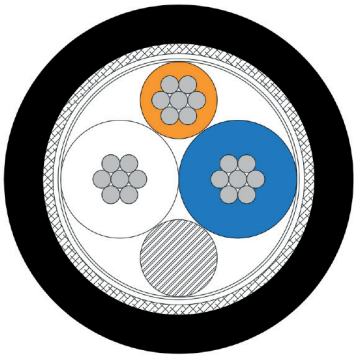
UNIRAIL *D* – RS485 and BUS cables

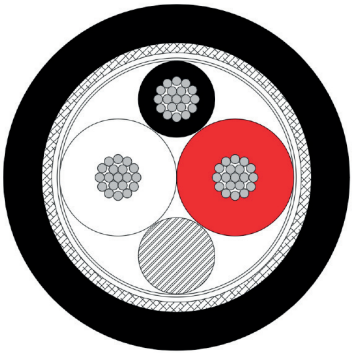
Type: **(1x2x0,35 + 1x0,35)**
Code: **RW103A**



CONSTRUCTION	
DATA PAIR	
Conductor	stranded tinned copper wire – (0,35 mm²), 7 wires
Insulation	foam skin polyolefin
Insulation colours	white ÷ blue
Assembly of core	twisted pair
POWER ELEMENT	
Conductor	stranded tinned copper wire – (0,35 mm²), 7 wires
Insulation	solid polyethylene according to EN 50290-2-23
Insulation colours	orange
Assembly	Data pair and signal conductor stranded together
Overall shield	Alu/ PET tape + tinned copper braid 90% coverage
Outer jacket	crosslinked compound, type EM104 according to standard EN 50264-1 - black colour if not otherwise stated
Marking	UNIKA (Italy) – RS485(1x2x0,35+1x0,35) M - 120 ohm - WW/YYYY – *traceability code*

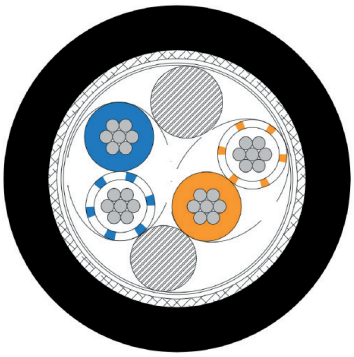
Unless otherwise specified, all values are nominal, other values can be provided on request.
The images are made for the sole purpose of illustrating the product and are purely indicative.

Type: **(1x2x0,50 + 1x0,50)**
Code: **RW103BZ**



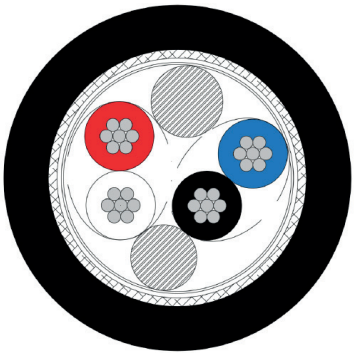
CONSTRUCTION	
DATA PAIR	
Conductor	stranded tinned copper wire – (0,50 mm²), 19 wires
Insulation	foam skin polyolefin
Insulation colours	white ÷ red
Assembly of core	twisted pair
POWER ELEMENT	
Conductor	stranded tinned copper wire (0,50 mm²), 19 wires
Insulation	solid polyethylene
Insulation colour	black
Assembly	Data pair and signal conductor stranded together
Overall shield	ALU/PET tape + tinned copper braid 90% coverage
Outer jacket	crosslinked compound, type EM104 according to standard EN 50264-1 - black colour if not otherwise stated
Marking	UNIKA (Italy) – RS485 (1x2x0,50+1x0,50) M - 120 ohm - WW/YYYY – *traceability code*

Type: **(2x2x0,34 mm²)**
Code: **RW103EZ**



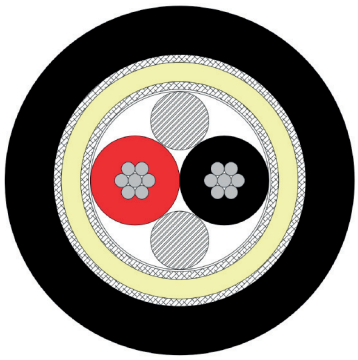
CONSTRUCTION	
DATA PAIR	
Conductor	stranded tinned copper wire – 22 AWG/7 (0,35 mm²)
Insulation	foam skin polyolefin
Insulation colours	(White-blue ÷ blue) (Orange-white÷orange)
Assembly of core	twisted pair
Overall shield	ALU/ PET tinned copper braid 90% coverage
Outer jacket	crosslinked compound, type EM104 according to standard EN 50264-1 - black colour if not otherwise stated
Marking	UNIKA (Italy) – RS485 (2x2x0,34) M - 120 ohm - WW/YYYY – *traceability code*

