/km (0,22 mmq)
<b>Capacitance:</b>	120 pF/m
<b>Printing:</b>	CEI ANTIFIAMMA 20-22 II CEI 20-37/1 CEI 46-5

## Construction

- **Conductors:**  
Solid Conductor 0,6 mm
- **Insulation:**  
PVC flame ret. IEC 60332
- **Screen:**  
Aluminium/Polyester foil, Coverage >100% for shielded cables  
Solid tinned copper drain wire for shielded cables
- **Outer Sheath:**  
Flame retardant PVC IEC 60332 - CEI 20-22 / 20-37
- **Colour:**  
Grey RAL 7001

TELEPHONE  
CABLES  
TRR - TRHR

9

CABLE WITH OR WITHOUT SCREEN		
Ramcro Code	Description	Outer Diameter (mm)
TRR1T	1x2x0,6+T mm	4,9 +/- 0,2
TRR2T	2x2x0,6+T mm	5,9 +/- 0,2
TRR3	3x2x0,6 mm	6,6 +/- 0,2
TRR4	4x2x0,6 mm	7,1 +/- 0,2
TRR5	5x2x0,6 mm	7,4 +/- 0,2
TRR6	6x2x0,6 mm	8,1 +/- 0,2
TRR8	8x2x0,6 mm	8,9 +/- 0,2
TRR101	11x2x0,6 mm	9,7 +/- 0,2
TRR151	16x2x0,6 mm	11,3 +/- 0,2
TRR201	21x2x0,6 mm	12,9 +/- 0,2
TRR251	25x2x0,6 mm	14,2 +/- 0,2
TRR30+1	30+1x2x0,6 mm	15,6 +/- 0,2
TRR50+1	50+1x2x0,6 mm	20,0 +/- 0,2
TRR100+1	100+1x2x0,6 mm	26,0 +/- 0,2

CABLE WITH SCREEN		
Ramcro Code	Description	Outer Diameter (mm)
TRHR1T	1x2x0,6+T mm	5,4 +/- 0,2
TRHR2T	2x2x0,6+T mm	6,4 +/- 0,2
TRHR3	3x2x0,6 mm	7,1 +/- 0,2
TRHR4	4x2x0,6 mm	7,6 +/- 0,2
TRHR5	5x2x0,6 mm	7,9 +/- 0,2
TRHR6	6x2x0,6 mm	8,6 +/- 0,2
TRHR8	8x2x0,6 mm	9,4 +/- 0,2
TRHR101	11x2x0,6 mm	10,2 +/- 0,2
TRHR151	16x2x0,6 mm	11,8 +/- 0,2
TRHR201	21x2x0,6 mm	13,4 +/- 0,2
TRHR251	25x2x0,6 mm	14,7 +/- 0,2
TRHR30+1	30+1x2x0,6 mm	16,1 +/- 0,2
TRHR50+1	50+1x2x0,6 mm	20,5 +/- 0,2
TRHR100+1	100+1x2x0,6 mm	26,5 +/- 0,2

## Standard References

- CEI 20-22 II
- CEI 20-37
- CEI 46-5
- Capitolato Telecom 1279
- Capitolato Telecom 1285



## Telephone cables for indoor use



Flexible cables for alarm systems

### Applications

TESS, TESA are indoor telephone cables are used for public and civil buildings as well as for industrial installations.

### Technical Data

<b>Nominal Voltage:</b>	150 V
<b>Test Voltage:</b>	2000 V
<b>Temperature Range:</b>	-10 °C + 80 °C
<b>Radiation Resistance:</b>	80 Mrad
<b>Min. Bending Radius:</b>	12xOverall Diameter
<b>Insulation Resistance:</b>	PVC >200 MOhmXkm
<b>Conductor Resistance:</b>	< 70 Ohm/km (0,22 mmq)
<b>Attenuation:</b>	120 pF/m
<b>Capacitance:</b>	< 1,5 db/km
<b>Printing:</b>	CEI ANTIFIAMMA 20-22 II CEI 20-37/1 CEI 46-5

### Construction

- **Conductors:**  
Solid Conductor 0,6 mm
- **Insulation:**  
PVC flame ret. IEC 60332
- **Screen:**  
Aluminium/Polyester foil, Coverage >100% for shielded cables  
Solid tinned copper drain wire for shielded cables
- **Outer Sheath:**  
Flame retardant PVC IEC 60332 - CEI 20-22 / 20-37
- **Colour:**  
Grey RAL 7001

INDOOR TELEPHONE CABLE					
Ramcro Code	Description	Outer Diameter (mm)	Ramcro Code	Description	Outer Diameter (mm)
TESS1 / TESA1	1x2x0,6 mm	3,5 +/- 0,2	TESS6 / TESA6	6x2x0,6 mm	6,7 +/- 0,2
TESS2 / TESA2	2x2x0,6 mm	4,6 +/- 0,2	TESS8 / TESA8	8x2x0,6 mm	7,3 +/- 0,2
TESS3 / TESA3	3x2x0,6 mm	5,1 +/- 0,2	TESS10 / TESA10	10x2x0,6 mm	8,0 +/- 0,2
TESS4 / TESA4	4x2x0,6 mm	5,9 +/- 0,2	TESS15 / TESA15	15x2x0,6 mm	9,0 +/- 0,2
TESS5 / TESA5	5x2x0,6 mm	6,3 +/- 0,2	TESS20 / TESA20	20x2x0,6 mm	10,1 +/- 0,2
TESS6 / TESA6	6x2x0,6 mm	6,7 +/- 0,2	TESS30 / TESA30	30x2x0,6 mm	12,5 +/- 0,2

## Telephone cables for outdoor use

### Technical Data

<b>Nominal Voltage:</b>	150 V
<b>Test Voltage:</b>	2000 V
<b>Temperature Range:</b>	-10 °C + 80 °C
<b>Radiation Resistance:</b>	80 Mrad
<b>Min. Bending Radius:</b>	12xOverall Diameter
<b>Insulation Resistance:</b>	PE > 5 GOhmXkm
<b>Conductor Resistance:</b>	< 70 Ohm/km (0,22 mmq)
<b>Attenuation:</b>	120 pF/m
<b>Capacitance:</b>	< 1,5 db/km
<b>Printing:</b>	CEI ANTIFIAMMA 20-22 II CEI 20-37/1 CEI 46-5

### Construction

- **Conductors:**  
Solid Conductor 0,6 mm
- **Insulation:**  
Polyethylene
- **Screen:**  
Aluminium/Polyester tape, overlapping
- **Solid Tinned Drain Wire**
- **Outer Sheath:**  
Polyethylene
- **Colour:**  
Black RAL 9005

### Standard References

- CEI 20-22 II
- CEI 20-37
- CEI 46-5
- Capitolato Telecom 1279
- Capitolato Telecom 1285

CABLE WITH SCREEN		
Ramcro Code	Description	Outer Diameter (mm)
TEHPET02	2x2x0,6 mm	5,4 +/- 0,2
TEHPET04	4x2x0,6 mm	6,4 +/- 0,2
TEHPET06	6x2x0,6 mm	7,1 +/- 0,2
TEHPET10	10x2x0,6 mm	7,6 +/- 0,2
TEHPET20	20x2x0,6 mm	7,9 +/- 0,2
TEHPET30	6x2x0,6 mm	8,6 +/- 0,2



# Telephone cables for indoor use



Flexible cables for alarm systems

## Applications

SYT are indoor telephone cables are used for public and civil buildings as well as for industrial installations.

## Technical Data

Nominal Voltage:	150 V
Test Voltage:	2000 V
Temperature Range:	-20 °C + 80 °C
Min. Bending Radius:	8xOverall Diameter
Insulation Resistance:	5 GOhmXKm
Conductor Resistance:	< 142 Ohm/km (Ø 0,50 mm) < 62 Ohm/km (Ø 0,80 mm)
Capacitance:	50 pF/m
Impedance 1 MHz:	100 Ohm +/- 20%

## Construction

- **Conductors:**  
Solid Conductor 0,6 mm
- **Insulation:**  
PVC flame ret. IEC 60332
- **Screen:**  
Aluminium/Polyester foil, Coverage >100% for shielded cables  
Solid tinned copper drain wire for shielded cables
- **Outer Sheath:**  
Flame retardant PVC IEC 60332 - CEI 20-22 / 20-37
- **Colour:**  
Grey RAL 7001

TELEPHONE CABLES SYT

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## SYT+1

TELEPHONE CABLE TO NF (AWG 24)		
Ramcro Code	Description	Outer Diameter (mm)
SYT+1 1PO5	1x2x0,5 (AWG 24)	3,8 +/- 0,2
SYT+1 2PO5	2x2x0,5 (AWG 24)	5,1 +/- 0,2
SYT+1 3PO5	3x2x0,5 (AWG 24)	5,8 +/- 0,2
SYT+1 5PO5	5x2x0,5 (AWG 24)	7,5 +/- 0,2
SYT+1 10PO5	10x2x0,5 (AWG 24)	9,1 +/- 0,2
SYT+1 15PO5	15x2x0,5 (AWG 24)	10,5 +/- 0,2
SYT+1 30PO5	30x2x0,5 (AWG 24)	14,3 +/- 0,2
SYT+1 56PO5	56x2x0,5 (AWG 24)	19,0 +/- 0,2
SYT+1 112PO5	112x2x0,5 (AWG 24)	25,4 +/- 0,2

TELEPHONE CABLE TO NF (AWG 20)		
Ramcro Code	Description	Outer Diameter (mm)
SYT+1 1PO8	1x2x0,8 (AWG 20)	4,8 +/- 0,2
SYT+1 2PO8	2x2x0,8 (AWG 20)	6,3 +/- 0,2
SYT+1 3PO8	3x2x0,8 (AWG 20)	8,2 +/- 0,2
SYT+1 5PO8	5x2x0,8 (AWG 20)	9,2 +/- 0,2
SYT+1 10PO8	10x2x0,8 (AWG 20)	12,4 +/- 0,2
SYT+1 15PO8	15x2x0,8 (AWG 20)	14,3 +/- 0,2
SYT+1 30PO8	30x2x0,8 (AWG 20)	19,3 +/- 0,2
SYT+1 56PO8	56x2x0,8 (AWG 20)	25,2 +/- 0,2
SYT+1 112PO8	112x2x0,8 (AWG 20)	34,0 +/- 0,2

## SYT2

TELEPHONE CABLE ARMORED AWG 24		
Ramcro Code	Description	Outer Diameter (mm)
SYT2 2PO5	2x2x0,5 (AWG 24)	8,3 +/- 0,2
SYT2 3PO5	3x2x0,5 (AWG 24)	9,0 +/- 0,2
SYT2 5PO5	5x2x0,5 (AWG 24)	10,7 +/- 0,2
SYT2 10PO5	10x2x0,5 (AWG 24)	12,3 +/- 0,2
SYT2 15PO5	15x2x0,5 (AWG 24)	13,7 +/- 0,2
SYT2 30PO5	30x2x0,5 (AWG 24)	17,9 +/- 0,2

