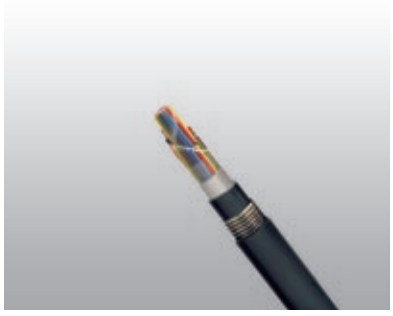
RT/F3 D & S & B type Axle Counter Cable

Applications

The cables are designed for transmission of signals up to 90 kHz in axle counter train detection systems.

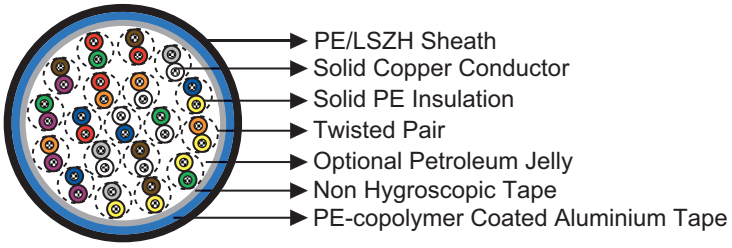


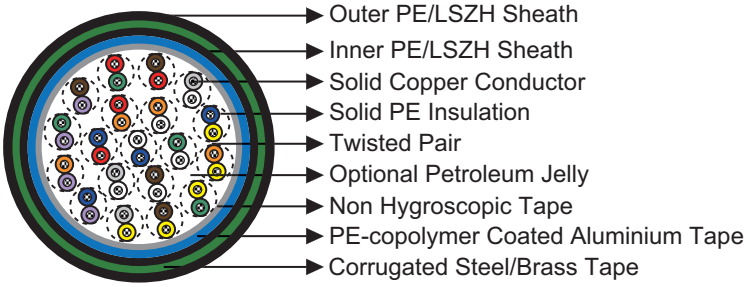
Standards

- RT/E/PS/00031

Construction

- Conductors: Tinned copper, 0.9/1.4 mm nominal diameter.
- Insulation: Solid polyethylene.
- Cabling Element: Two insulated conductors are twisted together to form a pair.
- Stranding: Pairs are helically stranded in concentric layers.
- Filling: Cable core interstices are filled with a low-permitivity compound. Unfilled cables option can be offered upon request.
- Core Wrapping: Plastic tape(s) with overlapping.
- Moisture Barrier: One laminated sheath made of aluminium tape coated with PE-Copolymer on at least one side is applied with longitudinally overlap.





- Inner Sheath (for S/B type): Polyethylene or LSZH fire retardant compound.
- Mechanical Protection (for S/B type): One corrugated steel tape or brass tape is longitudinally applied with overlap. Unarmoured cables option can be offered upon request.
- Outer Sheath: Polyethylene or LSZH fire retardant compound. Ruggedised PE sheath compound can be offered upon request.

Type Codes

F1 class: Non LSZH cables.

F5 class: Unfilled cables

D type: Unarmoured types

R type: Ruggedised PE sheath

S type: Steel tape armoured types

B type: Brass tape armoured types

E1, E2 & E3 types: 3 different induction protection levels available.

Electrical Characteristics at 20℃

Nominal Conductor Diameter	mm	0.9	1.4
Nominal Conductor Cross Section	mm²	0.63	1.5
Maximum Conductor Resistance	Ω/km	30.0	12.5
Minimum Insulation Resistance @500 V DC (1min)	MΩ.km	5000	5000
Nominal Conductor Capacitance @800Hz/1000Hz (AC)	nF/km	42+3	47+3
Dielectric Strength, conductor to screen (DC voltage 2mins)	V	3000	3000
Maximum Average Attenuation			
@1.0KHz	dB/km	0.73	0.45
@2.4KHz	dB/km	1.10	0.62
@40KHz	dB/km	2.88	1.77
@90KHz	dB/km	3.70	2.41
@1.024MHz	dB/km	11.2	7.45
Minimum Average Near-end Crosstalk			
@1.0KHz	dB/km	60	60
@2.4KHz	dB/km	60	60
@40KHz	dB/km	50	50
@90KHz	dB/km	50	50
@1.024MHz	dB/km	35	35

Mechanical and Thermal Properties

- Minimum Bending Radius: 7.5×OD (unarmoured); 10×OD (armoured)
- Temperature Range: -30℃ to +60℃ (during operation); -10℃ to +60℃ (during installation)

