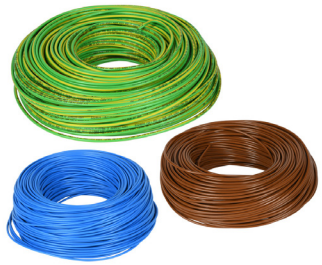
Wire - Type HAR/MTW

Applications

Type HAR/MTW conductors are primarily used in control cabinets, in machine tool applications, and in appliance wiring applications. For use in accordance with the National Electrical Code (NEC) and NFPA Standard 79. Voltage rating for all applications is 300 to 750 volts.



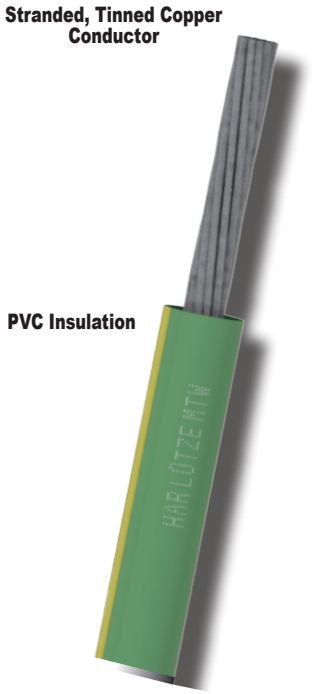
Features

- Gauges from 0.75 mm^2 (19AWG) to 4.0 mm^2 (12AWG)
- Suited for use in Europe (HAR) and North America (UL MTW)
- Tinned copper conductor
- Color-coded Polyvinyl Chloride (PVC) outer jacket
- Striped version available for some colors and gauges
- Multiple ratings and approvals
- 328ft (100m) boxed coils

Standards

- HAR: HD 21.3 S3
  - H05V-K (≤ AWG18)
  - H07V-K (≥ AWG 16)
- UL 1063 MTW Listed
- UL AWM 1015
- RoHS, REACH

Type HAR/MTW



Type HAR/MTW Wire Specifications

mm^2 Equivalent	Number of Strands	Size (AWG or kcmil)	Insulation Thickness (inches)	Overall Outside Diameter (inches)	Overall Outside Diameter (mm)	Allowable Ampacities* 60°C (140 °F)	Allowable Ampacities* 75°C (167 °F)	Allowable Ampacities* 90°C (194 °F)	Voltage Rating	Agency Approvals	Temperature Rating per UL 1063/ UL AWM 1015	Approx. Weight (lbs/1000ft)	Standard Packaging (carton)
0.75	24	19	0.016	0.106	2.7	7	7	14	HAR 300/500 Volts MTW 600 Volts	HAR: HD 21.3 S3 - H05V-K (≤ AWG18) - H07V-K (≥ AWG 16) UL1063 MTW, UL AWM1015	-5°C (176°F) to 90°C (194°F)	9	328ft [100m]
1.0	24	18	0.016	0.114	2.9	7	7	14				10	
1.5	30	16	0.016	0.130	3.3	10	10	18	HAR 450/750 Volts MTW 600 Volts			14	
2.5	50	14	0.016	0.145	3.7	20	20	25				21	
4.0	56	12	0.016	0.169	4.3	25	25	30				31	

**Note: Allowable ampacity shown above is per the NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60 °C [140 °F], 75 °C [167 °F], and 90 °C [194 °F] Insulation in an Ambient Temperature of 30 C [86F]. The above data is approximate and subject to normal manufacturing tolerance.*

Product Color Disclaimer: The product photos shown are representative of our wire colors. The actual wire colors may vary from the images shown. Although our suppliers maintain a high-quality standard, there can be color variation from production. As a result, we cannot guarantee color spools will match up perfectly.

***Note: Unless specifically permitted elsewhere in NFPA 70 overcurrent protection should not exceed 10 amps 16AWG, 15 amps for 14AWG, 20 amps for 12AWG, and 30 amps for 10AWG.*

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.automationdirect.com

Please Note: Our prices on wire are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.

