

FMC600 Control cables



- PVC outer jacket
- Flame-retardant
- Low cost

FMC600

Dynamic Information

	Min. bending radius	Moving in cable carriers	12.5 x d
		Flexible moving	10 x d
		Fixed installation	7 x d
	Temperature	Moving in cable carriers	+5°C to +70°C
		Flexible moving	-5°C to +70°C
		Fixed installation	-15°C to +70°C
	v max.	Unsupported	3 m/s
	a max.	20 m/s ²	
	Travel distance	Unsupported travel distances up to 10 m	

www.csb-ep.com
sales@csb-ep.com

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228)
	Conductor insulation	Mechanically high-quality PVC mixture.
	Conductor construction	Cores wound with an optimised pitch length.
	Color code	Black cores with white numbers, one green-yellow core.
	Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in cable carriers. Color: black RAL 9005

Electrical Information

	Nominal voltage	U ₀ /U: 300/500 V (following VDE0298-3)
	Test voltage	2000 V (following EN50395)

Tel: 0086 573 84187009

Properties and approvals

	Flame resistance	According to IEC 60332-1-2、VW-1、FT1
	REACH	Accordding 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 UL2570, 600V, 80°C

Guaranteed service life

Double strokes	1 million times	3 million times	5 million times
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

FMC600 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC600.05.02	2×0.5	5.0	11.0	32.0
FMC600.05.03	3G0.5	5.5	16.0	37.0
FMC600.05.04	4G0.5	6.0	21.0	46.0
FMC600.05.05	5G0.5	6.5	26.0	55.0
FMC600.05.07	7G0.5	7.5	37.0	73.0
FMC600.05.12	12G0.5	8.5	63.0	108.0
FMC600.05.18	18G0.5	10.0	94.0	158.0
FMC600.05.25	25G0.5	12.0	128.0	227.0
FMC600.07.02	2×0.75	5.5	16.0	40.0
FMC600.07.03	3G0.75	6.0	24.0	49.0
FMC600.07.04	4G0.75	6.5	32.0	61.0
FMC600.07.05	5G0.75	7.0	40.0	73.0
FMC600.07.07	7G0.75	8.0	56.0	99.0
FMC600.07.12	12G0.75	10.0	94.0	152.0
FMC600.07.18	18G0.75	11.5	140.0	167.0
FMC600.07.25	25G0.75	13.5	194.0	284.0
FMC600.10.02	2×1.0	6.0	21.0	48.0
FMC600.10.03	3G1.0	6.5	32.0	58.0
FMC600.10.04	4G1.0	7.0	42.0	62.0
FMC600.10.05	5G1.0	7.5	52.0	86.0
FMC600.10.07	7G1.0	8.5	73.0	116.0
FMC600.10.12	12G1.0	10.5	124.0	182.0
FMC600.10.18	18G1.0	12.5	186.0	278.0
FMC600.10.25	25G1.0	15.0	258.0	393.0
FMC600.15.02	2×1.5	6.5	32.0	64.0
FMC600.15.03	3G1.5	7.0	47.0	82.0
FMC600.15.04	4G1.5	7.5	63.0	104.0
FMC600.15.05	5G1.5	8.5	78.0	120.0
FMC600.15.07	7G1.5	10.0	109.0	167.0
FMC600.15.12	12G1.5	12.0	186.0	260.0
FMC600.15.18	18G1.5	14.5	279.0	370.0
FMC600.15.25	25G1.5	17.5	387.0	514.0
FMC600.25.03	3G2.5	8.5	121.0	136.0
FMC600.25.04	4G2.5	9.0	103.0	150.0
FMC600.25.05	5G2.5	10.0	129.0	184.0
FMC600.25.07	7G2.5	12.0	181.0	252.0
FMC600.25.12	12G2.5	15.0	327.0	414.0

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC603 Control cables



- For twistable applications requirements
- PVC outer jacket
- Flame-retardant



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	+5°C to +70°C
		Flexible moving	-5°C to +70°C
		Fixed installation	-15°C to +70°C
	v max.	Unsupported	3 m/s
		Gliding	2 m/s
	a max.	20 m/s ²	
	Travel distance	Unsupported travels and up to 50 m for gliding applications	
	Torsion	±90°/m	


Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Cross-sectional < 0.5 mm ² : Color code in accordance with DIN 47100 Cross-sectional ≥ 0.5 mm ² : Black cores with white numbers, one green-yellow core.
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in cable carriers (following DIN EN 50363-10-2). Color: Grey RAL 7001

Electrical Information

 Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
 Test voltage	2000 V (following EN50395)

Properties and approvals

 Flame resistance	According to IEC 60332-1-2, VW-1, FT1
 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 UL2570, 600V, 80°C

Guaranteed service life

Double strokes	5 million times		7.5 million times		10 million times	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

FMC603 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC603.02.03	3×0.25	5	9	26
FMC603.02.04	4×0.25	5.5	11	35
FMC603.02.06	6×0.25	6	16	48
FMC603.02.07	7×0.25	6.5	19	56
FMC603.02.12	12×0.25	8.5	33	96
FMC603.02.18	18×0.25	10	46	123
FMC603.02.20	20×0.25	10.5	51	145
FMC603.02.25	25×0.25	11.5	66	164
FMC603.02.30	30×0.25	12.5	75	188
FMC603.03.02	2×0.34	5	8	27
FMC603.03.05	5×0.34	6	18	42
FMC603.05.02	2×0.5	5.5	11	38
FMC603.05.03	3G0.5	5.5	16	40
FMC603.05.04	4G0.5	6	21	47
FMC603.05.05	5G0.5	6.5	26	56
FMC603.05.07	7G0.5	7.5	37	76
FMC603.05.12	12G0.5	10	63	140
FMC603.05.18	18G0.5	12	94	192
FMC603.05.25	25G0.5	13.5	129	259
FMC603.07.02	2×0.75	6	16	48
FMC603.07.03	3G0.75	6	23	50
FMC603.07.04	4G0.75	6.5	31	60
FMC603.07.05	5G0.75	7	38	70
FMC603.07.07	7G0.75	8	54	96
FMC603.07.12	12G0.75	11	91	175
FMC603.07.18	18G0.75	13.5	134	248
FMC603.07.25	25G0.75	16	186	346
FMC603.07.36	36G0.75	19	293	531
FMC603.07.42	42G0.75	21	341	608
FMC603.10.02	2×1.0	6	21	55
FMC603.10.03	3G1.0	6.5	31	61
FMC603.10.04	4G1.0	7	41	74
FMC603.10.05	5G1.0	7.5	50	87
FMC603.10.07	7G1.0	9	71	118
FMC603.10.12	12G1.0	12.5	120	228

