Red Alert® Type MC-FPL Fire Alarm and Control

Copper THHN/THWN or TFN or TFFN Insulated Copper Singles. Type TFN Insulated Copper Singles. Green Insulated Copper Grounding Conductor. UL Listed as Type MC and Type FPL. 600 Volt Type MC and 300 Volt Type FPL. Red Lightweight Aluminum Interlocked Armor.

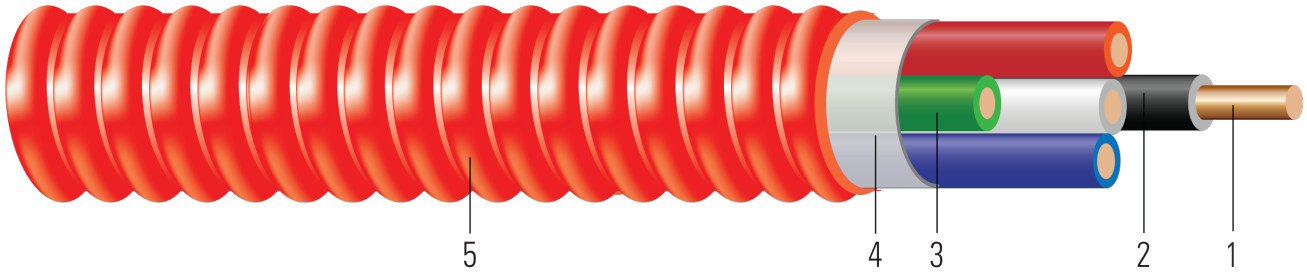

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Solid or stranded copper per ASTM B3 and ASTM B8 or B174
2. **Insulation:** All phases are insulated with Polyvinyl Chloride with Nylon Sheath Type THHN/THWN for 10, 14, 12, 16 and 18 AWG
3. **Ground:** Green insulated ground. Polyvinyl Chloride with Nylon Sheath Type TFN or TFFN
4. **Binder:** Mylar tape
5. **Armor:** Red Aluminum Interlocked Armor

APPLICATIONS AND FEATURES:

Southwire Red Alert® Type MC-FPL Cable is suitable for use as follows:

- Wiring in Plenums, Ducts or Other Spaces Used for Environmental Air-Handling Purposes per NEC 300.22(C) & 760.135(C).
- Power-Limited and Non-Power Limited fire alarm circuits, including smoke detectors, bells, horns, fire alarm control panel equipment, and initiation and signaling devices.
- Class 1, Class 2, and Class 3 remote control, signaling, and power-limited circuits.
- Power, lighting, control, and signal circuits.
- Fished or embedded in plaster.
- Concealed or exposed installations.
- Places of Assembly per NEC 518.4 and theaters per NEC 520.5.
- Installation in cable tray and approved raceways.
- Under raised floors for information technology equipment conductors and cables per NEC 645.5(D) & 645.5(E)
- Class I Div. 2, Class II Div 2, & Class III Div. 1 Hazardous Locations.
- Binder tape with print legend wrapped around assembly.
- Rated at 600V, 90°C dry as Type MC or 300V, 90°C dry as Type FPL.
- Anti-short bushings are not required for use with MC cable per NEC and UL.

Southwire Red Alert® Type MC-FPL Cable - meets or exceeds the following requirements:

- UL Online Product Guide Info - Metal-Clad Cable (PJAZ) (www.ul.com)
- Federal Specification A-A59544 (formerly J-C-30B)
- NFPA 70 (National Electrical Code), Article 330
- Listed for use in UL 1, 2 and 3 Hour Through Penetration Firestop Systems

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SPECIFICATIONS:

- UL 1424 Cables for Power-Limited Fire-Alarm Circuits
- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B174 Standard Specification for Bunch-Stranded Copper
- UL 66 Fixture Wire
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1569 Metal-Clad Cables
- UL 1479 Standard for Safety Fire Tests of Penetration Firestops
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- Buy American: Compliant with Buy American Requirements, found in 49 U.S.C. § 5323(j); specify “Made in the USA Only!” when ordering to ensure your project receives American made products.

