HY-TREX®

PRODUCT CATALOG

TPC WIRE & CABLE

FLEXIBLE AND RATED INDUSTRIAL CABLE SOLUTIONS

For over four decades, TPC Wire & Cable has been partnering with its industrial automation, automation integrator, and original equipment manufacturer customer base to engineer flexible, quality products that are built to last. HY-TREX® cables can withstand a wide range of static and flexing applications and have proven performance when exposed to oils, extreme temperatures and mechanical abuse, saving production time.

As a key OEM partner in a global supply chain, TPC provides industry-leading solutions tailored to each customer's specified needs that drive innovation, increase efficiency, and simplify inventory. HY-TREX® cable solutions are designed to spec including using ASTM standards to specify the copper conductors, are UL recognized and UL listed for use in cable trays (Type TC-ER). All HY-TREX® wire and cable products go through a vigorous in-process inspection as well as final quality inspection upon completion. With a full range of options and deep inventory on hand, we can easily cut custom lengths and ship right from stock.

For more information on HY-TREX® or to get a quote please contact your TPC OEM Rep or visit **TPCWIRE.COM**

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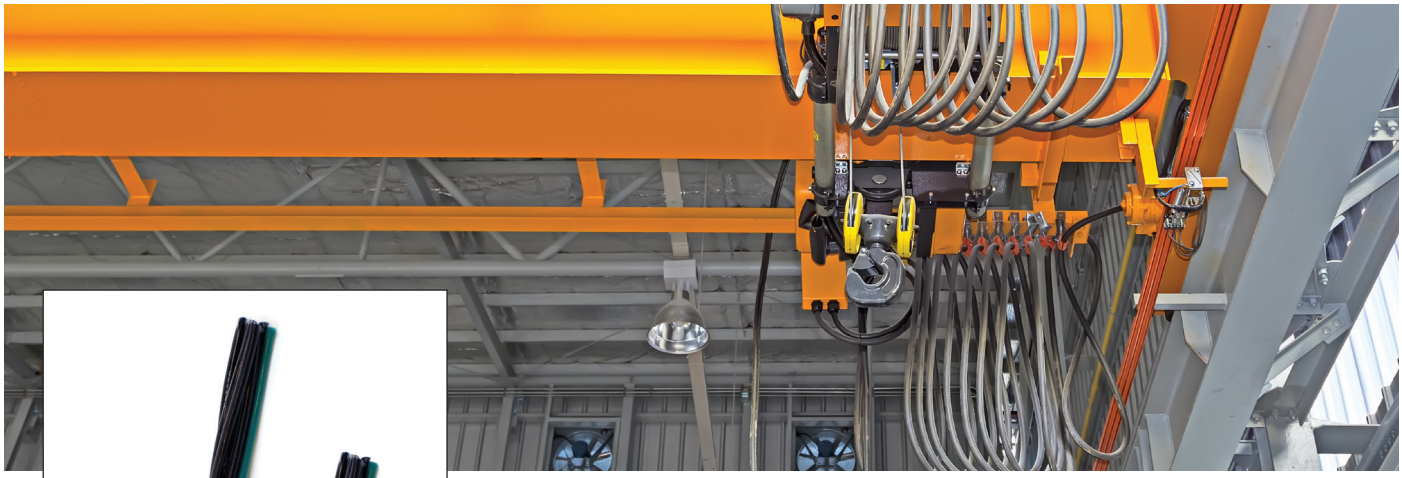
CABLE PRINT LEGEND - PART NUMBER BREAKDOWN EXAMPLE:

Complete Part Number: MP500-014-4C-GY-U

MP	500	-	014	-	4C	-	GY	-	U



HY-TREX® POWER CABLE

This is ideal for motor and power applications that command resilience and longevity during continuous flexing, torsion, and twisting. The HY-TREX® Power Cable Series is UL rated with shielded and unshielded options that withstand constant extreme temperatures and unparalleled resistance to abrasion, UV, and oils. This highly flexible and durable cable series is easy to install and rated to perform.

Ideal for manufacturers and integrators of:

- Industrial automation systems
- Conveyors
- Machine tools
- Robotics
- Packaging equipment

CONSTRUCTION

CENTER CORE: Center core filler to reduce mechanical stress on the cable
**on certain part numbers as required*

FABRIC SEPARATOR: Eases stripping of cable jacket

CONDUCTORS: Bare copper, Class K 30 AWG strand

INSULATION: Special Formulation TPE compound

COLOR-CODE: Black conductors with alphanumeric ID green or green/yellow ground

SHIELD: Tinned copper braid, 85% coverage

JACKET: TPE compound - black

RATINGS / APPROVALS

VOLTAGE: 600V TC-ER/1000V WTTC

MAX CONDUCTOR TEMP:
90°C Dry / 75°C Wet

FLAME: FT4

UL: TC-ER per UL 1277
WTTC per UL 2277
AWM per UL 758
MTW per UL 1063

cUL: CIC-TC per CSA 22.2 No. 239

NEC:
Suitable for Class I,
Division 2 per Article 501

PERFORMANCE

BEND RADIUS STATIC:
6x cable outer diameter

BEND RADIUS DYNAMIC:
8x cable outer diameter

COLD BEND: -25°C

COLD IMPACT: -25°C

OIL RESISTANCE: Oil Resistant I

FLEX – TORSION: 1 Million Cycles, ± 180 Degrees, Per UL RP 5770 (Unshielded Cable)

PART NO.	NUMBER OF CONDUCTORS	COND SIZE		STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')	BEND RADIUS (in.)	GLAND* P/N
		AWG	EQUIV (mm^2)					
MP500-018-3C-GY-S	3	18	0.75	19/30	0.327	91	2.7	55002
MP500-018-4C-GY-S	4	18	0.75	19/30	0.350	106	2.8	55002
MP500-018-5C-GY-S	5	18	0.75	19/30	0.378	121	3.1	55002
MP500-016-3C-GY-S	3	16	1.5	26/30	0.354	107	2.9	55002
MP500-016-4C-GY-S	4	16	1.5	26/30	0.382	126	3.1	55002
MP500-016-5C-GY-S	5	16	1.5	26/30	0.409	145	3.3	55002
MP500-014-3C-GY-S	3	14	2.5	41/30	0.386	135	3.1	55002
MP500-014-4C-GY-S	4	14	2.5	41/30	0.417	159	3.4	55002
MP500-014-5C-GY-S	5	14	2.5	41/30	0.453	185	3.7	55004
MP500-012-3C-GY-S	3	12	4.0	65/30	0.433	177	3.5	55004
MP500-012-4C-GY-S	4	12	4.0	65/30	0.472	211	3.8	55004
MP500-012-5C-GY-S	5	12	4.0	65/30	0.512	247	4.1	55005
MP500-010-3C-GY-S	3	10	6.0	105/30	0.508	248	4.1	55005
MP500-010-4C-GY-S	4	10	6.0	105/30	0.583	317	4.7	55005
MP500-010-5C-GY-S	5	10	6.0	105/30	0.634	375	5.1	55006
MP500-008-3C-GY-S	3	8	10	168/30	0.720	440	5.8	55008
MP500-008-4C-GY-S	4	8	10	168/30	0.787	536	6.3	55008
MP500-008-5C-GY-S	5	8	10	168/30	0.898	669	7.2	55009
MP500-006-3C-GY-S	3	6	16	266/30	0.791	572	6.4	55008
MP500-006-4C-GY-S	4	6	16	266/30	0.906	741	7.3	55009
MP500-006-5C-GY-S	5	6	16	266/30	0.988	879	8.0	55010
MP500-004-3C-GY-S	3	4	25	420/30	1.000	882	8.0	55010
MP500-004-4C-GY-S	4	4	25	420/30	1.094	1089	8.8	55010/55011
MP500-004-5C-GY-S	5	4	25	420/30	1.201	1300	9.7	55010/55011
MP500-002-3C-GY-S	3	2	35	665/30	1.165	1247	9.4	55010/55011
MP500-002-4C-GY-S	4	2	35	665/30	1.280	1554	10.3	55012/55014
MP500-002-5C-GY-S	5	2	35	665/30	1.406	1867	11.3	55014
MP500-001-3C-GY-S	3	1	50	798/30	1.299	1507	10.4	55013/55014
MP500-001-4C-GY-S	4	1	50	798/30	1.429	1881	11.5	55014
MP500-001-5C-GY-S	5	1	50	798/30	1.571	2263	12.6	55014/55015
MP500-1OT-3C-GY-S	3	1/0	55	1045/30	1.339	1791	10.8	55013/55014
MP500-1OT-4C-GY-S	4	1/0	55	1045/30	1.476	2244	11.9	55014/55015
MP500-1OT-5C-GY-S	5	1/0	55	1045/30	1.622	2705	13.0	55014/55015
MP500-2OT-3C-GY-S	3	2/0	70	1330/30	1.508	2246	12.1	55014/55015
MP500-2OT-4C-GY-S	4	2/0	70	1330/30	1.724	2928	13.8	55015/55016
MP500-2OT-5C-GY-S	5	2/0	70	1330/30	1.894	3525	15.2	55015/55016
MP500-3OT-3C-GY-S	3	3/0	95	1691/30	1.559	2602	12.5	55014/55015
MP500-3OT-4C-GY-S	4	3/0	95	1691/30	1.783	3398	14.3	55015/55016
MP500-3OT-5C-GY-S	5	3/0	95	1691/30	1.957	4106	15.7	55015/55016/ 55017
MP500-4OT-3C-GY-S	3	4/0	120	2160/30	1.843	3426	14.8	55015/55016
MP500-4OT-4C-GY-S	4	4/0	120	2160/30	2.031	4323	16.3	55016/55017
MP500-4OT-5C-GY-S	5	4/0	120	2160/30	2.236	5233	17.9	55015/55016/ 55017

