

100G CK0226 Signal Cable



AUTHORIZED DISTRIBUTOR

Application/Use

Rail approved zero Halogen, light weight wire and cable for signal, and low voltage applications. The construction is a dual wall combination of TE Connectivity formulated polymer blends. Developed to meet Rail specification requirements, whilst maintaining the desirable features of small size, lightweight, flexibility, non-wrinkling.

100 Series Product Family

100G CK0226/0042

(Rail qualified, EN50306, EN45545-2, Din 5510-2)

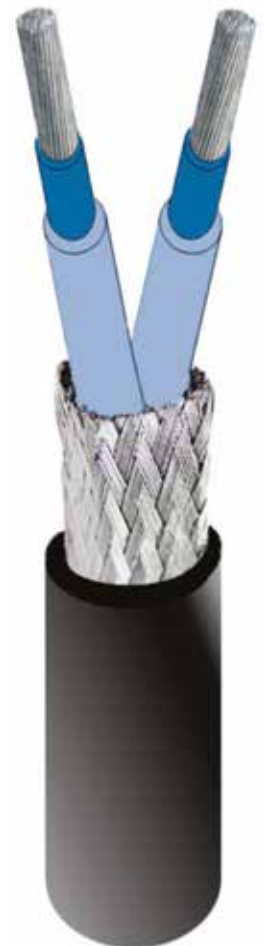
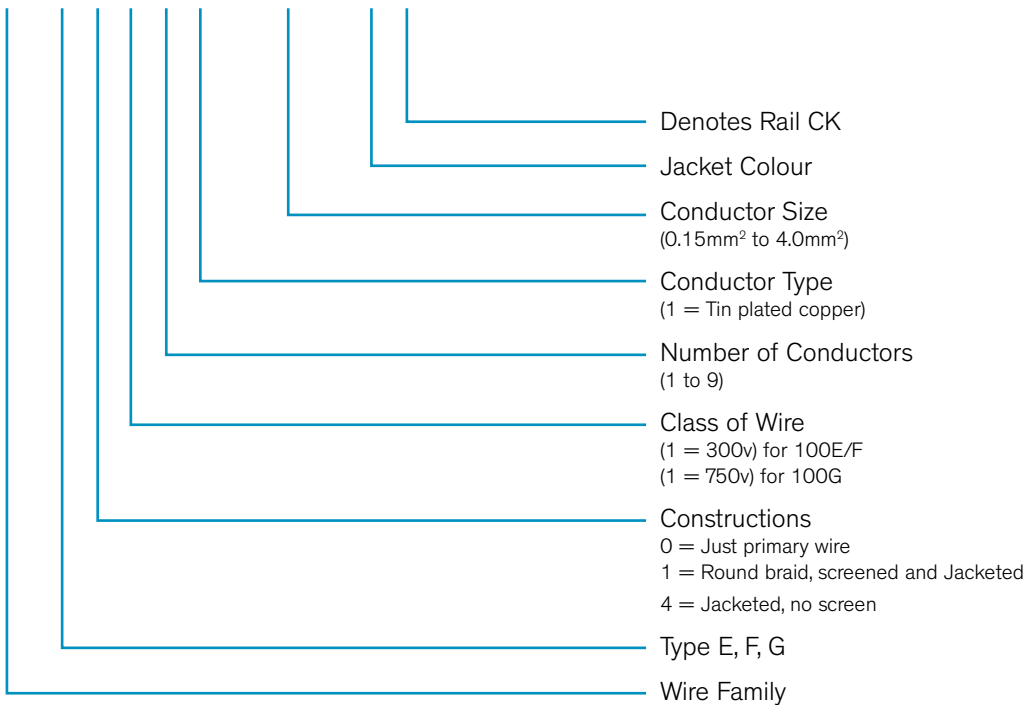
100E

(EN approved low voltage signal wire)

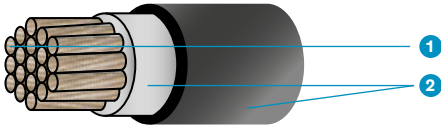
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(NFF French norme: NFF 63 808)

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SINGLE CORE 100G0111-xx (Issue 9)

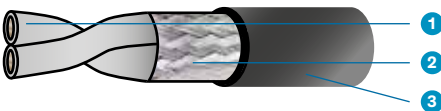


- 100G zero halogen thin wall Rail wire
 - 750/1300v AC and temperature rating up to +125°C
1. Conductor - Tin Plated Copper
 2. Insulation - Halogen Free Polymer

The full requirements for procuring 100G cable are included in this document.