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC603.10.18	18G1.0	15	179	308
FMC603.10.25	25G1.0	17.5	248	410
FMC603.15.02	2×1.5	6.5	31	71
FMC603.15.03	3G1.5	7	46	76
FMC603.15.04	4G1.5	8	61	93
FMC603.15.05	5G1.5	8.5	75	111
FMC603.15.07 ^{⑦)}	7G1.5	10.5	105	166
FMC603.15.12	12G1.5	13	179	288
FMC603.15.18	18G1.5	17	268	438
FMC603.15.25	25G1.5	19.5	371	563
FMC603.15.36	36G1.5	23	579	887
FMC603.25.03	3G2.5	8.5	75	118
FMC603.25.04	4G2.5	9.5	100	149
FMC603.25.07 ^{⑦)}	7G2.5	12	174	250
FMC603.25.12	12G2.5	16.5	297	445
FMC603.40.03	3G4.0	10	119	209
FMC603.40.05	5G4.0	12	198	294
FMC603.60.04	4G6.0	13	237	392
FMC603.60.05	5G6.0	14	299	471

⑦) When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC605 Control cables



- PVC outer jacket
- UV-resistance
- Flame-retardant
- Oil-resistant



Dynamic Information

	Min. bending radius	Moving in cable carriers	6.8 x d
		Flexible moving	5 x d
		Fixed installation	4 x d
	Temperature	Moving in cable carriers	+5°C to +70°C
		Flexible moving	-5°C to +70°C
		Fixed installation	-15°C to +70°C
	v max.	Unsupported	10 m/s
		Gliding	5 m/s
	a max.	80 m/s ²	
	Travel distance	Unsupported travels and up to 100 m for gliding applications	
	Torsion	±90°/m	










Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Cross-sectional ≤ 0.5 mm ² : Mechanically high-quality TPE mixture.
		Cross-sectional ≥ 0.75 mm ² : Mechanically high-quality PVC mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length.
		Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Cross-sectional < 0.5 mm ² : Color code in accordance with DIN 47100
		Cross-sectional ≥ 0.5 mm ² : Black cores with white numbers, one green-yellow core.
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in cable carriers (following DIN EN 50363-10-2). Color: Green RAL 6005

Electrical Information

 Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
 Test voltage	2000 V (following EN50395)

Properties and approvals

 UV-resistance	Medium
 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
 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 UL2570, 600V, 80°C

Guaranteed service life

Double strokes	5 million times		7.5 million times		10 million times	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	7.5	10	8.5	11	9.5	12
+15/+60	6.8	7.5	7.8	8.5	8.8	9.5
+60/+70	7.5	10	8.5	11	9.5	12

FMC605 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC605.02.36	36×0.25	15	99	209
FMC605.03.15	15×0.34	11	55	113
FMC605.03.18	18×0.34	12	67	143
FMC605.03.25	25×0.34	14	92	194
FMC605.05.02	2×0.5	6	11	38
FMC605.05.03	3G0.5	6	16	41
FMC605.05.04	4G0.5	6.5	21	47
FMC605.05.05	5G0.5	7	25	59
FMC605.05.07	7G0.5	8	36	78
FMC605.07.03	3G0.75	6.5	23	54
FMC605.07.04	4G0.75	7	32	67
FMC605.07.05	5G0.75	7.5	39	82
FMC605.07.07	7G0.75	9	56	115
FMC605.07.12	12G0.75	12.5	91	189
FMC605.07.18	18G0.75	15	134	269
FMC605.07.25	25G0.75	17.5	190	384
FMC605.07.36	36G0.75	22	267	587
FMC605.07.42	42G0.75	23.5	313	745
FMC605.10.03	3G1.0	6.5	31	56
FMC605.10.04	4G1.0	7	41	78
FMC605.10.05	5G1.0	8	50	94
FMC605.10.07	7G1.0	9.5	74	130
FMC605.10.12	12G1.0	13	119	227
FMC605.10.18	18G1.0	16.5	179	306
FMC605.10.25	25G1.0	19.5	248	487
FMC605.15.03	3G1.5	7.5	46	74
FMC605.15.04	4G1.5	8	61	105
FMC605.15.05	5G1.5	9	75	127
FMC605.15.07 ^{⑦)}	7G1.5	10.5	105	180
FMC605.15.12	12G1.5	15	179	264
FMC605.15.18	18G1.5	19.5	267	478
FMC605.15.25	25G1.5	21.5	371	645
FMC605.15.36	36G1.5	26.5	529	960
FMC605.25.04	4G2.5	10	96	170
FMC605.25.05	5G2.5	11	120	200
FMC605.25.07 ^{⑦)}	7G2.5	13	169	279
FMC605.25.12	12G2.5	18.5	284	480
FMC605.25.18	18G2.5	23.5	427	765
FMC605.25.25	25G2.5	27.5	591	1054

⑦) When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC610 Control cables



- PVC outer jacket
- Shielded
- Flame-retardant
- Low cost

FMC610

Dynamic Information

	Min. bending radius	Moving in cable carriers	12.5 x d
		Flexible moving	10 x d
		Fixed installation	7 x d
	Temperature	Moving in cable carriers	+5°C to +70°C
		Flexible moving	-5°C to +70°C
		Fixed installation	-15°C to +70°C
	v max.	Unsupported	3 m/s
	a max.	20 m/s ²	
	Travel distance	Unsupported travel distances up to 10 m	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228)
	Conductor insulation	Mechanically high-quality PVC mixture.
	Conductor construction	Cores wound with an optimised pitch length.
	Color code	Black cores with white numbers, one green-yellow core.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Optical approx. 80 %
	Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in cable carriers. Color: black RAL 9005

Electrical Information

	Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
	Test voltage	2000 V (following EN50395)

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, VW-1, FT1
	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 UL2570, 600V, 80°C

Guaranteed service life

Double strokes	1 million times	3 million times	5 million times
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