** Aluminum Straight Grip-Seals®. Sizing based on nominal cable O.D. Due to process tolerances, a smaller/larger gland size may be required.*

PART NO.	LEGACY PART NO.	NUMBER OF CONDUCTORS	COND SIZE		STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')	BEND RADIUS (in.)	GLAND* P/N
			AWG	EQUIV (mm^2)					
MP500-018-3C-GY-U	–	3	18	0.75	19/30	0.311	57	2.5	55001
MP500-018-4C-GY-U	–	4	18	0.75	19/30	0.331	68	2.7	55002
MP500-018-5C-GY-U	–	5	18	0.75	19/30	0.358	85	2.9	55002
MP500-016-3C-GY-U	76193	3	16	1.5	26/30	0.339	69	2.8	55002
MP500-016-4C-GY-U	76198	4	16	1.5	26/30	0.365	85	3.0	55002
MP500-016-5C-GY-U	76202	5	16	1.5	26/30	0.386	102	3.1	55002
MP500-014-3C-GY-U	–	3	14	2.5	41/30	0.384	88	3.1	55002
MP500-014-4C-GY-U	76199	4	14	2.5	41/30	0.394	109	3.2	55002
MP500-014-5C-GY-U	76195	5	14	2.5	41/30	0.430	132	3.5	55004
MP500-012-3C-GY-U	76303	3	12	4.0	65/30	0.411	118	3.3	55004
MP500-012-4C-GY-U	76200	4	12	4.0	65/30	0.452	149	3.7	55004
MP500-012-5C-GY-U	77205	5	12	4.0	65/30	0.500	182	4.0	55005
MP500-010-3C-GY-U	76203	3	10	6.0	105/30	0.492	175	4.5	55005
MP500-010-4C-GY-U	76201	4	10	6.0	105/30	0.576	243	4.7	55005
MP500-010-5C-GY-U	76205	5	10	6.0	105/30	0.619	304	5.0	55005
MP500-008-3C-GY-U	–	3	8	10	168/30	0.686	340	5.5	55007
MP500-008-4C-GY-U	61804	4	8	10	168/30	0.756	433	6.1	55007
MP500-008-5C-GY-U	61805	5	8	10	168/30	0.824	530	6.6	55008
MP500-006-3C-GY-U	–	3	6	16	266/30	0.780	460	6.3	55008
MP500-006-4C-GY-U	61806	4	6	16	266/30	0.900	618	7.2	55009
MP500-006-5C-GY-U	–	5	6	16	266/30	0.961	753	7.7	55009
MP500-004-3C-GY-U	61807	3	4	25	420/30	1.000	743	8.0	55010
MP500-004-4C-GY-U	61808	4	4	25	420/30	1.060	935	8.5	55010
MP500-004-5C-GY-U	61809	5	4	25	420/30	1.180	1149	9.5	55011
MP500-002-3C-GY-U	61803	3	2	35	665/30	1.140	1040	9.2	55011
MP500-002-4C-GY-U	61810	4	2	35	665/30	1.250	1366	10.0	55011
MP500-002-5C-GY-U	–	5	2	35	665/30	1.390	1706	11.2	55014
MP500-001-3C-GY-U	–	3	1	50	798/30	1.272	1317	10.2	55013/55014
MP500-001-4C-GY-U	–	4	1	50	798/30	1.406	1645	11.3	55014
MP500-001-5C-GY-U	–	5	1	50	798/30	1.555	2087	12.5	55014
MP500-1OT-3C-GY-U	–	3	1/0	55	1045/30	1.307	1546	10.5	55014
MP500-1OT-4C-GY-U	–	4	1/0	55	1045/30	1.449	2021	11.6	55014
MP500-1OT-5C-GY-U	–	5	1/0	55	1045/30	1.598	2465	12.8	55015
MP500-2OT-3C-GY-U	–	3	2/0	70	1330/30	1.480	2003	11.9	55014
MP500-2OT-4C-GY-U	–	4	2/0	70	1330/30	1.638	2546	13.2	55015
MP500-2OT-5C-GY-U	–	5	2/0	70	1330/30	1.870	3250	15.0	55016
MP500-3OT-3C-GY-U	–	3	3/0	95	1691/30	1.535	2329	12.3	55014
MP500-3OT-4C-GY-U	–	4	3/0	95	1691/30	1.748	3091	14.0	55015
MP500-3OT-5C-GY-U	–	5	3/0	95	1691/30	1.933	3824	15.5	55016
MP500-4OT-3C-GY-U	–	3	4/0	120	2160/30	1.815	3100	14.6	55015/55016
MP500-4OT-4C-GY-U	–	4	4/0	120	2160/30	1.992	3960	16.0	55016
MP500-4OT-5C-GY-U	–	5	4/0	120	2160/30	2.209	4922	17.7	55017

Applications found within industrial automation:

- Control
- I/O circuitry
- Sensors
- Switches
- Low voltage signal applications

HY-TREX® CONTROL & INSTRUMENTATION CABLES

Flexible and oil resistant Control and Instrumentation Cables are designed to provide long-life performance in static and flexing applications that are subject to extreme temperature and mechanical abuses. Ideal for original equipment manufacturers, automation integrators, instrumentation, and robotics.

The HY-TREX® CI500 Series is UL recognized, and UL listed for use in cable trays (Type TC-ER). Available in 18 AWG to 14 AWG, up to 25 conductors standard, and 12 – 10 AWG, up to 9 conductors standard.

CONSTRUCTION

CENTER CORE: Center core filler to reduce mechanical stress on the cable
**on certain part numbers as required*

FABRIC SEPARATOR: Eases stripping of cable jacket

CONDUCTORS: Bare copper, Class K 30 AWG strand

INSULATION: Special Formulation TPE compound

COLOR-CODE: Black conductors with alphanumeric ID green or green/yellow ground

SHIELD: Tinned copper braid, 85% coverage

JACKET: TPE compound -grey

RATINGS / APPROVALS

VOLTAGE: 600V TC-ER/1000V WTTC

MAX CONDUCTOR TEMP:
90°C Dry / 75°C Wet

FLAME: FT4

UL: TC-ER per UL 1277
WTTC per UL 2277
AWM per UL 758
MTW per UL 1063

cUL: CIC-TC per CSA 22.2 No. 239

NEC:
Suitable for Class I,
Division 2 per Article 501

PERFORMANCE

BEND RADIUS STATIC:
6x cable outer diameter

BEND RADIUS DYNAMIC:
8x cable outer diameter

COLD BEND: -25°C

COLD IMPACT: -25°C

OIL RESISTANCE: Oil Resistant I

FLEX – TORSION: 1 Million Cycles, ± 180 Degrees, Per UL RP 5770 (Unshielded Cable)