Part Description	Nominal Cross Sectional Area (mm ²)	Nominal Conductor Stranding No./Diam. (mm)	Equivalent AWG Size	Conductor Diameter (mm)		Minimum Insulation Thickness (mm)	Finished Wire				
				Min.	Max.		Maximum Resistance @ 20 °C (ohms/km)	Diameter (mm)			Maximum Weight (kg/km)
								Lower Spec Limit	Target	Upper Spec Limit	
100G0111-0-15-*	0.15	19/0.10	26	0.45	0.50	0.20	132.9	0.98	1.03	1.08	2.59
100G0111-0-25-*	0.25	19/0.13	24	0.55	0.63	0.20	84.63	1.09	1.14	1.19	3.59
100G0111-0-40-*	0.40	19/0.16	22	0.73	0.79	0.20	50.50	1.28	1.33	1.38	5.18
100G0111-0-50-*	0.50	19/0.18	-	0.82	0.90	0.20	40.10	1.37	1.40	1.45	6.60
100G0111-0-60-*	0.60	19/0.20	20	0.95	1.01	0.20	31.10	1.47	1.52	1.57	7.40
100G0111-0-75-*	0.75	19/0.23	-	1.04	1.15	0.20	26.70	1.59	1.60	1.65	8.90
100G0111-1-00-*	1.00	19/0.25	18	1.17	1.26	0.20	20.00	1.69	1.75	1.80	10.70
100G0111-1-20-*	1.20	19/0.29	16	1.32	1.42	0.20	15.80	1.88	1.93	1.98	13.60
100G0111-1-50-*	1.50	37/0.23	15	1.46	1.58	0.20	13.70	2.03	2.08	2.13	16.00
100G0111-2-00-*	2.00	37/0.25	14	1.68	1.82	0.20	10.50	2.31	2.36	2.41	20.30
100G0111-2-50-*	2.50	37/0.29	13	1.85	2.01	0.25	8.21	2.50	2.55	2.63	25.70
100G0111-3-00-*	3.00	37/0.32	12	2.12	2.24	0.25	6.58	2.70	2.78	2.86	31.00
100G0111-4-00-*	4.00	56/0.30	-	2.41	2.57	0.25	4.89	3.01	3.09	3.17	43.60

TWO CORE 100G1121-xx (Issue 8)

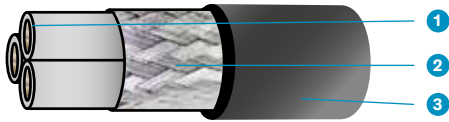


- Two conductor cable with zero halogen insulation, shielded and zero halogen jacketed
 - 750/1300v AC and temperature rating up to +125°C
1. Component wire - 100G0111
 2. Shield - Tin Coated Copper, Optimised
 3. Jacket - Black Zerohal®

The full requirements for procuring 100G cable are included in this document.

Part Description	Nominal Cross Sectional Area (mm ²)	Equivalent AWG Size	Shield Size (mm)	Jacket Thickness (mm)		Overall Diameter (mm)		Maximum Weight (kg/km)
				Min.	Nom.	Nom.	Max.	
100G1121-0-15-*/*-*	0.15	26	0.10	0.22	0.30	3.09	3.23	15.9
100G1121-0-25-*/*-*	0.25	24	0.10	0.22	0.30	3.30	3.45	18.9
100G1121-0-40-*/*-*	0.40	22	0.13	0.22	0.30	3.81	3.96	26.5
100G1121-0-50-*/*-*	0.50	-	0.13	0.22	0.30	3.99	4.14	30.3
100G1121-0-60-*/*-*	0.60	20	0.13	0.22	0.30	4.19	4.45	33.3
100G1121-0-75-*/*-*	0.75	-	0.13	0.22	0.30	4.44	4.63	37.4
100G1121-1-00-*/*-*	1.00	18	0.13	0.22	0.30	4.65	4.83	42.2
100G1121-1-20-*/*-*	1.20	16	0.13	0.22	0.30	5.00	5.22	50.0
100G1121-1-50-*/*-*	1.50	15	0.13	0.22	0.30	5.30	5.46	56.6
100G1121-2-00-*/*-*	2.00	14	0.13	0.22	0.30	5.88	6.03	68.7
100G1121-2-50-*/*-*	2.50	13	0.13	0.22	0.30	6.29	6.44	81.4
100G1121-3-00-*/*-*	3.00	12	0.13	0.22	0.30	6.72	6.87	94.9
100G1121-4-00-*/*-*	4.00	-	0.13	0.22	0.30	7.33	7.48	124

THREE CORE 100G1131-xx (Issue 8)



- Three conductor cable with zero halogen insulation, shielded and zero halogen jacketed
 - 750/1300v AC and temperature rating up to +105°C
1. Component wire - 100G0111
 2. Shield - Tin Coated Copper, Optimised
 3. Jacket - Black Zerohal®

The full requirements for procuring 100G cable are included in this document.

