MC-PCS Duo™ Power & Control/Signal Cable 277/480V Colors

Copper THHN/THWN Insulated Singles. Green Insulated Copper Grounding Conductor. UL Listed. 600 Volts Rated VW-1. Lightweight Interlocked Armor. Signal: 16 AWG Copper TFN insulated singles.

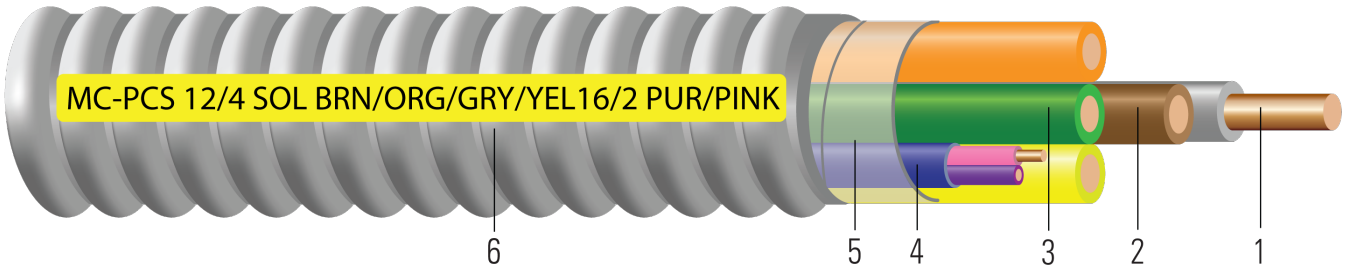

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Solid copper per ASTM B3 or 19-strand class C compressed copper and ASTM B3 and B8
2. **Insulation:** Polyvinyl Chloride with Nylon Sheath Type THHN/THWN
3. **Ground:** Green Polyvinyl Chloride with Nylon Sheath Type THHN/THWN insulated ground conductor
4. **Signal:** 16 AWG copper Type TFN insulated singles (pink and purple). Overall light blue jacket over the signal cables
5. **Binder:** Mylar tape
6. **Armor:** Aluminum Interlocked Armor

APPLICATIONS AND FEATURES:

Southwire MC PCS Duo™ Power & Control/Signal cable is suitable for use as follows:

- Branch, feeder and service power distribution in commercial, industrial, institutional, and multi-residential buildings
- Fished or embedded in plaster
- Concealed or exposed installations
- LED lighting with 0-10V dimming
- Environmental air-handling spaces per NEC 300.22 (C)
- 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
- Class I Div. 2, Class II Div 2, & Class III Div. 1 Hazardous Locations
- Binder tape with print legend wrapped around assembly
- Type THHN/THWN rated 90ºC dry
- Unjacketed Type MC cables are rated for dry, indoor locations only per NEC 330.10(A)(10)
- Anti-Short bushing not required

Southwire MC PCS Duo™ Type MC 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

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire

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- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 66 Fixture Wire Type TFN
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1569 Metal-Clad Cables
- UL 1479 Standard for Safety Fire Tests of Penetration Firestops
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray 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.
- VW-1 (Vertical-Wire) Flame Test

SAMPLE PRINT LEGEND:

SOUTHWIRE E96627 {UL} TYPE MC-PCS XX AWG THHN OR THWN AND 16 AWG TFN CDRS FOR USE IN CABLE TRAYS 600 VOLTS CONTAINS POWER AND/OR LIGHTING AS WELL AS SIGNAL AND/OR CONTROL CONDUCTORS

