



Application

This cable which is designed for the Instabus EIB data systems which is used in building control systems for comfort, security and energy saving, provides ease in application. INSTABUS EIB-LSZH cables are used for data transmission in lighting, heating, air conditioning, security, load and power control, remote control and watch. Thanks to the HFFR material, they don't burn easily and they mostly put off by themselves. They have a low smoke density and they don't emit poisonous and corrosive gases on fire. They are used in the buildings where there is intense human population and valuable goods.

Construction

Conductor	0.80 mm Electrolytic annealed solid copper
Insulation	HFFR Red-Black/White-Yellow (EN 50290-2/HD 624.7 S 1/VDE 0207-HM 2)
Separator	Polyester Tape
Screen	Al-Pes foil + Tinned copper drain wire
Drain Wire	7x0.16 mm Stranded tinned copper wires
Outer Sheath	HFFR Green (EN 50290-2/HD 624.7 S1/VDE 0207-HM 2)

Flame Test	IEC/EN 60332-1, VDE 0482-265-2-1
Smoke Density	IEC/EN 61034-2, EN 50268 (HD 606), BS 7622
Corrosive Gas Measurement	IEC 60754-2, EN 50267 (HD 602)

Technical and Electrical Properties (20 °C)

Insulation Resistance	> 200 M.Ohm x Km
Conductor Resistance	< 36.6 Ohm/Km
Capacitance (800 Hz)	100 pF/m
Temperature Range	-30 °C... + 70 °C
Min. Bending Radius	Fixed 10 x Cable Diameter
Test Voltage	1500 V
Max. Operating Voltage	250 V

PART NUMBER	NO. OF CORES / CONDUCTOR DIAMETER(mm)	CABLE DIAMETER (mm)	COPPER WEIGHT (Kg/Km)	CABLE WEIGHT (Kg/Km)
91200801	1x2x0.80	4.30	11	32
91200802	2x2x0.80	6.60	20	53

INSTABUS EIB-PVC

**Application**

This cable which is designed for the Instabus EIB data systems which is used in building control systems for comfort, security and energy saving, provides ease in application. INSTABUS EIB-PVC cables are used for data transmission in lighting, heating, air conditioning, security, load and power control, remote control and watch.

Construction

Conductor	0.80 mm Electrolytic annealed solid copper
Insulation	PVC Red-Black/White-Yellow (EN 50290-2)
Separator	Polyester Tape
Screen	Al-Pes Foil + Tinned copper drain wire
Drain Wire	7x0.16 mm Stranded tinned copper wires
Outer Sheath	PVC Green (EN 50290-2/HD 21.1.S4/VDE 0281 TM 1)

Flame Test IEC/EN 60332-1, VDE 0482-265-2-1

Technical and Electrical Properties (20 °C)

Insulation Resistance	> 200 M.Ohm x Km
Conductor Resistance	< 36.6 Ohm/Km
Capacitance (800 Hz)	100 pF/m
Temperature Range	-30 °C... +70 °C
Min. Bending Radius	Fixed 10 x Cable Diameter
Test Voltage	1500 V
Max. Operating Voltage	250 V

PART NUMBER	NO. OF CORES / CONDUCTOR DIAMETER(mm)	CABLE DIAMETER (mm)	COPPER WEIGHT (Kg/Km)	CABLE WEIGHT (Kg/Km)
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91200701	1x2x0.80	4.30	11	30
91200702	2x2x0.80	6.60	20	50



Application

CAN cables are standardized according to ISO 11898. They are developed for the communication networks of namely automation and increasingly industrial application technology areas. The transmission speed is 1 Mbit/s for 40 meters. If the distance increases the conductor size should be increased too. They are highly flexible.

