

Belden Rolling Stock solutions

Product Catalog



Belden connects people, information and ideas to unlock new possibilities for your business.

Belden stands as a premier global leader in the provision of both standard and custom-engineered cables and advanced networking systems. Our expertise is particularly evident in the rail industry, where we deliver optimal solutions for the intricate wiring and robust networking requirements of a diverse range of rail vehicles. This includes high-speed trains, mainline railways, metros and various other specialized rail applications.

At the core of our offerings is an unwavering commitment to uncompromising safety and reliability. Every product is meticulously designed and rigorously tested to ensure that it contributes significantly to the perfect operational status of rail vehicles, not just at deployment, but consistently throughout their entire service life. This dedication guarantees seamless performance and enhanced longevity for critical rail infrastructure.

Belden's comprehensive portfolio for the rail sector encompasses a wide array of high-quality and high-reliability components. This includes our renowned RailTuff™ Rolling Stock Cables, specifically engineered to withstand the harsh and demanding environments of railway operations. Complementing these are our robust Lumberg Automation™ connectors and patch cables, which provide secure and efficient connectivity. Furthermore, our advanced Hirschmann™ industrial switches and WLAN solutions offer cutting-edge networking capabilities, ensuring reliable data transmission and communication within the complex ecosystems of modern rail transport.

Rolling Stock solutions

Mass transit systems

Mass transit vehicles are becoming increasingly sophisticated with more systems being installed on-board to take advantage of new technologies. As the data rates to support all of these on-board systems increase, the Belden product portfolio is ready to meet and exceed your current requirements. The cabling and networking solutions provided by Belden can offer data rates that meet future needs, thus eliminating the need for any upgrades to cope with future on board system innovations.

Cost savings

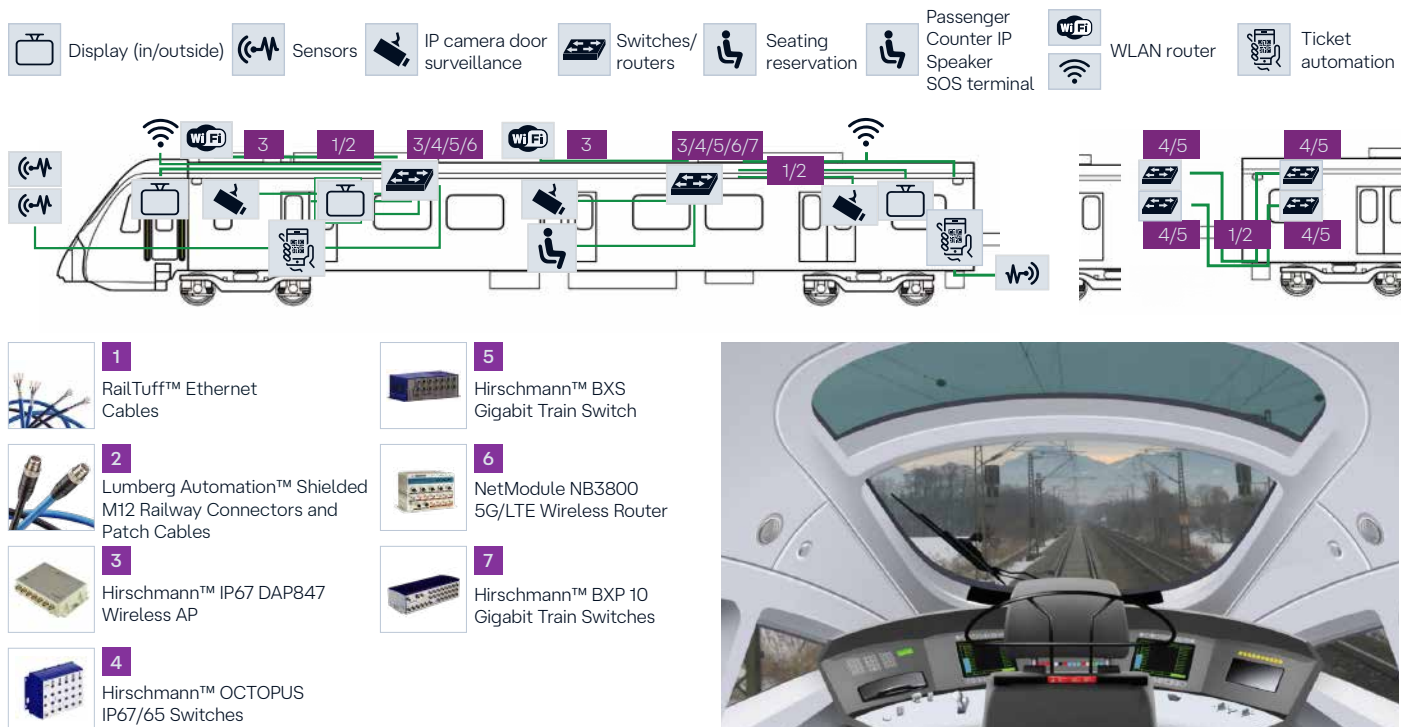
- Meet and exceed all onboard data rates and operating requirements throughout the durable lifetime.
- The cable is easier to strip, improving its processability without the need for special tooling, therefore greatly improving installation time and reducing costs.
- Specially characterized insulation and sheath materials enable excellent product features which meet the demand for high safety and long-term stable operation during the period of service, therefore reducing service life costs significantly.

Competitive advantage

Belden's advantage in railway solutions stems from its comprehensive, end-to-end offerings that prioritize uncompromising safety and reliability. Belden provides a complete ecosystem of specialized products, all engineered to meet the stringent demands of diverse railway applications. This integrated approach ensures seamless performance and operational longevity, positioning Belden as a trusted partner capable of maintaining the perfect operational status of railways throughout their entire service life.

Reliability

- Wired/wireless signal and control systems designed to deliver total reliability under harsh conditions.
- Belden's RailTuff™ products are best suited for railway vehicles and enable a reliable link to all connected systems and devices.
- The RailTuff™ products undergo numerous tests strictly accordingly to international and national rail standards, helping our rail customers benefit from innovative quality products which are durable and reliable.



Rolling Stock solutions

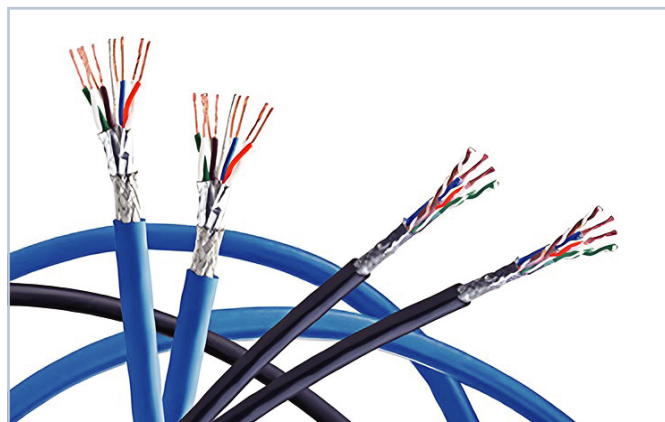
RailTuff™ Ethernet cables

Product features

- Cat 5e SF/UTP and Cat 7 S/FTP with multiple conductor sizes according to system choice
- Meet ECN and ETB network requirement
- 100 Mbps, 1000 Mbps & 10Gbps cables
- High flexibility with sustained data transmission-highly stranded copper
- Fully compliant EN 50155 Class TX with a superior temperature rating (-40 °C to + 85 °C)
- FIST (flame spread, ignitability, smoke emission, toxicity) compliant as per EN45545-2

Product compliances

- IEC 61375 Train Communication Network (TCN)
- TJ/CL-313
- EN 50155: Railway applications Class TX
- EN 45545-2 (HL1 to HL3) as per Class R15, R16
- ISO/IEC 11801 2nd edition
- RoHS and REACH compliant



Applications

- Driver- and crew-orientated services
- Passenger information system
- On-board signaling system
- Video surveillance/CCTV