SAMPLE PRINT LEGEND:

SOUTHWIRE E96627 XX AWG MC 600V {UL} TYPE (THHN OR TFFN) INSULATED CONDUCTORS OR TYPE FPL {UL} 90°C DRY-FOR USE IN CABLE TRAYS

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Conductor Number	Color	Diameter Over Conductor	Conductor Stranding	Insulation Thickness	Diameter Over Armor	Copper Weight	Overall Weight
	AWG/ Kcmil			inch		mils	inch	lbs/1000ft	lbs/ 1000ft
18 AWG | Solid									
677747	18	2	BK/WE/BK/WE/GN	0.04	Solid	20	0.393	15	59
554686	18	2	BK/RD/GN	0.04	Solid	20	0.396	15	60
554686	18	2	BK/WE/GN	0.04	Solid	20	0.396	15	60
554686	18	2	BK/WE/GN	0.04	Solid	20	0.396	15	60
554687	18	4	/GN	0.04	Solid	20	0.44	25	79
554687	18	4	BK/BE/YW/GN	0.04	Solid	20	0.44	25	79
553124	18	6	BK/BN/OE/RD/BE/YW/GY/WE/ GN	0.04	Solid	20	0.459	35	95
553125	18	8	BK/RD/BE/WE/BN/YW/GN	0.04	Solid	20	0.515	45	115
553125	18	8	BK/BN/OE/RD/BE/YW/GY/WE/ GN	0.04	Solid	20	0.515	45	115
677747◊	18	2	BK,RD,GN	0.040	Solid	20	0.391		59
554686◊	18	2	BK,WE,GN	0.040	Solid	20	0.391		59
554687◊	18	4	BK,RD,BE,WE,GN	0.040	Solid	20	0.434		78
553124◊	18	6	BK,BN,RD,BE,YW,WE,GN	0.040	Solid	20	0.459		95
553125◊	18	8	BK,BN,OE,RD,BE,YW,GY,WE,GN	0.040	Solid	20	0.507		115
16 AWG | Solid									
554688	16	2	BK/RD/GN	0.05	Solid	20	0.419	24	72
586569	16	2	BK/WE/RD/BE	0.05	Solid	20	0.504	24	84
586569	16	2	YW,PE,GN	0.05	Solid	20	0.621	23	100
589152	16	2	BE,WE,GN	0.05	Solid	20	0.399	23	70
589152	16	2	BK/WE/GN /RD/BE	0.05	Solid	20	0.419	24	72
138226	16	2	RD/BE/GN	0.05	Solid	20	0.419	24	72
138291	16	2	BK/RD/GN	0.05	Solid	20	0.419	24	72
554688	16	2	BE/WE/GN	0.05	Solid	20	0.419	24	72
554689	16	4	BN/OE/YW/BE/GN	0.05	Solid	20	0.469	39	99
554689	16	4	BK/RD/GN	0.05	Solid	20	0.469	39	99
553128	16	6	BK/RD/GN	0.05	Solid	20	0.496	55	123
553128	16	6	BK/RD/BE/WE/BN/YW/GN	0.05	Solid	20	0.496	55	123
554688◊	16	2	BK,WE,GN	0.050	Solid	20	0.414		72
554689◊	16	4	BK,RD,BE,WE,GN	0.050	Solid	20	0.463		98
553128◊	16	6	BK,RD,BE,WE,BN,YW,GN	0.050	Solid	20	0.490		122
14 AWG | Solid									
554690◊	14	2	BK,WE,GN	0.064	Solid	20	0.451		92
138228	14	2	RD/BE/GN	0.064	Solid	20	0.451	38	92
138293	14	2	BN/OE/GN	0.064	Solid	20	0.451	38	92
138295	14	2	GY/YW/GN	0.064	Solid	20	0.451	38	92
554537	14	2	BK/RD/GN	0.064	Solid	20	0.451	38	92
554537	14	2	BE/WE/GN	0.064	Solid	20	0.451	38	92
554538	14	2	BE/WE/GN	0.064	Solid	20	0.451	38	92