TELEPHONE CABLE ARMORED AWG 20		
Ramcro Code	Description	Outer Diameter (mm)
SYT2 2PO8	2x2x0,8 (AWG 20)	9,5 +/- 0,2
SYT2 3PO8	3x2x0,8 (AWG 20)	11,4 +/- 0,2
SYT2 5PO8	5x2x0,8 (AWG 20)	12,4 +/- 0,2
SYT2 10PO8	10x2x0,8 (AWG 20)	15,6 +/- 0,2
SYT2 15PO8	15x2x0,8 (AWG 20)	17,9 +/- 0,2
SYT2 30PO8	30x2x0,8 (AWG 20)	22,9 +/- 0,2

## Standard References

- CEI 20-22 II
- CEI 20-37
- CEI 46-5
- Capitolato Telecom 1279
- Capitolato Telecom 1285

## SYT+1 FIRE INSTALLATION

## PTT 298 / PTT 299

FIRE ALARM RED		
Ramcro Code	Description	Outer Diameter (mm)
SYT+1 1PO8R	1x2x0,8 (AWG 20)	4,8 +/- 0,2
SYT+1 2PO8R	2x2x0,8 (AWG 20)	6,3 +/- 0,2
SYT+1 3PO8R	3x2x0,8 (AWG 20)	8,2 +/- 0,2
SYS+1 1PO8R	1x2x0,8 (AWG 20)	4,7 +/- 0,2

TELEPHONE CABLE		
Ramcro Code	Description	Outer Diameter (mm)
PTT298 Grade A	4x2x0,5	5,5 +/- 0,2
PTT299 Grade A	4x2x0,5	5,6 +/- 0,2





## Control Cable

Shielded electronic control cables laid up in layers or pairs

### Applications

These cables are used for control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interference-free transmission providing protection against external pulses

### Technical Data

<b>Nominal Voltage:</b>	0,14 mm <sup>2</sup> to 0,34 mm <sup>2</sup> : 350 V 0,34 mm <sup>2</sup> to 0,50 mm <sup>2</sup> : 300/500 V														
<b>Test Voltage:</b>	0,14 mm <sup>2</sup> to 0,34 mm <sup>2</sup> : 2000 V 0,34 mm <sup>2</sup> to 0,50 mm <sup>2</sup> : 3500 V														
<b>Temperature Range:</b>	-10 °C + 80 °C														
<b>Min. Bending Radius:</b>	12xOverall Diameter														
<b>Insulation Resistance:</b>	>200 MOhm x Km														
<b>Conductor Resistance:</b>	<table border="0"> <tr> <td>&lt; 142 Ohm/km (0,14 mmq)</td> <td>&lt; 13,3 Ohm/km (1,50 mmq)</td> </tr> <tr> <td>&lt; 80 Ohm/km (0,25 mmq)</td> <td>&lt; 10,5 Ohm/km (2,00 mmq)</td> </tr> <tr> <td>&lt; 59 Ohm/km (0,34 mmq)</td> <td>&lt; 8,0 Ohm/km (2,50 mmq)</td> </tr> <tr> <td>&lt; 39,0 Ohm/km (0,50 mmq)</td> <td>&lt; 5,0 Ohm/km (4,00 mmq)</td> </tr> <tr> <td>&lt; 26,0 Ohm/km (0,75 mmq)</td> <td>&lt; 3,3 Ohm/km (6,00 mmq)</td> </tr> <tr> <td>&lt; 19,5 Ohm/km (1,00 mmq)</td> <td>&lt; 2,0 Ohm/km (10,00 mmq)</td> </tr> <tr> <td></td> <td>&lt; 1,65 Ohm/km (16,00 mmq)</td> </tr> </table>	< 142 Ohm/km (0,14 mmq)	< 13,3 Ohm/km (1,50 mmq)	< 80 Ohm/km (0,25 mmq)	< 10,5 Ohm/km (2,00 mmq)	< 59 Ohm/km (0,34 mmq)	< 8,0 Ohm/km (2,50 mmq)	< 39,0 Ohm/km (0,50 mmq)	< 5,0 Ohm/km (4,00 mmq)	< 26,0 Ohm/km (0,75 mmq)	< 3,3 Ohm/km (6,00 mmq)	< 19,5 Ohm/km (1,00 mmq)	< 2,0 Ohm/km (10,00 mmq)		< 1,65 Ohm/km (16,00 mmq)
< 142 Ohm/km (0,14 mmq)	< 13,3 Ohm/km (1,50 mmq)														
< 80 Ohm/km (0,25 mmq)	< 10,5 Ohm/km (2,00 mmq)														
< 59 Ohm/km (0,34 mmq)	< 8,0 Ohm/km (2,50 mmq)														
< 39,0 Ohm/km (0,50 mmq)	< 5,0 Ohm/km (4,00 mmq)														
< 26,0 Ohm/km (0,75 mmq)	< 3,3 Ohm/km (6,00 mmq)														
< 19,5 Ohm/km (1,00 mmq)	< 2,0 Ohm/km (10,00 mmq)														
	< 1,65 Ohm/km (16,00 mmq)														
<b>Capacitance:</b>	130 pF/m														
<b>Printing:</b>	LiYCY/OX/JZ-RAMCRO CE <YEAR> CEI 20-22 II														

### Construction

- **Conductors:**  
Bare Copper, flexible acc. to VDE 0295 class 5 (0,14 mm<sup>2</sup> class 5 and 0,34 class 2)
- **Insulation:**  
PVC flame ret. acc. to CEI 20-22 II<sup>1</sup> and IEC 60332-3C
- **Screen:**  
Tinned Copper Braid, coverage approx. 85%
- **Outer Sheath:**  
PVC Flame retardant acc. to CEI 20-22 II<sup>1</sup> and IEC 332-3C
- **Colour:**  
Grey RAL 7035



## LiYCY-OX/JZ-RAMCRO CE <YEAR> CEI 20-22 II

Ramcro Code	Section	Outer Diameter (mm)
STS0214HAAAC	0,14 mm <sup>2</sup> (From 2 to 61 conductor)	3,6 +/- 0,3
STS6114HAAAC		11,8 +/- 0,4
STS0226HBAAC	0,25 mm <sup>2</sup> (From 2 to 61 conductor)	4,3 +/- 0,3
STS6126HBAAC		15,0 +/- 0,4
STS0234HBAAC	0,34 mm <sup>2</sup> (From 2 to 61 conductor)	4,6 +/- 0,3
STS0234HBAAC		18,0 +/- 0,4
STS0250HBAAC	0,50 mm <sup>2</sup> (From 2 to 50 conductor)	5,2 +/- 0,3
STS5050HBAAC		18,8 +/- 0,4
STS0275HBAAC	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	5,5 +/- 0,3
STS5075HBAAC		18,5 +/- 0,4
STS0210HBAAC	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	6,1 +/- 0,3
STS5010HBAAC		20,2 +/- 0,4
STS0215HBAAC	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	7,2 +/- 0,3
STS5015HBAAC		23,5 +/- 0,4
STS0225HBAAC	2,50 mm <sup>2</sup> (From 2 to 50 conductor)	9,6 +/- 0,3
STS5025HBAAC		28,7 +/- 0,4

Ramcro Code	Section	Outer Diameter (mm)
STS0275HAAAD	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	5,5 +/- 0,3
STS075HAAAE		18,5 +/- 0,4
STS0210HBAAD	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	6,1 +/- 0,3
STS010HBAAE		20,2 +/- 0,4
STS0215HBAAD	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	7,2 +/- 0,3
STS015HBAAE		23,5 +/- 0,4
STS0225HBAAD	2,50 mm <sup>2</sup> (From 2 to 50 conductor)	9,6 +/- 0,3
STS025HBAAE		28,7 +/- 0,4
STS0240HBAAD	4,00 mm <sup>2</sup> (From 2 to 7 conductor)	10,1 +/- 0,4
STS0740HBAAE		14,7 +/- 0,4
STS0240HBAAD	6,00 mm <sup>2</sup> (From 2 to 7 conductor)	11,7 +/- 0,4
STS0740HBAAE		16,5 +/- 0,4
STS0211HBAAD	10,00 mm <sup>2</sup> (From 2 to 7 conductor)	15,3 +/- 0,4
STS0711HBAAE		21,5 +/- 0,4
STS0216HBAAD	16,00 mm <sup>2</sup> (From 2 to 5 conductor)	17,3 +/- 0,4
STS0216HBAAE		22,4 +/- 0,4

## Multipair LiYCY-TP

Ramcro Code	Section	Outer Diameter (mm)
MSS0214HBAAC	0,14 mm <sup>2</sup> (From 2 to 50 conductor)	4,6 +/- 0,3
MSS5014HBAAC		16,1 +/- 0,4
MSS0226HBAAC	0,25 mm <sup>2</sup> (From 2 to 50 conductor)	5,3 +/- 0,3
MSS5026HBAAC		17,4 +/- 0,4
MSS0234HBAAC	0,34 mm <sup>2</sup> (From 2 to 50 conductor)	6,8 +/- 0,3
MSS5034HBAAC		20,2 +/- 0,4
MSS0250HBAAC	0,50 mm <sup>2</sup> (From 2 to 50 conductor)	7,4 +/- 0,3
MSS5050HBAAC		24,1 +/- 0,4
MSS0275HBAAC	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	7,9 +/- 0,3
MSS5075HBAAC		26,8 +/- 0,4
MSS0210HBAAC	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	9,5 +/- 0,3
MSS5010HBAAC		29,4 +/- 0,4
MSS0215HBAAC	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	10,2 +/- 0,3
MSS5015HBAAC		35,0 +/- 0,4

Standard References

- VDE 0812



# Control Cable

Shielded electronic control cables laid up in layers or pairs

## Applications

These cables are used for control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interference-free transmission providing protection against external pulses