FMC610 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC610.05.03	(3G0.5)C	6.0	28.0	47.0
FMC610.05.04	(4G0.5)C	6.5	35.0	54.0
FMC610.05.05	(5G0.5)C	7.0	41.0	65.0
FMC610.05.07	(7G0.5)C	8.0	59.0	75.0
FMC610.05.12	(12G0.5)C	9.0	91.0	125.0
FMC610.05.18	(18G0.5)C	11.0	136.0	177.0
FMC610.05.25	(25G0.5)C	13.0	210.0	243.0
FMC610.07.02	(2×0.75)C	6.5	30.0	50.0
FMC610.07.03	(3G0.75)C	7.0	37.0	66.0
FMC610.07.04	(4G0.75)C	7.5	46.0	72.0
FMC610.07.05	(5G0.75)C	8.0	61.0	87.0
FMC610.07.07	(7G0.75)C	9.0	83.0	112.0
FMC610.07.12	(12G0.75)C	10.5	124.0	170.0
FMC610.07.18	(18G0.75)C	12.0	183.0	238.0
FMC610.07.25	(25G0.75)C	14.5	222.0	309.0
FMC610.10.02	(2×1.0)C	6.5	30.0	52.0
FMC610.10.03	(3G1.0)C	7.0	46.0	73.0
FMC610.10.04	(4G1.0)C	7.5	63.0	102.0
FMC610.10.05	(5G1.0)C	8.0	76.0	110.0
FMC610.10.07	(7G1.0)C	9.5	100.0	130.0
FMC610.10.12	(12G1.0)C	11.5	167.0	229.0
FMC610.10.18	(18G1.0)C	13.0	213.0	281.0
FMC610.10.25	(25G1.0)C	16.0	291.0	390.0
FMC610.15.02	(2×1.5)C	7.5	60.0	71.0
FMC610.15.03	(3G1.5)C	7.5	63.0	87.0
FMC610.15.04	(4G1.5)C	8.5	90.0	111.0
FMC610.15.05	(5G1.5)C	9.0	94.0	131.0
FMC610.15.07	(7G1.5)C	11.0	153.0	183.0
FMC610.15.12	(12G1.5)C	13.0	212.0	282.0
FMC610.15.18	(18G1.5)C	15.0	399.0	458.0
FMC610.15.25	(25G1.5)C	18.5	425.0	573.0
FMC610.25.03	(3G2.5)C	10.0	114.0	171.0
FMC610.25.04	(4G2.5)C	10.0	141.0	163.0
FMC610.25.05	(5G2.5)C	11.0	149.0	195.0
FMC610.25.07	(7G2.5)C	13.0	204.0	262.0
FMC610.25.12	(12G2.5)C	16.0	342.0	428.0

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC616 Control cables



- Shielded
- PVC outer jacket
- UV-resistance
- Flame-retardant
- Oil-resistant



Dynamic Information

	Min. bending radius	Moving in cable carriers	6.8 x d
		Flexible moving	5 x d
		Fixed installation	4 x d
	Temperature	Moving in cable carriers	+5°C to +70°C
		Flexible moving	-5°C to +70°C
		Fixed installation	-15°C to +70°C
	v max.	Unsupported	10 m/s
		Gliding	5 m/s
	a max.	80 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	Cross-sectional $\leq 0.5 \text{ mm}^2$: Mechanically high-quality TPE mixture.
		Cross-sectional $\geq 0.75 \text{ mm}^2$: Mechanically high-quality PVC mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length.
		Number of conductors ≥ 12 : Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Cross-sectional < 0.5 mm ² : Color code in accordance with DIN 47100
		Cross-sectional $\geq 0.5 \text{ mm}^2$: Black cores with white numbers, one green-yellow core.
	Inner jacket	PVC mixture 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 PVC, adapted to suit the requirements in cable carriers (following DIN EN 50363-10-2). Color: Green RAL 6005

Electrical Information

 Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
 Test voltage	2000 V (following EN50395)

Properties and approvals

 UV-resistance	Medium
 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
 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 UL2570, 600V, 80°C

Guaranteed service life

Double strokes	5 million times		7.5 million times		10 million times	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
Temperature, from/to [°C]						
+5/+15	7.5	10	8.5	11	9.5	12
+15/+60	6.8	7.5	7.8	8.5	8.8	9.5
+60/+70	7.5	10	8.5	11	9.5	12

FMC616 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC616.02.04	(4×0.25)C	7	29	61
FMC616.02.25	(25×0.25)C	14.5	111	260
FMC616.03.05	(5×0.34)C	7.5	37	90
FMC616.05.02	(2×0.5)C	7	30	77
FMC616.05.05	(5G0.5)C	8.5	49	106
FMC616.05.07	(7G0.5)C	10	64	127
FMC616.05.09	(9G0.5)C	12	80	154
FMC616.05.12	(12G0.5)C	13	98	232
FMC616.05.18	(18G0.5)C	15	145	286
FMC616.05.25	(25G0.5)C	17.5	192	399
FMC616.07.03	(3G0.75)C	8	46	98
FMC616.07.04	(4G0.75)C	8.5	56	113
FMC616.07.05	(5G0.75)C	9	67	128
FMC616.07.07	(7G0.75)C	10.5	87	152
FMC616.07.12	(12G0.75)C	14	128	266
FMC616.07.18	(18G0.75)C	17.5	196	400
FMC616.07.25	(25G0.75)C	19.5	265	536
FMC616.10.03	(3G1.0)C	8	54	107
FMC616.10.04	(4G1.0)C	9	65	116
FMC616.10.05	(5G1.0)C	9.5	77	136
FMC616.10.07	(7G1.0)C	12	103	205
FMC616.10.12	(12G1.0)C	15	161	319
FMC616.10.18	(18G1.0)C	19	245	482
FMC616.10.25	(25G1.0)C	21	322	595
FMC616.15.03	(3G1.5)C	9	72	122
FMC616.15.04	(4G1.5)C	9.5	88	155
FMC616.15.05	(5G1.5)C	10.5	105	177
FMC616.15.07 ⁽⁷⁾	(7G1.5)C	12.5	146	258
FMC616.15.12	(12G1.5)C	17	225	375
FMC616.15.18	(18G1.5)C	21	345	581
FMC616.15.25	(25G1.5)C	24	462	865
FMC616.25.03	(3G2.5)C	10.5	107	180
FMC616.25.04	(4G2.5)C	11.5	131	222