Belden PN	Description	Classification	Application	Nominal radius (mm)	Average weight (kg/km)
BA43769	Cat 5e SF/UTP 100Ω 4×22AWG (QUAD)	RailTuff™ Ethernet	ETB/ECN networks	6.7	67
BA43992	Cat 5e SF/UTP 100Ω 4×0.5mm ² (QUAD)	RailTuff™ Ethernet	ETB/ECN networks	8.0	86
BA43801	Cat 5e SF/UTP 100Ω 4×20AWG (QUAD)	RailTuff™ Ethernet	ETB/ECN networks	6.2	59
BA43708	Cat 5e SF/UTP 100Ω 4×20AWG (QUAD)	RailTuff™ Ethernet	ETB/ECN networks	8.0	86
BA43800	Cat 5e SF/UTP 100Ω 4×2×26AWG	RailTuff™ Ethernet	ETB/ECN networks	6.9	59
BA43802	Cat 7 S/FTP 100Ω 4×2×24AWG	RailTuff™ Ethernet	ETB/ECN networks	8.1	84
BA43804	Cat 7 S/FTP 100Ω 4×2×26AWG	RailTuff™ Ethernet	ETB/ECN networks	7.1	57
BA43806FR	Cat 7 S/FTP 100Ω 4×2×24AWG FIRE RESISTANT	RailTuff™ Ethernet	ETB/ECN networks	8.5	90

Rolling Stock solutions

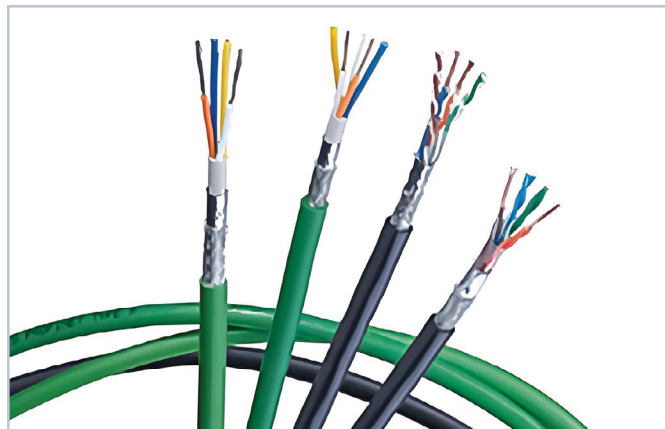
RailTuff™ MVB/WTB cables

Product features

- Meet MVB & WTB network requirement
- Almost no limitations when it comes to on-board installation locations throughout the train
- Special designs ensure transmission properties
- Aluminum-polyester foil 100% coverage with tinned copper braid shielding gives cable good EMC properties
- Fully compliant EN 50155 Class TX with a superior temperature rating (-40 °C to + 85 °C)
- FIST (flame spread, ignitability, smoke emission, toxicity) compliant as per EN45545-2

Product compliances

- IEC 61375 Train Communication Network (TCN)
- EN 50155: Rolling Stock Application (TX Class)
- IEC 61375, TB/T 3035: Transmission properties
- EN 45545-2 (HL1 to HL3), R15,R16 hazard level
- TJ/CL-313
- RoHS and REACH compliant



Applications

MVB (multifunction vehicle bus)

- Connectivity within one car
- Can be used within a set of cars (e.g. TGV)

WTB (wire train bus)

- Connectivity between coaches, plug & play concept
- Coaches can be coupled and uncoupled while in service

Belden PN	Description	Classification	Application	Nominal overall diameter (mm)	Average weight (Kg/Km)
BA43990	DATABUS 120Ω 4×20AWG (eqv MVB)	RailTuff™ Data Bus	MVB network	7.9	80
BA43104	DATABUS 120Ω 4×0.5mm ² (eqv MVB)	RailTuff™ Data Bus	MVB network	7.9	80
BA43101	DATABUS 120Ω 2×0.5mm ² (eqv MVB)	RailTuff™ Data Bus	MVB network	8	79
BA43102	DATABUS 120Ω 2×20AWG (eqv MVB)	RailTuff™ Data Bus	MVB network	7.9	76
BA43103	DATABUS 120Ω 1×2×0.5mm ² + 1×0.5mm (eqv MVB)	RailTuff™ Data Bus	MVB network	7.1	67
BA43991	DATABUS 120Ω 2×20AWG (eqv WTB)	RailTuff™ Data Bus	MVB network	7.9	75
BA43105	DATABUS 120Ω 2×0.75mm ² (eqv WTB)	RailTuff™ Data Bus	MVB network	8.3	87
BA43105FR	DATABUS 120Ω 2×0.75mm ² (eqv WTB) FIRE RESISTANT	RailTuff™ Data Bus	MVB network	9.5	92
BA43103FR	DATABUS 120Ω 2×0.5mm ² + 1×0.5mm ² FIRE RESISTANT	RailTuff™ Data Bus	CANbus network	8.6	90



Rolling Stock solutions

RailTuff™ EN 50306-2 300V M rolling stock thin wall single-core cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Extremely long lifetime
- Flame-retardant
- Temperature range of -40°C to + 120°C
- Overload maximum core temperature 120°C
- Oil, ozone and chemical resistance



Product compliances

- Designed according to EN 50306-2 and China TJ/CL-313
- EN45545-2 Hazard Level HL1 to HL3
- RoHS and REACH compliant

Applications

- Control wires for installations in electrical equipment and control cabinets inside rolling stock like high-speed trains (CRH, Shinkansen, ICE, TGV), metro, light rail and trolley buses, etc.

Part number	Description	Conductor size (mm ²)	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTA1C0.5	EN 50306-2 300V 1x0.50 M	0.5	1.42	5.8	27.1
RTA1C0.75	EN 50306-2 300V 1x0.75 M	0.75	1.62	8.4	30.6
RTA1C1	EN 50306-2 300V 1x1.00 M	1.0	1.77	10.6	38.0
RTA1C1.5	EN 50306-2 300V 1x1.50 M	1.5	2.25	16.9	55.8
RTA1C2.5	EN 50306-2 300V 1x2.50 M	2.5	2.75	26.3	86.8

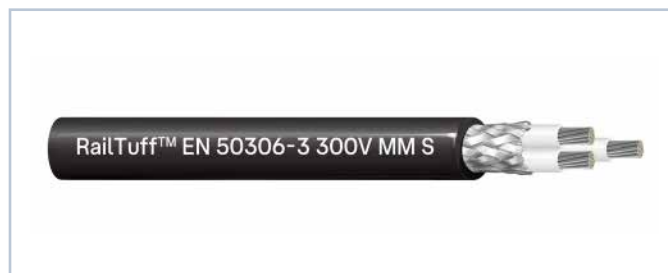
Note: EN 50306-2 wires are base cores for EN 50306-3 and EN 50306-4 cables

Rolling Stock solutions

RailTuff™ EN 50306-3 300 V MM S rolling stock thin wall single-core and multi-core, screened and sheathed cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Shielded with tinned copper braid
- Extremely long lifetime
- Flame-retardant
- Temperature range of -40°C to + 90°C
- Overload maximum core temperature 120°C



Product compliances

- Designed according to EN 50306-3 and China TJ/CL-313
- EN45545-2 Hazard Level HL1 to HL3
- RoHS and REACH compliant

Applications

- Single Core and Multicore screened control cables for installations in electrical equipment and control cabinets inside rolling stock like high-speed trains (CRH, Shinkansen, ICE, TGV), metro, light rail and trolley buses, etc. They are also suitable for EMC problematic applications.