## Technical Data

<b>Nominal Voltage:</b>	0,14 mm <sup>2</sup> to 0,34 mm <sup>2</sup> : 350 V 0,34 mm <sup>2</sup> to 0,50 mm <sup>2</sup> : 300/500 V														
<b>Test Voltage:</b>	0,14 mm <sup>2</sup> to 0,34 mm <sup>2</sup> : 2000 V 0,34 mm <sup>2</sup> to 0,50 mm <sup>2</sup> : 3500 V														
<b>Temperature Range:</b>	-10 °C + 80 °C														
<b>Min. Bending Radius:</b>	12xOverall Diameter														
<b>Insulation Resistance:</b>	>200 MOhmXkm														
<b>Conductor Resistance:</b>	<table border="0"> <tr> <td>&lt; 142 Ohm/km (0,14 mm<sup>2</sup>)</td> <td>&lt; 13,3 Ohm/km (1,50 mm<sup>2</sup>)</td> </tr> <tr> <td>&lt; 80 Ohm/km (0,25 mm<sup>2</sup>)</td> <td>&lt; 10,5 Ohm/km (2,00 mm<sup>2</sup>)</td> </tr> <tr> <td>&lt; 59 Ohm/km (0,34 mm<sup>2</sup>)</td> <td>&lt; 8,0 Ohm/km (2,50 mm<sup>2</sup>)</td> </tr> <tr> <td>&lt; 39,0 Ohm/km (0,50 mm<sup>2</sup>)</td> <td>&lt; 5,0 Ohm/km (4,00 mm<sup>2</sup>)</td> </tr> <tr> <td>&lt; 26,0 Ohm/km (0,75 mm<sup>2</sup>)</td> <td>&lt; 3,3 Ohm/km (6,00 mm<sup>2</sup>)</td> </tr> <tr> <td>&lt; 19,5 Ohm/km (1,00 mm<sup>2</sup>)</td> <td>&lt; 2,0 Ohm/km (10,00 mm<sup>2</sup>)</td> </tr> <tr> <td></td> <td>&lt; 1,65 Ohm/km (16,00 mm<sup>2</sup>)</td> </tr> </table>	< 142 Ohm/km (0,14 mm <sup>2</sup> )	< 13,3 Ohm/km (1,50 mm <sup>2</sup> )	< 80 Ohm/km (0,25 mm <sup>2</sup> )	< 10,5 Ohm/km (2,00 mm <sup>2</sup> )	< 59 Ohm/km (0,34 mm <sup>2</sup> )	< 8,0 Ohm/km (2,50 mm <sup>2</sup> )	< 39,0 Ohm/km (0,50 mm <sup>2</sup> )	< 5,0 Ohm/km (4,00 mm <sup>2</sup> )	< 26,0 Ohm/km (0,75 mm <sup>2</sup> )	< 3,3 Ohm/km (6,00 mm <sup>2</sup> )	< 19,5 Ohm/km (1,00 mm <sup>2</sup> )	< 2,0 Ohm/km (10,00 mm <sup>2</sup> )		< 1,65 Ohm/km (16,00 mm <sup>2</sup> )
< 142 Ohm/km (0,14 mm <sup>2</sup> )	< 13,3 Ohm/km (1,50 mm <sup>2</sup> )														
< 80 Ohm/km (0,25 mm <sup>2</sup> )	< 10,5 Ohm/km (2,00 mm <sup>2</sup> )														
< 59 Ohm/km (0,34 mm <sup>2</sup> )	< 8,0 Ohm/km (2,50 mm <sup>2</sup> )														
< 39,0 Ohm/km (0,50 mm <sup>2</sup> )	< 5,0 Ohm/km (4,00 mm <sup>2</sup> )														
< 26,0 Ohm/km (0,75 mm <sup>2</sup> )	< 3,3 Ohm/km (6,00 mm <sup>2</sup> )														
< 19,5 Ohm/km (1,00 mm <sup>2</sup> )	< 2,0 Ohm/km (10,00 mm <sup>2</sup> )														
	< 1,65 Ohm/km (16,00 mm <sup>2</sup> )														
<b>Capacitance:</b>	130 pF/m														
<b>Printing:</b>	RAMCRO 2015 FR2OH2R (N°CORExSECTION) ANTIFIAMMA CEI 20-22 II 450/750 V														

## Construction

- **Conductors:**  
Bare Copper, flexible acc. to VDE 0295 class 5 (0,14 mm<sup>2</sup> class 6 and 0,34 class 2)
- **Insulation:**  
PVC flame ret. acc. to CEI 20-22 II\* and IEC 60332-3C
- **Screen:**  
Tinned Copper Braid, coverage approx. 85%
- **Outer Sheath:**  
PVC Flame retardant acc. to CEI 20-22 II\* and IEC 332-3C
- **Colour:**  
Grey RAL 7035



CONTROL CABLES  
 FR2OH2R

## FR2OH2R

## LiYCY-JZ

Ramcro Code	Section	Outer Diameter (mm)
STS0214HAAAC	0,14 mm <sup>2</sup> (From 2 to 61 conductor)	3,6 +/- 0,3
STS6114HAAAC		11,8 +/- 0,4
STS0226HBAAC	0,25 mm <sup>2</sup> (From 2 to 61 conductor)	4,3 +/- 0,3
STS6126HBAAC		15,0 +/- 0,4
STS0234HBAAC	0,34 mm <sup>2</sup> (From 2 to 61 conductor)	4,6 +/- 0,3
STS0234HBAAC		18,0 +/- 0,4
STS0250HBAAC	0,50 mm <sup>2</sup> (From 2 to 50 conductor)	5,2 +/- 0,3
STS5050HBAAC		18,8 +/- 0,4
STS0275HBAAL	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	5,5 +/- 0,3
STS5075HBAAD		18,5 +/- 0,4
STS0210HBAAL	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	6,1 +/- 0,3
STS5010HBAAD		20,2 +/- 0,4
STS0215HBAAL	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	7,2 +/- 0,3
STS5015HBAAD		23,5 +/- 0,4
STS0225HBAAL	2,50 mm <sup>2</sup> (From 2 to 50 conductor)	9,6 +/- 0,3
STS5025HBAAD		28,7 +/- 0,4

Ramcro Code	Section	Outer Diameter (mm)
STS0275HAAAD	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	5,5 +/- 0,3
STS5075HAAAE		18,5 +/- 0,4
STS0210HBAAD	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	6,1 +/- 0,3
STS5010HBAAE		20,2 +/- 0,4
STS0215HBAAD	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	7,2 +/- 0,3
STS5015HBAAE		23,5 +/- 0,4
STS0225HBAAD	2,50 mm <sup>2</sup> (From 2 to 50 conductor)	9,6 +/- 0,3
STS5025HBAAE		28,7 +/- 0,4
STS0240HBAAD	4,00 mm <sup>2</sup> (From 2 to 7 conductor)	10,1 +/- 0,4
STS0740HBAAE		14,7 +/- 0,4
STS0240HBAAD	6,00 mm <sup>2</sup> (From 2 to 7 conductor)	11,7 +/- 0,4
STS0740HBAAE		16,5 +/- 0,4
STS0211HBAAD	10,00 mm <sup>2</sup> (From 2 to 7 conductor)	15,3 +/- 0,4
STS0711HBAAE		21,5 +/- 0,4
STS0216HBAAD	16,00 mm <sup>2</sup> (From 2 to 5 conductor)	17,3 +/- 0,4
STS0216HBAAE		22,4 +/- 0,4

## Standard References

- VDE 0812

## Multipair LiYCY-TP

Ramcro Code	Section	Outer Diameter (mm)
MSS0214HBAAD	0,14 mm <sup>2</sup> (From 2 to 50 conductor)	4,6 +/- 0,3
MSS5014HBAAE		16,1 +/- 0,4
MSS0226HBAAD	0,25 mm <sup>2</sup> (From 2 to 50 conductor)	5,3 +/- 0,3
MSS5026HBAAE		17,4 +/- 0,4
MSS0234HBAAD	0,34 mm <sup>2</sup> (From 2 to 50 conductor)	6,8 +/- 0,3
MSS5034HBAAE		20,2 +/- 0,4
MSS0250HBAAD	0,50 mm <sup>2</sup> (From 2 to 50 conductor)	7,4 +/- 0,3
MSS5050HBAAE		24,1 +/- 0,4
MSS0275HBAAD	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	7,9 +/- 0,3
MSS5075HBAAE		26,8 +/- 0,4
MSS0210HBAAD	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	9,5 +/- 0,3
MSS5010HBAAE		29,4 +/- 0,4
MSS0215HBAAD	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	10,2 +/- 0,3
MSS5015HBAAE		35,0 +/- 0,4



## Control Cable

Unshielded electronic control cables laid up in layers or pairs

### Applications

These cables are used for control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interference-free transmission providing protection against external pulses

### Technical Data

<b>Nominal Voltage:</b>	0,14 mm <sup>2</sup> to 0,34 mm <sup>2</sup> : 350 V 0,34 mm <sup>2</sup> to 0,50 mm <sup>2</sup> : 300/500 V														
<b>Test Voltage:</b>	0,14 mm <sup>2</sup> to 0,34 mm <sup>2</sup> : 2000 V 0,34 mm <sup>2</sup> to 0,50 mm <sup>2</sup> : 3500 V														
<b>Temperature Range:</b>	-10 °C + 80 °C														
<b>Min. Bending Radius:</b>	12xOverall Diameter														
<b>Insulation Resistance:</b>	>200 MOhm x Km														
<b>Conductor Resistance:</b>	<table border="0"> <tr> <td>&lt; 142 Ohm/km (0,14 mmq)</td> <td>&lt; 13,3 Ohm/km (1,50 mmq)</td> </tr> <tr> <td>&lt; 80 Ohm/km (0,25 mmq)</td> <td>&lt; 10,5 Ohm/km (2,00 mmq)</td> </tr> <tr> <td>&lt; 59 Ohm/km (0,34 mmq)</td> <td>&lt; 8,0 Ohm/km (2,50 mmq)</td> </tr> <tr> <td>&lt; 39,0 Ohm/km (0,50 mmq)</td> <td>&lt; 5,0 Ohm/km (4,00 mmq)</td> </tr> <tr> <td>&lt; 26,0 Ohm/km (0,75 mmq)</td> <td>&lt; 3,3 Ohm/km (6,00 mmq)</td> </tr> <tr> <td>&lt; 19,5 Ohm/km (1,00 mmq)</td> <td>&lt; 2,0 Ohm/km (10,00 mmq)</td> </tr> <tr> <td></td> <td>&lt; 1,65 Ohm/km (16,00 mmq)</td> </tr> </table>	< 142 Ohm/km (0,14 mmq)	< 13,3 Ohm/km (1,50 mmq)	< 80 Ohm/km (0,25 mmq)	< 10,5 Ohm/km (2,00 mmq)	< 59 Ohm/km (0,34 mmq)	< 8,0 Ohm/km (2,50 mmq)	< 39,0 Ohm/km (0,50 mmq)	< 5,0 Ohm/km (4,00 mmq)	< 26,0 Ohm/km (0,75 mmq)	< 3,3 Ohm/km (6,00 mmq)	< 19,5 Ohm/km (1,00 mmq)	< 2,0 Ohm/km (10,00 mmq)		< 1,65 Ohm/km (16,00 mmq)
< 142 Ohm/km (0,14 mmq)	< 13,3 Ohm/km (1,50 mmq)														
< 80 Ohm/km (0,25 mmq)	< 10,5 Ohm/km (2,00 mmq)														
< 59 Ohm/km (0,34 mmq)	< 8,0 Ohm/km (2,50 mmq)														
< 39,0 Ohm/km (0,50 mmq)	< 5,0 Ohm/km (4,00 mmq)														
< 26,0 Ohm/km (0,75 mmq)	< 3,3 Ohm/km (6,00 mmq)														
< 19,5 Ohm/km (1,00 mmq)	< 2,0 Ohm/km (10,00 mmq)														
	< 1,65 Ohm/km (16,00 mmq)														
<b>Capacitance:</b>	130 pF/m														
<b>Printing:</b>	LiYY/OX/JZ-RAMCRO CE <YEAR> CEI 20-22 II														