Core Identification

Pair Number	A Wire	B Wire	Pair Number	A Wire	B Wire
1	WHITE	BLUE	13	YELLOW	GREEN
2	WHITE	ORANGE	14	YELLOW	BROWN
3	WHITE	GREEN	15	YELLOW	GREY
4	WHITE	BROWN	16	VIOLET	BLUE
5	WHITE	GREY	17	VIOLET	ORANGE
6	RED	BLUE	18	VIOLET	GREEN
7	RED	ORANGE	19	VIOLET	BROWN
8	RED	GREEN	20	VIOLET	GREY
9	RED	BROWN	21	TURQUOISE	BLUE
10	RED	GREY	22	TURQUOISE	ORANGE
11	YELLOW	BLUE	23	TURQUOISE	GREEN
12	YELLOW	ORANGE	24	TURQUOISE	BROWN

Two pair cables laid up in quad formation colour coded in rotation, Orange, White, Green, Black

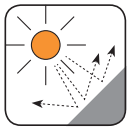
Dimensions and Weight

A–2Y(F)(L)2Y n × 2 × 0.9/1.4 Cables

Cable Code	Number of Pairs (n)	Nominal Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.9mm Conductor, 1.55mm Insulated Wire				
RS/RT/F3-D-2Y(F)(L)2Y-2P0.9	2	2.4	13.2	210
RS/RT/F3-D-2Y(F)(L)2Y-10P0.9	10	2.4	21.6	530
RS/RT/F3-D-2Y(F)(L)2Y-12P0.9	12	2.4	24.8	580
RS/RT/F3-D-2Y(F)(L)2Y-19P0.9	19	2.4	31.2	800
RS/RT/F3-D-2Y(F)(L)2Y-24P0.9	24	2.4	33.8	980
1.4mm Conductor, 2.2mm Insulated Wire				
RS/RT/F3-D-2Y(F)(L)2Y-2P1.4	2	2.4	23.4	320
RS/RT/F3-D-2Y(F)(L)2Y-10P1.4	10	2.4	30.0	910
RS/RT/F3-D-2Y(F)(L)2Y-12P1.4	12	2.4	32.0	1101
RS/RT/F3-D-2Y(F)(L)2Y-19P1.4	19	2.4	37.3	1450
RS/RT/F3-D-2Y(F)(L)2Y-24P1.4	24	2.4	42.3	1780

A–2Y(L)2YB2Y n × 2 × 0.9/1.4 Cables

Cable Code	Number of Pairs (n)	Nominal Sheath Thickness mm		Maximum Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
0.9mm Conductor, 1.8mm Insulated Wire					
RS/RT/F3-S-2Y(L)2YB2Y-2P0.9	2	2.2	2.4	22.0	399
RS/RT/F3-S-2Y(L)2YB2Y-10P0.9	10	2.2	2.4	30.4	880
RS/RT/F3-S-2Y(L)2YB2Y-12P0.9	12	2.2	2.4	33.6	963
RS/RT/F3-S-2Y(L)2YB2Y-19P0.9	19	2.2	2.4	40.0	1312
RS/RT/F3-S-2Y(L)2YB2Y-24P0.9	24	2.2	2.4	42.6	1626
1.4mm Conductor , 2.7mm Insulated Wire					
RS/RT/F3-S-2Y(L)2YB2Y-2P1.4	2	2.2	2.4	32.2	608
RS/RT/F3-S-2Y(L)2YB2Y-10P1.4	10	2.2	2.4	38.8	1510
RS/RT/F3-S-2Y(L)2YB2Y-12P1.4	12	2.2	2.4	40.8	1827
RS/RT/F3-S-2Y(L)2YB2Y-19P1.4	19	2.2	2.4	46.1	2380
RS/RT/F3-S-2Y(L)2YB2Y-24P1.4	24	2.2	2.4	51.1	2954