⁽⁷⁾ When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC800 Control cables



- PUR outer jacket
- Indoor and outdoor applications, UV-resistant
- Oil and bio-oil-resistant
- Low cost

Dynamic Information

	Min. bending radius	Moving in cable carriers	12.5 x d
		Flexible moving	10 x d
		Fixed installation	7 x d
	Temperature	Moving in cable carriers	-20°C to +80°C
		Flexible moving	-40°C to +80°C
		Fixed installation	-50°C to +80°C
	v max.	Unsupported	3 m/s
	a max.	20 m/s ²	
	Travel distance	Unsupported travel distances up to 10 m	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228)
	Conductor insulation	Mechanically high-quality PVC mixture.
	Conductor construction	Cores wound with an optimised pitch length.
	Color code	Black cores with white numbers, one green-yellow core.
	Outer jacket	Low adhesion mixture on the basis of PUR, adapted to suit the requirements in cable carriers. Color: black RAL 9005

Electrical Information

	Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
	Test voltage	2000 V (following EN50395)

Properties and approvals

	UV-resistance	Medium
	Cold-resistant	-50°C
	Oil resistance	Oil-resistant (following IEC60811-404, tested by SGS), bio-oil-resistant (following VDMA24568, tested by SGS)
	REACH	Accordding 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 UL20940, 600V, 80°C

Guaranteed service life

Double strokes	1 million times	3 million times	5 million times
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	15	16	17
-10/+70	12.5	13.5	14.5
+70/+80	15	16	17

FMC800 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC800.05.02	2×0.5	5.0	11.0	30.0
FMC800.05.03	3G0.5	5.5	16.0	34.0
FMC800.05.04	4G0.5	6.0	21.0	44.0
FMC800.05.05	5G0.5	6.5	26.0	53.0
FMC800.05.07	7G0.5	7.5	37.0	70.0
FMC800.05.12	12G0.5	8.5	63.0	105.0
FMC800.05.18	18G0.5	10.0	94.0	155.0
FMC800.05.25	25G0.5	12.0	128.0	222.0
FMC800.07.02	2×0.75	5.5	16.0	38.0
FMC800.07.03	3G0.75	6.0	24.0	46.0
FMC800.07.04	4G0.75	6.5	32.0	58.0
FMC800.07.05	5G0.75	7.0	40.0	71.0
FMC800.07.07	7G0.75	8.0	56.0	96.0
FMC800.07.12	12G0.75	10.0	94.0	146.0
FMC800.07.18	18G0.75	11.5	140.0	162.0
FMC800.07.25	25G0.75	13.5	194.0	278.0
FMC800.10.02	2×1.0	6.0	21.0	46.0
FMC800.10.03	3G1.0	6.5	32.0	56.0
FMC800.10.04	4G1.0	7.0	42.0	58.0
FMC800.10.05	5G1.0	7.5	52.0	89.0
FMC800.10.07	7G1.0	8.5	73.0	117.0
FMC800.10.12	12G1.0	10.5	124.0	178.0
FMC800.10.18	18G1.0	12.5	186.0	273.0
FMC800.10.25	25G1.0	15.0	258.0	375.0
FMC800.15.02	2×1.5	6.5	32.0	62.0
FMC800.15.03	3G1.5	7.0	47.0	76.0
FMC800.15.04	4G1.5	7.5	63.0	97.0
FMC800.15.05	5G1.5	8.5	78.0	117.0
FMC800.15.07	7G1.5	10.0	109.0	163.0
FMC800.15.12	12G1.5	12.0	186.0	256.0
FMC800.15.18	18G1.5	14.5	279.0	362.0
FMC800.15.25	25G1.5	17.5	387.0	502.0
FMC800.25.03	3G2.5	8.5	118.0	136.0
FMC800.25.04	4G2.5	9.0	103.0	145.0
FMC800.25.05	5G2.5	10.0	129.0	175.0
FMC800.25.07	7G2.5	12.0	181.0	246.0
FMC800.25.12	12G2.5	15.0	327.0	408.0
FMC800.25.25	25G2.5	21.5	638.0	786.0

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC810 Control cables



- PUR outer jacket
- UV-resistant
- Shielded
- Oil and bio-oil-resistant



Dynamic Information

	Min. bending radius	Moving in cable carriers	12.5 x d
		Flexible moving	10 x d
		Fixed installation	7 x d
	Temperature	Moving in cable carriers	-20°C to +80°C
		Flexible moving	-40°C to +80°C
		Fixed installation	-50°C to +80°C
	v max.	Unsupported	3 m/s
	a max.	20 m/s ²	
	Travel distance	Unsupported travel distances up to 10 m	










Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228)
	Conductor insulation	Mechanically high-quality PVC mixture.
	Conductor construction	Cores wound with an optimised pitch length.
	Color code	Black cores with white numbers, one green-yellow core.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Optical approx. 80 %
	Outer jacket	Low adhesion mixture on the basis of PUR, adapted to suit the requirements in cable carriers. Color: black RAL 9005

Electrical Information

	Nominal voltage	U ₀ /U: 300/500 V (following VDE0298-3)
	Test voltage	2000 V (following EN50395)

Properties and approvals

	UV-resistance	Medium
	Cold-resistant	-50°C
	Oil resistance	Oil-resistant (following IEC60811-404, tested by SGS), bio-oil-resistant (following VDMA24568, tested by SGS)
	REACH	Accordding 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 UL20940, 600V, 80°C

Guaranteed service life

Double strokes	1 million times	3 million times	5 million times
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	15	16	17
-10/+70	12.5	13.5	14.5
+70/+80	15	16	17