### Construction

- **Conductors:**  
Bare Copper, flexible acc. to VDE 0295 class 5 (0,14 mm<sup>2</sup> class 5 and 0,34 class 2)
- **Insulation:**  
PVC flame ret. acc. to CEI 20-22 II\* and IEC 60332-3C
- **Outer Sheath:**  
PVC Flame retardant acc. to CEI 20-22 II\* and IEC 332-3C
- **Colour:**  
Grey RAL 7035



### LiYY

### LiYY-JZ

Ramcro Code	Section	Outer Diameter (mm)
SSS0214HAAAC	0,14 mm <sup>2</sup> (From 2 to 61 conductor)	3,2 +/- 0,3
SSS6114HAAAC		11,2 +/- 0,3
SSS0226HBAAC	0,25 mm <sup>2</sup> (From 2 to 61 conductor)	3,7 +/- 0,3
SSS6126HBAAC		13,7 +/- 0,3
SSS0234HBAAC	0,34 mm <sup>2</sup> (From 2 to 61 conductor)	4,3 +/- 0,3
SSS0234HBAAC		14,3 +/- 0,3
SSS0250HBAAC	0,50 mm <sup>2</sup> (From 2 to 50 conductor)	4,7 +/- 0,3
SSS5050HBAAC		16,0 +/- 0,3
SSS0275HBAAC	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	5,3 +/- 0,3
SSS5075HBAAC		17,6 +/- 0,3
SSS0210HBAAC	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	5,4 +/- 0,3
SSS5010HBAAC		19,0 +/- 0,3
SSS0215HBAAC	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	6,4 +/- 0,3
SSS5015HBAAC		22,2 +/- 0,3
SSS0225HBAAC	2,50 mm <sup>2</sup> (From 2 to 50 conductor)	7,6 +/- 0,3
SSS5025HBAAC		27,2 +/- 0,3
SSS0225HBAAC	4,00 mm <sup>2</sup> (From 2 to 7 conductor)	9,6 +/- 0,3
SSS0725HBAAC		14,2 +/- 0,3
SSS0260HBAAC	6,00 mm <sup>2</sup> (From 2 to 7 conductor)	11,2 +/- 0,3
SSS0760HBAAC		16,0 +/- 0,3

Ramcro Code	Section	Outer Diameter (mm)
SSS0250HAAAC	0,50 mm <sup>2</sup> (From 2 to 50 conductor)	4,7 +/- 0,3
SSS5050HAAAC		15,5 +/- 0,4
SSS0250HBAAC	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	5,3 +/- 0,3
SSS5050HBAAC		15,8 +/- 0,4
SSS0250HBAAC	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	5,7 +/- 0,3
SSS5050HBAAC		17,6 +/- 0,4
SSS0250HBAAC	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	6,5 +/- 0,3
SSS5050HBAAC		20,0 +/- 0,4
SSS0250HBAAC	2,50 mm <sup>2</sup> (From 2 to 7 conductor)	7,9 +/- 0,4
SSS0750HBAAC		23,2 +/- 0,4

### Multipair LiYY-TP

Ramcro Code	Section	Outer Diameter (mm)
SSS0250HBAAD	0,50 mm <sup>2</sup> (From 2 to 50 conductor)	4,7 +/- 0,3
SSS5050HBAAE		15,6 +/- 0,4
SSS0275HBAAD	0,75 mm <sup>2</sup> (From 2 to 50 conductor)	5,3 +/- 0,3
SSS5075HBAAE		17,2 +/- 0,4
SSS0210HBAAD	1,00 mm <sup>2</sup> (From 2 to 50 conductor)	5,7 +/- 0,3
SSS5010HBAAE		19,0 +/- 0,4
SSS0215HBAAD	1,50 mm <sup>2</sup> (From 2 to 50 conductor)	6,5 +/- 0,3
SSS5015HBAAE		22,2 +/- 0,4
SSS0225HBAAD	2,50 mm <sup>2</sup> (From 2 to 50 conductor)	7,9 +/- 0,3
SSS6125HBAAE		27,2 +/- 0,4
SSS0240HBAAD	4,00 mm <sup>2</sup> (From 2 to 7 conductor)	10,8 +/- 0,3
SSS0740HBAAE		14,2 +/- 0,4
MSE0260HBAAD	6,00 mm <sup>2</sup> (From 2 to 7 conductor)	13,4 +/- 0,3
MSE0760HBAAE		16,0 +/- 0,4
SSS0211HBAAD	10,00 mm <sup>2</sup> (From 2 to 7 conductor)	15,8 +/- 0,3
MSE0711HBAAE		21,0 +/- 0,4

Standard References

- VDE 0812





# Control Cable

Double Shielded electronic control cables laid up in layers or pairs

Applications  
These cables are used for control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interference-free transmission providing protection against external pulses

## Technical Data

**Nominal Voltage:** 0,14 mm<sup>2</sup> to 0,34 mm<sup>2</sup>: 350 V  
0,34 mm<sup>2</sup> to 0,50 mm<sup>2</sup>: 300/500 V

**Test Voltage:** 0,14 mm<sup>2</sup> to 0,34 mm<sup>2</sup>: 2000 V  
0,34 mm<sup>2</sup> to 0,50 mm<sup>2</sup>: 3500 V

**Temperature Range:** -10 °C + 80 °C

**Min. Bending Radius:** 12xOverall Diameter

**Insulation Resistance:** >200 MOhmXkm

**Conductor Resistance:** < 142 Ohm/km (0,14 mmq) < 13,3 Ohm/km (1,50 mmq)  
< 80 Ohm/km (0,25 mmq) < 10,5 Ohm/km (2,00 mmq)  
< 59 Ohm/km (0,34 mmq) < 8,0 Ohm/km (2,50 mmq)  
< 39,0 Ohm/km (0,50 mmq) < 5,0 Ohm/km (4,00 mmq)  
< 26,0 Ohm/km (0,75 mmq) < 3,3 Ohm/km (6,00 mmq)  
< 19,5 Ohm/km (1,00 mmq) < 2,0 Ohm/km (10,00 mmq)  
< 1,65 Ohm/km (16,00 mmq)

**Capacitance:** 130 pF/m

**Printing:** RAMCRO 2015 FR2OHH2R (N°CORExSECTION)  
ANTIFIAMMA CEI 20-22 II 450/750 V

## Construction

- **Conductors:**  
Bare Copper, flexible acc. to VDE 0295 class 5 (0,14 mm<sup>2</sup> class 6 and 0,34 class 2)

- **Insulation:**  
PVC flame ret. acc. to CEI 20-22 II° and IEC 60332-3C

- **Double Screen:**  
Aluminium/Polyester Tape + Tinned Copper Braid, coverage approx. 85%

- **Outer Sheath:**  
PVC Flame retardant acc. to CEI 20-22 II° and IEC 332-3C

- **Colour:**  
Grey RAL 7035

EAC

CONTROL CABLES  
FR2OHH2R

## FR2OHH2R

Ramcro Code	Section	Outer Diameter (mm)
SMS0250HAAAL	2x0,50 mmq	5,3 +/- 0,3
SMS0350HAAAG	3x0,50 mmq	5,7 +/- 0,3
SMS0450HAAAI	4x0,50 mmq	6,1 +/- 0,3
SMS0550HAAAD	5x0,50 mmq	6,8 +/- 0,3
SMS0650HAAAD	7x0,50 mmq	7,3 +/- 0,3
SMS0850HAAAD	8x0,50 mmq	7,9 +/- 0,3
SMS1050HAAAD	10x0,50 mmq	9,3 +/- 0,3
SMS1250HAAAD	12x0,50 mmq	9,5 +/- 0,3
SMS1450HAAAD	14x0,50 mmq	9,9 +/- 0,3
SMS1650HAAAD	16x0,50 mmq	10,4 +/- 0,3
SMS2050HAAAD	20x0,50 mmq	11,9 +/- 0,3
SMS2450HAAAI	24x0,50 mmq	13,3 +/- 0,3
SMS0275HAAAL	2x0,75 mmq	5,9 +/- 0,3
SMS0375HAAAG	3x0,75 mmq	6,1 +/- 0,3
SMS0475HAAAI	4x0,75 mmq	6,8 +/- 0,3
SMS0575HAAAD	5x0,75 mmq	7,3 +/- 0,3
SMS0675HAAAD	6x0,75 mmq	7,9 +/- 0,3
SMS0875HAAAD	8x0,75 mmq	8,9 +/- 0,3
SMS1075HAAAD	10x0,75 mmq	10,1 +/- 0,3
SMS1275HAAAD	12x0,75 mmq	10,4 +/- 0,3
SMS1475HAAAD	14x0,75 mmq	11,2 +/- 0,3
SMS1675HAAAD	16x0,75 mmq	11,7 +/- 0,3
SMS2075HAAAD	20x0,75 mmq	13,3 +/- 0,3
SMS2475HAAAD	24x0,75 mmq	14,5 +/- 0,3
SMS0210HAAAL	2x1,00 mmq	6,3 +/- 0,3
SMS0310HAAAG	3x1,00 mmq	6,8 +/- 0,3
SMS0410HAAAI	4x1,00 mmq	7,3 +/- 0,3
SMS0510HAAAD	5x1,00 mmq	7,9 +/- 0,3
SMS0610HAAAD	6x1,00 mmq	8,5 +/- 0,3
SMS0810HAAAD	8x1,00 mmq	9,6 +/- 0,3

Ramcro Code	Section	Outer Diameter (mm)
SMS1210HAAAD	12x1,00 mmq	11,6 +/- 0,3
SMS1410HAAAD	14x1,00 mmq	12,1 +/- 0,3
SMS1610HAAAD	16x1,00 mmq	13,1 +/- 0,3
SMS2010HAAAD	20x1,00 mmq	14,4 +/- 0,3
SMS2410HAAAD	24x1,00 mmq	15,7 +/- 0,3
SMS0215HAAAL	2x1,50 mmq	7,3 +/- 0,3
SMS0315HAAAL	3x1,50 mmq	7,6 +/- 0,3
SMS0415HAAAL	4x1,50 mmq	8,3 +/- 0,3
SMS0515HAAAL	5x1,50 mmq	9,3 +/- 0,3
SMS0615HAAAL	6x1,50 mmq	10,1 +/- 0,3
SMS0815HAAAL	8x1,50 mmq	11,4 +/- 0,3
SMS1015HAAAL	10x1,50 mmq	13,3 +/- 0,3
SMS1215HAAAL	12x1,50 mmq	13,7 +/- 0,3
SMS1415HAAAL	14x1,50 mmq	14,3 +/- 0,3
SMS1615HAAAL	16x1,50 mmq	14,9 +/- 0,3
SMS2015HAAAL	20x1,50 mmq	16,6 +/- 0,3
SMS2415HAAAL	24x1,50 mmq	18,1 +/- 0,3
SMS0225HAAAL	2x2,50 mmq	8,5 +/- 0,3
SMS0325HAAAL	3x2,50 mmq	9,3 +/- 0,3
SMS0425HAAAL	4x2,50 mmq	10,1 +/- 0,3
SMS0525HAAAL	5x2,50 mmq	11,4 +/- 0,3
SMS0625HAAAL	6x2,50 mmq	12,3 +/- 0,3
SMS0825HAAAL	8x2,50 mmq	13,8 +/- 0,3
SMS1025HAAAL	10x2,50 mmq	15,7 +/- 0,3
SMS1225HAAAL	12x2,50 mmq	16,1 +/- 0,3
SMS1425HAAAL	14x2,50 mmq	16,9 +/- 0,3
SMS1625HAAAL	16x2,50 mmq	17,8 +/- 0,3
SMS2025HAAAL	20x2,50 mmq	20,0 +/- 0,3
SMS2425HAAAL	24x2,50 mmq	21,9 +/- 0,3



## Computer and Data Cables

For local area networks (LAN)

### Applications

These cables are used for control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interface-free transmission providing protection against external pulses.