CONTROL & INSTRUMENTATION CABLES // CI500 SERIES // SHIELDED

PART NO.	NUMBER OF CONDUCTORS	COND SIZE		STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')	BEND RADIUS (in)	GLAND* P/N
		AWG	EQUIV (mm^2)					
CI500-018-3C-GY-S	3	18	0.75	19/30	0.327	91	2.7	55002/55003
CI500-018-4C-GY-S	4	18	0.75	19/30	0.350	106	2.8	55002/55003
CI500-018-5C-GY-S	5	18	0.75	19/30	0.378	121	3.1	55002/55004
CI500-018-7C-GY-S	7	18	0.75	19/30	0.406	144	3.3	55002/55004
CI500-018-9C-GY-S	9	18	0.75	19/30	0.472	188	3.8	55004
CI500-018-12C-GY-S	12	18	0.75	19/30	0.547	245	4.4	55005/55006
CI500-018-18C-GY-S	18	18	0.75	19/30	0.626	327	5.1	55006
CI500-018-25C-GY-S	25	18	0.75	19/30	0.736	445	5.9	55007/55008
CI500-016-3C-GY-S	3	16	1.5	26/30	0.354	107	2.9	55002/55003
CI500-016-4C-GY-S	4	16	1.5	26/30	0.382	126	3.1	55002/55004
CI500-016-5C-GY-S	5	16	1.5	26/30	0.409	145	3.3	55002/55004
CI500-016-7C-GY-S	7	16	1.5	26/30	0.441	174	3.6	55004
CI500-016-9C-GY-S	9	16	1.5	26/30	0.547	245	4.4	55005/55006
CI500-016-12C-GY-S	12	16	1.5	26/30	0.598	298	4.8	55005/55006
CI500-016-18C-GY-S	18	16	1.5	26/30	0.685	403	5.5	55007
CI500-016-25C-GY-S	25	16	1.5	26/30	0.811	550	6.5	55008
CI500-014-3C-GY-S	3	14	2.5	41/30	0.386	135	3.1	55002/55004
CI500-014-4C-GY-S	4	14	2.5	41/30	0.417	159	3.4	55002/55004
CI500-014-5C-GY-S	5	14	2.5	41/30	0.453	185	3.7	55004
CI500-014-7C-GY-S	7	14	2.5	41/30	0.488	226	3.9	55004
CI500-014-9C-GY-S	9	14	2.5	41/30	0.606	318	4.9	55005/55006
CI500-014-12C-GY-S	12	14	2.5	41/30	0.661	387	5.3	55006/55007
CI500-014-18C-GY-S	18	14	2.5	41/30	0.764	534	6.2	55007/55008
CI500-014-25C-GY-S	25	14	2.5	41/30	0.945	770	7.6	55009/55010
CI500-012-3C-GY-S	3	12	4.0	65/30	0.433	177	3.5	55004
CI500-012-4C-GY-S	4	12	4.0	65/30	0.472	211	3.8	55004
CI500-012-5C-GY-S	5	12	4.0	65/30	0.512	247	4.1	55004/55006
CI500-012-7C-GY-S	7	12	4.0	65/30	0.591	328	4.8	55005/55006
CI500-012-9C-GY-S	9	12	4.0	65/30	0.693	436	5.6	55007
CI500-010-3C-GY-S	3	10	6.0	105/30	0.492	248	4.1	55004/55006
CI500-010-4C-GY-S	4	10	6.0	105/30	0.583	317	4.7	55005/55006
CI500-010-5C-GY-S	5	10	6.0	105/30	0.634	375	5.1	55006/55007
CI500-010-7C-GY-S	7	10	6.0	105/30	0.697	474	5.6	55007
CI500-010-9C-GY-S	9	10	6.0	105/30	0.866	666	7.0	55008/55009

PART NO.	NUMBER OF CONDUCTORS	COND SIZE		STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')	BEND RADIUS (in.)	GLAND* P/N
		AWG	EQUIV (mm^2)					
CI500-018-3C-GY-U	3	18	0.75	19/30	0.311	57	2.5	55001/55003
CI500-018-4C-GY-U	4	18	0.75	19/30	0.331	68	2.7	55002/55003
CI500-018-5C-GY-U	5	18	0.75	19/30	0.358	85	2.9	55003/55004
CI500-018-7C-GY-U	7	18	0.75	19/30	0.386	99	3.1	55002/55003 /55004
CI500-018-9C-GY-U	9	18	0.75	19/30	0.449	130	3.6	55004
CI500-018-12C-GY-U	12	18	0.75	19/30	0.500	162	4.0	55004/55005
CI500-018-18C-GY-U	18	18	0.75	19/30	0.618	242	5.0	55005/55006
CI500-018-25C-GY-U	25	18	0.75	19/30	0.720	314	5.8	55007
CI500-016-3C-GY-U	3	16	1.5	26/30	0.339	69	2.8	55003
CI500-016-4C-GY-U	4	16	1.5	26/30	0.365	85	3.0	55002
CI500-016-5C-GY-U	5	16	1.5	26/30	0.386	102	3.1	55002
CI500-016-7C-GY-U	7	16	1.5	26/30	0.425	124	3.4	55004
CI500-016-9C-GY-U	9	16	1.5	26/30	0.496	164	4.0	55004/55005 /55006
CI500-016-12C-GY-U	12	16	1.5	26/30	0.579	207	4.7	55006
CI500-016-18C-GY-U	18	16	1.5	26/30	0.661	302	5.3	55006/55007
CI500-016-25C-GY-U	25	16	1.5	.0 26/30	0.791	388	6.4	55008
CI500-014-3C-GY-U	3	14	2.5	41/30	0.384	88	3.1	55002
CI500-014-4C-GY-U	4	14	2.5	41/30	0.394	109	3.2	55002
CI500-014-5C-GY-U	5	14	2.5	41/30	0.437	132	3.5	55004
CI500-014-7C-GY-U	7	14	2.5	41/30	0.476	172	3.9	55004/55005
CI500-014-9C-GY-U	9	14	2.5	41/30	0.591	231	4.8	55006
CI500-014-12C-GY-U	12	14	2.5	41/30	0.646	296	5.2	55006/55007
CI500-014-18C-GY-U	18	14	2.5	41/30	0.740	416	6.0	55007
CI500-014-25C-GY-U	25	14	2.5	41/30	0.929	574	7.5	55009/55010
CI500-012-3C-GY-U	3	12	4.0	65/30	0.417	118	3.4	55004
CI500-012-4C-GY-U	4	12	4.0	65/30	0.452	149	3.7	55004
CI500-012-5C-GY-U	5	12	4.0	65/30	0.500	182	4.0	55004/55005 /55006
CI500-012-7C-GY-U	7	12	4.0	65/30	0.575	260	4.6	55006
CI500-012-9C-GY-U	9	12	4.0	65/30	0.677	354	5.5	55007/55008
CI500-010-3C-GY-U	3	10	6.0	105/30	0.492	175	4.0	55004/55005 /55006
CI500-010-4C-GY-U	4	10	6.0	105/30	0.576	243	4.7	55006
CI500-010-5C-GY-U	5	10	6.0	105/30	0.619	304	5.0	55006
CI500-010-7C-GY-U	7	10	6.0	105/30	0.681	388	5.5	55007/55008
CI500-010-9C-GY-U	9	10	6.0	105/30	0.807	530	6.5	55008/55009

HY-TREX® MTW & THHN GROUND WIRE

HY-TREX® ground wire is the ideal solution for machines and equipment grounding needs. TPC offers two types, MTW/TEW and THHN/THWN, which protect against moisture, oils and contaminants providing a safe conducting path to ground electrical currents in cases of electrical short circuits or other hazardous conditions.

CONSTRUCTION

CONDUCTORS: MTW/TEW & THHN/THWN: Tinned Copper, 30 AWG Class K Strand

JACKET: MTW/TEW: PVC, Green with yellow stripe.

THHN/THWN: PVC/Nylon, Green

RATINGS / APPROVALS

VOLTAGE:
MTW/TEW & THHN/THWN: 600V

MAX COND TEMP:
MTW/TEW: 105°C
THHN/THWN: 90°C

FLAME: MTW/TEW: FT1
THHN/THWN: VW-1

UL: MTW per UL 1015
THHN/THWN: per UL 83

CSA: TEW per CSA C22.2 No. 127-18

CABLE TRAY:
THHN/THWN: For CT use, 4 AWG and larger

PERFORMANCE

BEND RADIUS STATIC:
MTW/TEW & THHN/THWN: 6x cable O.D.

BEND RADIUS DYNAMIC:
MTW/TEW & THHN/THWN: 8x cable O.D.

HY-TREX® MTW/TEW GROUND WIRE

Designed with a tough PVC jacket for protection and tinned copper stranding for flexibility. This ground wire has passed the FT-1 flame test and has a max conductor temperature of 105°C.

PART NO.	COND SIZE		STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')	BEND RADIUS (in.)
	AWG	EQUIV (mm^2)				
37310	10	6	105/30	0.189	42	1.6
37318	8	10	168/30	0.259	71	2.1
37316	6	16	266/30	0.314	113	2.6
37314	4	25	413/30	0.366	167	3.0
37312	2	35	665/30	0.429	252	3.5

HY-TREX® MTW/TEW GROUND WIRE (CONTINUED)

PART NO.	COND SIZE		STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')	BEND RADIUS (in.)
	AWG	EQUIV (mm^2)				
37311	1	50	836/30	0.516	330	4.2
37301	1/0	55	1045/30	0.560	403	4.5
37302	2/0	70	1330/30	0.605	500	4.9
37303	3/0	95	1672/30	0.650	610	5.2
37304	4/0	120	2109/30	0.715	753	5.8