FMC810 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC810.05.02	(2×0.5)C	6	18	37
FMC810.05.03	(3G0.5)C	6	28	45
FMC810.05.05	(5G0.5)C	7	41	62
FMC810.05.12	(12G0.5)C	9	91	122
FMC810.05.18	(18G0.5)C	11	136	174
FMC810.05.25	(25G0.5)C	13	210	234
FMC810.07.02	(2×0.75)C	6.5	30	48
FMC810.07.03	(3G0.75)C	7	37	63
FMC810.07.04	(4G0.75)C	7.5	46	68
FMC810.07.05	(5G0.75)C	8	61	85
FMC810.07.07	(7G0.75)C	9	83	109
FMC810.07.12	(12G0.75)C	10.5	124	166
FMC810.07.18	(18G0.75)C	12	183	232
FMC810.07.25	(25G0.75)C	14.5	222	299
FMC810.10.02	(2×1.0)C	6.5	30	50
FMC810.10.03	(3G1.0)C	7	46	71
FMC810.10.04	(4G1.0)C	7.5	63	98
FMC810.10.05	(5G1.0)C	8	76	105
FMC810.10.07	(7G1.0)C	9.5	100	126
FMC810.10.12	(12G1.0)C	11.5	167	224
FMC810.10.18	(18G1.0)C	13	213	276
FMC810.10.25	(25G1.0)C	16	291	382
FMC810.15.02	(2×1.5)C	7.5	60	69
FMC810.15.03	(3G1.5)C	7.5	63	85
FMC810.15.04	(4G1.5)C	8.5	90	108
FMC810.15.05	(5G1.5)C	9	94	129
FMC810.15.07	(7G1.5)C	11	153	177
FMC810.15.12	(12G1.5)C	13	212	276
FMC810.15.25	(25G1.5)C	18.5	425	560
FMC810.25.04	(4G2.5)C	10	141	157
FMC810.25.05	(5G2.5)C	11	149	192
FMC810.25.07	(7G2.5)C	13	204	255

Note: The outer diameters are reference values.

G: With green-yellow earth core







x: Without earth core

FMC900 Control cables






CSB® FLEXMOV® FMC900

- TPE outer jacket
- Oil and bio-oil-resistant
- Indoor and outdoor applications
- Resistant to hydrolysis and microbes
- Low-temperature-flexibility
- PVC and halogen-free

Dynamic Information

	Min. bending radius	Moving in cable carriers	5 x d
		Flexible moving	4 x d
		Fixed installation	3 x d
	Temperature	Moving in cable carriers	-35°C to +100°C
		Flexible moving	-50°C to +100°C
		Fixed installation	-55°C to +100°C
	v max.	Unsupported	10 m/s
		Gliding	6 m/s
	a max.	100 m/s ²	
	Travel distance	Unsupported travel distances and for gliding applications up to 400 m and more	
	Torsion	±90°/m	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length.
		Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Cross-sectional < 0.75 mm ² : Color code in accordance with DIN 47100
		Cross-sectional ≥ 0.75 mm ² : Black with white numbers, one conductor green-yellow
		FMC900.02.03.INI: brown, blue, black
		FMC900.03.04.INI: brown, blue, black, white
		FMC900.03.05.INI: brown, blue, black, white, green-yellow
FMC900.03.16.07.03.INI:	0.34mm ² : violet/red/grey/red-blue, green/grey-pink/white-green/white-yellow, white-grey/black/yellow-brown/brown-green, white/yellow/pink/grey-brown	
	0.75mm ² : blue/green-yellow/brown	
	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in cable carriers. Color: Steel blue RAL 5011	
	Outer jacket	

Electrical Information

	Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
	Test voltage	2000 V (following EN50395)

Properties and approvals

	UV-resistance	High
	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 UL22187, 600V, 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	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

FMC900 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC900.02.02	2×0.25	4.5	6.0	18.0
FMC900.02.03.INI	3×0.25	4.5	9.0	22.0
FMC900.02.06	6×0.25	5.5	16.0	36.0
FMC900.02.07	7×0.25	6.5	18.0	42.0
FMC900.02.08	8×0.25	6.5	21.0	48.0
FMC900.02.12	12×0.25	8.0	31.0	71.0
FMC900.02.18	18×0.25	9.0	46.0	100.0
FMC900.02.20	20×0.25	9.5	50.0	108.0
FMC900.02.25	25×0.25	10.5	63.0	137.0
FMC900.03.04.INI	4×0.34	5.0	15.0	31.0
FMC900.03.05.INI	5×0.34	5.5	18.0	37.0
FMC900.03.06	6×0.34	6.0	21.0	42.0
FMC900.03.08	8×0.34	7.0	29.0	56.0
FMC900.03.16.07.03.INI	16×0.34+3×0.75	11.0	77.0	152.0
FMC900.05.02	2×0.5	5.0	11.0	26.0
FMC900.05.03	3×0.5	5.0	16.0	32.0
FMC900.05.04	4×0.5	5.5	21.0	39.0
FMC900.05.05	5×0.5	6.0	25.0	47.0
FMC900.05.07	7×0.5	7.0	36.0	65.0
FMC900.05.12	12×0.5	10.0	61.0	115.0
FMC900.05.18	18×0.5	11.5	91.0	169.0
FMC900.05.25	25×0.5	13.0	124.0	223.0
FMC900.05.36	36×0.5	15.5	179.0	316.0
FMC900.07.04	4G0.75	6.0	31.0	55.0
FMC900.07.05	5G0.75	6.5	38.0	65.0
FMC900.07.07	7G0.75	8.0	54.0	90.0
FMC900.07.12	12G0.75	10.5	91.0	162.0
FMC900.07.20	20G0.75	13.0	149.0	253.0
FMC900.07.25	25G0.75	14.5	186.0	315.0
FMC900.10.03	3G1.0	6.0	31.0	52.0
FMC900.10.04	4G1.0	6.5	41.0	67.0
FMC900.10.05	5G1.0	7.5	50.0	81.0
FMC900.10.12	12G1.0	11.5	120.0	203.0
FMC900.10.18	18G1.0	14.0	179.0	297.0
FMC900.10.25	25G1.0	16.5	248.0	420.0

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC900.15.02	2×1.5	6.5	31.0	56.0
FMC900.15.04	4G1.5	7.5	61.0	92.0
FMC900.15.05	5G1.5	8.0	76.0	110.0
FMC900.15.07 ^{⑦)}	7G1.5	9.5	107.0	157.0
FMC900.15.12	12G1.5	13.5	179.0	284.0
FMC900.15.18	18G1.5	16.5	268.0	422.0
FMC900.15.25	25G1.5	20.0	371.0	600.0
FMC900.15.36	36G1.5	23.5	530.0	847.0
FMC900.25.04	4G2.5	8.5	100.0	151.0
FMC900.25.05	5G2.5	10.0	124.0	186.0
FMC900.25.07 ^{⑦)}	7G2.5	12.0	176.0	269.0
FMC900.25.12	12G2.5	17.5	297.0	492.0
FMC900.25.16	16G2.5	19.5	396.0	654.0
FMC900.25.18 ^{⑧)}	18G2.5	22.5	445.0	766.0
FMC900.25.25	25G2.5	23.5	612.0	980.0
FMC900.40.04	4G4.0	10.5	159.0	227.0
FMC900.60.04	4G6.0	12.5	238.0	317.0
FMC900.60.05	5G6.0	13.5	297.0	389.0
FMC900.100.04	4G10	16.5	396.0	549.0
FMC900.160.04	4G16	20.5	628.0	873.0