### Technical Data

<b>Impedance:</b>	100 ohm +/- 15
<b>Temperature Range:</b>	-20 °C + 80 °C
<b>Radiation Resistance:</b>	80 Mrad
<b>Min. Bending Radius:</b>	45 mm
<b>Insulation Resistance:</b>	> 5 GOhm x Km
<b>Conductor Resistance:</b>	< 94 Ohm/km
<b>Capacitance:</b>	130 pF/m
<b>Printing:</b>	UTP/S/FTP 4x2x24AWG - Cat.5e Verified ISO/IEC11801 TIA/EIA 568 + "numbering"

### Construction

- **Conductors:**  
Bare Copper Solid Ø 0,51 mm (AWG 24)
- **Insulation:**  
Polyethylene
- **Screen:**  
Overlapping Al/polyester foil for FTP and Al/polyester foil plus tinned copper braid for SFTP
- **Drain Wire:**  
Bare Copper solid Ø 0,57 mm (AWG 23)
- **Outer Sheath:**  
PVC Flame retardant acc. to CEI 20-22 II° and IEC 60332-3C
- **Colour:**  
Grey RAL 7001



Frequency MHz	Description	Overall Diameter mm
UTP LEVEL 5e 4x2x0,22	4x2x24AWG	5,5 +/- 0,2
FTP LEVEL 5e 4x2x0,22	4x2x24AWG	5,7 +/- 0,2
S-FTP LEVEL 5e 4x2x0,22-DUAL	4x2x24AWG	6,2 +/- 0,2
UTP LEVEL 5e 4x2x0,22-DUAL	2x(4x2x24AWG)	5,5x11,0 +/- 0,2
FTP LEVEL 5e 4x2x0,22-DUAL	2x(4x2x24AWG)	5,7x11,4 +/- 0,2

Frequency MHz	Attenuation dB/100 m	RL dB	NEXT dB	PS NEXT dB	ELFEXT dB/100 m	SELFEXT dB/100 m
0,772	1,8	19,4	67	64	66	63
1	2,0	20	65,3	62,3	63,8	60,8
4	4,1	23	56,3	53,3	51,7	48,7
8	5,8	24,5	51,8	48,8	45,7	42,7
10	6,5	25	50,3	47,3	43,8	40,8
16	8,2	25	47,3	44,3	39,7	36,7
20	9,3	25	45,8	42,8	37,7	34,7
25	10,4	24,3	44,3	41,3	35,8	32,8
31,25	11,7	23,6	42,9	39,9	33,9	30,9
62,5	17,0	21,5	38,4	35,4	27,8	24,8
100	22,0	20,1	35,3	32,3	23,8	20,8

### Standard References

- TIA/EIA - 568 - B
- IEC 60332-1
- IEC 60332-3C
- ISO 118011
- EN 50173
- CEI 20-32 II
- CEI 20-37 I

# Computer and Data Cables

For local area networks (LAN)

## Applications

These cables are used for control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interference-free transmission providing protection against external pulses

## Technical Data

**Impedance:** 100 ohm +/- 15

**Temperature Range:** -20 °C + 80 °C

**Radiation Resistance:** 80 Mrad

**Min. Bending Radius:** 45 mm

**Insulation Resistance:** > 5 GOhmXKm

**Conductor Resistance:** < 92 Ohm/km

**Capacitance:** < 50 pF/m

**Printing:** UTP/S/FTP 4x2x24AWG - Cat.6e Verified ISO/IEC11801 TIA/EIA 568 + "numbering"

## Construction

### - Conductors:

Bare Copper Solid Ø 0,51 mm (AWG 24)

### - Insulation:

Polyethylene

### - 1° Screen:

Overlapping each pairs with polyester foil

### - 2° Screen:

Overlapping All/polyester foil for FTP and Al/polyester foil plus tinned copper braid for SFTP

### - Drain Wire:

Bare Solid Copper Ø 0,57 mm (AWG 23)

### - Jacket:

Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C

### - Colour:

Grey RAL 7001



LAN CAT. 6E

TIA/EIA 568

17

Frequency MHz	Description	Overall Diameter mm
UTP LEVEL 6 4x2x0,22	4x2x24AWG	6,2 +/- 0,2
SFTP LEVEL 6 4x2x0,22	4x2x24AWG	6,5 +/- 0,2
UTP LEVEL 6 4x2x0,22	4x2x24AWG	6,0 +/- 0,2

## UTP

MHz	Attenuation dB/100 m	NEXT dB	ACR dB
1	2,1	74	72,0
4	3,3	65	61,2
10	6,0	59	53
16	7,6	56	48,4
20	8,5	55	46,5
31,25	10,7	52	41,3
62,5	15,5	47	31,5
10	19,9	44	24,1
155	25,4	42	16,6
200	29,2	40	10,8
250	33,0	38	5
300	36,1	41	4,8

## FTP/S-FTP

MHz	Attenuation dB/100 m	NEXT dB	ACR dB
1	2,0	74	72,0
4	3,8	65	61,2
10	6,0	59	53,
16	7,6	56	48,4
20	8,5	55	46,5
31,25	10,7	52	41,3
62,5	15,3	47	31,5
10	19,9	44	24,1
155	25,3	42	16,6
200	29,1	40	10,8
250	33,0	38	5
300	34,0	41	4,8

## Standard References

- TIA/EIA - 568 - B
- IEC 60332-1
- IEC 60332-3C
- ISO 118011
- EN 50173
- CEI 20-32 II
- CEI 20-37 I





## Computer and Data Cables

For local area networks (LAN)

### Applications

These cables are used for control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interface-free transmission providing protection against external pulses.

### Technical Data

<b>Impedance:</b>	100 ohm +/- 15
<b>Temperature Range:</b>	-20 °C + 80 °C
<b>Radiation Resistance:</b>	80 Mrad
<b>Min. Bending Radius:</b>	45 mm
<b>Insulation Resistance:</b>	> 5 GOhm x Km
<b>Conductor Resistance:</b>	< 94 Ohm/km
<b>Capacitance:</b>	130 pF/m
<b>Printing:</b>	FTP 4x2x24AWG Verified-ISO/IEC 11801-Cat.7 - TIA/EIA 568 A + "numbering"

### Construction

- **Conductors:**  
Bare Copper Solid Ø 0,57 mm (AWG 24)
- **Insulation:**  
Polyethylene
- **1° Screen:**  
Overlapping each pairs with polyester foil
- **Coverage:**  
35% for SFTP; coverage 65% SSTP
- **Jacket:**  
Halogen Free (LSZH)
- **Colour:**  
Grey RAL 7001

Frequency MHz	Attenuation dB/100 m	NEXT dB	ACR dB
1	1,9	90	88,1
4	3,6	90	86,4
10	5,5	90	64,5
16	7,1	90	82,9
20	7,9	90	82,1
31,25	10,2	90	79,8
62,5	14,5	90	75,5
100	18,5	85	66,5
200	26,2	79	52,8
300	32,8	76	43,2
600	47,6	73	25,4

Frequency MHz	Description	Overall Diameter mm
SFTP LEVEL 7 4x2x0,56	4x2x23/1AWG	7,7 +/- 0,2
SSTP LEVEL 7 4x2x0,56	4x2x23/1AWG	7,6 +/- 0,2

### Standard References

- TIA/EIA - 568 - B
- IEC 60332-1
- IEC 60332-3C
- ISO 118011
- EN 50173
- CEI 20-32 II
- CEI 20-37 I



# Computer and Data Cables

For local area networks (LAN)

## Applications

LAN data cables are used for installation of structured cabling systems, where high transmission rates are demanded. The flexible computer cables are designed for the connection of electronic equipment in environments with high interference that impose excellent efficiency of the screen.

## Technical Data

<b>Nominal Voltage:</b>	220 V
<b>Test Voltage:</b>	2000 V
<b>Temperature Range:</b>	-10 + 80 °C
<b>Min. Bending Radius:</b>	12 x Diameter
<b>Insulation Resistance:</b>	> 200 MOhm x Km
<b>Conductor Resistance:</b>	< 90 Ohm/km (0,22 mmq/AWG24) < 57 Ohm/km (0,35 mmq/AWG22)
<b>Capacitance:</b>	< 130 pF/m
<b>Printing:</b>	RAMCRO CE <year of production> ANTIFIAMMA

## Construction

- **Conductors:**  
Tinned Copper Flexible
- **Insulation:**  
PVC Flame Retardant acc. to IEC 332-3C
- **Screen:**  
Overlapping Al/polyester foil/tinned copper braid, coverage approx.
- **Jacket:**  
Flame retardant PVC acc. to CEI 20-22 II° and IEC 332-3C
- **Colour:**  
Grey RAL 7035

DATA CABLES LAN S

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## LivY(S)CY-OVERALL DOUBLE SCREEN All/Cs

Ramcro Code	Description	Overall Diameter mm
CCS0422HAAAC	4x0,22 mmq	4,7 +/- 0,3
CCS0422HAAAC	6x0,22 mmq	5,3 +/- 0,3
CCS0422HAAAC	7x0,22 mmq	5,4 +/- 0,3
CCS0422HAAAC	8x0,22 mmq	5,8 +/- 0,3
CCS0422HAAAC	10x0,22 mmq	5,9 +/- 0,3
CCS0422HAAAC	12x0,22 mmq	6,0 +/- 0,3
CCS0422HAAAC	16x0,22 mmq	7,2 +/- 0,3
CCS0422HAAAC	20x0,22 mmq	8,1 +/- 0,3
CCS0422HAAAC	25x0,22 mmq	8,8 +/- 0,3