Part number	Description	Conductor size (mm ²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTB1C0.5	EN 50306-3 300V 1x0.50 MM S	0.5	1	2.65	15.3	100
RTB2C0.5	EN 50306-3 300V 2x0.50 MM S	0.5	2	4.10	28.5	184
RTB3C0.5	EN 50306-3 300V 3x0.50 MM S	0.5	3	4.30	34.6	210
RTB4C0.5	EN 50306-3 300V 4x0.50 MM S	0.5	4	4.75	42.9	265
RTB6C0.5	EN 50306-3 300V 6x0.50 MM S	0.5	6	5.75	64.4	442
RTB8C0.5	EN 50306-3 300V 8x0.50 MM S	0.5	8	6.35	79.1	519
RTB1C0.75	EN 50306-3 300V 1x0.75 MM S	0.75	1	2.85	18.2	110
RTB2C0.75	EN 50306-3 300V 2x0.75 MM S	0.75	2	4.50	35.0	205
RTB3C0.75	EN 50306-3 300V 3x0.75 MM S	0.75	3	4.80	44.9	248
RTB4C0.75	EN 50306-3 300V 4x0.75 MM S	0.75	4	5.25	56.1	300
RTB6C0.75	EN 50306-3 300V 6x0.75 MM S	0.75	6	6.35	83.4	503
RTB8C0.75	EN 50306-3 300V 8x0.75 MM S	0.75	8	7.55	112.6	729
RTB1C1	EN 50306-3 300V 1x1.00 MM S	1	1	3.00	21.0	122
RTB2C1	EN 50306-3 300V 2x1.00 MM S	1	2	4.80	40.8	230
RTB3C1	EN 50306-3 300V 3x1.00 MM S	1	3	5.10	53.3	277
RTB4C1	EN 50306-3 300V 4x1.00 MM S	1	4	5.60	66.6	341
RTB6C1	EN 50306-3 300V 6x1.00 MM S	1	6	6.80	100.3	579
RTB8C1	EN 50306-3 300V 8x1.00 MM S	1	8	7.80	129.2	766
RTB1C1.5	EN 50306-3 300V 1x1.50 MM S	1.5	1	3.50	29.6	158
RTB2C1.5	EN 50306-3 300V 2x1.50 MM S	1.5	2	5.90	60.4	135
RTB3C1.5	EN 50306-3 300V 3x1.50 MM S	1.5	3	6.15	78.6	370
RTB4C1.5	EN 50306-3 300V 4x1.50 MM S	1.5	4	6.80	98.1	466
RTB6C1.5	EN 50306-3 300V 6x1.50 MM S	1.5	6	8.10	144.8	743
RTB8C1.5	EN 50306-3 300V 8x1.50 MM S	1.5	8	9.20	186.4	937
RTB1C2.5	EN 50306-3 300V 1x2.50 MM S	2.5	1	4.00	41.4	206
RTB2C2.5	EN 50306-3 300V 2x2.50 MM S	2.5	2	6.80	81.8	399
RTB3C2.5	EN 50306-3 300V 3x2.50 MM S	2.5	3	7.30	113.1	530
RTB4C2.5	EN 50306-3 300V 4x2.50 MM S	2.5	4	8.10	144.9	674

Note: Base cores are according to EN 50306-2



Rolling Stock solutions

RailTuff™ EN 50306-4 1P/1E 300V MM rolling stock thin wall multi-core cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Extremely long lifetime
- Flame-retardant
- Temperature range of -40°C to + 90°C
- Overload maximum core temperature 120°C
- Optimal weight and volume
- Oil-resistant, ozone-resistant and resistant to chemical corrosion
- Designed for protected installation (P-class) or unprotected installation (E-class)



Product compliances

- Designed according to EN 50306-4 Table 1 and China TJ/CL-313
- EN45545-2 Hazard Level HL1 to HL3. RoHS and REACH compliant

Applications

- Applicable for fixed or moderate flexing wiring inside railway rolling stock like high-speed trains (CRH, Shinkansen, ICE, TGV), metro, light rail and trolley buses, etc.

Part number	Description	Conductor size (mm²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTC2C0.5P	EN 50306-4 1P 2x0.50 MM	0.5	2	4.10	24.3	160
RTC3C0.5P	EN 50306-4 1P 3x0.50 MM	0.5	3	4.30	30.8	193
RTC4C0.5P	EN 50306-4 1P 4x0.50 MM	0.5	4	4.80	39.6	243
RTC7C0.5P	EN 50306-4 1P 7x0.50 MM	0.5	7	5.50	58.8	339
RTC13C0.5P	EN 50306-4 1P 13x0.50 MM	0.5	13	7.90	110.1	637
RTC19C0.5P	EN 50306-4 1P 19x0.50 MM	0.5	19	8.70	148.8	829
RTC37C0.5P	EN 50306-4 1P 37x0.50 MM	0.5	37	11.60	270.8	1,453
RTC2C0.75P	EN 50306-4 1P 2x0.75 MM	0.75	2	4.50	30.9	179
RTC3C0.75P	EN 50306-4 1P 3x0.75 MM	0.75	3	4.75	40.3	218
RTC4C0.75P	EN 50306-4 1P 4x0.75 MM	0.75	4	5.30	52.3	278
RTC7C0.75P	EN 50306-4 1P 7x0.75 MM	0.75	7	6.20	80.8	396
RTC13C0.75P	EN 50306-4 1P 13x0.75 MM	0.75	13	8.70	145.9	700
RTC19C0.75P	EN 50306-4 1P 19x0.75 MM	0.75	19	9.70	202.7	934
RTC37C0.75P	EN 50306-4 1P 37x0.75 MM	0.75	37	13.00	373.6	1,638
RTC48C0.75P	EN 50306-4 1P 48x0.75 MM	0.75	48	14.90	477.7	2,067
RTC2C1.0P	EN 50306-4 1P 2x1.00 MM	1.0	2	4.80	36.4	203
RTC3C1.0P	EN 50306-4 1P 3x1.00 MM	1.0	3	5.10	48.6	254
RTC4C1.0P	EN 50306-4 1P 4x1.00 MM	1.0	4	5.60	61.6	312
RTC7C1.0P	EN 50306-4 1P 7x1.00 MM	1.0	7	6.60	97.2	455
RTC13C1.0P	EN 50306-4 1P 13x1.00 MM	1.0	13	9.40	178.8	831
RTC19C1.0P	EN 50306-4 1P 19x1.00 MM	1.0	19	10.50	250.0	1,119
RTC37C1.0P	EN 50306-4 1P 37x1.00 MM	1.0	37	14.10	463.1	1,976
RTC2C1.5P	EN 50306-4 1P 2x1.50 MM	1.5	2	5.75	52.6	267
RTC3C1.5P	EN 50306-4 1P 3x1.50 MM	1.5	3	6.10	71.2	335
RTC4C1.5P	EN 50306-4 1P 4x1.50 MM	1.5	4	6.70	90.8	412

Rolling Stock solutions

Part number	Description	Conductor size (mm ²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTC7C1.5P	EN 50306-4 1P 7x1.50 MM	1.5	7	8.40	156.2	698
RTC13C1.5P	EN 50306-4 1P 13x1.50 MM	1.5	13	11.60	275.3	1,170
RTC19C1.5P	EN 50306-4 1P 19x1.50 MM	1.5	19	12.90	384.5	1,559
RTC37C1.5P	EN 50306-4 1P 37x1.50 MM	1.5	37	17.50	721.1	2,803
RTC2C2.5P	EN 50306-4 1P 2x2.5 MM	2.5	2	7.10	82.1	419
RTC3C2.5P	EN 50306-4 1P 3x2.5 MM	2.5	3	7.50	110.4	519
RTC4C2.5P	EN 50306-4 1P 4x2.5 MM	2.5	4	8.20	140.1	632
RTC2C0.5E	EN 50306-4 1E 2x0.50 MM	0.5	2	5.10	37.2	271
RTC3C0.5E	EN 50306-4 1E 3x0.50 MM	0.5	3	5.30	44.3	308
RTC4C0.5E	EN 50306-4 1E 4x0.50 MM	0.5	4	5.70	52.9	357
RTC7C0.5E	EN 50306-4 1E 7x0.50 MM	0.5	7	6.50	75.7	483
RTC13C0.5E	EN 50306-4 1E 13x0.50 MM	0.5	13	8.50	124.0	755
RTC19C0.5E	EN 50306-4 1E 19x0.50 MM	0.5	19	9.30	164.1	958
RTC37C0.5E	EN 50306-4 1E 37x0.50 MM	0.5	37	12.60	305	1743
RTC2C0.75E	EN 50306-4 1E 2x0.75 MM	0.75	2	5.50	45.0	299
RTC3C0.75E	EN 50306-4 1E 3x0.75 MM	0.75	3	5.70	54.3	337
RTC4C0.75E	EN 50306-4 1E 4x0.75 MM	0.75	4	6.20	66.9	402
RTC7C0.75E	EN 50306-4 1E 7x0.75 MM	0.75	7	7.10	97.7	540
RTC13C0.75E	EN 50306-4 1E 13x0.75 MM	0.75	13	9.40	163.8	852
RTC19C0.75E	EN 50306-4 1E 19x0.75 MM	0.75	19	10.30	219.7	1078
RTC37C0.75E	EN 50306-4 1E 37x0.75 MM	0.75	37	13.50	392.3	1797
RTC48C0.75E	EN 50306-4 1E 48x0.75 MM	0.75	48	15.30	494.8	2211
RTC2C1.0E	EN 50306-4 1E 2x1.00 MM	1.0	2	5.80	51.4	331
RTC3C1.0E	EN 50306-4 1E 3x1.00 MM	1.0	3	6.10	64.4	388
RTC4C1.0E	EN 50306-4 1E 4x1.00 MM	1.0	4	6.50	77.0	443
RTC7C1.0E	EN 50306-4 1E 7x1.00 MM	1.0	7	7.50	115.1	607
RTC13C1.0E	EN 50306-4 1E 13x1.00 MM	1.0	13	10.00	195.2	971
RTC19C1.0E	EN 50306-4 1E 19x1.00 MM	1.0	19	11.00	265.2	1247
RTC37C1.0E	EN 50306-4 1E 37x1.00 MM	1.0	37	14.50	479.2	2113
RTC2C1.5E	EN 50306-4 1E 2x1.50 MM	1.5	2	6.60	67.5	393
RTC3C1.5E	EN 50306-4 1E 3x1.50 MM	1.5	3	6.95	86.8	468
RTC4C1.5E	EN 50306-4 1E 4x1.50 MM	1.5	4	7.60	109.0	566
RTC7C1.5E	EN 50306-4 1E 7x1.50 MM	1.5	7	8.85	167.2	791
RTC13C1.5E	EN 50306-4 1E 13x1.50 MM	1.5	13	12.05	290.3	1298
RTC19C1.5E	EN 50306-4 1E 19x1.50 MM	1.5	19	13.35	401.2	1700
RTC37C1.5E	EN 50306-4 1E 37x1.50 MM	1.5	37	17.85	738.6	2951
RTC2C2.5E	EN 50306-4 1E 2x2.50 MM	2.5	2	7.90	99.1	563
RTC3C2.5E	EN 50306-4 1E 3x2.50 MM	2.5	3	8.30	128.3	671
RTC4C2.5E	EN 50306-4 1E 4x2.50 MM	2.5	4	9.10	162.1	819