Stock Number	Cond. Size	Conductor Number	Color	Diameter Over Conductor	Conductor Stranding	Insulation Thickness	Diameter Over Armor	Copper Weight	Overall Weight
	AWG/ Kcmil			inch		mils	inch	lbs/1000ft	lbs/ 1000ft
554538	14	2	BK/RD/BE/WE/GN	0.064	Solid	20	0.451	38	92
554690	14	2	BK/WE	0.064	Solid	20	0.451	38	92
554690	14	2	BK/WE	0.064	Solid	20	0.451	38	92
554690	14	2	BK/WE	0.064	Solid	20	0.451	38	92
554537◊	14	2	BK,RD,GN	0.064	Solid	20	0.451		92
554538	14	2	BE,WE,GN	0.064	Solid	20	0.432	37	90
554539◊	14	4	BK,RD,BE,WE,GN	0.064	Solid	20	0.509		131
554539	14	4	BK/RD/BE/WE/GN	0.064	Solid	20	0.504	63	129
554539	14	4	BK/WE/GN	0.064	Solid	20	0.504	63	129
665797	14	4		0.064	Solid	20	0.504	63	129
14 AWG | 19 Strands									
555264	14	2	BK,WE,GN	0.07	19	20	0.449	38	94
641189	14	2	BK,WE,GN	0.07	19	20	0.468	38	149
555264	14	2	BK/WE/RD/BE	0.073	19	20	0.468	38	97
555264	14	2	BK/WE/RD/BE	0.073	19	20	0.468	38	97
641181	14	2	BN/OE/GN /RD/BE	0.073	19	20	0.468	38	97
559605	14	3	BK/WE/GN /BK/WE	0.073	19	20	0.497	51	117
12 AWG | Solid									
554540	12	2	BK/WE/GN	0.08	Solid	20	0.484	60	120
554540	12	2	BK/RD/BE/WE/GN	0.08	Solid	20	0.484	60	120
554541	12	4	BK/WE/GN	0.08	Solid	20	0.55	100	175
554541	12	4	BK/RD/BE/WE/GN	0.08	Solid	20	0.55	100	175
554540◊	12	2	BK,WE,GN	0.080	Solid	20	0.487		121
554541◊	12	4	BK,RD,BE,WE,GN	0.080	Solid	20	0.554		179
12 AWG | 19 Strands									
555814	12	2	BK,RD,GN	0.088	19	20	0.504	60	124
555814	12	2	BK/WE/RD/BE	0.09	19	20	0.505	60	125
16 AWG | Solid									
641527◊	16	8	BK,WE,RD,BE,BN,YW,OE,GY	0.050	Solid	20	0.536		137
16 AWG | 26 Strands									
573267◊	16	2	BK,WE,GN	0.058	26	20	0.436		76
14 AWG | 19 Strands									
559605◊	14	3	BK,BE,YW,GN	0.073	19	20	0.497		117
12 AWG | 19 Strands									
557329◊	12	2	BE,WE,GN	0.090	19	20	0.509		126
10 AWG | 19 Strands									
583397◊	10	4	BN,OE,YW,GY,GN	0.117	19	25	0.679		275

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
Note: Conductor number = number of phase conductors. Does not include ground
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

