

Wire - THHN Type and MTW Type



THHN10GYL



THHN4BK



MTW16WH



MTW10WH

Applications

Type **THHN** building wire is intended for general purpose applications as defined by the National Electrical Code (NEC). It is appropriate for new construction or rewiring for 600-volt applications. When used as type THHN, the conductor is suitable for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C in oil or coolants. When used as type MTW, the conductor is suitable for use in dry locations at 90°C, or not to exceed 60°C in wet locations or where exposed to oils or coolants.

Type **MTW** conductors are primarily used in control cabinets, in machine tool applications and appliance wiring applications at temperatures -25°C to 90°C. They comply with the National Electrical Code (NEC) and NFPA Standard 79. Voltage rating for all applications is 600 volts.

THHN and MTW wire is sold in 500 foot spools; certain sizes are also available in 2500 foot reels.

Features

Conductors

- THHN: stranded, uncoated copper conductors per ASTM-B3, ASTM-B787 and ASTM-B8
- MTW: bare, annealed copper per ASTM-B3, -B8 and -B787

Insulation

Color-coded, Polyvinyl Chloride (PVC) heat- and moisture-resistant, flame-retardant compound per UL 1063 and UL 83

Jacket

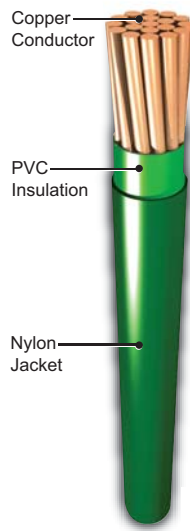
THHN wire has a tough, polyamide, Nylon outer covering per UL 1063 and UL 83. Slick Nylon outer jacket for easy pulling

Ratings

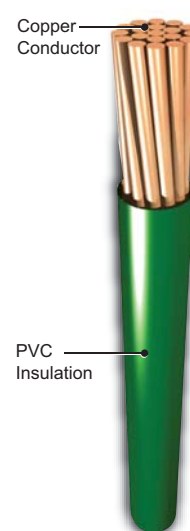
VW-1 rated 14 AWG - 1 AWG

1/0 AWG and larger is rated for CT (cable tray) use.

6 AWG and larger is rated for sunlight resistance in all colors. All sizes are rated "gasoline and oil resistant II."



THHN Type



MTW Type

Wire – MTW Type

PLC Overview

DL05/06 PLC

DL105 PLC

DL205 PLC

DL305 PLC

DL405 PLC

Field I/O

Software

C-more HMIs

Other HMI

AC Drives

Motors

Steppers/Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pushbuttons/Lights

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Type MTW Wire Specifications									
Size (AWG or kcmil)	Number of Strands	Cross-sectional Area (mm ²)	Insulation Thickness (inches) PVC	Overall Outside Diameter		Allowable Ampacities*†		Approximate Weight (lbs) 500'/2500'	Standard Packaging spool/reel
				(inches)	(mm)	60°C	75°C		
18	16	6.113	0.030	0.110	2.79	6	6	4.6/26.8	500' or 2500'. Some colors not offered in 2500' reel.
16	26	7.645	0.030	0.123	3.12	8	8	6.5/34.4	
14	19	8.814	0.030	0.132	3.35	15	15	9.0/46.8	
12	19	11.581	0.030	0.151	3.84	20	20	13.2/71.0	
10	19	21.319	0.030	0.205	5.21	30	30	20.9	

*Note: Allowable ampacity shown above is per the 2005 National Electrical Code. †Note: MTW conductor ampacity based on Cooper conductors with 60°C and 75°C as specified by NFPA79. The above data is approximate and subject to normal manufacturing tolerances.

Type MTW Wire							
Part Number	Color	Gauge	Description	Spool/Reel Length	Approx. Weight	Price	
MTW18BK	Black	18 AWG	Type MTW copper wire, 16 strands, 600 Volts	500'	4.6 lbs	<-->	
MTW18WH	White					<-->	
MTW18RD	Red					<-->	
MTW18BL	Blue					<-->	
MTW18GN	Green					<-->	
MTW18YL	Yellow					<-->	
MTW18OR	Orange					<-->	
MTW18BN	Brown					<-->	
MTW18PK	Pink					<-->	
MTW18PL	Purple					<-->	
MTW18GY	Gray					<-->	
MTW18TN	Tan					<-->	
MTW18BW	Blue/White					<-->	
MTW16BK	Black					16 AWG	Type MTW copper wire, 26 strands, 600 Volts
MTW16WH	White	<-->					
MTW16RD	Red	<-->					
MTW16BL	Blue	<-->					
MTW16GN	Green	<-->					
MTW16YL	Yellow	<-->					
MTW16OR	Orange	<-->					
MTW16BN	Brown	<-->					
MTW16PK	Pink	<-->					
MTW16PL	Purple	<-->					
MTW16GY	Gray	<-->					
MTW16TN	Tan	<-->					
MTW16BW	Blue/White	<-->					

