






FME911 Measuring system cables












- TPE outer jacket
- Oil-resistant
- PVC-free
- Halogen-free
- Hydrolysis and microbe-resistant

Dynamic Information

	Min. bending radius	Moving in cable carriers	7.5 x d
		Flexible moving	6 x d
		Fixed installation	4 x d
	Temperature	Moving in cable carriers	-35°C to +90°C
		Flexible moving	-50°C to +90°C
		Fixed installation	-55°C to +90°C
	v max.	Unsupported	10 m/s
		Gliding	6 m/s
	a max.	100 m/s ²	
	Travel distance	Unsupported travels and up to 400 m and more for gliding applications	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	According to measuring system specification.
	Color code	According to measuring system specification.
	Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70 % linear, approx. 90 % optical
	Element jacket	TPE mixture on pair shielding adapted to suit the requirements in cable carriers.
	Inner jacket	TPE mixture on pair shielding adapted to suit the requirements in cable carriers.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70 %, optical approx. 90 %
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in cable carriers. Color: Yellow-green RAL 6018

Electrical Information

	Nominal voltage	50 V (following VDE0298-3)
	Test voltage	500 V (following EN50395)

Properties and approvals

	UV-resistance	Medium
	Hydrolysis-resistance	High
	Cold-resistant	-55°C
	Oil resistance	Oil-resistant (following IEC60811-404, tested by SGS), bio-oil-resistant (following VDMA24568, tested by SGS)
	Halogen-free	Following IEC60754
	REACH	According to the regulation (EC) No. 1907/2006 (REACH)
	EAC	Certificate No. KG 417/043.CN.02.00249
	Lead-free	Following 2015/863/EU (RoHS-II Tested by SGS)
	Cleanroom	Following ISO 14644-1
	CE	Following 2014/35/EU
	UL	Following UL21481, 300V, 80°C

Guaranteed service life

Double strokes	5 million times	7.5 million times	10 million times
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

FME911 Measuring system cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FME911.001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	71.0	119.0
FME911.002	(3x(2x0.14)C+2x(0.5)C)C	10.0	74.0	125.0
FME911.003	(3x(2x0.14)+2x1.0)C	8.0	56.0	86.0
FME911.004	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	78.0	127.0
FME911.005	(4x(2x0.14)+4x0.5)C	9.0	60.0	97.0
FME911.006	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	85.0	139.0
FME911.007 ^③	(4x0.34)C	6.0	31.0	48.0
FME911.008	(3x(2x0.25))C	7.5	36.0	60.0
FME911.009	(4x(2x0.25)+2x0.5)C	8.5	57.0	91.0
FME911.010	(4x(2x0.25)+2x1.0)C	9.0	68.0	105.0
FME911.011	(4x(2x0.34)+4x0.5)C	10.0	81.0	124.0
FME911.012	(3x(2x0.14)C+(3x0.14)C+(4x0.14)+(2x0.14+2x0.5))C	11.0	89.0	140.0
FME911.013	(3x(2x0.14)C+2x0.5)C	9.0	62.0	104.0
FME911.014	(4x(2x0.25)C+(2x0.5))C	11.0	86.0	138.0
FME911.015	(4x(2x0.14)+4x0.5)C	9.0	60.0	97.0
FME911.016	(3x(2x0.25)C)C	9.5	60.0	108.0
FME911.017 ^③	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	100.0	126.0
FME911.018 ^③	(2x(2x0.25)+2x0.5)C	6.5	41.0	51.0
FME911.019 ^③	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	93.0	120.0
FME911.021	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	88.0	130.0
FME911.022	((2x0.25)+5x0.5)C	7.5	54.0	79.0
FME911.025	(3x(2x0.14)C+(2x0.5)C)C	10.0	72.0	123.0
FME911.027	(5x(2x0.14)+2x0.5)C	8.5	52.0	88.0
FME911.028	(2x(2x0.20)+(2x0.38))C	7.5	44.0	63.0
FME911.029	(5x(2x0.25)C+(2x0.25+2x0.5))C	12.5	119.0	270.0
FME911.031	(2x(2x0.25)C+2x1.0)C	9.5	69.0	116.0
FME911.032 ^③	3x(2x0.14)C+(3x0.14)C	8.0	35.0	71.0
FME911.033 ^③	4x(2x0.14)C+2x(1.0)C	9.5	64.0	104.0
FME911.034	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	71.0	119.0
FME911.035	(4x(2x0.25)C+2x(2x0.5))C	12.0	99.0	154.0
FME911.038	(3x(2x0.14)+(2x0.34))C	8.0	36.0	71.0
FME911.040	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	88.0	130.0

③) Without overall shield

④) Cables marked with ④ are four-star twisted design.