⑦) When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

⑧) Nominal voltage: 600/1000V

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC901 Control cables



- TPE outer jacket
- Flame-retardant
- UV-resistance
- Oil and bio-oil-resistant
- Resistant to hydrolysis and microbes
- Low-temperature-flexibility
- PVC free

Dynamic Information

	Min. bending radius	Moving in cable carriers	5 x d
		Flexible moving	4 x d
		Fixed installation	3 x d
	Temperature	Moving in cable carriers	-35°C to +100°C
		Flexible moving	-45°C to +100°C
		Fixed installation	-50°C to +100°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 for gliding applications	
	Torsion	±90°/m	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Cross-sectional < 0.75 mm ² : Color code in accordance with DIN 47100 Cross-sectional ≥ 0.75 mm ² : Black with white numbers, one conductor green-yellow FMC901.02.03.INI: brown, blue, black FMC901.03.04.INI: brown, blue, black, white FMC901.03.05.INI: brown, blue, black, white, green-yellow
	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: Slate grey RAL 7015

Electrical Information

	Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
	Test voltage	2000 V (following EN50395)

Properties and approvals

	UV-resistance	High
	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
	REACH	Accordding 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 UL22187, 600V, 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	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

FMC901 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC901.02.02	2×0.25	5	6	28
FMC901.02.03.INI	3×0.25	5.5	9	32
FMC901.02.04	4×0.25	5.5	11	37
FMC901.02.06	6×0.25	6.5	16	48
FMC901.02.08	8×0.25	7.5	21	64
FMC901.02.12	12×0.25	8.5	31	93
FMC901.03.04.INI	4×0.34	6	15	43
FMC901.03.05.INI	5×0.34	6.5	18	49
FMC901.03.06	6×0.34	6.5	21	55
FMC901.03.08	8×0.34	7.5	29	74
FMC901.05.02	2×0.5	6	11	43
FMC901.05.03	3×0.5	6.5	16	50
FMC901.05.04	4×0.5	7	21	59
FMC901.05.05	5×0.5	7.5	25	68
FMC901.05.07	7×0.5	8.5	36	93
FMC901.05.12	12×0.5	11.5	61	167
FMC901.05.18	18×0.5	13.5	91	233
FMC901.07.05	5G0.75	8	38	93
FMC901.07.07	7G0.75	9.5	54	127
FMC901.07.12	12G0.75	13	91	226
FMC901.07.25	25G0.75	17	186	416
FMC901.10.03	3G1.0	7.5	31	77
FMC901.10.04	4G1.0	8	41	94
FMC901.10.12	12G1.0	14	120	273
FMC901.10.18	18G1.0	16.5	179	396
FMC901.10.25	25G1.0	18.5	248	512
FMC901.15.04	4G1.5	9	61	121
FMC901.15.05	5G1.5	9.5	75	144
FMC901.15.07 ^{②)}	7G1.5	11.5	105	199
FMC901.15.12	12G1.5	16	179	369
FMC901.15.18	18G1.5	19	268	529
FMC901.15.25	25G1.5	22	371	722
FMC901.25.04	4G2.5	10.5	100	186
FMC901.25.05	5G2.5	11	124	219
FMC901.25.07 ^{②)}	7G2.5	13.5	174	301
FMC901.25.12	12G2.5	19	297	600
FMC901.25.18	18G2.5	24	445	850
FMC901.25.25	25G2.5	27	612	1132
FMC901.40.04	4G4.0	12	159	270

②) When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC905 Control cables



- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- UV-resistance
- Resistant to hydrolysis and microbes
- PVC and halogen-free
- Low-temperature-flexibility



Dynamic Information

	Min. bending radius	Moving in cable carriers	5 x d
		Flexible moving	4 x d
		Fixed installation	3 x d
	Temperature	Moving in cable carriers	-35°C to +100°C
		Flexible moving	-50°C to +100°C
		Fixed installation	-55°C to +100°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 for gliding applications	












Cable structure

	Conductor	Conductor consisting of bare copper wires (according to EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Cross -sectional < 0.75mm ² : Color code in accordance with DIN 47100 Cross -sectional ≥ 0.75 mm ² : Black with white numbers, one conductor green-yellow FMC905.03.05.INI: brown, blue, black, white, green-yellow
	Inner jacket	TPE mixture 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: Steel blue RAL 5011

Electrical Information

 Nominal voltage	U ₀ /U: 300/500 V (following VDE0298-3)
 Test voltage	2000 V (following EN50395)

Properties and approvals

 UV-resistance	High
 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 UL22187, 600V, 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	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

FMC905 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC905.01.12	(12×0.14)C	8	38	78
FMC905.01.18	(18×0.14)C	9.5	64	121
FMC905.02.04	(4×0.25)C	6.5	24	49
FMC905.02.08	(8×0.25)C	8	40	78
FMC905.02.12	(12×0.25)C	9.5	66	122
FMC905.02.25	(25×0.25)C	12.5	112	212
FMC905.03.05.INI	(5×0.34)C	7	34	63
FMC905.05.04	(4×0.5)C	7	37	67
FMC905.05.05	(5×0.5)C	7.5	43	76
FMC905.05.07	(7×0.5)C	8.5	57	99
FMC905.05.12	(12×0.5)C	11.5	106	185
FMC905.05.18	(18×0.5)C	13.5	144	251
FMC905.05.25	(25×0.5)C	15	186	318
FMC905.07.04	(4G0.75)C	7.5	48	83
FMC905.07.05	(5G0.75)C	8	58	95
FMC905.07.07	(7G0.75)C	9.5	89	140
FMC905.07.12	(12G0.75)C	12	136	230
FMC905.07.20	(20G0.75)C	15	212	345
FMC905.07.25	(25G0.75)C	16	253	420
FMC905.10.02	(2×1.0)C	7.5	37	70
FMC905.10.03	(3G1.0)C	7.5	48	80
FMC905.10.04	(4G1.0)C	8	61	99
FMC905.10.05	(5G1.0)C	8.5	70	116
FMC905.10.07	(7G1.0)C	10	109	170
FMC905.10.12	(12G1.0)C	13.5	175	286
FMC905.10.18	(18G1.0)C	15.5	246	391
FMC905.10.25	(25G1.0)C	18	322	520
FMC905.15.04	(4G1.5)C	9	94	142
FMC905.15.05	(5G1.5)C	10	112	166
FMC905.15.07 ⁽⁷⁾	(7G1.5)C	11.5	149	231
FMC905.15.12	(12G1.5)C	15.5	243	383
FMC905.15.18	(18G1.5)C	19	372	579
FMC905.25.04	(4G2.5)C	11	140	220
FMC905.25.07 ⁽⁷⁾	(7G2.5)C	13.5	228	347
FMC905.25.12	(12G2.5)C	19.5	375	619
FMC905.40.04	(4G4.0)C	12.5	208	305
FMC905.40.05	(5G4.0)C	13.5	254	370