Note: The basic cable core is based on EN 50306-2 standard.



Rolling Stock solutions

RailTuff™ EN 50306-4 3P/3E 300V MM S rolling stock thin wall multi-core cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Shielded with tinned copper braid
- Extremely long lifetime
- Flame-retardant
- Optimized dimension and weight
- Temperature range of -40°C to + 90°C
- Overload maximum core temperature 120°C
- Oil-resistant, ozone-resistant and resistant to chemical corrosion
- Designed for protected installation (P-class) or unprotected installation (E-class)



Product compliances

- Designed according to EN 50306-4 Table 3 and China TJ/CL-313
- EN45545-2 Hazard Level HL1 to HL3
- RoHS and REACH compliant

Applications

- Multicore screened control cables for fixed and protected installations in electrical equipment and control cabinets inside rolling stock like high-speed trains (CRH, Shinkansen, ICE, TGV), metro, light rail and trolley buses, etc. They are also suitable for EMC problematic applications.

Part number	Description	Conductor size (mm ²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTD2C0.5P	EN 50306-4 3P 2×0.50 MM S	0.5	2	4.80	37.0	197
RTD3C0.5P	EN 50306-4 3P 3×0.50 MM S	0.5	3	4.90	42.4	217
RTD4C0.5P	EN 50306-4 3P 4×0.50 MM S	0.5	4	5.30	51.6	261
RTD6C0.5P	EN 50306-4 3P 6×0.50 MM S	0.5	6	6.15	69.8	584
RTD8C0.5P	EN 50306-4 3P 8×0.50 MM S	0.5	8	6.60	81.4	607
RTD2C0.75P	EN 50306-4 3P 2×0.75 MM S	0.75	2	5.10	43.2	206
RTD3C0.75P	EN 50306-4 3P 3×0.75 MM S	0.75	3	5.35	53.9	245
RTD4C0.75P	EN 50306-4 3P 4×0.75 MM S	0.75	4	5.80	65.4	292
RTD6C0.75P	EN 50306-4 3P 6×0.75 MM S	0.75	6	6.80	90.4	659
RTD8C0.75P	EN 50306-4 3P 8×0.75 MM S	0.75	8	7.30	110.4	745
RTD2C1.0P	EN 50306-4 3P 2×1.00 MM S	1.0	2	5.40	50.0	231
RTD3C1.0P	EN 50306-4 3P 3×1.00 MM S	1.0	3	5.70	63.0	281
RTD4C1.0P	EN 50306-4 3P 4×1.00 MM S	1.0	4	6.20	75.5	518

Rolling Stock solutions

Part number	Description	Conductor size (mm ²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTD6C1.0P	EN 50306-4 3P 6×1.00 MM S	1.0	6	7.25	104.9	739
RTD8C1.0P	EN 50306-4 3P 8×1.00 MM S	1.0	8	7.90	130.7	822
RTD2C1.5P	EN 50306-4 3P 2×1.50 MM S	1.5	2	6.40	67.7	487
RTD3C1.5P	EN 50306-4 3P 3×1.50 MM S	1.5	3	6.80	87.1	580
RTD4C1.5P	EN 50306-4 3P 4×1.50 MM S	1.5	4	7.40	108.5	682
RTD6C1.5P	EN 50306-4 3P 6×1.50 MM S	1.5	6	8.80	160.1	1,037
RTD8C1.5P	EN 50306-4 3P 8×1.50 MM S	1.5	8	9.50	192.7	1,096
RTD2C2.5P	EN 50306-4 3P 2×2.50 MM S	2.5	2	7.50	94.1	650
RTD3C2.5P	EN 50306-4 3P 3×2.50 MM S	2.5	3	7.95	124.6	773
RTD4C2.5P	EN 50306-4 3P 4×2.50 MM S	2.5	4	8.70	157.0	926
RTD2C0.5E	EN 50306-4 3E 2×0.50 MM S	0.5	2	5.70	50.1	307
RTD3C0.5E	EN 50306-4 3E 3×0.50 MM S	0.5	3	5.90	57.2	343
RTD4C0.5E	EN 50306-4 3E 4×0.50 MM S	0.5	4	6.30	67.6	735
RTD6C0.5E	EN 50306-4 3E 6×0.50 MM S	0.5	6	7.10	84.2	849
RTD8C0.5E	EN 50306-4 3E 8×0.50 MM S	0.5	8	7.70	100.7	964
RTD2C0.75E	EN 50306-4 3E 2×0.75 MM S	0.75	2	6.10	55.2	597
RTD3C0.75E	EN 50306-4 3E 3×0.75 MM S	0.75	3	6.40	67.1	669
RTD4C0.75E	EN 50306-4 3E 4×0.75 MM S	0.75	4	6.70	77.1	708
RTD6C0.75E	EN 50306-4 3E 6×0.75 MM S	0.75	6	7.70	106.5	955
RTD8C0.75E	EN 50306-4 3E 8×0.75 MM S	0.75	8	8.50	136.5	1227
RTD2C1.0E	EN 50306-4 3E 2×1.00 MM S	1.0	2	6.40	62.5	644
RTD3C1.0E	EN 50306-4 3E 3×1.00 MM S	1.0	3	6.70	76.1	720
RTD4C1.0E	EN 50306-4 3E 4×1.00 MM S	1.0	4	7.10	90.2	790
RTD6C1.0E	EN 50306-4 3E 6×1.00 MM S	1.0	6	8.30	124.9	1109
RTD8C1.0E	EN 50306-4 3E 8×1.00 MM S	1.0	8	8.90	151.3	1203
RTD2C1.5E	EN 50306-4 3E 2×1.50 MM S	1.5	2	7.30	82.8	767
RTD3C1.5E	EN 50306-4 3E 3×1.50 MM S	1.5	3	7.60	101.2	842
RTD4C1.5E	EN 50306-4 3E 4×1.50 MM S	1.5	4	8.30	125.8	1002
RTD6C1.5E	EN 50306-4 3E 6×1.50 MM S	1.5	6	9.50	175.8	1328
RTD8C1.5E	EN 50306-4 3E 8×1.50 MM S	1.5	8	10.50	217.2	1550
RTD2C2.5E	EN 50306-4 3E 2×2.50 MM S	2.5	2	8.60	115.8	1052
RTD3C2.5E	EN 50306-4 3E 3×2.50 MM S	2.5	3	8.90	144.2	1137
RTD4C2.5E	EN 50306-4 3E 4×2.50 MM S	2.5	4	9.70	180.5	1362

Note: Base cores are according to EN 50306-2



Rolling Stock solutions

RailTuff™ EN 50306-4 5P/5E 300V MMM S rolling stock thin wall multi-paired cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Shielded with tinned copper braid
- Extremely long lifetime
- Flame-retardant
- Optimized dimension and weight
- Temperature range of -40°C to + 90°C
- Overload maximum core temperature 120°C
- Oil-resistant, ozone-resistant and resistant to chemical corrosion
- Designed for protected installation (P-class) or unprotected installation (E-class)



Product compliances

- Designed according to EN 50306-4 Table 5 and China TJ/CL-313
- EN45545-2 Hazard Level HL1 to HL3
- RoHS and REACH compliant

Applications

- Multi-pair screened control cables for fixed and protected installations in rolling stock like high-speed trains (CRH, Shinkansen, ICE, TGV), metro, light rail and trolley buses, etc. They are also suitable for EMC protected signal transmission.