⑤) Without inner jacket

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

Part No.	Core group	Colour code
FME911.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)C	brown-red/brown-blue
FME911.002	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
FME911.003	3x(2x0.14)	white/brown, green/yellow, grey/pink
	2x1.0	blue, red
FME911.004	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
FME911.005	4x(2x0.14)	white/brown, green/yellow, grey/pink, blue/red
	4x0.5	black, violet, grey-pink, red-blue
FME911.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red/brown-blue
FME911.007	(4x0.34)C	white, green, brown, yellow (Star-quad)
FME911.008	(3x(2x0.25))C	white/brown, green/yellow, grey/pink
FME911.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
FME911.010	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
FME911.011	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
FME911.012	3x(2x0.14)C	green/yellow, white/grey, blue/red
	(3x0.14)C	red/green/brown
	(4x0.14)	grey/yellow/pink/violet
	(2x0.14+2x0.5)	blue/brown-blue/grey/brown-red
FME911.013	3x(2x0.14)C	white/brown, green/yellow, grey/pink
	2x0.5	blue, red
FME911.014	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
FME911.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
FME911.016	(3x(2x0.25)C)C	white/brown, green/yellow, grey/pink
FME911.017	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
FME911.018	2x(2x0.25)	red/black, grey/pink
	2x0.5	white, brown
FME911.019	3x(2x0.25)C	brown/green, grey/pink, red/black
	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown

Part No.	Core group	Colour code
FME911.021	(4x0.25)	white/brown/grey/black
	3x2x0.25	white/yellow, white/grey, black/orange
	(2x0.5)	black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6
FME911.022	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
FME911.025	3x(2x0.14)C	green/yellow, blue/red, grey/pink
	(2x0.5)	white/brown
FME911.027	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
FME911.028	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black
FME911.029	5x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red, black/violet
	(2x0.25+2x0.5)	gray-pink/brown-green/white-green/red-blue
FME911.031	2x(2x0.25)C	white/brown, green/yellow
	2x1.0	black no. 1, black no. 2
FME911.032	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
FME911.033	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
FME911.034	3x(2x0.14)C	green/black, violet/black, blue/black
	(4x0.14)C	red/yellow/black-red/black-yellow
FME911.035	2x(2x0.5)C	black/white, black/brown
	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
FME911.038	2x(2x0.5)	black no. 1/black no. 2, black no. 3/black no. 4
	3x(2x0.14)	white/brown, green/yellow, grey/pink
FME911.040	(2x0.34)	blue/red
	3x(4x0.14)	black/red/white-black/white-red, green/blue/white-green/white-blue,yellow/brown/white-yellow/white-brown
	(2x0.14+2x0.34)	violet/orange/white-violet/white-orange
	2x1.5	white-grey, grey

FME913 Measuring system cables



- PUR outer jacket
- Oil-resistant and coolant-resistant
- PVC and halogen-free
- Shielded
- Flame-retardant
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic Information

	Min. bending radius	Moving in cable carriers	7.5 x d
		Flexible moving	6 x d
		Fixed installation	4 x d
	Temperature	Moving in cable carriers	-25°C to +80°C
		Flexible moving	-40°C to +80°C
		Fixed installation	-50°C to +80°C
	v max.	Unsupported	10 m/s
		Gliding	5 m/s
	a max.	50 m/s ²	
	Travel distance	Unsupported travels and up to 100 m for gliding applications	













Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	According to measuring system specification.
	Color code	According to measuring system specification.
	Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage approx. 70 % linear, approx. 90 % optical
	Element jacket	TPE mixture on pair shielding adapted to suit the requirements in cable carriers.
	Inner jacket	TPE mixture on pair shielding adapted to suit the requirements in cable carriers.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70 %, optical approx. 90 %
	Outer jacket	Low-adhesion mixture on the basis of PUR, especially abrasion-resistant and highly flexible, adapted to suit the requirements in cable carriers. Color: Yellow-green RAL 6018

Electrical Information

	Nominal voltage	50 V (following VDE0298-3)
	Test voltage	500 V (following EN50395)

Properties and approvals

	UV-resistance	Medium
	Hydrolysis-resistance	High
	Cold-resistant	-50°C
	Oil resistance	Oil-resistant (following IEC60811-404, tested by SGS), bio-oil-resistant (following VDMA24568, tested by SGS)
	Flame resistance	According to IEC 60332-1-2, VW-1, FT1
	Halogen-free	Following IEC60754
	REACH	According to the regulation (EC) No. 1907/2006 (REACH)
	EAC	Certificate No. KG 417/043.CN.02.00249
	Lead-free	Following 2015/863/EU (RoHS-II Tested by SGS)
	Cleanroom	Following ISO 14644-1
	CE	Following 2014/35/EU
	UL	Following UL20233, 300V, 80°C