UV Resistant


Water Resistant

Rated voltage


Impact Resistant


Buried in Ciround


Laid In Ducts

PE Sheath

Zero Halogen
IEC 60754-1/NF C20-454
EN 50267-2-1

LSZH Sheath


Flame Retardant
NF C32-070-2.1(C2)
IEC 60332-1/EN 50265-2-1


Fire Retardant
NF C32-070-2.2(C1)
IEC 60332-3/EN50266

Zero Halogen
IEC 60754-1/NF C20-454
EN 50267-2-1


Low Smoke Emission
IEC 61034/NFC20-902
EN 50268/NF C32-073


Low Corrosivity
EN 50267-2-2/NF C32-074
IEC 60754-2/NF C20-453


Low Toxicity

RT/F3 E1/E2/E3 Type Axle Counter Cable

Applications

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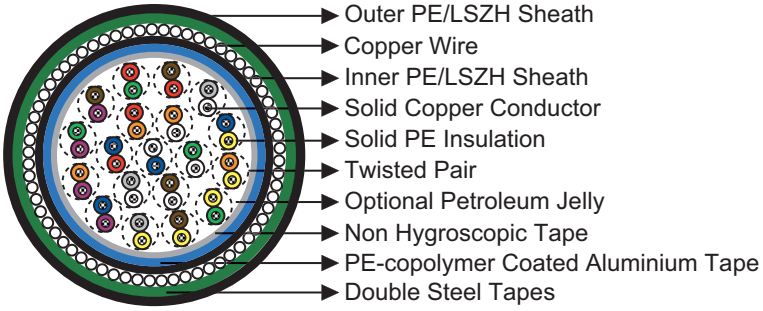
Standards

- RT/E/PS/00031

Construction



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- Insulation: Solid polyethylene.
- Cabling Element: Two insulated conductors are twisted together to form a pair.
- Stranding: Pairs are helically stranded in concentric layers.
- Filling: Cable core interstices are filled with a low-permitivity compound. Unfilled cables option can be offered upon request.
- Core Wrapping: Plastic tape(s) with overlapping.
- Moisture Barrier: One laminated sheath made of aluminium tape coated with PE-Copolymer on at least one side is applied with longitudinally overlap.
- Inner Sheath: Polyethylene or LSZH fire retardant compound.
- Electrostatic Shield: One layer of helically applied copper wires.
- Electromagnetic Shield: Two helically applied steel tapes.
- Outer Sheath: Polyethylene or LSZH fire retardant compound. Ruggedised PE sheath compound can be offered upon request.

Type Codes

F1 class: Non LSZH cables
F5 class: Unfilled cables
D type: Unarmoured types
R type: Ruggedised PE sheath
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Nominal Mutual Capacitance @800Hz/1000Hz (AC)	nF/km	42+3	47+3
Dielectric Strength, conductor to screen (DC voltage 2mins)	V	3000	3000
Maximum Average Attenuation			
@1.0KHz	dB/km	0.73	0.45
@2.4KHz	dB/km	1.10	0.62
@40KHz	dB/km	2.88	1.77
@90KHz	dB/km	3.70	2.41
@1.024MHz	dB/km	11.2	7.45
Minimum Average Near-end Crosstalk Attenuation			
@1.0KHz	dB/km	60	60
@2.4KHz	dB/km	60	60
@40KHz	dB/km	50	50
@90KHz	dB/km	50	50
@1.024MHz	dB/km	35	35
Maximum Reduction Factor @100V/km,50Hz			
EMI RF 1 (modest level)		0.65	0.65
EMI RF 2 (medium level)		0.45	0.45
EMI RF 3 (high level)		0.20	0.20

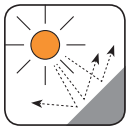
Mechanical and Thermal Properties

- Minimum Bending Radius: 7.5×OD (unarmoured); 10×OD (armoured)
- Temperature Range: -30℃ to +60℃ (during operation); -10℃ to +60℃ (during installation)

Dimensions and Weight

Cable Code	Number of Pairs	Nominal Sheath Thickness mm		Nominal Overall Diameter mm	Nominal Weight kg/km
		Inner	Outer		
0.9mm Conductor , 1.8mm Insulated Wire					
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-2P0.9	2	2.2	2.4	23.4	1300
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-10P0.9	10	2.2	2.4	31.8	1650
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-12P0.9	12	2.2	2.4	35.0	1760
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-19P0.9	19	2.2	2.4	41.4	2275
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-24P0.9	24	2.2	2.4	44.0	2450
1.4mm Conductor, 2.7mm Insulated Wire					
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-2P1.4	2	2.2	2.4	33.6	1480
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-10P1.4	10	2.2	2.4	40.2	2200
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-12P1.4	12	2.2	2.4	42.2	2325
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-19P1.4	19	2.2	2.4	47.5	2975
RS/RT/F3-S/E3-2Y(F)(L)2YDB2Y-24P1.4	24	2.2	2.4	52.5	3150

Anti Induction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Low Smoke Emission
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Low Corrosivity
EN 50267-2-2/NF C32-074
IEC 60754-2/NF C20-453


Low Toxicity