Part number	Description	Conductor size (mm²)	No. of pairs	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTE2P0.5P	EN 50306-4 5P 2×2×0.50 MMM S	0.5	2	9.90	91.2	1,024
RTE3P0.5P	EN 50306-4 5P 3×2×0.50 MMM S	0.5	3	10.55	121.2	1,259
RTE4P0.5P	EN 50306-4 5P 4×2×0.50 MMM S	0.5	4	11.65	154.0	1,543
RTE7P0.5P	EN 50306-4 5P 7×2×0.50 MMM S	0.5	7	13.95	243.7	2,237
RTE2P0.75P	EN 50306-4 5P 2×2×0.75 MMM S	0.75	2	10.75	109.4	1,149
RTE3P0.75P	EN 50306-4 5P 3×2×0.75 MMM S	0.75	3	11.45	146.3	1,403
RTE4P0.75P	EN 50306-4 5P 4×2×0.75 MMM S	0.75	4	12.55	183.4	1,660
RTE7P0.75P	EN 50306-4 5P 7×2×0.75 MMM S	0.75	7	15.35	304.0	2,609
RTE2P1.0P	EN 50306-4 5P 2×2×1.00 MMM S	1.0	2	11.35	123.3	1,267
RTE3P1.0P	EN 50306-4 5P 3×2×1.00 MMM S	1.0	3	11.85	158.0	1,412
RTE4P1.0P	EN 50306-4 5P 4×2×1.00 MMM S	1.0	4	13.05	200.5	1,700
RTE7P1.0P	EN 50306-4 5P 7×2×1.00 MMM S	1.0	7	15.95	333.2	2,665
RTE2P1.5P	EN 50306-4 5P 2×2×1.50 MMM S	1.5	2	13.15	164.8	1,487
RTE3P1.5P	EN 50306-4 5P 3×2×1.50 MMM S	1.5	3	14.05	225.3	1,841

Rolling Stock solutions

Part number	Description	Conductor size (mm ²)	No. of pairs	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTE4P1.5P	EN 50306-4 5P 4×2×1.50 MMM S	1.5	4	15.65	293.1	2,326
RTE7P1.5P	EN 50306-4 5P 7×2×1.50 MMM S	1.5	7	18.90	399.2	3,419
RTE2P0.5E	EN 50306-4 5E 2×2×0.50 MMM S	0.5	2	10.75	111.2	1393
RTE3P0.5E	EN 50306-4 5E 3×2×0.50 MMM S	0.5	3	11.40	142.4	1652
RTE4P0.5E	EN 50306-4 5E 4×2×0.50 MMM S	0.5	4	12.50	177.4	1975
RTE7P0.5E	EN 50306-4 5E 7×2×0.50 MMM S	0.5	7	14.85	273.2	2782
RTE2P0.75E	EN 50306-4 5E 2×2×0.75 MMM S	0.75	2	11.55	129.7	1524
RTE3P0.75E	EN 50306-4 5E 3×2×0.75 MMM S	0.75	3	12.30	169.3	1828
RTE4P0.75E	EN 50306-4 5E 4×2×0.75 MMM S	0.75	4	13.45	210	2152
RTE7P0.75E	EN 50306-4 5E 7×2×0.75 MMM S	0.75	7	16.15	332.7	3139
RTE2P1.0E	EN 50306-4 5E 2×2×1.00 MMM S	1.0	2	12.05	141.9	1612
RTE3P1.0E	EN 50306-4 5E 3×2×1.00 MMM S	1.0	3	12.80	184.6	1905
RTE4P1.0E	EN 50306-4 5E 4×2×1.00 MMM S	1.0	4	14.05	231.3	2270
RTE7P1.0E	EN 50306-4 5E 7×2×1.00 MMM S	1.0	7	16.90	368.7	3322
RTE2P1.5E	EN 50306-4 5E 2×2×1.50 MMM S	1.5	2	13.95	189.5	1943
RTE3P1.5E	EN 50306-4 5E 3×2×1.50 MMM S	1.5	3	14.85	251.6	2328
RTE4P1.5E	EN 50306-4 5E 4×2×1.50 MMM S	1.5	4	16.45	322.3	2866
RTE7P1.5E	EN 50306-4 5E 7×2×1.50 MMM S	1.5	7	19.75	436.6	4110

Note: Base cores are according to EN 50306-2



Rolling Stock solutions

RailTuff™ EN 50306-4 7P/7E 300V MM S rolling stock thin wall multi-paired cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Shielded with tinned copper braid
- Extremely long lifetime
- Flame-retardant
- Optimized dimension and weight
- Temperature range of -40°C to + 90°C
- Overload maximum core temperature 120°C
- Oil-resistant, ozone-resistant and resistant to chemical corrosion
- Designed for protected installation (P-class) or unprotected installation (E-class)



Product compliances

- Designed according to EN 50306-4 Table 7 and China TJ/CL-313
- EN45545-2 Hazard Level HL1 to HL3
- RoHS and REACH compliant

Applications

- Multi-pair screened control cables for fixed and protected installations in rolling stock like high-speed trains (CRH, Shinkansen, ICE, TGV), metro, light rail and trolley buses, etc. They are also suitable for EMC protected signal transmission.

Part number	Description	Conductor size (mm ²)	No. of pairs	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTO2P0.5P	EN 50306-4 7P 300V 2×2×0.50 MM S	0.5	2	6.95	61.0	557
RTO3P0.5P	EN 50306-4 7P 300V 3×2×0.50 MM S	0.5	3	7.20	75.5	642
RTO4P0.5P	EN 50306-4 7P 300V 4×2×0.50 MM S	0.5	4	7.90	93.3	776
RTO7P0.5P	EN 50306-4 7P 300V 7×2×0.50 MM S	0.5	7	9.30	139.4	1,070
RTO2P0.75P	EN 50306-4 7P 300V 2×2×0.75 MM S	0.75	2	7.60	75.4	610
RTO3P0.75P	EN 50306-4 7P 300V 3×2×0.75 MM S	0.75	3	7.90	95.7	713
RTO4P0.75P	EN 50306-4 7P 300V 4×2×0.75 MM S	0.75	4	9.30	132.9	1,115
RTO7P0.75P	EN 50306-4 7P 300V 7×2×0.75 MM S	0.75	7	11.10	204.4	1,595
RTO2P1.0P	EN 50306-4 7P 300V 2×2×1.00 MM S	1.0	2	8.10	86.6	672
RTO3P1.0P	EN 50306-4 7P 300V 3×2×1.00 MM S	1.0	3	8.50	113.3	824
RTO4P1.0P	EN 50306-4 7P 300V 4×2×1.00 MM S	1.0	4	9.40	142.9	1,022
RTO7P1.0P	EN 50306-4 7P 300V 7×2×1.00 MM S	1.0	7	11.30	227.1	1,467
RTO2P1.5P	EN 50306-4 7P 300V 2×2×1.50 MM S	1.5	2	10.10	132.7	1,026
RTO3P1.5P	EN 50306-4 7P 300V 3×2×1.50 MM S	1.5	3	10.70	177.0	1,302