Table 2 – Electrical and Engineering Data

Cond. Size	Conductor Number	Min. Bend Radius	DC Resistance at 25°C	AC Resistance at 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity Raceway 75°C	Allowable Ampacity Raceway 90°C
AWG/ Kcmil		Inches	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
18 AWG | Solid							
18	2	2.8	6.67	8.04	0.04	-	14
18	2	2.8	6.67	8.04	0.04	-	14
18	2	2.8	6.67	8.04	0.04	-	14
18	2	2.8	6.67	8.04	0.04	-	14
18	4	3.1	6.67	8.04	0.04	-	11
18	4	3.1	6.67	8.04	0.04	-	11
18	6	3.2	6.67	8.04	0.04	-	11
18	8	3.6	6.67	8.04	0.04	-	9
18	8	3.6	6.67	8.04	0.04	-	9
18	2	2.7	6.670	8.270		-	18
18	2	2.7	6.670	8.270		-	18
18	4	3.0	6.670	8.270		-	14
18	6	3.2	6.670	8.270		-	14
18	8	3.5	6.670	8.270		-	12
16 AWG | Solid							
16	2	2.9	4.18	5.04	0.03	-	18
16	2	3.5	4.18	5.04	0.03	-	18
16	2	4.3	4.181	5.037	0.033	0	18
16	2	2.8	4.181	5.037	0.033	0	18
16	2	2.9	4.18	5.04	0.03	-	18
16	2	2.9	4.18	5.04	0.03	-	18
16	2	2.9	4.18	5.04	0.03	-	18
16	2	2.9	4.18	5.04	0.03	-	18
16	4	3.3	4.18	5.04	0.03	-	14
16	4	3.3	4.18	5.04	0.03	-	14
16	6	3.5	4.18	5.04	0.03	-	14
16	6	3.5	4.18	5.04	0.03	-	14
16	2	2.8	4.180	5.190		-	18
16	4	3.2	4.180	5.190		-	14
16	6	3.4	4.180	5.190		-	14
14 AWG | Solid							
14	2	3.2	2.580	3.170		20	25
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.63	3.17	0.06	20	25

Cond. Size	Conductor Number	Min. Bend Radius	DC Resistance at 25°C	AC Resistance at 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity Raceway 75°C	Allowable Ampacity Raceway 90°C
AWG/ Kcmil		Inches	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.63	3.17	0.06	20	25
14	2	3.2	2.580	3.170		20	25
14	2	3	2.631	3.17	0.058	20	25
14	4	3.6	2.580	3.170		16	20
14	4	3.5	2.63	3.17	0.06	16	20
14	4	3.5	2.63	3.17	0.06	16	20
14	4	3.5	2.63	3.17	0.06	16	20
14 AWG | 19 Strands							
14	2	3.1	2.631	3.17	0.058	20	25
14	2	4	2.631	3.17	0.058	20	25
14	2	3.3	2.63	3.17	0.06	20	25
14	2	3.3	2.63	3.17	0.06	20	25
14	2	3.3	2.63	3.17	0.06	20	25
14	3	3.5	2.63	3.17	0.06	20	25
12 AWG | Solid							
12	2	3.4	1.66	2	0.05	25	30
12	2	3.4	1.66	2	0.05	25	30
12	4	3.9	1.66	2	0.05	20	24
12	4	3.9	1.66	2	0.05	20	24
12	2	3.4	1.660	2.000		25	30
12	4	3.9	1.660	2.000		20	24
12 AWG | 19 Strands							
12	2	3.5	1.662	2.002	0.054	25	30
12	2	3.5	1.66	2	0.05	25	30
16 AWG | Solid							
16	8	3.7	4.180	5.190		-	18
16 AWG | 26 Strands							
16	2	3.0	4.180	5.190		-	18
14 AWG | 19 Strands							
14	3	3.5	2.630	3.170		20	25
12 AWG | 19 Strands							
12	2	3.6	1.660	2.000		25	30
10 AWG | 19 Strands							
10	4	4.8	1.020	1.250		28	32

***** Ampacities based upon 2023 NEC Table 310.16 and do not take into account the overcurrent protection limitations in NEC 240.4(D) of 15 Amps for 14 AWG CU, 20 Amps for 12 AWG CU, and 30 Amps for 10 AWG CU (independent of the conductor temperature rating and stranding if size is present in table). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.

***** Ampacities have been adjusted for more than Three Current-Carrying Conductors.