Wire – MTW Type

Type MTW Wire						
Part Number	Color	Gauge	Description	Spool/Reel Length	Approx. Weight	Price
MTW14BK	Black	14 AWG	Type MTW copper wire, 19 strands, 600 Volts	500'	9.0 lbs	<-->
MTW14WH	White					<-->
MTW14RD	Red					<-->
MTW14BL	Blue					<-->
MTW14GN	Green					<-->
MTW14YL	Yellow					<-->
MTW14OR	Orange					<-->
MTW14BN	Brown					<-->
MTW14PK	Pink					<-->
MTW14PL	Purple					<-->
MTW14GY	Gray					<-->
MTW14TN	Tan					<-->
MTW14BW	Blue/White					<-->
MTW12BK	Black					12 AWG
MTW12WH	White	<-->				
MTW12RD	Red	<-->				
MTW12BL	Blue	<-->				
MTW12GN	Green	<-->				
MTW12YL	Yellow	<-->				
MTW12OR	Orange	<-->				
MTW12BN	Brown	<-->				
MTW12GY	Gray	<-->				
MTW12BW	Blue/White	<-->				
MTW10BK	Black	10 AWG	Type MTW copper wire, 19 strands, 600 Volts	500'	20.9 lbs	<-->
MTW10WH	White					<-->
MTW10GN	Green					<-->
MTW10YL	Yellow					<-->
MTW10OR	Orange					<-->
MTW10BN	Brown					<-->

Wire – MTW Type

Type MTW Wire					
Part Number	Color	Description	Spool/Reel Length	Approx. Weight	Price
MTW18BK25	Black	Type MTW copper wire, 18 AWG, 16 strands, 600 Volts	2500'	26.8 lbs	<-->
MTW18WH25	White				<-->
MTW18RD25	Red				<-->
MTW18BL25	Blue				<-->
MTW18GN25	Green				<-->
MTW18YL25	Yellow				<-->
MTW18OR25	Orange				<-->
MTW18BN25	Brown				<-->
MTW18PK25	Pink				<-->
MTW18PL25	Purple				<-->
MTW18GY25	Gray				<-->
MTW18TN25	Tan				<-->
MTW18BW25	Blue/White stripe				<-->
MTW16BK25	Black	Type MTW copper wire, 16 AWG, 26 strands, 600 Volts	2500'	34.4 lbs	<-->
MTW16WH25	White				<-->
MTW16RD25	Red				<-->
MTW16BL25	Blue				<-->
MTW16GN25	Green				<-->
MTW16YL25	Yellow				<-->
MTW16OR25	Orange				<-->
MTW16BN25	Brown				<-->
MTW16PK25	Pink				<-->
MTW16PL25	Purple				<-->
MTW16GY25	Gray				<-->
MTW16TN25	Tan				<-->
MTW16BW25	Blue/White stripe				<-->
MTW14BK25	Black	Type MTW copper wire, 14 AWG, 19 strands, 600 Volts	2500'	46.8 lbs	<-->
MTW14WH25	White				<-->
MTW14RD25	Red				<-->
MTW14BL25	Blue				<-->
MTW14GN25	Green				<-->
MTW14YL25	Yellow				<-->
MTW14OR25	Orange				<-->
MTW14BN25	Brown				<-->
MTW14PK25	Pink				<-->
MTW14PL25	Purple				<-->
MTW14GY25	Gray				<-->
MTW14TN25	Tan				<-->
MTW14BW25	Blue/White stripe				<-->
MTW12BK25	Black	Type MTW copper wire, 12 AWG, 19 strands, 600 Volts	2500'	71.0 lbs	<-->
MTW12WH25	White				<-->
MTW12RD25	Red				<-->
MTW12BL25	Blue				<-->
MTW12GN25	Green				<-->
MTW12YL25	Yellow				<-->
MTW12OR25	Orange				<-->
MTW12BN25	Brown				<-->
MTW12BW25	Blue/White stripe	<-->			

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Wire – Gauge Conversion Tables

American Wire Gauge Conversion Chart*			
This cross reference shows equivalent nominal values. Actual cross sections may vary.			
AWG	mm ²	AWG	mm ²
30	0.05	6	16
28	0.08	4	25
26	0.14	2	35
24	0.25	1	50
22	0.34	1/0	55
21	0.38	2/0	70
20	0.50	3/0	95
18	0.75	4/0	120
17	1.00	300MCM	150
16	1.50	350MCM	185
14	2.50	500MCM	240
12	4	600MCM	300
10	6	750MCM	400
8	10	1000MCM	500

***Note: Table shows commercially used equivalent values.**

You will find product MSDS information and a complete glossary of wire terminology on our Web site at <http://support.automationdirect.com/products/wire.html>