

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

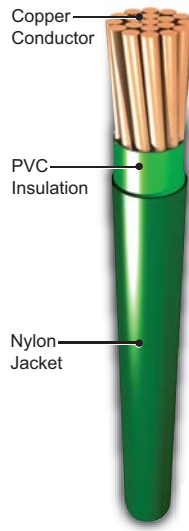
THHN wire has a tough, polyamide, Nylon outer covering per UL 1063 and UL 83. Slick Nylon outer jacket for easy pulling

Ratings

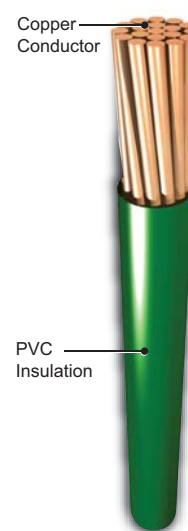
VW-1 rated 14 AWG - 1 AWG

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 – THHN 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

Process

Relays/Timers

Comm.

TB's & Wiring

Power

Circuit Protection

Enclosures

Appendix

Part Index

Type THHN Wire Specifications											
Size (AWG or kcmil)	Number of Strands	Cross-sectional Area (mm ²)	Insulation Thickness (inches)		Overall Outside Diameter		Allowable Ampacities*			Approximate Weight (lbs) 500'/2500'	Standard Packaging spool/reel
			PVC	Nylon	(inches)	(mm)	60°C	75°C	90°C		
14	19	6.258	0.015	0.004	0.109	2.77	15	15	15	7.8/42.2	500' or 2500'. Some colors not offered in 2500' reel.
12	19	8.581	0.015	0.004	0.127	3.23	20	20	20	11.7/61.4	
10	19	13.61	0.020	0.004	0.160	4.07	30	30	30	18.7	
8	19	23.61	0.030	0.005	0.212	5.39	40	50	55	31.4	
6	19	32.71	0.030	0.005	0.248	6.30	55	65	75	48.5	
4	19	53.16	0.040	0.006	0.317	8.06	70	85	95	75.4	

*Note: Allowable ampacity shown above is per the 2005 National Electrical Code. The above data is approximate and subject to normal manufacturing tolerances.

Type THHN Wire										
Part Number	Color	Gauge	Description	Spool/Reel Length	Approx. Weight	Price				
THHN14BK	Black	14 AWG	Type THHN copper wire, 19 strands, 600 Volts	500'	7.8 lbs.	<-->				
THHN14WH	White					<-->				
THHN14RD	Red					<-->				
THHN14BL	Blue					<-->				
THHN14GN	Green					<-->				
THHN14YL	Yellow					<-->				
THHN14OR	Orange					<-->				
THHN14BN	Brown					<-->				
THHN14PK	Pink					<-->				
THHN14PL	Purple					<-->				
THHN14GY	Gray					<-->				
THHN14TN	Tan					<-->				
THHN14GYL	Green/Yellow stripe					<-->				
THHN14BW	Blue/White stripe					<-->				
THHN12BK	Black	12 AWG	Type THHN copper wire, 19 strands, 600 Volts	500'	11.7 lbs	<-->				
THHN12WH	White					<-->				
THHN12RD	Red					<-->				
THHN12BL	Blue					<-->				
THHN12GN	Green					<-->				
THHN12YL	Yellow					<-->				
THHN12OR	Orange					<-->				
THHN12BN	Brown					<-->				
THHN12GY	Gray					<-->				
THHN12GYL	Green/Yellow stripe					<-->				
THHN12BW	Blue/White stripe					<-->				
THHN10BK	Black					10 AWG	Type THHN copper wire, 19 strands, 600 Volts	500'	18.7 lbs	<-->
THHN10WH	White									<-->
THHN10GN	Green									<-->
THHN10YL	Yellow	<-->								
THHN10OR	Orange	<-->								
THHN10BN	Brown	<-->								
THHN10GYL	Green/Yellow stripe	<-->								
THHN8BK	Black	8 AWG	Type THHN copper wire, 19 strands, 600 Volts	500'	31.4lbs	<-->				
THHN8GN	Green					<-->				
THHN8GYL	Green/Yellow stripe					<-->				
THHN6BK	Black	6 AWG	Type THHN copper wire, 19 strands, 600 Volts	500'	48.5 lbs	<-->				
THHN4BK	Black	4 AWG	Type THHN copper wire, 19 strands, 600 Volts	500'	75.4 lbs	<-->				

Wire – THHN Type

Type THHN Wire						
Part Number	Color	Gauge	Description	Spool/Reel Length	Approx. Weight	Price
THHN14BK25	Black	14 AWG	Type THHN copper wire, 19 strands, 600 Volts	2500'	42.2 lbs.	<-->
THHN14WH25	White					<-->
THHN14RD25	Red					<-->
THHN14BL25	Blue					<-->
THHN14GN25	Green					<-->
THHN14YL25	Yellow					<-->
THHN14OR25	Orange					<-->
THHN14BN25	Brown					<-->
THHN14PK25	Pink					<-->
THHN14PL25	Purple					<-->
THHN14GY25	Gray					<-->
THHN14TN25	Tan					<-->
THHN14BW25	Blue/White stripe					<-->
THHN12BK25	Black	12 AWG	Type THHN copper wire, 19 strands, 600 Volts	2500'	61.4 lbs	<-->
THHN12WH25	White					<-->
THHN12RD25	Red					<-->
THHN12BL25	Blue					<-->
THHN12GN25	Green					<-->
THHN12YL25	Yellow					<-->
THHN12OR25	Orange					<-->
THHN12BN25	Brown					<-->
THHN12BW25	Blue/White stripe					<-->

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>