Type: **(2x2x0,50 mm²)**
Code: **RW103F**



CONSTRUCTION	
Conductor	stranded tinned copper wire (0,50 mm²)
Insulation	foam skin polyolefin
Pair colours	white/red ÷ black/blu
Assembly of core	pairs are stranded together
Overall shield	ALU/ PET + tinned copper braid 90% coverage
Outer jacket	crosslinked compound, type EM104 according to standard EN 50264-1 - black colour if not otherwise stated
Marking	UNIKA (Italy) –RS485 (2x2x0,50) M - 120 ohm - WW/YYYY – *traceability code*

Type: **2x19 AWG/7 (2x0,60 mm²)**
Code: **RW105B**

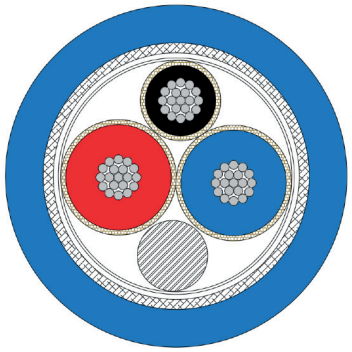


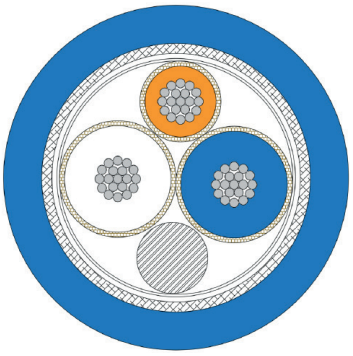
CONSTRUCTION	
Conductor	stranded tinned copper wire – (0,60 mm²), 7 wires
Insulation	foam skin polyolefin
Pair colours	red/white
Assembly of core	twisted pair
1st shield	tinned copper braid 90% coverage
Inner jacket	crosslinked compound, type EM104 according to standard EN 50264-1
2nd shield	tinned copper braid 90% coverage
Outer jacket	crosslinked compound, type EM104 according to standard EN 50264-1 - Black colour if not otherwise stated
Marking	UNIKA (Italy) – RS485 (2x0,60) M - 120 ohm - WW/YYYY – *traceability code*

	RW103A *1x2x0,35+1x0,35*	RW103BZ *1x2x0,50+1x0,50*	RW103F *2x2x0,50*	RW105B 2x19/7 AWG *2x0,60*	RW103EZ 2x2x22 AWG 2x2x0,34
DC conductor resistance	≤ 59,4 Ω/km	≤ 40,1 Ω/km	≤ 40,1 Ω/km	≤ 32,2 Ω/km	≤ 59,4 Ω/km
Capacitance	42 pF/m (data pair)	46 pF/m (data pair)	46 pF/m	50 pF/m	44 pF/m
Characteristic impedance (0,75÷3 MHz)			120 Ω (±10%)		
Voltage rating			300 V		
Min insulation resistance	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm
Nominal velocity of propagation 100MHz	74%	77%	77%	77%	74%
Nom attenuation 1 MHz	1,6 dB/100 m	1,25 dB/100 m	1,25 dB/100 m		1,6 dB/100 m
2 MHz	2,3 dB/100 m	1,8 dB/100 m	1,8 dB/100 m		2,3 dB/100 m
3 MHz		2,25 dB/100 m	2,25 dB/100 m		
4 MHz	3,8 dB/100 m			0,6 dB/100 m	3,8 dB/100 m
Nominal weight	80 kg/km	72 kg/km	105 kg/km	125 kg/km	95 kg/km
Nominal diameter	7,6 mm	6,8 mm	9,3 mm	9,0 mm	8,8 mm
Minimum bending radius			10 x outer ø		
Temperature range			-40 °C +90°C		

Fire safety: cables are classified in compliance with the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B).

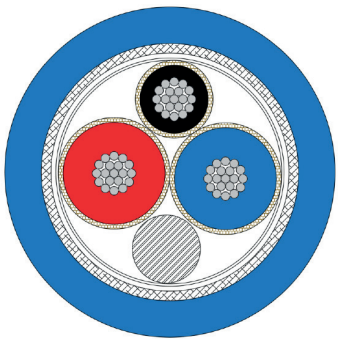
Type: **(1x2x0,50 + 1x0,50) EN 50200 PH90**
Code: **RW106B, RW106BZ**