Construction

Conductor	0.22 mm ² Stranded electrolytic annealed copper (AWG 24) 0.50 mm ² Stranded electrolytic annealed copper (VDE 0295 Class 6)
Insulation	Foam-skin polyethylene Color:DIN 47100 (EN 50290-2)
Lay-up	As pairs and each pair as layers.
Separator	Polyester Tape
Screen	Tinned copper wire braiding 85% Coverage Rate
Outer Sheath	PVC Purple (RAL 4001) (EN 50290-2 / HD 21.1.S4 / VDE 0281 TM 1)

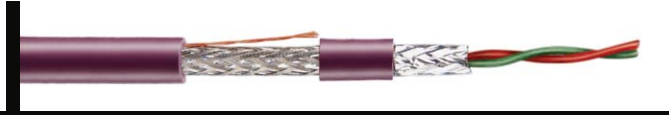
Reference Standards	DIN 19245T3, EN 50170, ISO11898
Flame Test	IEC / EN 60332-1, VDE 0482-265-2-1

Technical and Electrical Properties (20 °C)

Impedance	110 Ohm ± 10 Ohm	
Conductor Resistance (20°C)	0.22 mm ² :	190 Ohm/Km
	0.50 mm ² :	78 Ohm/Km
Capacitance (800 Hz)	50 pF/m	
Insulation Resistance	>5000 M.Ohm x Km	
Temperature Range	-30 °C... +70 °C	
Test Voltage	1500 V	
Max. Operating Voltage	250 V	
Min. Bending Radius	Fixed	10 x Cable Diameter
	Flexible	15 x Cable Diameter

PART NUMBER	NO. OF CORES / CROSS-SECTION(mm ²)	CABLE DIAMETER (mm)	COPPER WEIGHT (Kg/Km)	CABLE WEIGHT (Kg/Km)
91000001	1x2x0.22 mm ²	5.1	10	33
91000002	2x2x0.22 mm ²	5.7	18	43
91000501	1x2x0.50 mm ²	6.5	25	60
91000502	2x2x0.50 mm ²	7.5	36	75

PROFIBUS L2 FLEX



Part Number: 90090221

Application

This cable is used for high speed data transmission like: 12 Mbit/s (Max. 100m). As all the machines are connected with one bus cable line, the installation is easy and economical. It provides fast data transmission. This type of cables are designed for flexible indoor applications.

Construction

Conductor	1x2x0.34 mm ² Stranded electrolytic annealed copper (AWG 22)
Insulation	Foam-skin polyethylene Red/Green (EN 50290-2)
Lay-up	2 cores are stranded together with the fillers.
Separator	Polyester Tape
1. Screen	Al-Pes foil
2. Screen	Tinned copper wire braiding 65% Coverage Rate
Outer Sheath	8.10 mm PVC Purple (RAL 4001) or Gray (RAL 7001) (EN 50290-2 / HD 21.1.S4 / VDE0281 TM1)

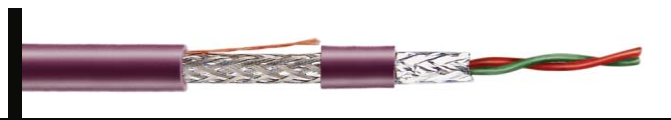
Copper Weight (Kg/Km)	20
Cable Weight (Kg/Km)	72
Reference Standards	DIN 19245T3, EN 50170, IEC 61158
Flame Test	IEC / EN 60332-1, VDE 0482-265-2-1

Technical and Electrical Properties (20 °C)

Impedance (3-20MHz)	150 Ohm ± 15 Ohm	
Loop Resistance	<112 Ohm/Km	
Capacitance (800 Hz)	27 pF/m	
Insulation Resistance	>5000 M.Ohm x Km	
Temperature Range	-30 °C... +70 °C	
Test Voltage	1500 V	
Max. Operating Voltage	250 V	
Min. Bending Radius	Fixed	10 x Cable Diameter
	Flexible	15 x Cable Diameter
Attenuations (Max. dB/100m)	9.6 KHz	0.3
	38.4 KHz	0.4
	200 KHz	0.5
	625 KHz	0.9
	1.25 MHz	1.2
	4 MHz	2.2
	16 MHz	4.2
	100 MHz	12.3

Please contact the sales department for HFFR version.