Part Description	Nominal Cross Sectional Area (mm ²)	Equivalent AWG Size	Shield Size (mm)	Jacket Thickness (mm)		Overall Diameter (mm)		Maximum Weight (kg/km)
				Min.	Nom.	Nom.	Max.	
100G1131-0.15-*/*/*/*	0.15	26	0.10	0.22	0.30	3.26	3.39	20.0
100G1131-0.25-*/*/*/*	0.25	24	0.13	0.22	0.30	3.60	3.77	26.9
100G1131-0.40-*/*/*/*	0.40	22	0.13	0.22	0.30	4.04	4.20	34.0
100G1131-0.50-*/*/*/*	0.50	-	0.13	0.22	0.30	4.23	4.38	39.5
100G1131-0.60-*/*/*/*	0.60	20	0.13	0.22	0.30	4.40	4.55	43.6
100G1131-0.75-*/*/*/*	0.75	-	0.13	0.22	0.30	4.70	4.86	49.3
100G1131-1.00-*/*/*/*	1.00	18	0.13	0.22	0.30	4.93	5.09	56.2
100G1131-1.20-*/*/*/*	1.20	16	0.13	0.22	0.30	5.25	5.41	67.4
100G1131-1.50-*/*/*/*	1.50	15	0.13	0.22	0.30	5.65	5.85	76.5
100G1131-2.00-*/*/*/*	2.00	14	0.13	0.22	0.30	6.22	6.41	92.8
100G1131-2.50-*/*/*/*	2.50	13	0.13	0.22	0.30	6.70	6.85	111
100G1131-3.00-*/*/*/*	3.00	12	0.13	0.22	0.30	7.15	7.31	131
100G1131-4.00-*/*/*/*	4.00	-	0.13	0.22	0.30	7.83	7.98	173

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FOUR CORE 100G1141-xx (Issue 10)



- Four conductor cable with zero halogen insulation, shielded and zero halogen jacketed
 - 750/1300v AC and temperature rating up to +105°C
1. Component wire - 100G0111
 2. Shield - Tin Coated Copper, Optimised
 3. Jacket - Zerohal®

The full requirements for procuring 100G cable are included in this document.

Part Description	Nominal Cross Sectional Area (mm ²)	Equivalent AWG Size	Shield Size (mm)	Jacket Thickness (mm)		Overall Diameter (mm)		Maximum Weight (kg/km)
				Min.	Nom.	Nom.	Max.	
100G1141-0.15-*/*/*/*/*	0.15	26	0.13	0.22	0.30	3.65	3.79	27.0
100G1141-0.25-*/*/*/*/*	0.25	25	0.13	0.22	0.30	3.89	4.04	32.6
100G1141-0.40-*/*/*/*/*	0.40	22	0.13	0.22	0.30	4.38	4.53	41.6
100G1141-0.50-*/*/*/*/*	0.50	-	0.13	0.22	0.30	4.58	4.73	48.7
100G1141-0.60-*/*/*/*/*	0.60	20	0.13	0.22	0.30	4.82	4.99	54.0
100G1141-0.75-*/*/*/*/*	0.75	-	0.13	0.22	0.30	5.12	5.29	61.3
100G1141-1.00-*/*/*/*/*	1.00	18	0.13	0.22	0.30	5.36	5.51	70.3
100G1141-1.20-*/*/*/*/*	1.20	16	0.13	0.22	0.30	5.81	5.96	84.7
100G1141-1.50-*/*/*/*/*	1.50	15	0.13	0.22	0.30	6.17	6.32	96.7
100G1141-2.00-*/*/*/*/*	2.00	14	0.13	0.35	0.48	7.21	7.36	127
100G1141-2.50-*/*/*/*/*	2.50	13	0.13	0.35	0.48	7.70	7.85	152
100G1141-3.00-*/*/*/*/*	3.00	12	0.13	0.35	0.48	8.22	8.37	178
100G1141-4.00-*/*/*/*/*	4.00	-	0.13	0.35	0.48	8.97	9.12	235