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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Conductor Number	Color	Diameter Over Conductor	Conductor Stranding	Insulation Thickness	Ground Size	Diameter Over Armor	Copper Weight	Overall Weight
	AWG/ Kcmil			inch		mils	No. x AWG	inch	lbs/1000ft	lbs/1000ft
14 AWG | SOLID Strands										
674763	14	2	BN,GY	0.064	SOLID	15	1x14	0.583	54	128
12 AWG | Solid										
672015◊	12	3	PE,YW,GY	0.080	Solid	20	1x12	0.650	95	181
672012◊	12	3	PE,BN,GY	0.080	Solid	20	1x12	0.650	95	181
12 AWG | SOLID Strands										
592247	12	2	OE,GY	0.081	SOLID	15	1x12	0.611	76	154
647520	12	2	YW,GY,GN	0.081	SOLID	15	1x12	0.608	76	218
597924	12	2	PE,GY,GN	0.081	SOLID	15	1x12	0.611	76	154
592245	12	2	BN,GY	0.081	SOLID	15	1x12	0.611	76	154
592249	12	2	YW,GY	0.081	SOLID	15	1x12	0.608	76	154
599473	12	3	OE,YW,GY,GN	0.081	SOLID	15	1x12	0.643	96	181
599470	12	3	BN,YW,GY,GN	0.081	SOLID	15	1x12	0.653	96	182
592253	12	3	BN,OE,GY	0.081	SOLID	15	1x12	0.653	96	182
12 AWG | 19 Strands										
596118	12	2	YW,GY,GN	0.089	19	15	1x12	0.628	76	158
596116	12	2	OE,GY,GN	0.089	19	15	1x12	0.63	76	158
591281	12	5	BN,WE	0.089	19	15	1x12	0.58	74	150
591279	12	5	BK,WE	0.089	19	15	1x12	0.58	74	150
10 AWG | SOLID Strands										
597501	10	2	YW,GY,GN	0.102	SOLID	20	1x10	0.67	109	199
597500	10	2	OE,GY,GN	0.102	SOLID	20	1x10	0.67	109	199
592257	10	2	BN,GY	0.102	SOLID	20	1x10	0.67	109	199
12 AWG | 19 Strands										
592261	12	2	BN,GY	0.09	19	15	1x12	0.63	76	158
592321	12	3	BN,OE,GY	0.09	19	15	1x12	0.677	96	188
10 AWG | 19 Strands										
643945	10	2	YW,GY	0.117	19	20	1x10	0.699	113	210
643943	10	2	OE,GY	0.117	19	20	1x10	0.699	113	210
643941	10	2	BN,GY	0.117	19	20	1x10	0.699	113	210

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 plus neutral. Does not include green 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.

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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
14 AWG | SOLID Strands							
14	2	4.1	2.631	3.265	0.058	20	25
12 AWG | Solid							
12	3	4.6	1.662	2.002	0.054	25	30
12	3	4.6	1.662	2.002	0.054	25	30
12 AWG | SOLID Strands							
12	2	4.3	1.662	2.063	0.054	25	30
12	2	4.3	1.662	2.063	0.054	25	30
12	2	4.3	1.662	2.063	0.054	25	30
12	2	4.3	1.662	2.063	0.054	25	30
12	2	4.3	1.662	2.063	0.054	25	30
12	3	4.5	1.662	2.063	0.054	25	30
12	3	4.6	1.662	2.063	0.054	25	30
12	3	4.6	1.662	2.063	0.054	25	30
12 AWG | 19 Strands							
12	2	4.4	1.662	2.063	0.054	25	30
12	2	4.4	1.662	2.063	0.054	25	30
12	5	4.1	1.662	2.063	0.054	20	24
12	5	4.1	1.662	2.063	0.054	20	24
10 AWG | SOLID Strands							
10	2	4.7	1.04	1.291	0.05	35	40
10	2	4.7	1.04	1.291	0.05	35	40
10	2	4.7	1.04	1.291	0.05	35	40
12 AWG | 19 Strands							
12	2	4.4	1.662	2.063	0.054	25	30
12	3	4.7	1.662	2.063	0.054	25	30
10 AWG | 19 Strands							
10	2	4.9	1.04	1.291	0.05	35	40
10	2	4.9	1.04	1.291	0.05	35	40
10	2	4.9	1.04	1.291	0.05	35	40

***** 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.

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