## LivY(S)CY-SCREENED PAIR DOUBLE SCREEN All/Cs

Ramcro Code	Description	Overall Diameter mm
CMS0222HAAAC	2x2x0,22 mmq	5,1 +/- 0,3
CMS0322HAAAC	3x2x0,22 mmq	5,7 +/- 0,3
CMS0422HAAAC	4x2x0,22 mmq	6,1 +/- 0,3
CMS0522HAAAC	5x2x0,22 mmq	6,2 +/- 0,3
CMS0622HAAAC	6x2x0,22 mmq	6,3 +/- 0,3
CMS0822HAAAC	8x2x0,22 mmq	7,6 +/- 0,3
CMS1022HAAAC	10x2x0,22 mmq	8,5 +/- 0,3
CMS1222HAAAC	12x2x0,22 mmq	9,2 +/- 0,3
CMS1522HAAAC	15x2x0,22 mmq	10,2 +/- 0,4
CMS1822HAAAC	18x2x0,22 mmq	11,5 +/- 0,4
CMS2522HAAAC	25x2x0,22 mmq	13,0 +/- 0,4

## LivY(S)YPiMF-SCREENED PAIRS All-OVERALLCs

Ramcro Code	Description	Overall Diameter mm
CPS0222HAAAC	2x2x0,22 mmq	6,1 +/- 0,3
CPS0322HAAAC	3x2x0,22 mmq	6,2 +/- 0,3
CPS0422HAAAC	4x2x0,22 mmq	6,7 +/- 0,3
CPS0522HAAAC	5x2x0,22 mmq	7,7 +/- 0,3
CPS0622HAAAC	6x2x0,22 mmq	7,8 +/- 0,3
CPS0822HAAAC	8x2x0,22 mmq	8,9 +/- 0,3
CPS1022HAAAC	10x2x0,22 mmq	9,8 +/- 0,3
CPS1222HAAAC	12x2x0,22 mmq	10,5 +/- 0,3

## Colour Code

Cables CCS, CMS and CPS acc. to DIN 47100

LAN cables Cat. 5, 6, 7: white/blue, blue; white/orange, orange; white/green, green; white/brown, brown

## Standard References

- ISO/IEC 11801
- EN 50173
- EIA/TIA 568 A
- IEC 332-1
- IEC 332-3
- CEI 20-32 II
- CEI 20-37 I



## RG 174/U

50 Ohm MIL C17 F

### Technical Data

<b>Impedance:</b>	50 Ohm
<b>Capacity:</b>	100 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	1500
<b>Conductor Resistance:</b>	290 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,16 CW
- **Insulation:**  
Polyethylene
- **Shield:**  
Cs 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
2,70 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	17,9
Attenuation 400 MHz	dB/100 m	59,6
Attenuation 1000 MHz	dB/100 m	95,2



## RG 58 C/U

50 Ohm MIL C17 F

### Technical Data

<b>Impedance:</b>	50 Ohm
<b>Capacity:</b>	100 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	1900
<b>Conductor Resistance:</b>	38 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
19x0,18 Cu/St
- **Insulation:**  
Polyethylene
- **Shield:**  
Cs 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
5,00 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	10,7
Attenuation 400 MHz	dB/100 m	33,3
Attenuation 1000 MHz	dB/100 m	61,1



## RG 223 A/U

50 Ohm MIL C17 F

### Technical Data

<b>Impedance:</b>	50 Ohm
<b>Capacity:</b>	100 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	1900
<b>Conductor Resistance:</b>	28 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
0,90 Cu/Ag
- **Insulation:**  
Polyethylene
- **Shield:**  
Cs/Ag 92%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
5,40 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	9,2
Attenuation 400 MHz	dB/100 m	27,2
Attenuation 1000 MHz	dB/100 m	44,4



## RG 213/U

50 Ohm MIL C17 F

### Technical Data

<b>Impedance:</b>	50 Ohm
<b>Capacity:</b>	100 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	5000
<b>Conductor Resistance:</b>	6,1 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,75 Cu
- **Insulation:**  
Polyethylene
- **Shield:**  
Cu 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
10,30 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	4,6
Attenuation 400 MHz	dB/100 m	14,2
Attenuation 1000 MHz	dB/100 m	24,6



## RG 214 U

50 Ohm MIL C17 F

### Technical Data

<b>Impedance:</b>	50 Ohm
<b>Capacity:</b>	100 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	5000
<b>Conductor Resistance:</b>	6,1 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,75 Cu/Ag
- **Insulation:**  
Polyethylene
- **Shield:**  
Cu/Ag 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
10,80 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	9,9
Attenuation 400 MHz	dB/100 m	26,5
Attenuation 1000 MHz	dB/100 m	41,8



## RG 59 Micro

75 Ohm MIL C17 F

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	80 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	1500
<b>Conductor Resistance:</b>	100 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,18 Cu
- **Insulation:**  
Polyethylene
- **Shield:**  
Cu 95%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
4,00 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	9,9
Attenuation 400 MHz	dB/100 m	26,5
Attenuation 1000 MHz	dB/100 m	41,8



RG 213 U  
RG 214 U  
RG 59 Micro

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## RG 59 B/U

75 Ohm MIL C17 F

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	67 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	2300
<b>Conductor Resistance:</b>	158 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
0,58 Cw
- **Insulation:**  
Polyethylene
- **Shield:**  
Cu 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,00 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	10,7
Attenuation 400 MHz	dB/100 m	33,3
Attenuation 1000 MHz	dB/100 m	61,1



## RG 175

75 Ohm MIL C17 F

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	100 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	1500
<b>Conductor Resistance:</b>	263,4 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,10 Cu
- **Insulation:**  
Polyethylene
- **Shield:**  
Cs 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
2,90 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	17,9
Attenuation 400 MHz	dB/100 m	-
Attenuation 1000 MHz	dB/100 m	-



## RG 11 A/U

75 Ohm

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	67 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	5000
<b>Conductor Resistance:</b>	20,5 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,40 Cu/St
- **Insulation:**  
Polyethylene
- **Shield:**  
Cu 95%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
10,30 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	4,7
Attenuation 400 MHz	dB/100 m	14,8
Attenuation 1000 MHz	dB/100 m	23,6



## KX6A

75 Ohm

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	67 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	2300
<b>Conductor Resistance:</b>	80 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,20 Cu
- **Insulation:**  
Polyethylene
- **Shield:**  
Cu 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,2 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	7,99
Attenuation 400 MHz	dB/100 m	24,5
Attenuation 1000 MHz	dB/100 m	39,4



## KX8

75 Ohm

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	67 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	5000
<b>Conductor Resistance:</b>	19,5 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,40 Cu
- **Insulation:**  
Polyethylene
- **Shield:**  
Cu 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
10,3 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	4,3
Attenuation 400 MHz	dB/100 m	14,8
Attenuation 1000 MHz	dB/100 m	226,3



## RG 62 A/U

### Technical Data

<b>Impedance:</b>	93 Ohm
<b>Capacity:</b>	45 pF/m
<b>Propagation Factor:</b>	83 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	750
<b>Conductor Resistance:</b>	130 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
0,64 Cw
- **Insulation:**  
PEA
- **Shield:**  
Cu 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,2 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	6,2
Attenuation 400 MHz	dB/100 m	18,3
Attenuation 1000 MHz	dB/100 m	29,2



C A B L E S  
RG 62 A/U

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## RG 59 Micro DIGITAL

75 Ohm

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	< 67 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	1500
<b>Conductor Resistance:</b>	250 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
9x0,10 Cu
- **Insulation:**  
PEE
- **Shield:**  
Cust > 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
2,80 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	19,5
Attenuation 400 MHz	dB/100 m	60,8
Attenuation 1000 MHz	dB/100 m	102



## KX100-KX8

R411 LONG DISTANCE 75 Ohm

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	< 65 pF/m
<b>Propagation Factor:</b>	66,7 %
<b>Screening Efficiency:</b>	---
<b>Peak Voltage:</b>	5000
<b>Conductor Resistance:</b>	21,1 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
7x0,40 Cu
- **Insulation:**  
PEE
- **Shield:**  
AL/POL/AL Cust 90%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
7,00 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	17,9
Attenuation 400 MHz	dB/100 m	-
Attenuation 1000 MHz	dB/100 m	-



## KX 75-KX6

RG59 LONG DISTANCE

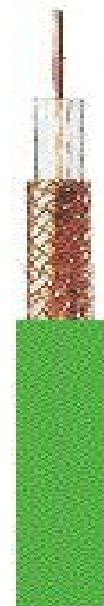
### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	< 56 pF/m
<b>Propagation Factor:</b>	83 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	1500
<b>Conductor Resistance:</b>	37 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
0,80 Cu
- **Insulation:**  
PEE
- **Shield:**  
AL/POL/AL Cust 80%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,20 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	5,23
Attenuation 400 MHz	dB/100 m	14,55
Attenuation 1000 MHz	dB/100 m	---



# SAT 64/40 RTS

## Technical Data

<b>Impedance:</b>	75 +/- 3 Ohm
<b>Capacity:</b>	55 pF/m
<b>Propagation Factor:</b>	80 %
<b>Screening Efficiency:</b>	80 dB/100m
<b>Peak Voltage:</b>	700
<b>Conductor Resistance:</b>	23 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

## Construction

- **Conductors:**  
1,00 TC
- **Insulation:**  
PEE
- **1° Shield:**  
Al/PETP 100%
- **2° Shield:**  
Cs 70%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,60 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	7
Attenuation 400 MHz	dB/100 m	13
Attenuation 1750 MHz	dB/100 m	30

# SAT 100

## Technical Data

<b>Impedance:</b>	75 +/- 3 Ohm
<b>Capacity:</b>	55 pF/m
<b>Propagation Factor:</b>	80 %
<b>Screening Efficiency:</b>	80 dB/100m
<b>Peak Voltage:</b>	700
<b>Conductor Resistance:</b>	17 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

## Construction

- **Conductors:**  
1,13 BC
- **Insulation:**  
PEE
- **1° Shield:**  
Al/PETP 100%
- **2° Shield:**  
Cu 75%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,80 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	19,5
Attenuation 400 MHz	dB/100 m	60,8
Attenuation 1750 MHz	dB/100 m	102

# SAT 100

## Technical Data

<b>Impedance:</b>	75 +/- 3 Ohm
<b>Capacity:</b>	55 pF/m
<b>Propagation Factor:</b>	80 %
<b>Screening Efficiency:</b>	80 %
<b>Peak Voltage:</b>	700
<b>Conductor Resistance:</b>	17 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