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100G CK0226 SIGNAL WIRE & CABLE

Approvals & Declarations:

- EN 50306-2
- EN 45545-2
- DIN 5510-2
- TE WSD 912

Operating Temperature

- -55°C to +125°C rated primary wire

Continuous Operating Temperature

- 125°C/20,000 hours

Halogens

- Halogen free, low smoke, highly flame retarded

Voltage Rating

- 100G 750/1300v
- 100E 300/500v

Conductor Size Range

- 0.15mm² to 4.0mm²

Construction

- Single core and multi core

Colours

- Single core insulation available in all colour codes 0-9
- Standard insulation colours black & white

Conductors

- Tin plated copper stranded

FIRE HAZARD PERFORMANCE

Test	Method	Result
Flammability – small scale	(IEC 60332-1-2)	Charring confined to between 50mm and 540mm
Flammability – large scale	(Clause 9.1.2 EN50305)	Max burn length 1.5M
Smoke – large scale	(EN 61034-2)	3m cube box 90% min transmittance
Current Overload	(VG 95 218)	No visible smoke
Toxicity	(Clause 9.2 EN50305)	Index max 6
Halogen Content	(IEC 60684-2)	< 0.2% Cl +Br +I. < 0.1% F
Acid Gas Emission	(EN 50267-2-2)	pH > 4.3, conductivity < 10 QS/mm

DIN 5510-2 (SEE TEST REPORT WT2387)

Test	Method	Result
Flammability – small scale	EN60332-1-2	PASS
Flammability – large scale	EN50305	PASS
Smoke – 3m cube	EN61034-2	PASS
PH & Conductivity	EN50267-2-2	PASS
Evolution of HCl	EN50267-2-1	PASS
Fluorine Content	EN60684-2	PASS
Toxicity	Clause 9.2 EN50305	PASS

GENERAL PROPERTIES (SEE WSD 912 FOR FULL DETAILS)

Test	Method	Requirement
Concentricity	IEC 60811-1-1	70% Minimum
Mark Durability	Clause 10.1 EN50305	Legible after wet cloth rub
Tensile Strength	IEC 60811-1-1	>20 M Pa
Elongation at Break	IEC 60811-1-1	>200%
Scrape Abrasion	Clause 5.2 EN50305	>150 cycles load 7N to 11N
Dynamic Cut Through	Clause 5.6 EN50305	Minimum load 70N to 120N
Notch Propagation	Clause 5.3 EN50305	No cracking to conductor, no dielectric breakdown
Strip Ability	Clause 5.5.1/2 EN50305	Easily stripped
Thermal Endurance	Clause 7.2 EN50305	20,000 hours at 125°
Accelerated Aging (168 hours at 180°C)	IEC 60811-1-2	No cracks, flow, or dielectric breakdown
Stress Cracking (168 hours at 180°C)	Clause 7.7 EN50305	No cracking, or dielectric breakdown
Hot Set (15 min 200°C)	IEC 60811-2-1	Max elongation 100% under load, 25% after unloading
Shrinkage	Clause 7.6 EN50305	Max 0.5%
Cold Blend (4 hours at -55°C)	IEC 60811-1-4	No cracking, or dielectric breakdown
Conductor Resistance	Clause 6.1 EN50305	Max 20 ohm/km
AC Voltage Test	Clause 6.2.1 EN50305	No dielectric breakdown (2 kV AC for 5 min 20°C)
DC Voltage Test	Clause 6.2.1 EN50305	No dielectric breakdown (4.8kV DC 5 min 20°C)
Dielectric Strength	Clause 6.8 EN50305	>4.0 kV AC after 1 hour water immersion 20°C
DC Stability	Clause 6.7 EN50305	No dielectric breakdown
Insulation Resistance	6.4.1 and 6.4.2 of EN 50305	Table 2 of EN 50306-2
IRM 902 Oil 24 hours at 100°C	Clause 8.1 EN50305	<5% diameter change, no dielectric breakdown
IRM 903 Oil 168 hours at 70°C	Clause 8.1 EN50305	<5% diameter change, no dielectric breakdown
MEK 1 hour at 23°C	Clause 8.1 EN50305	<5% diameter change, no dielectric breakdown
0.5M-Oxalic Acid 168 hours 23°C	Clause 8.2 EN50305	<5% diameter change, no dielectric breakdown
1M Sodium Hydroxide 168 hr 23°C	Clause 8.2 EN50305	<5% diameter change, no dielectric breakdown

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