Rolling Stock solutions

Part number	Description	Conductor size (mm ²)	No. of pairs	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RTO4P1.5P	EN 50306-4 7P 300V 4×2×1.50 MM S	1.5	4	11.90	226.9	1,601
RTO7P1.5P	EN 50306-4 7P 300V 7×2×1.50 MM S	1.5	7	14.30	356.8	2,339
RTO2P0.5E	EN 50306-4 7E 300V 2×2×0.50 MM S	0.5	2	7.45	69.2	709
RTO3P0.5E	EN 50306-4 7E 300V 3×2×0.50 MM S	0.5	3	7.70	84	799
RTO4P0.5E	EN 50306-4 7E 300V 4×2×0.50 MM S	0.5	4	8.50	104.5	983
RTO7P0.5E	EN 50306-4 7E 300V 7×2×0.50 MM S	0.5	7	9.60	145.9	1189
RTO2P0.75E	EN 50306-4 7E 300V 2×2×0.75 MM S	0.75	2	8.15	85.3	792
RTO3P0.75E	EN 50306-4 7E 300V 3×2×0.75 MM S	0.75	3	8.40	105.0	885
RTO4P0.75E	EN 50306-4 7E 300V 4×2×0.75 MM S	0.75	4	9.80	143.8	1316
RTO7P0.75E	EN 50306-4 7E 300V 7×2×0.75 MM S	0.75	7	11.70	220.0	1883
RTO2P1.0E	EN 50306-4 7E 300V 2×2×1.00 MM S	1.0	2	8.65	97.1	866
RTO3P1.0E	EN 50306-4 7E 300V 3×2×1.00 MM S	1.0	3	9.00	123.3	1008
RTO4P1.0E	EN 50306-4 7E 300V 4×2×1.00 MM S	1.0	4	9.90	153.9	1225
RTO7P1.0E	EN 50306-4 7E 300V 7×2×1.00 MM S	1.0	7	11.90	242.9	1760
RTO2P1.5E	EN 50306-4 7E 300V 2×2×1.50 MM S	1.5	2	10.60	144.5	1244
RTO3P1.5E	EN 50306-4 7E 300V 3×2×1.50 MM S	1.5	3	11.30	192.0	1580
RTO4P1.5E	EN 50306-4 7E 300V 4×2×1.50 MM S	1.5	4	12.40	240.7	1857
RTO7P1.5E	EN 50306-4 7E 300V 7×2×1.50 MM S	1.5	7	14.80	373.4	2645

Note: Base cores are according to EN 50306-2



Rolling Stock solutions

RailTuff™ EN 50264-3-1 600V M rolling stock medium wall single-core cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Extremely long lifetime
- Flame-retardant
- Temperature range of -40°C to + 90°C
- Overload maximum core temperature 110°C
- Oil, ozone and chemical resistance



Product compliances

- Designed according to EN 50264-3- 1 Single Core 600V and China TJ/CL-313
- EN45545-2 Hazard Level HL1 to HL3
- RoHS and REACH compliant

Applications

- Applicable for fixed or moderate flexing wiring in electric appliances as well as control panels in rail vehicles and buses. Suitable for connecting lamps, heaters and switchgears.

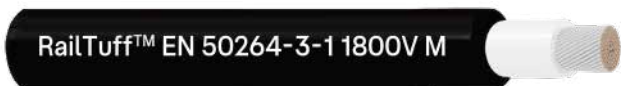
Part number	Description	Conductor size (mm²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RMF1C1.0	EN 50264-3-1 600V 1x1.0 M	1.0	1	2.50	14	103
RMF1C1.5	EN 50264-3-1 600V 1x1.5 M	1.5	1	3.15	23	106
RMF1C2.5	EN 50264-3-1 600V 1x2.5 M	2.5	1	3.65	33	135
RMF1C4	EN 50264-3-1 600V 1x4.0 M	4.0	1	4.15	46	166
RMF1C6	EN 50264-3-1 600V 1x6.0 M	6.0	1	4.65	64	191
RMF1C10	EN 50264-3-1 600V 1x10 M	10	1	5.75	104	325
RMF1C16	EN 50264-3-1 600V 1x16 M	16	1	7.05	161	477
RMF1C25	EN 50264-3-1 600V 1x25 M	25	1	8.70	246	696
RMF1C35	EN 50264-3-1 600V 1x35 M	35	1	9.80	338	829
RMF1C50	EN 50264-3-1 600V 1x50 M	50	1	11.70	494	1,092
RMF1C70	EN 50264-3-1 600V 1x70 M	70	1	13.80	667	1,359
RMF1C95	EN 50264-3-1 600V 1x95 M	95	1	15.70	862	1,735
RMF1C120	EN 50264-3-1 600V 1x120 M	120	1	17.70	1,088	1,978
RMF1C150	EN 50264-3-1 600V 1x150 M	150	1	20.10	1,372	2,638
RMF1C185	EN 50264-3-1 600V 1x185 M	185	1	22.20	1,706	3422
RMF1C240	EN 50264-3-1 600V 1x240 M	240	1	25.20	2,272	4,113

Rolling Stock solutions

RailTuff™ EN 50264-3-1 1800V M rolling stock medium wall single-core cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Extremely long lifetime
- Enhanced fire safety
- Temperature range of -40°C to + 90°C
- Overload maximum core temperature 110°C
- Oil, ozone and chemical resistance



RailTuff™ EN 50264-3-1 1800V M

Product compliances

- Designed according to EN 50264-3- 1 Single Core 1800V and China TJ/CL-313
- EN45545-2 Hazard Level HL3
- RoHS and REACH compliant

Applications

- For use in electric appliances as well as internal wiring of control panels in rail vehicles as fixed wiring, or wiring where limited flexing in operation is encountered. Typical uses are lighting circuits powered by accumulators, equipment control and monitoring circuit, auxiliary and electric heating circuits.

Part number	Description	Conductor size (mm ²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RMG1C1.5	EN 50264-3-1 1800V 1x1.5 M	1.5	1	5.7	48	417
RMG1C2.5	EN 50264-3-1 1800V 1x2.5 M	2.5	1	6.1	59.8	471
RMG1C4	EN 50264-3-1 1800V 1x4.0 M	4	1	6.7	78.6	570
RMG1C6	EN 50264-3-1 1800V 1x6.0 M	6	1	7.3	101	665
RMG1C10	EN 50264-3-1 1800V 1x10 M	10	1	8.5	151	813
RMG1C16	EN 50264-3-1 1800V 1x16 M	16	1	9.5	211.6	953
RMG1C25	EN 50264-3-1 1800V 1x25 M	25	1	11.1	305	1212
RMG1C35	EN 50264-3-1 1800V 1x35 M	35	1	12.1	401	1402
RMG1C50	EN 50264-3-1 1800V 1x50 M	50	1	13.7	557	1572
RMG1C70	EN 50264-3-1 1800V 1x70 M	70	1	15.8	727	2918
RMG1C95	EN 50264-3-1 1800V 1x95 M	95	1	17.8	933	3548
RMG1C120	EN 50264-3-1 1800V 1x120 M	120	1	19.8	1227	4015
RMG1C150	EN 50264-3-1 1800V 1x150 M	150	1	21.8	1507	4553
RMG1C185	EN 50264-3-1 1800V 1x185 M	185	1	23.6	1766	5238
RMG1C240	EN 50264-3-1 1800V 1x240 M	240	1	26.5	2256	6297

Rolling Stock solutions

RailTuff™ EN 50264-3-1 1800V MM rolling stock medium wall single-core cable

Product features

- Halogen-free
- Electron-beam cross-linked insulation
- Extremely long lifetime
- Enhanced fire safety
- Temperature range of -40°C to + 90°C
- Overload maximum core temperature 110°C
- Oil, Ozone and Chemical resistance



Product compliances

- Designed according to EN 50264-3-1 Single Core 1800V and China TJ/CL-313
- EN45545-2 Hazard Level HL3
- RoHS and REACH compliant

Applications

- For use in electric appliances as well as internal wiring of control panels in rail vehicles as fixed wiring, or wiring where limited flexing in operation is encountered. Typical uses are lighting circuits powered by accumulators, equipment control and monitoring circuit, auxiliary and electric heating circuits.

Part number	Description	Conductor size (mm²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RMH1C1.5	EN 50264-3-1 1800V 1x1.5 M	1.5	1	5.9	51.4	551
RMH1C2.5	EN 50264-3-1 1800V 1x2.5 M	2.5	1	6.5	65.5	686
RMH1C4	EN 50264-3-1 1800V 1x4.0 M	4	1	6.95	83	771
RMH1C6	EN 50264-3-1 1800V 1x6.0 M	6	1	7.5	105	878
RMH1C10	EN 50264-3-1 1800V 1x10 M	10	1	9.1	164	1234
RMH1C16	EN 50264-3-1 1800V 1x16 M	16	1	10.3	224	1865
RMH1C25	EN 50264-3-1 1800V 1x25 M	25	1	12.7	340	2738
RMH1C35	EN 50264-3-1 1800V 1x35 M	35	1	13.7	439	3028
RMH1C50	EN 50264-3-1 1800V 1x50 M	50	1	15.7	622	3665
RMH1C70	EN 50264-3-1 1800V 1x70 M	70	1	17.5	793	4152
RMH1C95	EN 50264-3-1 1800V 1x95 M	95	1	20.1	1035	5447
RMH1C120	EN 50264-3-1 1800V 1x120 M	120	1	22.1	1339	6115
RMH1C150	EN 50264-3-1 1800V 1x150 M	150	1	24.1	1630	6854
RMH1C185	EN 50264-3-1 1800V 1x185 M	185	1	26.5	1936	8377
RMH1C240	EN 50264-3-1 1800V 1x240 M	240	1	29.5	2446	9849

Rolling Stock solutions

RailTuff™ EN50264-3-2 600V MM rolling stock medium wall multi-core cable

Product features

- Halogen-free
- Electron irradiation cross-linked insulating layer
- Extra-long service life
- Enhanced fire safety
- Temperature range -40°C to + 90°C
- Overload maximum core temperature 110°C
- Oil-, ozone- and chemical-resistant



Product compliances

- Designed in accordance with EN 50264 3.2 Multi-core Cable 600V and China TJ/CL-313 standards
- EN45545 2 Hazard Level HL3
- RoHS and REACH compliant

Application areas

- Suitable for fixed or moderately curved wiring on rail vehicles. Typical applications include connecting lighting circuits, auxiliary and electric heating circuits, control and monitoring circuits, etc.