⁽⁷⁾ When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC907 Control cables



- For twistable applications requirements
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic Information

	Min. bending radius	Moving in cable carriers	6.8 x d
		Flexible moving	5 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.	80 m/s ²	
	Travel distance	Unsupported travels and up to 100 m for gliding applications	
	Torsion	±180°/m	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Cross-sectional < 0.5 mm ² : Color code in accordance with DIN 47100 Cross-sectional ≥ 0.5 mm ² : Black cores with white numbers, one green-yellow core. FMC907.02.03.INI: brown, blue, black FMC907.03.04.INI: brown, blue, black, white FMC907.03.05.INI: brown, blue, black, white, green-yellow
	Outer jacket	Low-adhesion mixture on the basis of PUR, adapted to suit the requirements in cable carriers (following DIN EN 50363-10-2). Color: Grey RAL 7001

Electrical Information

	Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
	Test voltage	2000 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 UL20234, 600V, 80°C

Guaranteed service life

Temperature, from/to [°C]	Double strokes		5 million times		7.5 million times		10 million times				
			< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m			
	R min.	[factor x d]	R min.	[factor x d]	R min.	[factor x d]	R min.	[factor x d]			
-25/-15	8.5		10		9.5		11		10.5		12
-15/+70	6.8		7.5		7.5		8.5		8.5		9.5
+70/+80	8.5		10		9.5		11		10.5		12

FMC907 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC907.02.03.INI	3×0.25	5.0	9.0	29.0
FMC907.02.04	4×0.25	5.5	11.0	35.0
FMC907.02.05	5×0.25	6.0	13.0	39.0
FMC907.02.07	7×0.25	6.5	18.0	51.0
FMC907.02.12	12×0.25	9.0	32.0	78.0
FMC907.02.18	18×0.25	10.5	47.0	127.0
FMC907.02.25	25×0.25	11.5	63.0	155.0
FMC907.03.04.INI	4×0.34	6.0	16.0	39.0
FMC907.03.05.INI	5×0.34	6.0	17.0	35.0
FMC907.05.04	4G0.5	6.0	21.0	46.0
FMC907.05.05	5G0.5	6.5	26.0	53.0
FMC907.05.07	7G0.5	7.5	39.0	78.0
FMC907.05.12	12G0.5	10.0	63.0	130.0
FMC907.05.18	18G0.5	12.0	94.0	184.0
FMC907.05.25	25G0.5	14.0	129.0	243.0
FMC907.05.30	30G0.5	15.0	155.0	315.0
FMC907.07.03	3G0.75	6.5	23.0	52.0
FMC907.07.04	4G0.75	7.0	31.0	59.0
FMC907.07.05	5G0.75	7.5	38.0	71.0
FMC907.07.07	7G0.75	8.5	54.0	100.0
FMC907.07.12	12G0.75	12.0	91.0	180.0
FMC907.07.18	18G0.75	13.5	134.0	239.0
FMC907.07.20	20G0.75	14.5	149.0	269.0
FMC907.07.25	25G0.75	16.0	186.0	336.0
FMC907.07.36	36G0.75	19.0	279.0	506.0
FMC907.07.42	42G0.75	21.0	341.0	580.0
FMC907.10.02	2×1.0	6.5	21.0	51.0
FMC907.10.03	3G1.0	6.5	31.0	58.0
FMC907.10.04	4G1.0	7.0	41.0	73.0
FMC907.10.05	5G1.0	8.0	50.0	90.0
FMC907.10.07	7G1.0	9.0	71.0	120.0
FMC907.10.12	12G1.0	12.5	120.0	220.0
FMC907.10.18	18G1.0	15.0	179.0	314.0
FMC907.10.25	25G1.0	17.5	248.0	431.0
FMC907.10.42	42G1.0	22.5	433.0	699.0

FMC907

www.csb-ep.com
sales@csb-ep.com

Tel: 0086 573 84187009

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC907.15.03	3G1.5	7.0	46.0	71.0
FMC907.15.04	4G1.5	7.5	61.0	88.0
FMC907.15.05	5G1.5	8.0	75.0	105.0
FMC907.15.07 ^{⑦)}	7G1.5	9.5	105.0	152.0
FMC907.15.12	12G1.5	13.0	179.0	297.0
FMC907.15.18	18G1.5	17.0	268.0	405.0
FMC907.15.25	25G1.5	19.5	297.0	564.0
FMC907.15.36	36G1.5	23.5	551.0	848.0
FMC907.25.03	3G2.5	8.5	75.0	132.0
FMC907.25.04	4G2.5	9.5	95.0	167.0
FMC907.25.05	5G2.5	10.0	124.0	196.0
FMC907.25.07 ^{⑦)}	7G2.5	12.0	174.0	270.0
FMC907.25.12	12G2.5	17.0	297.0	479.0
FMC907.40.04 ^{⑧)}	4G4.0	11.5	165.0	245.0
FMC907.40.05 ^{⑧)}	5G4.0	12.0	198.0	284.0
FMC907.60.05 ^{⑧)}	5G6.0	13.5	297.0	412.0
FMC907.160.05	5G16	22.5	845.0	1098.0