Guaranteed service life

Double strokes	5 million times	7.5 million times	10 million times
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

FME913 Measuring system cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FME913.001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10	71	137
FME913.002	(3x(2x0.14)C+2x(0.5)C)C	10	74	144
FME913.003	(3x(2x0.14)+2x1.0)C	8	56	103
FME913.004	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11	78	152
FME913.005	(4x(2x0.14)+4x0.5)C	9	60	115
FME913.006	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11	85	158
FME913.007 ^③	(4x0.34)C	6.5	31	54
FME913.008	(3x(2x0.25))C	7.5	36	76
FME913.009	(4x(2x0.25)+2x0.5)C	8.5	57	99
FME913.010	(4x(2x0.25)+2x1.0)C	9	68	122
FME913.011	(4x(2x0.34)+4x0.5)C	10	81	142
FME913.013	(3x(2x0.14)C+2x0.5)C	9	62	121
FME913.014	(4x(2x0.25)C+(2x0.5))C	11	86	163
FME913.015	(4x(2x0.14)+4x0.5)C	9	60	114
FME913.016	(3x(2x0.25)C)C	10	60	126
FME913.017 ^③	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10	100	150
FME913.018 ^③	(2x(2x0.25)+2x0.5)C	6.5	41	65
FME913.019 ^③	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10	93	143
FME913.022	((2x0.25)+5x0.5)C	8	54	94
FME913.025	(3x(2x0.14)C+(2x0.5)C)C	10	72	141
FME913.027	(5x(2x0.14)+2x0.5)C	9	52	105
FME913.028 ^③	(2x(2x0.20)+(2x0.38))C	7.5	44	69
FME913.029	(5x(2x0.25)C+(2x0.25+2x0.5))C	12	105	192
FME913.032 ^③	3x(2x0.14)C+(3x0.14)C	8.5	35	82
FME913.033 ^③	4x(2x0.14)C+2x(1.0)C	9.5	64	111
FME913.036	(5x(2x0.25))C	8.5	51	103
FME913.037	(6x(2x0.25))C	9	58	114
FME913.038	(3x(2x0.14)+(2x0.34))C	8.5	36	87
FME913.040	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10	88	155

③) Without overall shield

④) Cables marked with ④ are four-star twisted design.

⑤) Without inner jacket

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

Measuring system cables

FME913

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Part No.	Core group	Colour code
FME913.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red/brown-blue
FME913.002	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
FME913.003	3x(2x0.14)C	white/brown, green/yellow, grey/pink
	2x1.0	blue, red
FME913.004	2x(2x(2x0.14)	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
FME913.005	4x(2x0.14)	white/brown, green/yellow, grey/pink, blue/red
	4x0.5	black, violet, grey-pink, red-blue
FME913.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red/brown-blue
FME913.007	4x0.34	white, green, brown, yellow (Star-quad)
FME913.008	3x(2x0.25)	white/brown, green/yellow, grey/pink
FME913.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
FME913.010	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
FME913.011	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
FME913.013	3x(2x0.14)C	white/brown, green/yellow, grey/pink
	2x0.5	blue, red
FME913.014	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
FME913.015	4x(2x0.14)	brown/green, blue/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
FME913.016	3x(2x0.25)C	white/brown, green/yellow, grey/pink
	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
FME913.017	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
	2x(2x0.25)	red/black, grey/pink
FME913.018	2x0.5	white, brown
	3x(2x0.25)C	brown/green, grey/pink, red/black
FME913.019	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown
	(2x0.25)	white, brown
FME913.022	5x0.5	green, yellow, grey, pink, blue
	3x(2x0.14)C	green/yellow, blue/red, grey/pink
FME913.025	(2x0.5)C	white, brown

Part No.	Core group	Colour code
FME913.027	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
FME913.028	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black
FME913.029	5x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red, black/violet
	(2x0.25+2x0.5)	gray-pink/brown-green/white-green/red-blue
FME913.032	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
FME913.033	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
FME913.036	5x(2x0.25)	white/brown, green/yellow, grey/pink, blue/red, black/violet
FME913.037	6x(2x0.25)	white/brown, green/yellow, grey/pink, blue/red, black/violet, grey-pink/red-blue
FME913.038	3x(2x0.14)	white/brown, green/yellow, grey/pink
	(2x0.34)	blue/red
FME913.040	3x(4x0.14)	black/red/white-black/white-red, green/blue/white-green/white-blue,yellow/brown/white-yellow/white-brown
	(2x0.14+2x0.34)	violet/orange/white-violet/white-orange
	2x1.5	white-grey, grey