## Construction

- **Conductors:**  
1,13 BC
- **Insulation:**  
PEE
- **1° Shield:**  
Al/PETP 100%
- **2° Shield:**  
Cs 75%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,80 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	5,9
Attenuation 400 MHz	dB/100 m	12,5
Attenuation 1750 MHz	dB/100 m	29



SATELLITE  
C A B L E S

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## SAT 200

### Technical Data

<b>Impedance:</b>	75 +/- 3 Ohm
<b>Capacity:</b>	55 pF/m
<b>Propagation Factor:</b>	80 %
<b>Screening Efficiency:</b>	80 dB/100m
<b>Peak Voltage:</b>	700
<b>Conductor Resistance:</b>	18 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
1,13 Tc
- **Insulation:**  
PEE
- **1° Shield:**  
Al/PETP/AlI 100%
- **2° Shield:**  
Cs 75%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,80 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	5,7
Attenuation 400 MHz	dB/100 m	12,1
Attenuation 1750 MHz	dB/100 m	26

## SAT 7501 Diameter: 5.00 mm

### Technical Data

<b>Impedance:</b>	75 Ohm
<b>Capacity:</b>	67 pF/m
<b>Propagation Factor:</b>	66 %
<b>Screening Efficiency:</b>	> 60 dB/100m
<b>Peak Voltage:</b>	2300
<b>Conductor Resistance:</b>	80 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
1,13 Tc
- **Insulation:**  
PEE
- **1° Shield:**  
Al/PETP/AlI 100%
- **2° Shield:**  
Cs 80%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
5,00 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	7,99
Attenuation 400 MHz	dB/100 m	24,5
Attenuation 1750 MHz	dB/100 m	39,4

## 11 VATC Diameter: 10,25 mm

### Technical Data

<b>Impedance:</b>	75 +/- 3 Ohm
<b>Capacity:</b>	60 pF/m
<b>Propagation Factor:</b>	84 %
<b>Screening Efficiency:</b>	80 dB/100m
<b>Peak Voltage:</b>	700
<b>Conductor Resistance:</b>	7,8 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

### Construction

- **Conductors:**  
1,65 Cu
- **Insulation:**  
PEE
- **1° Shield:**  
Al/PETP/AlI 11,5%
- **2° Shield:**  
Cu >56%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
10,25 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	2,5
Attenuation 400 MHz	dB/100 m	7,7
Attenuation 1750 MHz	dB/100 m	---



# 11 VRTC

## Technical Data

<b>Impedance:</b>	75 +/- 3 Ohm
<b>Capacity:</b>	60 pF/m
<b>Propagation Factor:</b>	84 %
<b>Screening Efficiency:</b>	80 dB/100m
<b>Peak Voltage:</b>	700
<b>Conductor Resistance:</b>	7,8 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

## Construction

- **Conductors:**  
1,65 Cu
- **Insulation:**  
PEE
- **1° Shield:**  
Cu/TAPE 100%
- **2° Shield:**  
Cu >56%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
10,25 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	7
Attenuation 400 MHz	dB/100 m	13
Attenuation 1750 MHz	dB/100 m	30

# 17 VATC/P

## Technical Data

<b>Impedance:</b>	75 +/- 3 Ohm
<b>Capacity:</b>	55 pF/m
<b>Propagation Factor:</b>	80 %
<b>Screening Efficiency:</b>	80 dB/100m
<b>Peak Voltage:</b>	700
<b>Conductor Resistance:</b>	17 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

## Construction

- **Conductors:**  
1,10 BC
- **Insulation:**  
PEE
- **1° Shield:**  
Al/PETP/Al 100%
- **2° Shield:**  
Cs 75%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,80 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	6
Attenuation 400 MHz	dB/100 m	12
Attenuation 1750 MHz	dB/100 m	26,5

# 17 VATC/A

## Technical Data

<b>Impedance:</b>	75 +/- 3 Ohm
<b>Capacity:</b>	55 pF/m
<b>Propagation Factor:</b>	80 %
<b>Screening Efficiency:</b>	80 dB/100m
<b>Peak Voltage:</b>	700
<b>Conductor Resistance:</b>	45 Ohm/km
<b>Temperature Range:</b>	- 20 + 80 °C

## Construction

- **Conductors:**  
1,13 BC
- **Insulation:**  
PEE
- **1° Shield:**  
Al/PETP/Al 100%
- **2° Shield:**  
Cs 75%
- **Jacket:**  
Flame Retardant PVC acc. to CEI 20-22 II and IEC 332-3C
- **Overall Diameter:**  
6,80 mm

Frequency	Unit	Attenuation
Attenuation 50 MHz	dB/100 m	6
Attenuation 400 MHz	dB/100 m	12
Attenuation 1750 MHz	dB/100 m	26,5



**VRTC**  
**C A B L E S**

## Impressed Current Cathodic Protection Cables

Single core HMWPE Insulation

Flexible stranded bare copper conductor - 600/1000 V

### Applications

This cathodic protection cable is insulated with black high molecular weight polyethylene (HMWPE) compound which gives this cable excellent abrasion, crush, chemical, oil and moisture resistance. Appropriate for use in direct burial cathodic protection systems.

### Technical Data

<b>Maximum conductor d.c. resistance:</b>	Conductor size	Ohm/km at +20°C
	6 AWG (16 mm <sup>2</sup> )	< 1.40
	4 AWG (25 mm <sup>2</sup> )	< 1.40
	2 AWG (35 mm <sup>2</sup> )	< 1.40
	1/0 AWG (50 mm <sup>2</sup> )	< 1.40
2/0 AWG (70 mm <sup>2</sup> )	< 0.90	
<b>Minimum insulation resistance:</b>	> 100 MOhm x km at +20°C	
<b>Voltage Rating:</b>	0.6 / 1 kV	
<b>Operating Temperature:</b>	-20° C / + 90° C	
<b>Installation Temperature:</b>	Min. +5° C / MAX + 55° C	
<b>Max short circuit Temperature:</b>	250° C	
<b>Minimum Bending Radius:</b>	10 times the cable diameter	
<b>Printing:</b>	RAMCRO S.p.A. 2015 - SN/...AA 0,6/1 kV <N° CORES x SECTION> CE + BATCH N°	

### Construction

**- Conductors:**Flexible Stranded Bare  
Copper Conductor**- Insulation:**

HMWPE Insulation

**- Conductor Color Code:**

Following HD 308 S2-2001 Colors

### Standards References

- IEC 60502
- UL94 V0
- IEC 754-1/2
- Dir. 2006/95/CE
- Dir. RoHS 2011/65/CE
- CEI 20-52 Ed.1
- CEI EN 60228
- CEI EN 60811
- CEI UNEL 0722

### Single Insulated Insulated Cables - 0.6 / 1000 V

Wire Size		Number of Strands	Insulation Material	Insulation Thickness mm	Nominal Overall Diameter (mm)
AWG	mm <sup>2</sup>				
6	16	7	HMWPE	2.79	10.4
4	25	7	HMWPE	2.79	11.6
2	35	7	HMWPE	2.79	13.2
1/0	50	19	HMWPE	3.18	16.0
2/0	70	19	HMWPE	3.18	17.0

#### HMWPE Specifications

Color	Black
Density	0.941 grams per cm <sup>3</sup>
ASTM D1248, Type 3, Class C, Category 5, or IEC 60502-1	
Temperature Rating	90° C

# Impressed Current Cathodic Protection Cables

Single core, PVDF Primary Insulation, HMWPE Secondary Insulation  
Flexible stranded bare copper conductor - 600/1000 V

## Applications

Appropriate for use in cathodic protection systems that require a deep anode lead wire where chlorine and hydrogen gases are generated. This cable can be installed directly in fresh, brackish or salt water.

## Technical Data

<b>Maximum conductor d.c. resistance:</b>	Conductor size	Ohm/km at +20°C
	6 AWG (16 mm <sup>2</sup> )	< 1.40
	4 AWG (25 mm <sup>2</sup> )	< 1.40
	2 AWG (35 mm <sup>2</sup> )	< 1.40
	1/0 AWG (50 mm <sup>2</sup> )	< 1.40
	2/0 AWG (70 mm <sup>2</sup> )	< 0.90
<b>Minimum insulation resistance:</b>	> 100 MOhm x km at +20°C	
<b>Voltage Rating:</b>	0.6 / 1 kV	
<b>Operating Temperature:</b>	-20° C / + 90° C	
<b>Installation Temperature:</b>	Min. +5° C / MAX + 55° C	
<b>Max short circuit Temperature:</b>	250° C	
<b>Minimum Bending Radius:</b>	10 times the cable diameter	
<b>Printing:</b>	RAMCRO S.p.A. 2015 - SN/...AA 0,6/1 kV <N° CORES x SECTION> CE + BATCH N°	

## Construction

- **Conductors:**  
Flexible Stranded Tinned Copper Conductor
- **Primary Insulation:**  
PVDF Fluoropolymer Insulation
- **Secondary Insulation:**  
HMWPE Insulation
- **Conductor Color Code:**  
Following HD 308 S2-2001 Colors



IEC 60502

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Double Insulated Cables

## Double Insulated Cables - 0.6 / 1000 V

Wire Size		Number of Strands	Primary Insulation Material	Insulation Thickness mm	Secondary Insulation Material	Insulation Thickness mm	Nominal Overall Diameter (mm)
AWG	mm <sup>2</sup>						
6	16	7	PVDF	0.51	HMWPE	1.65	9.4
4	25	7	PVDF	0.51	HMWPE	1.65	11.0
2	35	7	PVDF	0.51	HMWPE	1.65	12.3
1/0	50	19	PVDF	0.51	HMWPE	1.65	13.8
2/0	70	19	PVDF	0.76	HMWPE	1.65	14.9

PVDF Specifications		HMWPE Specifications	
Tensile Break Strength	4500 PSI min.	Color	Black
Break Elongation	50% min.	Density	0.941 grams per cm <sup>3</sup>
Flexural Strength	8600 PSI min.	ASTM D1248, Type 3, Class C, Category 5, or IEC 60502-1	
Resistivity	2 x 10 <sup>14</sup> ohm-cm min.	Temperature Rating	90° C
Dielectric Constant	8.0 min. at 100 Mhz		

## Standards References

- IEC 60502
- UL94 V0
- IEC 754-1/2
- Dir. 2006/95/CE
- Dir. RoHS
- 2011/65/CE
- CEI 20-52 Ed.1
- CEI EN 60228
- CEI EN 60811
- CEI UNEL 0722





## High Temperature Cables

In silicon rubber and silicon rubber + fiberglass braid

### Applications

These cables are used in foundries, stel-plants, aeronautic industrial, shipping-yards, ceramic-glass and cement industrial.