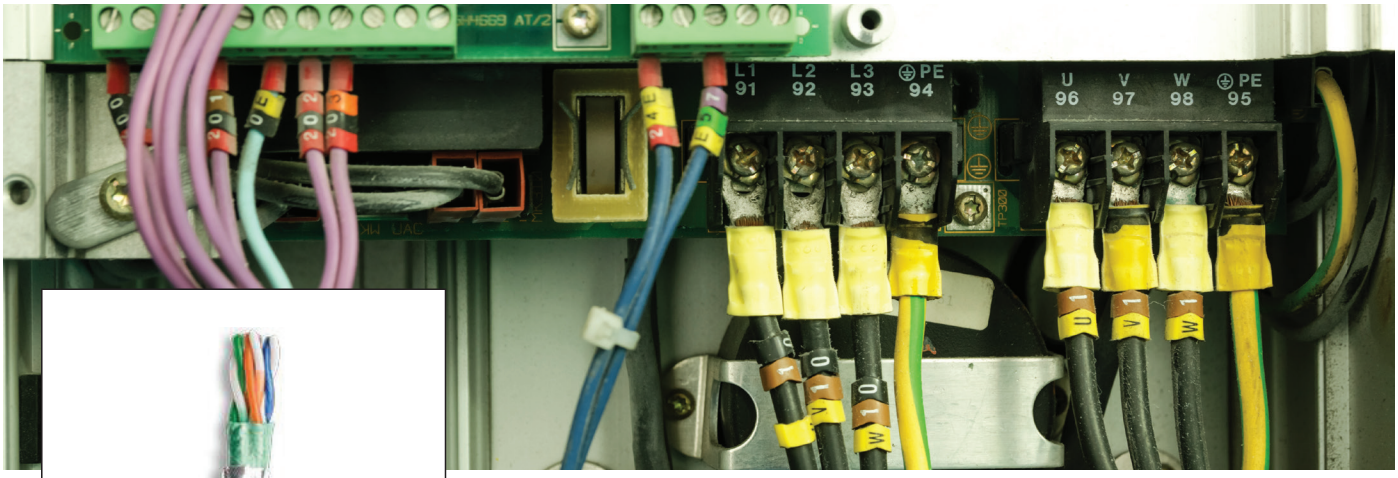
HY-TREX® THHN/THWN GROUND WIRE

Designed with PVC insulation and a tough nylon jacket for greater tear and abrasion resistance. THHN/THWN ground wire is applicable for both dry and wet applications and can also be used in cable trays if using a four AWG or larger conductor size.

PART NO.	COND SIZE		STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')	BEND RADIUS (in)
	AWG	EQUIV (mm^2)				
57310	10	6	105/30	0.179	42	1.5
57318	8	10	168/30	0.241	67	2.0
57316	6	16	266/30	0.266	98	2.2
57314	4	25	413/30	0.338	158	2.8
57312	2	35	665/30	0.403	241	3.3
57311	1	50	836/30	0.465	312	3.8
57301	1/0	55	1045/30	0.510	384	4.1
57302	2/0	70	1330/30	0.555	482	4.5
57300	3/0	95	1672/30	0.600	581	4.8
57304	4/0	120	2109/30	0.665	739	5.4

HY-TREX® GROUND WIRE STRAPS

A properly grounded electrical system provides protection for equipment, and against potential shock hazards. Whether your system uses direct wiring, ground straps or assemblies, you require a strong, solid electrical and mechanical termination. Let TPC terminate your HY-TREX® Ground Wires to provide a ready to install reliable grounding solution. Common terminations include ring and/or spade terminals, but TPC can adapt to your needs. Define your terminations and cable length, no need to hassle with installing lugs or connectors in the field. TPC will supply a complete custom length strap/assembly ready for installation.



HY-TREX® INDUSTRIAL ETHERNET CAT6A

Performance tested for flexing and torsional applications, this cable is an excellent choice for your dynamic moving applications. Rated for Cat6A connectivity up to 83 meters and is UL listed and recognized with a voltage rating of 600 volts. An ideal choice for any Ethernet application.

CONSTRUCTION

CONDUCTORS: Tinned copper, 24 AWG, 7x32 stranding
INSULATION: High Density Polyethylene (HDPE)
INULATION COLOR CODE: Pair 1: Blue & White/Blue Stripe
Pair 2: Orange & White/Orange Stripe
Pair 3: Green & White/Green Stripe
Pair 4: Brown & White/Brown Stripe
SHIELDING: Aluminum/Polyester Foil Shield + Overall tinned copper braid, 75% coverage, Foild braid shield over cable core
JACKETING: Extruded TPE jacket, color teal
TWISTED PAIRS: Quantity four (4) twisted pairs with varying lays

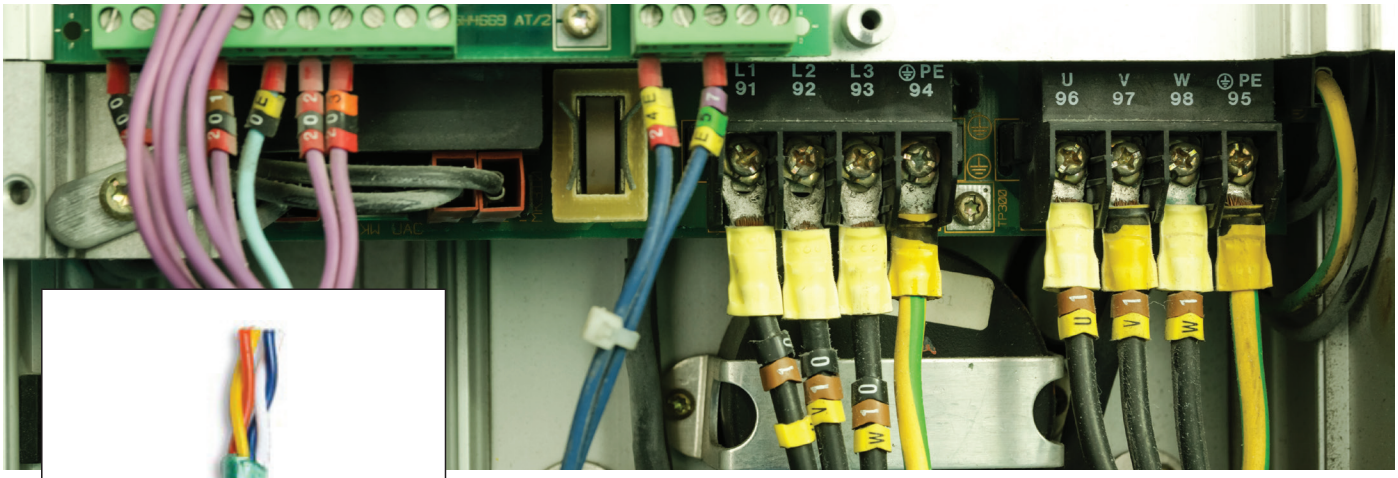
RATINGS / APPROVALS

UL 1666: UL1666 test for flame propagation height of electrical installed vertically in shafts
UL/cUL 444: Communication Cables
UL/cUL 758: AWM Style 2463
ISO/IEC 11801: Category 6A transmission
ANSI/TIA-568.2-D: Category 6A transmission
ODVA Ethernet/IP™: Compliment category 5E

PERFORMANCE

VOLTAGE RATING: 600 volts
OPERATING TEMPERATURE: -40°C to 80°C
COLD BEND TEST: -40°C
OIL RESISTANCE: II per UL 1277
SUNLIGHT RESISTANCE: Yes
TENSILE PULL STRENGTH: 40 Lbs.
ABRASION: 75 cycles/1.5lb. load per UL 2556
FLEX LIFE TORSIONAL: 3 million cycles, +/- 270°
FLEX LIFE CABLE-CHAIN: 35 million cycles, 5 inch bend radius
MINIMUM BEND RADIUS: 2.6 inch

PART NO.	COND SIZE	STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')
EN650H-024-4UTP-SFB	24AWG	7x32	0.322	48



HY-TREX® CAT5e 2-PR PROFINET TYPE B & C, HIGH FLEX

This communication cable is performance tested and designed for dynamic flexing/torsional applications. It is UL recognized and listed as Type PLTC and Type ITC, allowing for use in Hazardous Locations, Class I, Div 2 when installed per code. This cable is rated for Cat5e transmission, and has a voltage rating of 600 volts.