PROFIBUS L2



Part Number: 91020001

Application

This cable is used for high speed data transmission like: 12 Mbit/s (Max. 100m). As all the machines are connected with one bus cable line, the installation is easy and economical. This type of cables are designed for indoor and fixed applications.

Construction

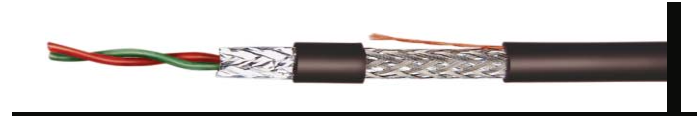
Conductor	1x2x0.64 mm Electrolytic annealed solid copper (AWG 22)
Insulation	Foam-skin polyethylene Red/Green (EN 50290-2)
Lay-up	2 cores are stranded together with the fillers.
Separator	Polyester Tape
1. Screen	Al-Pes foil
2. Screen	Tinned copper wire braiding 65% Coverage Rate
Outer Sheath	8.00 mm PVC Purple (RAL 4001) or Gray (RAL 7001) (EN 50290-2 / HD 21.1.S4 / VDE0281 TM1)

Copper Weight (Kg/Km)	18
Cable Weight (Kg/Km)	65
Reference Standards	DIN 19245T3, EN 50170, IEC 61158
Flame Test	IEC / EN 60332-1, VDE 0482-265-2-1

Technical and Electrical Properties (20 °C)

Impedance (3-20MHz)	150 Ohm ± 15 Ohm	
Loop Resistance	< 110 Ohm/Km	
Capacitance (800 Hz)	30 pF/m	
Insulation Resistance	> 5000 M.Ohm x Km	
Temperature Range	-30 °C... +70 °C	
Test Voltage	1500 V	
Max. Operating Voltage	250 V	
Min. Bending Radius	Fixed 10 x Cable Diameter	
Attenuations (Max. dB/100m)	9.6 KHz	0.3
	38.4 KHz	0.4
	200 KHz	0.5
	625 KHz	0.9
	1.25 MHz	1.2
	4 MHz	2.2
	16 MHz	4.2
	100 MHz	12.3

Please contact the sales department for HFFR version.



Part Number: 91100001

Application

This cable is used for high speed data transmission like: 12 Mbit/s (Max. 100m). As all the machines are connected with one bus cable line, the installation is easy and economical. This type of cables are designed for outdoor and fixed applications.

Construction

Conductor	1x2x0.64 mm Electrolytic annealed solid copper (AWG 22)
Insulation	Foam-skin polyethylene Red/Green (EN 50290-2)
Lay-up	2 cores are stranded together with the fillers.
Separator	Polyester Tape
1. Screen	Al-Pes foil
2. Screen	Tinned copper wire braiding 65% Coverage Rate
Outer Sheath	8.00 mm Polyethylene Black (EN 50290-2-24)

Copper Weight (Kg/Km)	18
Cable Weight (Kg/Km)	50
Reference Standards	DIN 19245T3, EN 50170, IEC 61158

Technical and Electrical Properties (20 °C)

Impedance (3-20MHz)	150 Ohm ± 15 Ohm	
Loop Resistance	< 110 Ohm/Km	
Capacitance (800 Hz)	30 pF/m	
Insulation Resistance	> 5000 M.Ohm x Km	
Temperature Range	-40 °C... +70 °C	
Test Voltage	1500 V	
Max. Operating Voltage	250 V	
Min. Bending Radius	Fixed 10 x Cable Diameter	
Attenuations (Max. dB/100m)	9.6 KHz	0.3
	38.4 KHz	0.4
	200 KHz	0.5
	625 KHz	0.9
	1.25 MHz	1.2
	4 MHz	2.2
	16 MHz	4.2
	100 MHz	12.3

PROFIBUS PA

**Application**

The most important PROFIBUS application profile PA, provides the communication between the general purpose automation and process automation. The installation is both easy and economical and the transmission speed is high.