Part number	Description	Conductor size (mm²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RMK2C1.5	EN 50264-3-2 600V 2×1.5 MM	1.5	2	7.7	69.5	534
RMK2C2.5	EN 50264-3-2 600V 2×2.5 MM	2.5	2	8.5	89.6	885
RMK2C4	EN 50264-3-2 600V 2×4.0 MM	4.0	2	9.8	127.1	1140
RMK2C6	EN 50264-3-2 600V 2×6.0 MM	6.0	2	10.8	166.9	1273
RMK2C10	EN 50264-3-2 600V 2×10 MM	10	2	13.6	277.7	1861
RMK2C16	EN 50264-3-2 600V 2×16 MM	16	2	16.4	415.1	2562
RMK2C25	EN 50264-3-2 600V 2×25 MM	25	2	20	620.9	3618
RMK2C35	EN 50264-3-2 600V 2×35 MM	35	2	22.5	825.1	4351
RMK2C50	EN 50264-3-2 600V 2×50 MM	50	2	26.2	1179.3	5347
RMK3C1.5	EN 50264-3-2 600V 3×1.5 MM	1.5	3	8.2	89.1	673
RMK3C2.5	EN 50264-3-2 600V 3×2.5 MM	2.5	3	9	120.7	1074
RMK3C4	EN 50264-3-2 600V 3×4.0 MM	4.0	3	10.2	168.3	1295
RMK3C6	EN 50264-3-2 600V 3×6.0 MM	6.0	3	11.6	234.6	1618
RMK3C10	EN 50264-3-2 600V 3×10 MM	10	3	14.5	388.4	2270
RMK3C16	EN 50264-3-2 600V 3×16 MM	16	3	17.6	589.5	3230
RMK3C25	EN 50264-3-2 600V 3×25 MM	25	3	21.2	870.1	4294
RMK3C35	EN 50264-3-2 600V 3×35 MM	35	3	24	1173	5329
RMK3C50	EN 50264-3-2 600V 3×50 MM	50	3	28.3	1712.8	6983
RMK4C1.5	EN 50264-3-2 600V 4×1.5 MM	1.5	4	9	112.1	840
RMK4C2.5	EN 50264-3-2 600V 4×2.5 MM	2.5	4	9.9	153.5	1295
RMK4C4	EN 50264-3-2 600V 4×4.0 MM	4.0	4	11.5	222.9	1700
RMK4C6	EN 50264-3-2 600V 4×6.0 MM	6.0	4	13	308.3	2073
RMK4C10	EN 50264-3-2 600V 4×10 MM	10	4	16	501.1	2717
RMK4C16	EN 50264-3-2 600V 4×16 MM	16	4	19.5	765.7	3930
RMK4C25	EN 50264-3-2 600V 4×25 MM	25	4	23.8	1149.8	5534
RMK3C35C25	EN 50264-3-2 600V 3×35+1×25 MM	35	4	27	1460.1	6777
RMK3C50C25	EN 50264-3-2 600V 3×50+1×25 MM	50	4	31.6	1998	8381

Rolling Stock solutions

RailTuff™ EN50264-3-2 600V MM S rolling stock medium wall multi-core shielded sheathed cable

Product features

- Halogen-free
- Electron irradiation cross-linked insulating layer
- Extra-long service life
- Enhanced fire safety
- Temperature range -40°C to + 90°C
- Overload maximum core temperature 110°C
- Oil-, ozone- and chemical-resistant



Product compliances

- Designed in accordance with EN 50264 3.2 Multi-core Cable 600V and China TJ/CL-313 standards
- EN45545 2 Hazard Level HL3
- RoHS and REACH compliant

Application areas

- Suitable for fixed or moderately curved wiring on rail vehicles. Typical applications include connecting lighting circuits, auxiliary and electric heating circuits, control and monitoring circuits, etc.

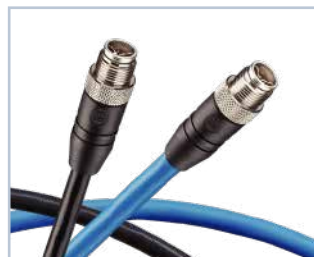
Part number	Description	Conductor size (mm ²)	No. of cores	Norm. overall diameter (mm)	Average weight (kg/km)	Fire load (MJ/km)
RMM2C1.5	EN 50264-3-2 600V 2×1.5 MM S	1.5	2	8.3	89.9	536
RMM2C2.5	EN 50264-3-2 600V 2×2.5 MM S	2.5	2	9	113.3	908
RMM2C4	EN 50264-3-2 600V 2×4.0 MM S	4.0	2	11	172.7	1503
RMM2C6	EN 50264-3-2 600V 2×6.0 MM S	6.0	2	12.2	223.2	1777
RMM2C10	EN 50264-3-2 600V 2×10 MM S	10	2	14.2	319.3	1954
RMM2C16	EN 50264-3-2 600V 2×16 MM S	16	2	17	474.3	2548
RMM2C25	EN 50264-3-2 600V 2×25 MM S	25	2	20.6	693.2	3597
RMM2C35	EN 50264-3-2 600V 2×35 MM S	35	2	23.4	936.2	4469
RMM2C50	EN 50264-3-2 600V 2×50 MM S	50	2	27.2	1316.1	5593
RMM3C1.5	EN 50264-3-2 600V 3×1.5 MM S	1.5	3	8.7	110.5	682
RMM3C2.5	EN 50264-3-2 600V 3×2.5 MM S	2.5	3	9.6	146.7	1139
RMM3C4	EN 50264-3-2 600V 3×4.0 MM S	4.0	3	12	231.4	1984
RMM3C6	EN 50264-3-2 600V 3×6.0 MM S	6.0	3	13	292.7	2155
RMM3C10	EN 50264-3-2 600V 3×10 MM S	10	3	15	426.4	2297
RMM3C16	EN 50264-3-2 600V 3×16 MM S	16	3	18.4	658	3372
RMM3C25	EN 50264-3-2 600V 3×25 MM S	25	3	22	952.5	4461
RMM3C35	EN 50264-3-2 600V 3×35 MM S	35	3	25	1290.2	5560
RMM3C50	EN 50264-3-2 600V 3×50 MM S	50	3	29.3	1850.9	7251
RMM4C1.5	EN 50264-3-2 600V 4×1.5 MM S	1.5	4	10	145.3	1384
RMM4C2.5	EN 50264-3-2 600V 4×2.5 MM S	2.5	4	11	192.8	1605
RMM4C4	EN 50264-3-2 600V 4×4.0 MM S	4.0	4	12.8	274.4	2173
RMM4C6	EN 50264-3-2 600V 4×6.0 MM S	6.0	4	13.8	348.8	2286
RMM4C10	EN 50264-3-2 600V 4×10 MM S	10	4	16.5	539	2741
RMM4C16	EN 50264-3-2 600V 4×16 MM S	16	4	20.4	839.1	4179
RMM4C25	EN 50264-3-2 600V 4×25 MM S	25	4	24.8	1263	5769
RMM3C35C25	EN 50264-3-2 600V 3×35+1×25 MM S	35	4	27.7	1568	6658
RMM3C50C25	EN 50264-3-2 600V 3×50+1×25 MM S	50	4	32.6	2148.6	8672

Rolling Stock solutions

Lumberg Automation™ connectors & cordsets

Product features

- Efficient assembly and installation due to M12 connection design for data transmission
- Industrial protection class IP67
- Top performance against fire, vibration and shock
- Flexible customization for challenging applications