CONSTRUCTION

CONDUCTORS: Tinned copper, 22 AWG, 19 strands
INSULATION: High Density Polyethylene (HDPE)
INULATION COLOR CODE: Pair 1: White, Blue Pair 2: Yellow, Orange
SHIELDING: Aluminum/Polyester Foil Shield + Overall tinned copper braid, 75% coverage, Foild braid shield over cable core
JACKETING: Extruded TPE jacket, color green
TWISTED PAIRS: Quantity two (2) twisted pairs with varying lays

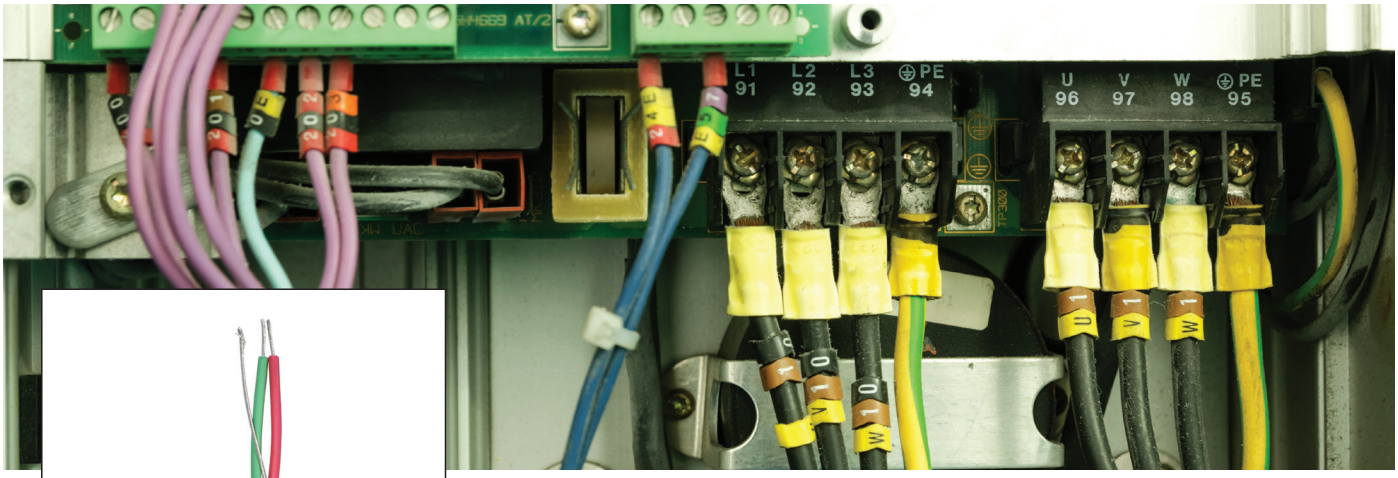
RATINGS / APPROVALS

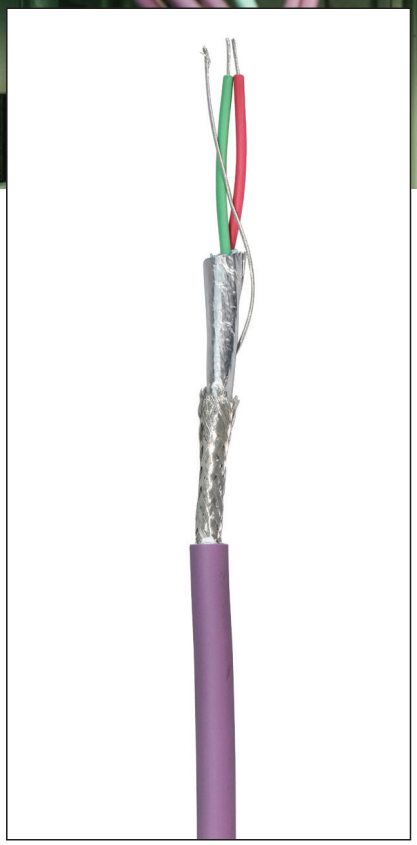
UL 1685: Vertical-tray fire-propagation and smoke-release test for electrical cables
UL/cUL 444: Communication cables
UL 13: Power limited circuit cables
UL 1277: Electrical power & control tray cables
UL/cUL 758: AWM Style 2463
ISO/IEC 11801: Category 5 transmission
ANSI/TIA-568-C2: Category 5e transmission

PERFORMANCE

VOLTAGE RATING: 600 Volts
OPERATING TEMPERATURE: -40°C to 80°C
COLD BEND TEST: -40°C
OIL RESISTANCE: II per UL 1277
SUNLIGHT RESISTANCE: Yes
ABRASION: 75 cycles/1.5lb. load per UL 2556
FLEX LIFE TORSIONAL: 3 million cycles, +/- 180°
FLEX LIFE CABLE-CHAIN: 35 million cycles, 5 inch bend radius
MINIMUM BEND RADIUS: 2.5 inch

PART NO.	COND SIZE	STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')
PN150-022-2UTP-SFB	22 AWG	19 Strands	0.31	46





HY-TREX® PROFIBUS CABLE

Designed for industrial automation networks to provide fast and reliable communication between a controller and peripheral devices. Designed using fine stranding to improve flexibility and reduce conductor fatigue and breakage in dynamic flexing applications. UL recognized and rated at 600 volts.

CONSTRUCTION

CONDUCTORS: Tinned copper, 22 AWG, 19x34 stranding
INSULATION: Polyethylene (PE)
INULATION COLOR CODE: Pair 1: Green & Red
SHIELDING: Aluminum/Mylar Foil Shield + Overall tinned copper braid, 65% coverage, Foil braid shield over cable core
JACKETING: Extruded TPE jacket, color violet
TWISTED PAIRS: Quantity one (1) twisted pair

RATINGS / APPROVALS

IEC 61158-2: Profibus DP
IEC 61784: Industrial Communication Network Standard
UL/cUL 758: AWM Style 20207

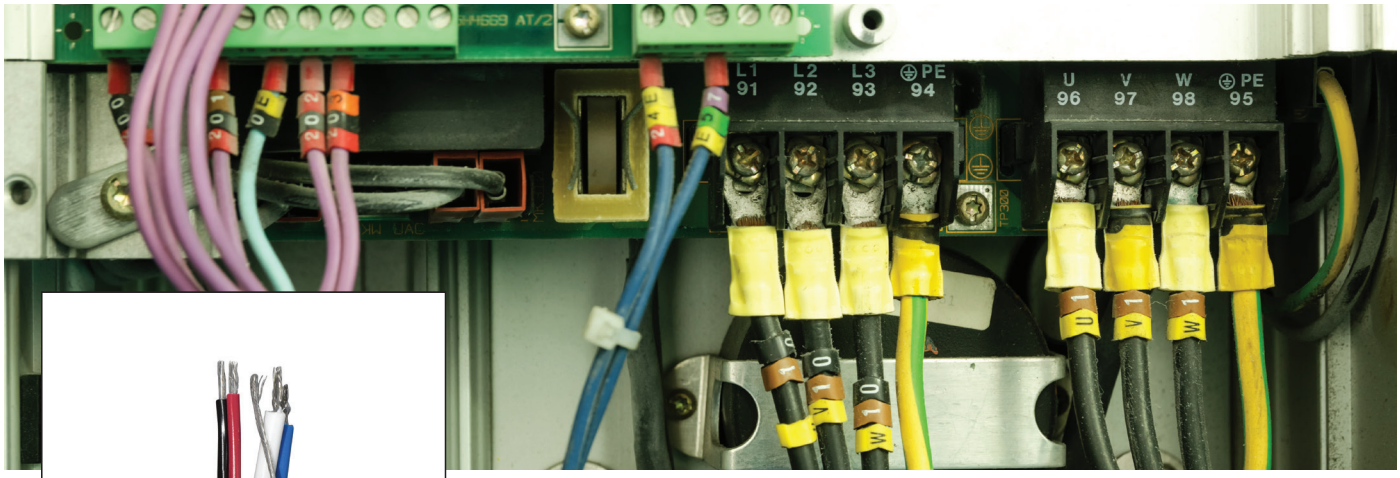
PERFORMANCE

VOLTAGE RATING: 600 Volts
OPERATING TEMPERATURE: -25°C to 80°C
MINIMUM BEND RADIUS: 2.5 inch

ELECTRICAL CHARACTERISTICS

IMPEDANCE: 150 +/- 15 Ohms Differential
78.8 Ohms SIngle-Ended
CAPACITANCE: 9.15 pF/Ft. Mutual
16.5 pF/Ft. SIngle-Ended
VELOCITY OF PROPAGATION: 66%

PART NO.	COND SIZE	STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')
PB100-022-1STP-SB	22 AWG	19x34	0.301	46



HY-TREX® DEVICENET® CABLE - THICK

For industrial automation communication between controllers and field devices such as motors, sensors, and actuators. HY-TREX® DeviceNet® Thick cable is the choice for use in “trunk” line installations. Designed using finely stranded conductors to improve flexibility, performance, and extend cable life in dynamic flexing applications. UL recognized and rated for 300 volts.