Wire - Type HAR/MTW

Type HAR/MTW Wire Specifications						
Part Number	**Insulation Color**	**Gauge**	**Description**	**Spool/Reel Length**	**Approx. Weight**	**Price**
A61900	green/yellow	19 AWG	Type MTW, single conductor, 24-stranded, tinned copper, PVC conductor insulation material, 300/500 Volts (HAR), 600 Volts (MTW)	328ft [100m]	9lbs/1000ft	$68.00
A61901	black					$68.00
A61902	blue					$68.00
A61903	brown					$68.00
A61904	red					$68.00
A61914	dark blue					$68.00
A61800	green/yellow	18 AWG	Type MTW, single conductor, 32-stranded, tinned copper, PVC conductor insulation material, 300/500 Volts (HAR), 600 Volts (MTW)		10lbs/1000ft	$81.50
A61801	black					$81.50
A61802	blue					$81.50
A61803	brown					$81.50
A61804	red					$81.50
A61814	dark blue					$81.50
A61844	white/blue					$81.50
A61600	green/yellow	16 AWG	Type MTW, single conductor,30-stranded, tinned copper, PVC conductor insulation material, 450/750 Volts (HAR), 600 Volts (MTW)		14lbs/1000ft	$109.00
A61601	black					$109.00
A61602	blue					$109.00
A61603	brown					$109.00
A61604	red					$109.00
A61605	white					$109.00
A61609	orange					$109.00
A61614	dark blue					$109.00
A61615	blue/white					$109.00
A61644	white/blue					$109.00
A61400	green/yellow	14 AWG	Type MTW, single conductor,50-stranded, tinned copper, PVC conductor insulation material, 450/750 Volts (HAR), 600 Volts (MTW)		21lbs/1000ft	$160.00
A61401	black					$160.00
A61402	blue					$160.00
A61403	brown					$160.00
A61404	red					$160.00
A61405	white					$160.00
A61414	dark blue					$160.00
A61200	green/yellow	12 AWG	Type MTW, single conductor,56-stranded, tinned copper, PVC conductor insulation material, 450/750 Volts (HAR), 600 Volts (MTW)		31lbs/1000ft	$256.00
A61201	black					$256.00

Wire - Type HAR/MTW

Gauge Conversion Table

*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
19	0.75	4/0	120
18	0.75 - 1.00	300MCM	150
17	1.00	350MCM	185
16	1.50	500MCM	240
14	2.50	600MCM	300
12	4	750MCM	400
10	6	1000MCM	500
8	10		
Note: Table shows commercially used equivalent values.			

Conductor Ampacity Table

Allowable Ampacity			
AWG	**60°C [140°F]**	**75°C [167°F]**	**90°C [194°F]**
30	—	0.5	0.5
28	—	0.8	0.8
26	—	1	1
24	2	2	2
22	3	3	3
20	5	5	5
18	7	7	14
16**	10	10	18
14**	20	20	25
12**	25	25	30
10**	30	35	40
8	40	50	55
6	55	65	75
4	70	85	95
3	85	100	110
2	95	115	130
1	110	130	150
1/0	125	150	170
2/0	145	175	195
3/0	165	200	225
4/0	195	230	260
250MCM	215	255	290
300MCM	240	285	320
350MCM	260	310	350
400MCM	280	335	380
500MCM	320	380	430
600MCM	355	420	475
700MCM	385	460	520
750MCM	400	475	535
800MCM	410	490	555
900MCM	435	520	585
1000MCM	455	545	615

**Note: Allowable ampacity shown above is per NFPA79 Electrical Standard for Industrial Machinery 2018 Table 12.5.1 Conductor Ampacity Based on Copper Conductors with 60°C [140°F], 75°C[167°F], and 90°C [194°F] Insulation in an Ambient Temperature of 30°C [86°F]*

***Note: Unless specifically permitted elsewhere in NFPA 70 overcurrent protection should not exceed 10 amps 16AWG, 15 amps for 14AWG, 20 amps for 12AWG, and 30 amps for 10AWG.*