Product compliances

- IEC 61373, DIN CLC/TS 50467, DIN CEN/TS 45545, DIN 5510
- DIN EN 61076-2-109 / DIN EN 61076-2-10 1 EN 50155/DIN EN 60664-1(VDE 0110-1)

Applications

- On-board signaling system communication
- Train-to-train communication
- Valve control in braking system

Product line	Classification	Application	Description	Type	Belden PN
Connector	Industrial Ethernet Field attachable	ETB / ECN networks	M12, D-coding 4 poles, screw coupling, male/female, straight/angled, metal housing, shielded, crimp connection	Male straight Male angled Female straight Male angled	BRSCCS 4D/9A RM12C-MASV4D-CAT5 RM12C-FSSV4D-CAT5 M12C-FASV4D-CAT5
Connector	Industrial Ethernet Field attachable	ETB / ECN networks	M12, D-coding 4 poles, screw coupling, rear mount female, straight, metal housing, shielded, crimp connection	Female straight	RM12C-FSSR4D-CAT5
Connector	Industrial Ethernet Field attachable	ETB / ECN networks	M12, D-coding 4 poles, screw coupling, male/female, straight, metal housing, shielded, spring connection	Male straight Female straight	0986 EMC 105 0986 EFC 107
Connector	Industrial Ethernet Field attachable	ETB / ECN networks	M12, X-coding 8 poles, screw coupling, male, straight, metal housing, shielded, crimp connection	Male straight	RM12C-MSSV8X-CAT6a
Connector	Industrial Ethernet Field attachable	ETB / ECN networks	M12, X-coding 8 poles, screw coupling, male, straight, metal housing, shielded, IDC connection	Male straight	0986 EMC 600

Rolling Stock solutions

Product line	Classification	Application	Description	Type	Belden PN
Connector	Industrial Ethernet cordset	ETB/ECN networks	M12 overmolded cordsets, D-coding 4 poles, X-FRNC cable, Cat 5e single/double-ended, male/female, straight/angled	Single-ended Male straight Double-ended Male straight Single-ended Male angled Female straight	0985 508 120/...M 0985 508 121/...M 0985 508 123/...M 0985 508 127/...M
Connector	Industrial Ethernet cordset	ETB/ECN networks	M12 overmolded cordsets, X-coding 8 poles, X-FRNC cable, Cat 6A single/double-ended, male, straight	Single-ended Male straight Double-ended Male straight	BRSTS 8X-552/M BRSTS 8X-BRSTS 8X-552/...M
Connector	Sensor/actuator/ device power Field attachable	PIS system	M12, A-coding 4 poles, screw coupling, male/female, straight/angled, metal housing, shielded, crimp connection	Male straight Male angled Female straight Female angled	RM12C-MSSV4A RM12C-MASV4A RM12C-FSSV4A RM12C-FASV4A
Connector	Sensor/actuator/ device power Field attachable	PIS system	M12, A-coding 5 poles, screw coupling, male/female, straight/angled, metal housing, shielded, crimp connection	Male straight Male angled Female straight Female angled	RM12C-MSSV5A RM12C-MASV5A RM12C-FSSV5A RM12C-FASV5A
Connector	Sensor/actuator/ device power Field attachable	PIS system	M12, A-coding 8 poles, screw coupling, male, straight/angled, metal housing, shielded, crimp connection	Male straight Male angled	RM12C-MSSV8A RM12C-MASV8A
Connector	Valve connector Field attachable	Braking system	Type A, special protection circuits, customization available	2+PE 3+PE	GDM21XX... GDM31XX...

Rolling Stock solutions

Hirschmann™ industrial switches & WLAN

Product features

Hirschmann™ IP 65/67 industrial switches

- Four Gigabit ports, 24 Fast Ethernet ports, PoE supported
- Available with Layer 2 or Layer 3 software, multiple redundancy mechanisms, incl. bypass relay feature
- Comply with IEC standards for Ethernet in trains (IEC 61375)
- Wide operating temperature range



Hirschmann™ IT IP67 DAP847

- Utilizing 4x4 MIMO antennas to support 802.11ax technology, it supports 2.4GHz and 5GHz frequency bands, with a maximum transmission rate of up to 2.975 Gbps
- Multi-virtual link fast roaming technology, designed for rail transit vehicle-ground communication
- PoE power supply, 24-110VDC power supply
- Complies with EN50155, EN50121 and EN45545 standards
- WIDS and WIPS network security



NetModule NB3800

- 2x 5G-NR or 4x LTE, 4x mini-SIM
- 1x Dual Band Wi-Fi 5 in AP mode
- 2x Gigabit Ethernet
- 3x Fast Ethernet
- 2x extension for additional interfaces such as RS-232, RS-485, digital I/O, IBIS, CAN, audio
- Up to 1 TB SSD storage expansion
- Input voltage: 24 VDC to 48 VDC or 72 VDC to 110VDC



Rolling Stock solutions

Hirschmann cost-effective Gigabit Ethernet switches

- 60 W PoE power supply and optional PoE+ enables terminal equipment to be powered without additional cables
- Vibration-proof M12 connectors for uninterrupted communication
- EMC and fire prevention compliant
- Real-time TSN Ethernet support for precise data transmission
- Advanced security features, including wire-speed access control lists (ACL) and automatic denial-of-service (DoS) prevention
- Extended temperature range of -40°C to 70°C
- Compact, IP40 metal enclosure
- Built-in Layer 2 protocols and holistic diagnostics
- Supports HIOS software



Hirschmann High Port Count Switch for rail rolling stock

- Up to 6x 10 Gigabit Ethernet ports to support future-ready networks
- 120W PoE++
- L2A and L3A software
- Bypass relay function
- TSN-ready; optimizes operational continuity by implementing advanced redundancy protocols (HSR / PRP)
- Supports 24VDC - 110VDC power input



Rolling Stock solutions

Hirschmann™ industrial switches & WLAN

Product features

- Industrial switches
- EN 50155, EN 50121-4, EN 45545
- Wireless LAN
- IEEE 802.11 a/b/g/n/ac/ax WLAN standard

Applications

- Train-to-ground communication
- On-board communication
- Train-to-train communication (coach coupling)

Product line	Classification	Application	Description	Belden PN
Industrial IT	Industrial switch	ETB/ECN networks	Managed IP65/IP67 switch, compliant with IEEE 802.3 standard, store-and-forward switching and routing, optical-electrical fast Ethernet ports (10-100 MBit/s) and Gigabit Ethernet ports (10-100-1000 MBit/s), M12 ports (TX), IEC ports (FX), PoE	OCTOPUS OS30/34 942 133-999
Industrial IT	Industrial WLAN	Vehicle-ground communication (signals, videos, etc.) / Passenger WiFi	Dual-band reinforced wireless industrial local area network access point/ carrying clients, 4x4 MIMO, IEEE 802.11ax standard, track standard certification, suitable for harsh environments	DAP847 9AA101001/9AA101002/ 9AA101003/9AA101004/ 9AA101005/9AA101006/ 9AA101007/9AA101008
Industrial IT	Industrial router	Passenger WiFi /Passenger infotainment /Video Surveillance (CCTV)/ Voice Communication	Powerful wireless router with multiple 5G/LTE WiFi, Ethernet, SSD storage, GNSS	NB3800
Industrial IT	Industrial switch	ETB/ECN networks	Managed IP40 switch with optional PoE (+); 12 ports, 4 Gigabit Ethernet and 8 Fast-Ethernet or 12 Gigabit-Ethernet M12-ports	BXS30/32/40/42 942302001/942302002/ 942302003/942302004/ 942302005/942302006/ 942302007/942302008
Industrial IT	Industrial switch	ETB/ECN networks	Layer 3 managed switch for railway rolling stock application, up to 28 ports and 6x10 Gigabit Ethernet (GE) ports	BXP62 942334001/942334002/ 942334003/942334004/ 942334005/942334006/ 942334007/942334008



Connect to what's possible.

Product Catalog



About Belden

Belden Inc. delivers complete connection solutions that unlock untold possibilities for our customers, their customers and the world. We advance ideas and technologies that enable a safer, smarter and more prosperous future. Throughout our 120+ year history we have evolved as a company, but our purpose remains—making connections. By connecting people, information and ideas, we make it possible. We are headquartered in St. Louis and have manufacturing capabilities in North America, Europe, Asia and Africa.

For more information, visit us at:
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