CONSTRUCTION

CONDUCTORS: Power Pair: 14 AWG, 105x34 stranding
Communication Pair: 18 AWG, 41x34 stranding

INSULATION: Power Pair: Special formulation TPE
Communication Pair: Polypropylene (PP)

INULATION COLOR CODE: Power Pair: Black & Red
Communication Pair: White & Blue

SHIELDING: Aluminum/Mylar Foil Shield over each pair, tinned copper braid overall shield

JACKETING: Extruded TPE jacket, color grey

TWISTED PAIRS: Quantity two (2) twisted shielded pairs

RATINGS / APPROVALS

UL 13: Power Limited Circuit Cables, Type CL3

UL/cUL 758: AWM Style 20207

PERFORMANCE

VOLTAGE RATING: 300 Volts

OPERATING TEMPERATURE:
-25°C to 80°C

MINIMUM BEND RADIUS:
4.0 inch

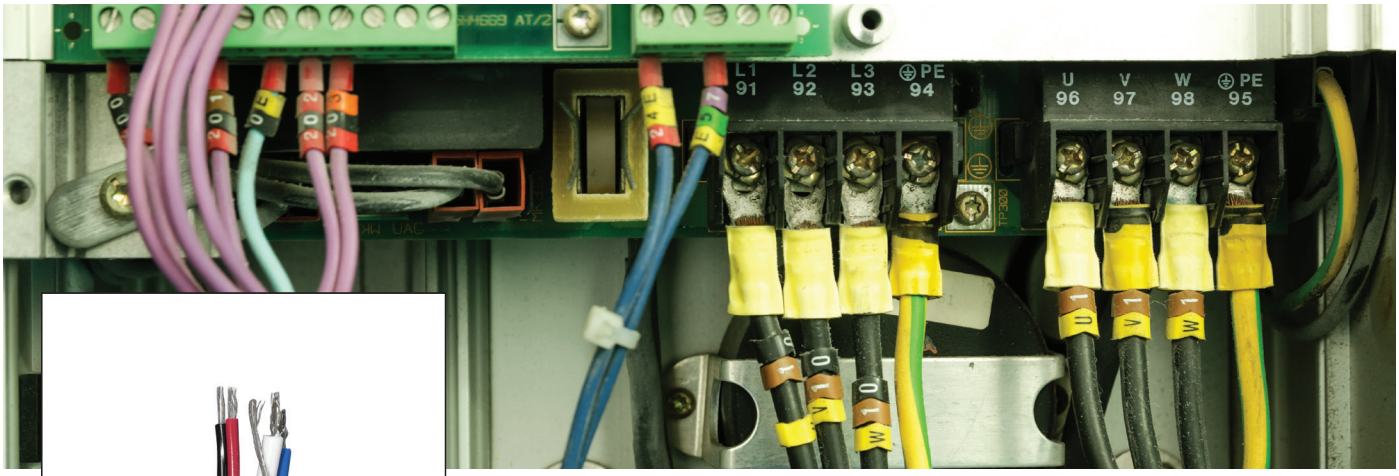
ELECTRICAL CHARACTERISTICS

IMPEDANCE:
120 +/- 12 Ohms Single-Ended

CAPACITANCE:
12 pF/Ft. Cond-Cond
24 pF/Ft. Cond-Shield

PROPAGATION DELAY:
1.47 nSec/FT. Nominal

PART NO.	COND SIZE	STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')
DN220-1814-2STP-SB	14 AWG / 18 AWG	105x34 / 41x34	0.500	198



HY-TREX® DEVICENET® CABLE - THIN

For industrial automation applications to communicate between controllers and field devices such as motors, sensors, and actuators. DeviceNet® Thin cable is installed from the Thick (Trunk) line to peripheral devices, also known as a drop line. Designed using finely stranded conductors to improve flexibility, performance, and extend cable life in dynamic flexing applications. UL recognized and rated for 300 volts.

CONSTRUCTION

CONDUCTORS: Power Pair: tinned copper, 22 AWG, 19x34 stranding
Communication Pair: tinned copper, 24 AWG, 19x36 stranding

INSULATION: Power Pair: Special formulation TPE
Communication Pair: Polypropylene (PP)

INULATION COLOR CODE: Power Pair: Black & Red
Communication Pair: White & Blue

SHIELDING: Aluminum/Mylar Foil Shield over each pair, tinned copper braid overall shield

JACKETING: Extruded TPE jacket, color grey

TWISTED PAIRS: Quantity two (2) twisted shielded pairs

RATINGS / APPROVALS

UL 13: Power Limited Circuit Cables, Type CL3

UL/cUL 758: AWM Style 20207

PERFORMANCE

VOLTAGE RATING: 300 Volts

OPERATING TEMPERATURE:
-25°C to 80°C

MINIMUM BEND RADIUS: 2.8 inch

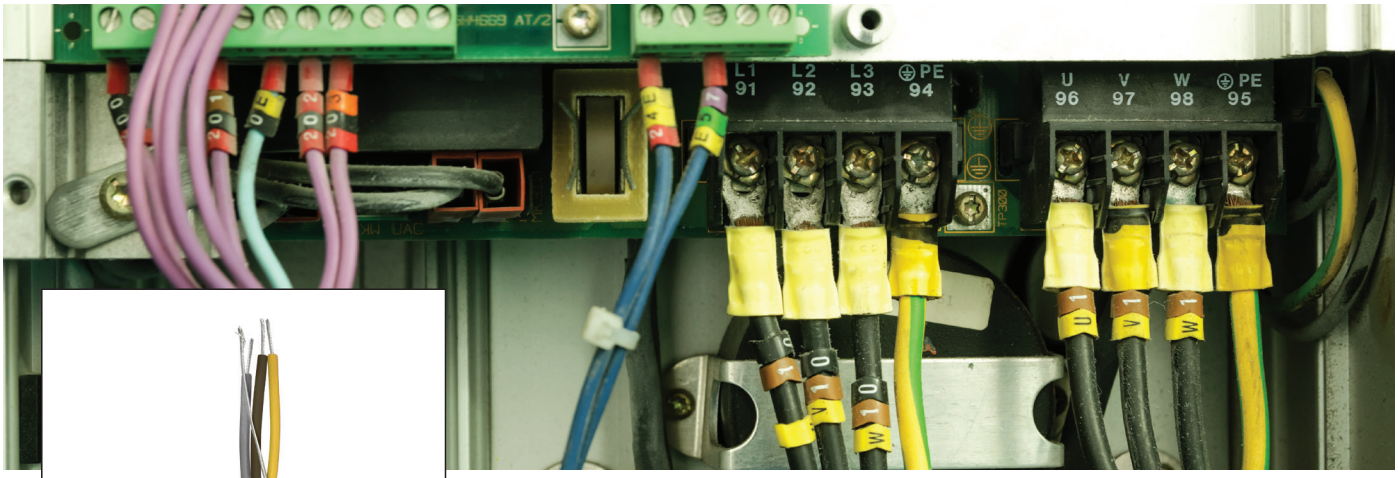
ELECTRICAL CHARACTERISTICS

IMPEDANCE:
120 +/- 12 Ohms Single-Ended

CAPACITANCE:
12 pF/Ft. Cond-Cond
24 pF/Ft. Cond-Shield

PROPAGATION DELAY:
1.47 nSec/FT. Nominal

PART NO.	COND SIZE	STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')
DN220-2422-2STP-SB	24 AWG / 22 AWG	19x34 / 19x36	0.345	65



HY-TREX® RS-485 COMMUNICATION CABLE

Designed to meet both TIA RS-485 standards, and Modbus cable standards, HY-TREX® RS-485 Communication cable is an ideal choice for RS-485/Modbus RTU communication systems. The use of very fine stranding extends cable life and improves cable performance in dynamic flexing applications. One-pair and two-pair configurations are available. UL recognized and listed with a voltage rating of 300 volts.

CONSTRUCTION

CONDUCTORS: Tinned copper, 24 AWG, 19x36 stranding

INSULATION: Polyethylene (PE)

INULATION COLOR CODE: Pair 1: Yellow & Brown
Common: Grey
Pair 2: White & Blue

SHIELDING: Aluminum/Mylar Foil Shield + Overall tinned copper braid shield, 90% minimum coverage

JACKETING: Extruded TPE jacket, color violet

TWISTED PAIRS: Quantity one (1) or two (2) twisted pair with a common wire

RATINGS / APPROVALS

UL 13: Power Limited Circuit Cables, Type CL2

UL 444: Communication Cables, Type CM

UL 758: AWM Style 2464

PERFORMANCE

VOLTAGE RATING: 300 Volts

OPERATING TEMPERATURE:
-25°C to 80°C

MINIMUM BEND RADIUS:
One Pair: 2.8 inch
Two Pair: 3.2 inch

ELECTRICAL CHARACTERISTICS

IMPEDANCE:
120 +/- 12 Ohms

CAPACITANCE:
12.2 pF/Ft. Cond-Cond

VELOCITY OF PROPAGATION: 66%

PART NO.	COND SIZE	STRANDING	NOM O.D. (in.)	WEIGHT (LBS/1000')
RS400-024-1UTP-SFB	24 AWG/1-Pair	19x36	0.349	55
RS400-024-2UTP-SFB	24 AWG/2-Pair	19x36	0.396	81

HY-TREX® CUSTOM DESIGNED AND ENGINEERED CABLES

TPC can custom-engineer cable configurations designed to spec that meet the requirements of your OEM application. With input from the manufacturer, we can develop a product using a wide range of materials that will provide a custom fit and deliver performance within your budget.