Construction

Conductor	1.0 mm ² Stranded electrolytic annealed copper (IEC228/VDE0295/HD383/BS6360 Class 2)
Insulation	Foam-skin polyethylene Red/Green (EN 50290-2)
Lay-up	As pairs and each pair as layers.
Separator	Polyester Tape
1. Screen	Al-Pes foil
2. Screen	Tinned copper wire braiding 65% Coverage Rate
Outer Sheath	PVC Blue (RAL 5015) or Black (EN 50290-2 / HD 21.1.S4 / VDE 0281 TM 1)
Reference Standards	DIN 19245T3, EN 50170, IEC 61158
Flame Test	IEC / EN 60332-1, VDE 0482-265-2-1

Technical and Electrical Properties (20 °C)

Impedance (31.25 kHz)	100 Ohm ± 10 Ohm
Loop Resistance	< 36.2 Ohm/Km
Capacitance (800 Hz)	54 pF/m
Insulation Resistance	> 5000 M.Ohm x Km
Max. Operating Voltage	250 V
Test Voltage	1500 V
Temperature Range	-30 °C... +70 °C
Min. Bending Radius	Fixed 10 x Cable Diameter Flexible 20 x Cable Diameter
Attenuations (Max.)	39 kHz 3 dB/100m

PART NUMBER	NO. OF CORES / CROSS-SECTION(mm ²)	CABLE DIAMETER (mm)	COPPER WEIGHT (Kg/Km)	CABLE WEIGHT (Kg/Km)
91140001	1x2x1.0 mm ²	7.5	34	70
91140002	2x2x1.0 mm ²	10.0	57	112
91140010	10x2x1.0 mm ²	19.0	220	390
91140020	20x2x1.0 mm ²	24.5	430	700



Application

The most important PROFIBUS application profile PA, provides the communication between the general purpose automation and process automation. The armoured version of the PA cables is designed for high mechanical protection. Two types as galvanised steel wire armour and braiding are produced.

Construction

Conductor	1.0 mm ² Stranded electrolytic annealed copper (IEC228/VDE0295/HD383/BS6360 Class 2)
Insulation	Foam-skin polyethylene Red/ Green (EN 50290-2)
Individual Shielding	Al-Pes foil + Tinned copper drain wire
Lay-up	Each shielded pairs as layers.
Separator	Polyester Tape
Overall shielding	Al-Pes foil + Tinned copper drain wire
Inner Sheath	PVC
Armour	Galvanized steel wire braiding 75% Coverage Rate
Outer Sheath	PVC Blue (RAL 5015) or Black (EN 50290-2 / HD 21.1.S4 / VDE 0281 TM 1)

Reference Standards	DIN 19245T3, EN 50170, IEC 61158
Flame Test	IEC / EN 60332-1, VDE 0482-265-2-1

Technical and Electrical Properties (20 °C)

Impedance (3-20MHz)	100 Ohm ± 10 Ohm
Loop Resistance	<36.2 Ohm/Km
Capacitance (800 Hz)	54 pF/m
Insulation Resistance	>5000 M.Ohm x Km
Max. Operating Voltage	250 V
Test Voltage	1500 V
Temperature Range	-30 °C... +70 °C
Min. Bending Radius	Fixed 10 x Cable Diameter

PART NUMBER	NO. OF CORES / CROSS-SECTION(mm ²)	CABLE DIAMETER (mm)	COPPER WEIGHT (Kg/Km)	CABLE WEIGHT (Kg/Km)
90000235	1x2x1.0 mm ²	10.6	24	170
90000236	2x2x1.0 mm ²	13.5	46	250
90000220	10x2x1.0 mm ²	26.0	214	810
90000218	20x2x1.0 mm ²	32.0	420	1250