CONSTRUCTION	
DATA PAIR	
Conductor	stranded tinned copper wire – (0,50 mm²), 19 wires
Insulation	foam skin polyolefin
Insulation colours	red ÷ blue (for RW106B), white ÷ blue (for RW106BZ)
Fire barrier	special mineral glass tape with overlap over each insulation
POWER ELEMENT	
Conductor	stranded tinned copper wire – (0,50 mm²), 19 wires
Insulation	solid polyethylene
Insulation colour	black (for RW106B), orange (for RW106BZ)
Fire barrier	special mineral glass tape with overlap over each insulation
Assembly	Data pair and signal conductor stranded together
Overall shield	Metallic tape + tinned copper braid 90% coverage
Outer jacket	crosslinked compound, type EM104 according to standard EN 50264-1 - blue colour if not otherwise stated
Marking	UNIKA (Italy) – RS485 (1x2x0,50+1x0,50) M - 120 ohm - EN 50200 PH90- WW/YYYY – *traceability code*

Type: **(1x2x0,75 + 1x0,75) EN 50200 PH90**
Code: **RW106E**



CONSTRUCTION	
DATA PAIR	
Conductor	stranded tinned copper wire – (0,75 mm²)
Insulation	foam skin polyolefin
Insulation colours	red ÷ blue
Fire barrier	special mineral glass tape with overlap over each insulation
POWER ELEMENT	
Conductor	stranded tinned copper wire – (0,50 mm²), 19 wires
Insulation	solid polyethylene
Insulation colour	black
Fire barrier	special mineral glass tape with overlap over each insulation
Assembly	Data pair and signal conductor stranded together
Overall shield	Metallic tape + tinned copper braid 90% coverage
Outer jacket	crosslinked compound, type EM104 according to standard EN 50264-1 - blue colour if not otherwise stated
Marking	UNIKA (Italy) – RS485 (1x2x0,75+1x0,75) M - 120 ohm - EN 50200 PH90 - WW/YYYY – *traceability code*

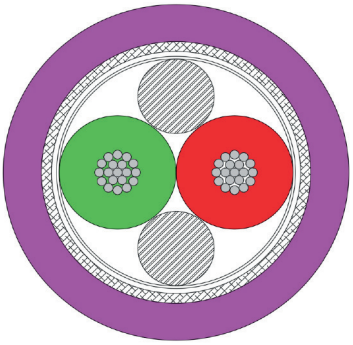
	RW106B (1x2x0,50 + 1x0,50) EN 50200	RW106E (1x2x0,75 + 1x0,75) EN 50200
DC conductor resistance	≤ 40,1 Ω/km	≤ 26,0 Ω/km
Capacitance	46 pF/m	50 pF/m
impedance	120 Ω (±10%)	
Voltage rating	300 V	
Min insulation resistance	≥ 1,0 GΩxkm	1,0 GΩxkm
Nominal velocity of propagation 100MHz	66%	75%

		Before EN 50200 test	After EN 50200 test	Before EN 50200 test	After EN 50200 test
Nominal attenuation	1 MHz		< 12,0 dB/100m	10 dB/100m	10 dB/100m
	1,5 MHz	< 15,0 dB/100m			
	2 MHz		< 17,0 dB/100m	14 dB/100m	14 dB/100m
	3 MHz	< 20,0 dB/100m			

Nominal weight	102 kg/km	148 kg/km
Nominal diameter	8,0 mm	10,0 mm
Minimum bending radius	10 x outer ø	
Temperature range	-40 °C +90°C	
Standard reference	EN 50200, EIA RS485	

Fire safety: cables are classified in compliance with the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B).

Type: **1x2xAWG22/19**
Code: **RW103DM**



CONSTRUCTION	
Conductor	stranded tinned copper wire – 22/19 AWG (0,38 mm²)
Insulation	foam skin polyolefin
Pair colours	red/green
Assembly of core	twisted pair + fillers and tape are assembled together
Overall shield	aluminium/ polyester tape, tinned copper braid 85% coverage
Outer jacket	crosslinked compound, type EM104 according to standard EN 50264-1 violet colour if not otherwise stated
Marking	UNIKA (Italy) – PROFIBUS DP (1x2xAWG22/19) M - 150 Ω - WW/YYYY – *traceability code*

	RW103DM 1x2xAWG22 Profibus DP
DC conductor resistance	≤ 59,4 Ω/km
Capacitance	≤ 30 pF/m
Characteristic impedance (0,25÷20 MHz)	150 Ω (±10%)
Voltage rating	300 V
Min insulation resistance	5,0 GΩxkm
Nominal velocity of propagation 100MHz	78%
Nom.attenuation 0,20 MHz	0,6 dB/100 m
4 MHz	2,2 dB/100 m
16 MHz	4,4 dB/100 m
20 MHz	4,9 dB/100 m
Nominal weight	73 kg/km
Maximum diameter	8,0 mm
Minimum bending radius	8 x outer ø
Temperature range	-40 °C +90°C