CONDUCTOR MATERIALS

Copper - Bare
Copper - Tinned
Nickel - Plated Copper
Silver - Plated Copper

SHIELDING MATERIALS

Copper Braid
Copper Spiral
Foil

REINFORCEMENT MATERIALS

Aramid
Nylon
Polyester
Rayon

OVERJACKET MATERIALS

Aramid
Stainless Steel Braid
Fluoropolymer overcoat

INSULATION MATERIALS

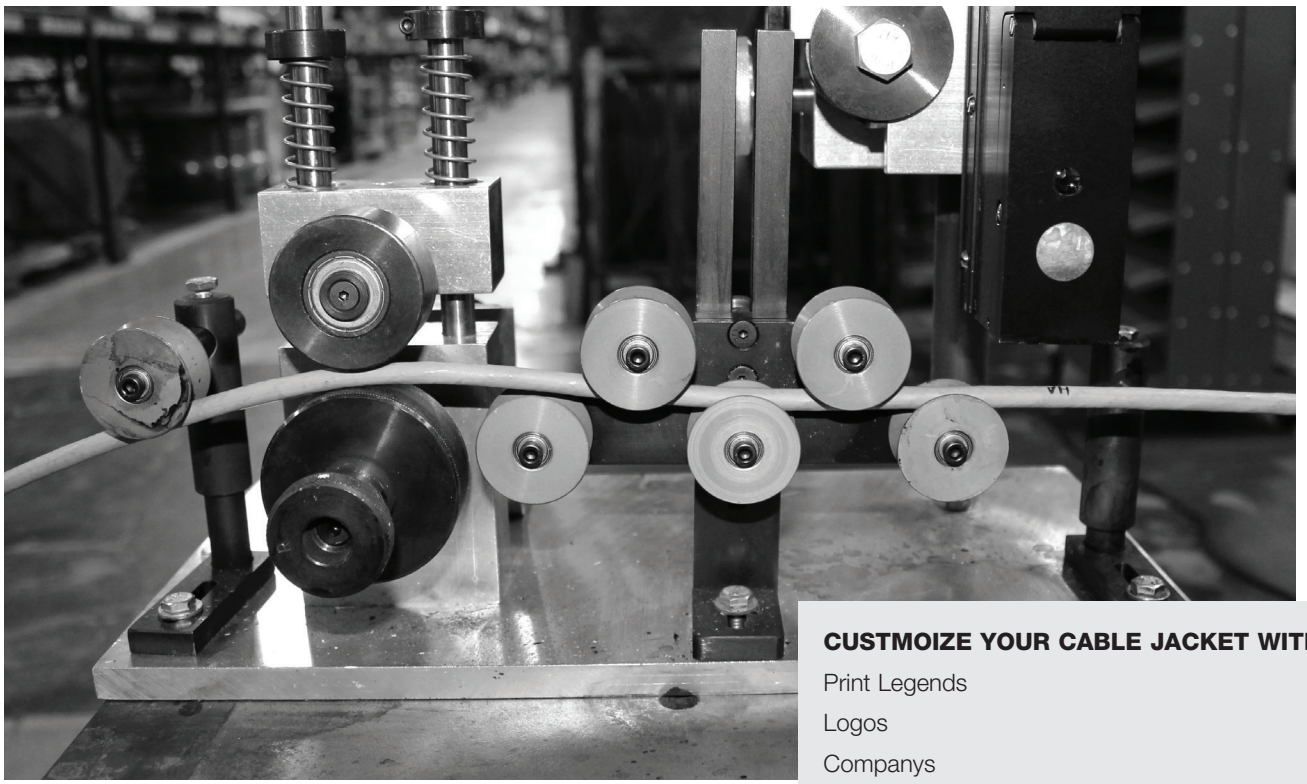
THERMO-SET MATERIALS:
EPR
Silicone
XLPE
XLPO
THERMO-PLASTIC MATERIALS:
TPE
TPR
PVC
Fluoropolymer
OTHER:
Fiberglass Braid
Mica
Ceramic Tape
Semi-Conductive

JACKET MATERIALS

THERMO-SET MATERIALS:
CPE
NBR
Silicone
XLPO
THERMO-PLASTIC MATERIALS:
TPE
TPR
PVC
Polyurethane
Fluoropolymer
OTHER:
Fiberglass Braid
Aramid Braid
KFIBER Braid

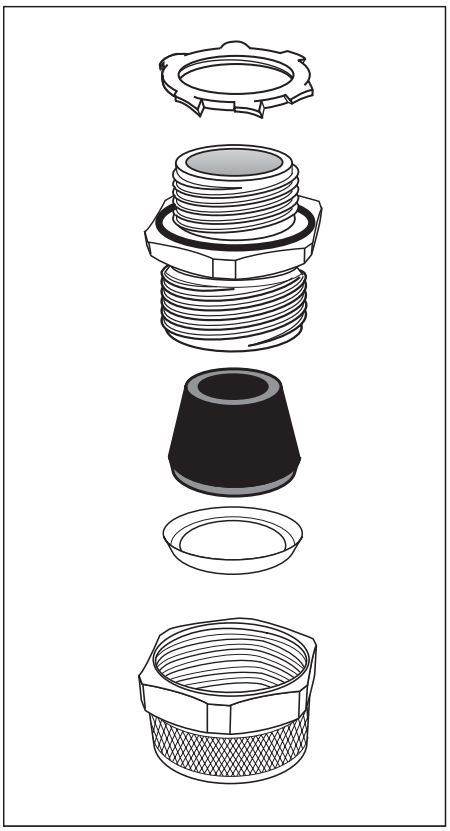
CUSTOM PRINTING

Add custom printing on your cable product to increase brand awareness and funnel accessory and replacement sales. We can customize your cable jacket with print legends, logos, company, trade names, or web address. The choice is yours!



CUSTMOIZE YOUR CABLE JACKET WITH:

Print Legends
Logos
Companys
Trade Names
Web Address



ALUMINUM STRAIGHT GRIP-SEALS®

Each Grip-Seal® package includes the grip-seal body, O-ring and locking nut. Our aluminum compression bushing and threaded body is resistant to corrosion and weathering, and has a maximum operating temperature of 250°F. The nickel-plated friction ring provides a uniform compression for a proper environmental seal against dust, moisture and chemicals.

CONSTRUCTION

NICKEL PLATED FRICTION RING: Provides uniform compression for a proper seal. Prevents bushing damage and results in a tight, uniform seal on the cord surface.

MULTIPLE SEALING BUSHINGS: Provides environmental seal against dust, moisture, chemicals. One part number covers a variety of cord diameters. 250°F maximum operating temperature.

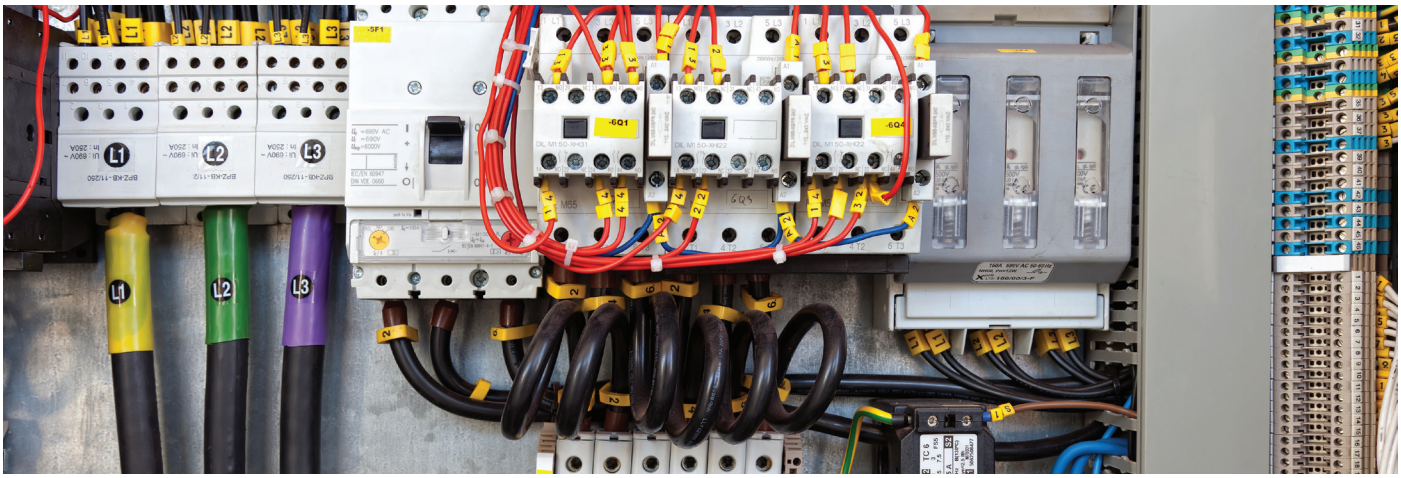
ALUMINUM COMPRESSION BUSHING AND THREADED BODY: Resistant to corrosion and weathering. Easy attachment to pendants and electrical enclosures. Available in both a 90° and straight configuration.

SEALING O-RING: Seals out oil, chemicals and other contaminants. Locknut included with each unit.