⑦) When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

⑧) Torsion ±90°

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC912 Control cables



- TPE outer jacket
- Shielded
- Flame resistance
- Oil and bio-oil-resistant
- UV-resistance
- Resistant to hydrolysis and microbes
- PVC free
- Low-temperature-flexibility

FMC912

www.csb-ep.com
sales@csb-ep.com

Tel: 0086 573 84187009

Dynamic Information

	Min. bending radius	Moving in cable carriers	5 x d
		Flexible moving	4 x d
		Fixed installation	3 x d
	Temperature	Moving in cable carriers	-35°C to +100°C
		Flexible moving	-45°C to +100°C
		Fixed installation	-50°C to +100°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 for gliding applications	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Cross-sectional < 0.75mm ² : Color code in accordance with DIN 47100 Cross-sectional ≥ 0.75 mm ² : Black with white numbers, one conductor green-yellow
	Inner jacket	TPE mixture 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: Slate grey RAL 7015

Electrical Information

	Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
	Test voltage	2000 V (following EN50395)

Properties and approvals

	UV-resistance	High
	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
	REACH	Accordding 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 UL22187, 600V, 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	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

FMC912 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC912.02.04	(4×0.25)C	7	26	67
FMC912.02.08	(8×0.25)C	9	39	102
FMC912.02.12	(12×0.25)C	10.5	66	155
FMC912.02.25	(25×0.25)C	13	112	252
FMC912.05.04	(4×0.5)C	8.5	39	96
FMC912.05.05	(5×0.5)C	8.5	39	96
FMC912.05.12	(12×0.5)C	13	110	254
FMC912.05.25	(25×0.5)C	16.5	191	396
FMC912.07.04	(4G0.75)C	9	51	119
FMC912.07.05	(5G0.75)C	10	71	149
FMC912.07.07	(7G0.75)C	10	94	194
FMC912.07.12	(12G0.75)C	14.5	148	324
FMC912.07.20	(20G0.75)C	17	220	467
FMC912.07.25	(25G0.75)C	19.5	288	593
FMC912.10.02	(2×1.0)C	8.5	40	102
FMC912.10.03	(3G1.0)C	9	50	117
FMC912.10.04	(4G1.0)C	10	74	151
FMC912.10.05	(5G1.0)C	10.5	87	174
FMC912.10.07	(7G1.0)C	12	110	189
FMC912.15.04	(4G1.5)C	10.5	98	186
FMC912.15.05	(5G1.5)C	11.5	116	214
FMC912.15.07 ^{⑦)}	(7G1.5)C	13	154	278
FMC912.15.12	(12G1.5)C	17.5	251	497
FMC912.15.18	(18G1.5)C	21.5	387	732
FMC912.25.04	(4G2.5)C	12	145	258
FMC912.25.07 ^{⑦)}	(7G2.5)C	15	234	423
FMC912.25.12	(12G2.5)C	21.5	417	796
FMC912.40.04	(4G4.0)C	13.5	213	362

⑦) When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core

FMC918 Control cables



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



Dynamic Information

	Min. bending radius	Moving in cable carriers	6.8 x d
		Flexible moving	5 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.	80 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	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Black cores with white numbers, one green-yellow core.
	Inner jacket	TPE mixture adapted to suit the requirements in cable carriers.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55 %, optical approx. 80 %
	Outer jacket	Low-adhesion mixture on the basis of PUR, adapted to suit the requirements in cable carriers (following DIN EN 50363-10-2). Color: Grey RAL 7001

Electrical Information

 Nominal voltage	U_0/U : 300/500 V (following VDE0298-3)
 Test voltage	2000 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 UL20234, 600V, 80°C

Guaranteed service life

Temperature, from/to [°C]	5 million times		7.5 million times		10 million times	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	8.5	10	9.5	11	10.5	12
-15/+70	6.8	7.5	7.5	8.5	8.5	9.5
+70/+80	8.5	10	9.5	11	10.5	12

FMC918 Control cables

Part No.	Number of cores and conductor nominal cross-section [mm]	Outer diameter [mm]	Copper index [kg/km]	Weight [kg/km]
FMC918.05.04	(4G0.5)C	8	38	77
FMC918.05.05	(5G0.5)C	8	45	91
FMC918.05.07	(7G0.5)C	9.5	59	115
FMC918.05.09	(9G0.5)C	11	77	143
FMC918.05.12	(12G0.5)C	12.5	92	202
FMC918.05.18	(18G0.5)C	14.5	146	248
FMC918.05.25	(25G0.5)C	16	168	354
FMC918.07.03	(3G0.75)C	8	42	79
FMC918.07.04	(4G0.75)C	8.5	49	96
FMC918.07.05	(5G0.75)C	9.5	61	112
FMC918.07.07	(7G0.75)C	10.5	83	151
FMC918.07.12	(12G0.75)C	13.5	136	249
FMC918.07.18	(18G0.75)C	15.5	194	354
FMC918.07.36	(36G0.75)C	22	390	702
FMC918.10.03	(3G1.0)C	8.5	50	96
FMC918.10.04	(4G1.0)C	9	62	112
FMC918.10.05	(5G1.0)C	9.5	74	129
FMC918.10.07	(7G1.0)C	11	104	176
FMC918.10.12	(12G1.0)C	14.5	166	300
FMC918.10.18	(18G1.0)C	17	240	407
FMC918.10.25	(25G1.0)C	20	325	545
FMC918.15.03	(3G1.5)C	9.5	68	122
FMC918.15.04	(4G1.5)C	10	86	145
FMC918.15.05	(5G1.5)C	9.5	108	159
FMC918.15.07 ^{⑦)}	(7G1.5)C	11.5	144	217
FMC918.15.12	(12G1.5)C	16	233	387
FMC918.15.18	(18G1.5)C	19	346	541
FMC918.15.25	(25G1.5)C	22.5	464	724
FMC918.15.36	(36G1.5)C	26.5	663	1095
FMC918.15.42	(42G1.5)C	29.5	820	1296
FMC918.25.03	(3G2.5)C	10	106	174
FMC918.25.04	(4G2.5)C	11.5	140	203
FMC918.25.05	(5G2.5)C	12	166	235
FMC918.25.07 ^{⑦)}	(7G2.5)C	14.5	230	334
FMC918.25.12	(12G2.5)C	19	382	585
FMC918.40.04	(4G4.0)C	13	203	328

⑦) When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The outer diameters are reference values.

G: With green-yellow earth core

x: Without earth core