### Technical Data

<b>Nominal Voltage:</b>	300/500 V										
<b>Test Voltage:</b>	2000 V										
<b>Temperature Range:</b>	-60 °C + 180 °C										
<b>Radiation Resistance:</b>	80 Mrad										
<b>Min. Bending Radius:</b>	10xOverall Diameter										
<b>Insulation Resistance:</b>	500 MOhmXkm										
<b>Conductor Resistance:</b>	<table border="0"> <tr> <td>&lt; 38 Ohm/km (0,50 mmq)</td> <td>&lt; 8 Ohm/km (2,50 mmq)</td> </tr> <tr> <td>&lt; 25 Ohm/km (0,75 mmq)</td> <td>&lt; 5 Ohm/km (4,00 mmq)</td> </tr> <tr> <td>&lt; 19 Ohm/km (1,00 mmq)</td> <td>&lt; 3 Ohm/km (6,00 mmq)</td> </tr> <tr> <td>&lt; 13 Ohm/km (1,50 mmq)</td> <td>&lt; 2 Ohm/km (10,00 mmq)</td> </tr> <tr> <td>&lt; 10 Ohm/km (2,00 mmq)</td> <td></td> </tr> </table>	< 38 Ohm/km (0,50 mmq)	< 8 Ohm/km (2,50 mmq)	< 25 Ohm/km (0,75 mmq)	< 5 Ohm/km (4,00 mmq)	< 19 Ohm/km (1,00 mmq)	< 3 Ohm/km (6,00 mmq)	< 13 Ohm/km (1,50 mmq)	< 2 Ohm/km (10,00 mmq)	< 10 Ohm/km (2,00 mmq)	
< 38 Ohm/km (0,50 mmq)	< 8 Ohm/km (2,50 mmq)										
< 25 Ohm/km (0,75 mmq)	< 5 Ohm/km (4,00 mmq)										
< 19 Ohm/km (1,00 mmq)	< 3 Ohm/km (6,00 mmq)										
< 13 Ohm/km (1,50 mmq)	< 2 Ohm/km (10,00 mmq)										
< 10 Ohm/km (2,00 mmq)											
<b>Capacitance:</b>	110 pF/m										

### Construction

- **Conductors:**  
Bare Copper Conductor
- **Insulation:**  
Silicon Rubber or  
Silicon Rubber + Fiberglass Braid
- **Screen:**  
Option: Galvanized Steel Wire Braid  
Option: Tinned Copper Wire Braid  
Option: Al/Polyester Foil Screen
- **Outer Sheath:**  
Silicon Rubber or Fiberglass Braid

FIRE ALARM RED		
Ramcro Code	Description	Outer Diameter (mm)
GOSI0,50	0,50 mmq	2,1 +/- 0,2
GOSI0,75	0,75 mmq	2,4 +/- 0,2
GOSI1	1,00 mmq	2,5 +/- 0,2
GOSI1,5	1,50 mmq	2,8 +/- 0,2
GOSI2,5	2,50 mmq	3,4 +/- 0,2
GOSI4	4,00 mmq	4,2 +/- 0,2
GOSI6	6,00 mmq	5,0 +/- 0,2
GOSI10	10,00 mmq	6,3 +/- 0,3
GOSI16	16,00 mmq	8,2 +/- 0,3
GOSI25	25,00 mmq	9,8 +/- 0,3
GOSI35	35,00 mmq	11,0 +/- 0,3
GOSI50	50,00 mmq	13,0 +/- 0,3
GOSI70	70,00 mmq	14,6 +/- 0,3
GOSI95	95,00 mmq	18,0 +/- 0,3
GOSI120	120,00 mmq	19,0 +/- 0,3
GOSI150	150,00 mmq	23,0 +/- 0,3

FIRE ALARM RED		
Ramcro Code	Description	Outer Diameter (mm)
VESI 0,50	0,50 mmq	2,5 +/- 0,2
VESI 0,75	0,75 mmq	2,8 +/- 0,2
VESI1	1,00 mmq	2,9 +/- 0,2
VESI1,5	1,50 mmq	3,2 +/- 0,2
VESI2,5	2,50 mmq	3,8 +/- 0,2
VESI4	4,00 mmq	4,6 +/- 0,2
VESI6	6,00 mmq	5,4 +/- 0,2
VESI10	10,00 mmq	6,7 +/- 0,3
VESI16	16,00 mmq	8,6 +/- 0,3
VESI25	25,00 mmq	10,4 +/- 0,3
VESI35	35,00 mmq	11,5 +/- 0,3
VESI50	50,00 mmq	13,5 +/- 0,3
VESI70	70,00 mmq	15,1 +/- 0,3
VESI95	95,00 mmq	18,6 +/- 0,3
VESI120	120,00 mmq	19,6 +/- 0,3
VESI150	150,00 mmq	23,5 +/- 0,3

# COLOUR CODE

Colour Code DIN 47100	
CONDUCTOR NR.	COLOUR
1	White
2	Brown
3	Green
4	Yellow
5	Grey
6	Pink
7	Blue
8	Red
9	Black
10	Violet
11	Grey/Pink
12	Red/Blue
13	White/Green
14	Brown/Green
15	White/Yellow
16	Yellow/Brown
17	White/Grey
18	Grey/Brown
19	White/Pink
20	Pink/Brown
21	White/Blue
22	Brown/Blue
23	White/Red
24	Brown/Red
25	White/Black

Colour Code CEI UNEL 00724		
PAIRS NR.	COLOUR CONDUCTOR A	COLOUR CONDUCTOR B
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown
5	White	Grey
6	Red	Blue
7	Red	Orange
8	Red	Green
9	Red	Brown
10	Red	Grey
11	Black	Blue
12	Black	Orange
13	Black	Green
14	Black	Brown
15	Black	Grey
16	Yellow	Blue
17	Yellow	Orange
18	Yellow	Green
19	Yellow	Brown
20	Yellow	Grey
21	White/Blue	Blue

Colour Code CEI-UNEL 00722-00725		
COND. NR.	COLOUR WITH YELLOW/GREEN	COLOUR WITHOUT YELLOW/GREEN
2		Blue Brown
3	Yellow/Green Brown Light Blue	Brown Black Grey
4	Yellow/Green Brown Black Grey	Light Blue Black Black Grey
5	Yellow/Green Black Light Blue Brown Grey	Light Blue Brown Black Grey Black
> 5	Yellow/Green Black Numbered	Black Numbered

Colour Code DIN 47100		
PAIRS NR.	CONDUCTOR COLOUR A	CONDUCTOR COLOUR B
1	White	Brown
2	Green	Yellow
3	Grey	Pink
4	Blue	Red
5	Black	Violet
6	Grey/Pink	Red/Blue
7	White/Green	Brown/Green
8	White/Yellow	Yellow/Brown
9	White/Grey	Grey/Brown
10	White/Pink	Pink/Brown

Colour Code Alarm Cables	
PAIRS NR.	COLOUR
1	White
2	Yellow
3	Green
4	Blue
5	Grey
6	Orange
7	Brown
8	Violet
9	Red
10	Black
11	Pink
12	Light Blue
13	White/Yellow
14	White/Green

COUNTRY	PROJECT	CONTRACTOR	TYPE OF CABLE
ESTONIA	TALLINN AIRPORT		COAXIAL CABLES
ESTONIA	TALLINN PORT		COAXIAL CABLES
FRANCE	DISNEY WORLD PARIS	COMERSON ITALY	COAXIAL CABLES – VIDEOSURVEILLANCE CABLES
FRANCE / UK	UNDERSEE TUNNEL BETWEEN FRANCE AND UK	COMERSON ITALY	COAXIAL CABLES – VIDEOSURVEILLANCE CABLES
GREECE	ATHENS AIRPORT	LEAD	CONTROL AND FIRE RESISTANT CABLES
ISLAND	DECODE	S.G. - S. GUDJONS-SON EHF	CONTROL AND SIGNAL CABLES
ISLAND	REYKJAVIK ENERGY HEAD-QUARTERS	S.G. - S. GUDJONS-SON EHF	CONTROL AND SIGNAL CABLES
ISLAND	SMA'RALIND	S.G. - S. GUDJONS-SON EHF	CONTROL AND SIGNAL CABLES
KUWAIT	AL RAID SECURITY CO	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	CITY CENTRE - HYPER MARKET	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	DHL WORLD WIDE	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	GULF SECURITY COMPANY	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	KHALIL BAHMAN STEEL FACTORY	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	LULU CENTRE HYPER MARKET	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	MINISTRY OF ENERGY - HEAD OFFICE	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	MINISTRY OF INTERIOR	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	MINISTRY OF PUBLIC WORKS	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	NATIONAL BANK OF KUWAIT	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	PETRO - CHEMICAL INDUSTRIES - BOBYAN CLUB	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	PETRO - CHEMICAL INDUSTRIES HEAD OFFICE	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	PETRO CHEMICAL INDUSTRIES	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	SOCIAL SECURITY HEAD OFFICE & 2 BRANCH'S	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	THE NEW ENGLISH SCHOOL	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	US ARMY ARIFJAN CAMP	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	US ARMY SHUIBA PORT	UNIVERSAL PROJECT	COAXIAL CABLE
KUWAIT	UNIVERSAL AMERICAN SCHOOL	UNIVERSAL PROJECT	COAXIAL CABLE & CONTROL CABLES
KUWAIT	NATIONAL BANK OF KUWAIT - 12 BRANCH'S	UNIVERSAL PROJECT	COAXIAL CABLE, SPEAKER CABLE & FIRE ALARM CABLES
KUWAIT	DABBOUA COMPLEX AT FAR-WANIYS	ALGHANIM	COAXIAL CABLES
KUWAIT	KNPC 110 PETROL STATIONS ALL OVER KUWAIT	ALGHANIM	COAXIAL CABLES
KUWAIT	KNPC SABHAN DEPOT	ALGHANIM	COAXIAL CABLES
KUWAIT	KUFPEC NEW HEADQUARTERS PROJECT	ALGHANIM	COAXIAL CABLES
KUWAIT	KUNA HEAD QUARTERS	ALGHANIM	COAXIAL CABLES
KUWAIT	NATIONAL BANK OF KUWAIT BRANCHES	ALGHANIM	COAXIAL CABLES
KUWAIT	TAIBA CLINIC	ALGHANIM	COAXIAL CABLES
KUWAIT	KUWAIT GULF LINK WAREHOUSE IN MINA ABDULLA (FOR THE US ARMY)	ALGHANIM	COAXIAL CABLES
LATVIA	RIGA AIRPORT	AS ASTA GROUP	COAXIAL CABLE
ROMANIA	BUCAREST AIRPORT	SECPRAL	CONTROL CABLES, TELEPHONE CABLES, LAN CABLES, VIDEOSURVEILLANCE CABLES
RUSSIA	O'KEY HYPERMARKETS	ELETEC systems	COAXIAL CABLES
RUSSIA	ST. PETERSBURG AIRPORT PULKOVO 2	ELETEC systems	COAXIAL CABLES
SERBIA & MONTENEGRO	HOTEL SPLENDID	SIEMENS	COAXIAL CABLES FIRE RESISTANT CABLES CONTROL CABLES TELEPHONE CABLES