RATINGS / APPROVALS

• UL Listed • CSA • RoHS Compliant • Suitable for Use in Hazardous Locations per Class I, Div. 2, Class II, Div. 1 & 2, and Class III, Div. 1 & 2
• Liquid Tight Seal

PART NO.	CONFIGURATION	FITTING SIZE	CORD O.D. RANGE (in.)	NUMBER OF BUSHINGS
55001	Straight	3/8" NPT	0.188 – 0.312	2
55002	Straight	3/8" NPT	0.312 – 0.438	2
55003	Straight	1/2" NPT	0.250 – 0.375	2
55004	Straight	1/2" NPT	0.375 – 0.500	2
55005	Straight	1/2" NPT	0.500 – 0.625	2
550061	Straight	3/4" NPT	0.188 – 0.250	1
55006	Straight	3/4" NPT	0.500 – 0.688	2
55007	Straight	3/4" NPT	0.625 – 0.812	2
55008	Straight	1" NPT	0.688 – 0.875	2
55009	Straight	1" NPT	0.812 – 1.000	2
55010	Straight	1-1/4" NPT	0.875 – 1.125	2
55011	Straight	1-1/4" NPT	1.125 – 1.375	2
55012	Straight	1-1/2" NPT	0.875 – 1.125	2
55013	Straight	1-1/2" NPT	1.125 – 1.375	2
55014	Straight	2" NPT	1.250 – 1.562	2
55015	Straight	2" NPT	1.562 – 1.812	2
55016	Straight	2-1/2" NPT	1.812 – 2.062	2
55017	Straight	2-1/2" NPT	2.062 – 2.312	2
55020	Straight	3" NPT	2.437 – 2.812	2



PERFORMANCE TESTING, RATINGS & CERTIFICATIONS

TPC offers a wide variety of wire and cable products that adhere to the most reputable and stringent, manufacturing, testing, and distribution protocols. Our regulatory and professional testing partners include UL, CSA, TIA/EIA, ISO and others. Additionally, we take pride in offering cable products designed and accepted for use per NEC and NFPA 79 code requirements.

The HY-TREX® product line has been lab and customer tested since 2008 prioritizing both environmental and application performance required by the market. The HY-TREX® product is one of the few solutions in the market to test to UL's RP 5770 Flex Testing Standards, including Tick-Tock (RP5770-Section 4), torsional (RP5770-Section 5), and Chain Track (C-Track) testing (RP5770-Section 6).

HY-TREX® REGULATORY TESTING OVERVIEW

UL LISTINGS/RECOGNITION BY PRODUCT CATEGORY

DESCRIPTION	UL 758 AWM	UL 1063 MTW	UL 1277 TC-ER	UL 2277 WTTC	UL 13			UL 2250 ITC	UL 444			UL 83 THHN
					PLTC	CL2	CL3		CM	CMR	CMX-OUTDOOR	
Power / Control Cables												
MP500 Series	•	•	•	•								
CI500 Series	•	•	•	•								
Bus Cables												
CAT6a	•									•	•	
Profinet	•				•			•	•		•	
Profibus	•											
Devicenet Thin	•						•					
Devicenet Thick	•				•		•					
RS-485	•					•			•			
Ground Wires												
Type MTW		•										
Type THHN												•

HY-TREX® CABLE UL TESTING REQUIREMENTS

DESCRIPTION	UL 758 AWM	UL 1063 MTW	UL 1277 TC-ER	UL 2277 WTTC	UL 13			UL 2250 ITC	UL 444			UL 83 THHN
					PLTC	CL2	CL3		CM	CMR	CMX-OUTDOOR	
Thermal												
Cold Bend Test - Cable	•	•	•	•	•	•	•	•	•	•	•	•
Cold Bend Test - Insulation					•	•	•		•	•	•	
Cold Impact Test	•		•	•							•	•
Heat Shock Test	•	•	•	•				•				•
Mechanical												
Crushing Test - Cable			•	•								
Crush Resistance - Insulation					•	•	•		•	•	•	
Impact Test			•	•								
Flexibility		•						•				•
Flame		•	•	•	•	•	•					•
Electrical												
Dielectric Voltage Withstand	•	•	•	•	•	•	•	•	•	•	•	•
Insulation Resistance		•			•	•	•	•				•
Environmental												
Weatherometer Test											•	
Sunlight Resistance Test											•	
Chemical												
Oil Immersion	•				•							
Gasoline & Oil Resistance												•

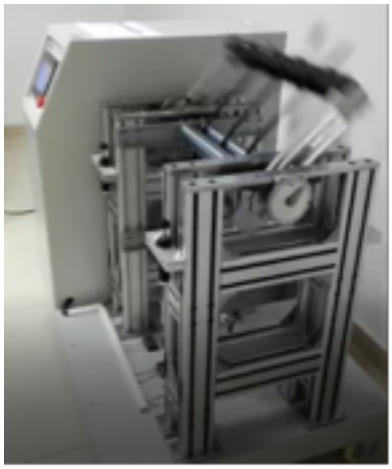
HY-TREX® PERFORMANCE TESTING

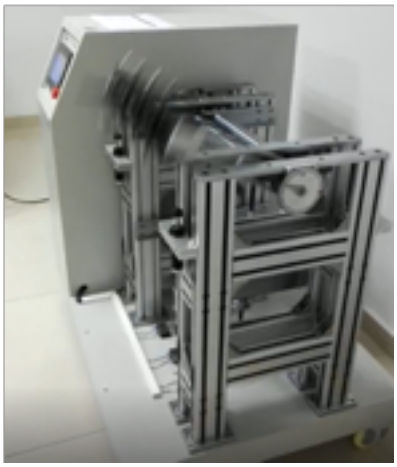
Test Standard: UL RP 5770 UL Standard for Safety Recommended Practice for Evaluating Cables for Use in Repeated Flexing Applications.

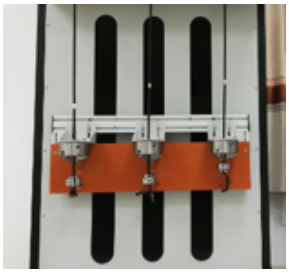
Performance testing simulates repeated dynamic flexing motions that cables are commonly exposed to in the field, and on installed equipment. TPC utilizes a UL Standard for performance testing protocol, ensuring the customer receives unbiased results. Data collected from testing provides a level of confidence and expectation for cables installed in an actual application.

TICK-TOCK TEST (UL TP 5770, SECTION 4)

Tick-Tock testing evaluates a cables resistance to stress caused by repeated bending. Cable is installed between two mandrels, the cable sample is flexed back and forth ± 90 degrees. One cycle constitutes a full range motion of 180 degrees.





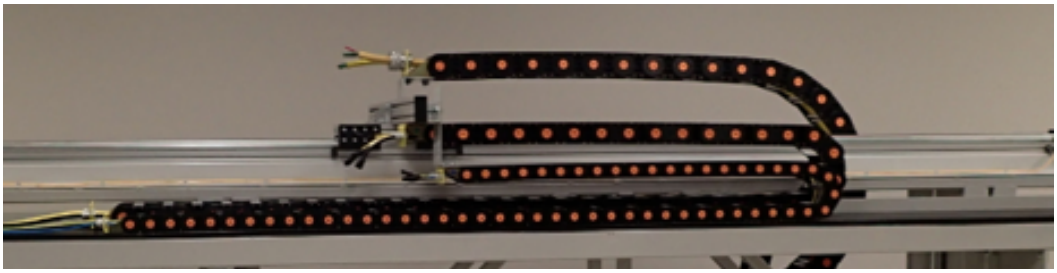


TORSION TEST (UL RP 5770, SECTION 5)

Torsion testing evaluates a cables resistance to stress caused by a repeated twisting force. A length of cable is installed vertically between two clamps. The clamps are rotated clockwise and counter-clockwise 180 degrees. The full range of twisting motion is 360 degrees.

CHAIN TRACK (C-TRACK) TEST (UL RP 5770, SECTION 6)

Chain Track, C-Track (also referred to as cable carrier, cable track, drag chain) testing evaluates a cables resistance to stresses caused by continuous bending/flexing. Cable is installed in a power-driven track consisting of a chain rail and connecting device. One end of the rail is fixed, while the other end moves linearly at a specified speed.



HY-TREX® CABLE PERFORMANCE TESTING

Performance Testing	UL RP 5770		
	Section 4 TICK-TOCK	Section 5 TORSION	Section 6 CHAIN-TRACK
Mechanical			
Degree of Movement	+/- 90° (180° Full Movement)	+/- 180° (360° Full Movement)	N/A
Cable Length	1 Meter	1 Meter	2+ Meters
Travel Distance	N/A	N/A	2 Meters
Cable Bend Radius	7-10 X Cable O.D.	7-10 X Cable O.D.	7-10 X Cable O.D.
Cycles / Minute	30	30	30
Track Speed	N/A	N/A	2 Meters / Sec.
Electrical			
Pre / Post Test Voltage Withstand Vlaue	5% or less decress allowed post test		
Pre / Post Test DC Resistance Vlaue	2% or less incress allowed post test		
Visual			
Cable Condition	No cracks or splits of insulation or jacket. No damage to conductor or internal components.		

INDEX // SEARCH BY PART NUMBER

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HY-TREX®

FOR MORE INFORMATION PLEASE
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TPC WIRE & CABLE

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