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 TECHNICAL DATA SHEET

# Type LTTU – Wide Temperature, UL Listed

## Liquid-tight flexible metallic conduit

### T&B Liquidtight Systems®




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**Features & Benefits:**

- Global certification to UL, CSA and IEC standards requirements
- Wide temperature range from -55 to +105°C (-67 to +221°F)
- Trade sizes from 3/8" to 4" (12mm to 103mm)
- Coordinated performance with Series 52/53 Steel Fittings
- UL, CSA & IP ingress protection ratings aligned with industrial enclosures
- Smooth extruded jackets provide best performance with fittings

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**Applications:**

- The LTTU flexible metallic conduit is used with high temperature machine tool wiring
- Ideal for use in outdoor applications for cold environments
- Liquid tight applications against water, oils, cutting fluids, mild acids
- For use in electrical circuits up to 1,000 V AC
- Listed and marked for direct burial in earth or in poured concrete

**NEC Article 250 Equipment Grounding:**

- 3/8" and 1/2" – grounding in circuits up to 20A
- 3/4" to 1-1/4" – grounding in circuits up to 60A
- 1-1/2" to 4" – separate ground wire required

**NEC installations in hazardous (classified) locations:**

- Article 501.10 (B) (2) & 501.30 (B) Class I Div. 2
- Article 502.10 (A) (2) & 502.30 (B) Class II Div. 1; 502.10 (B) (2) Class II Div. 2
- Article 503.10 (A) (2) & 503.30 (B) Class III Div. 1; 503.10 (A) (2) Class III Div. 2
- NEC Code requirements must be complied with when LFMC is used as Equipment Grounding Conductors

**Canadian Electrical Code (CEC) Part 1:**

- CEC Rule 12-1300
- CEC Rule 12-1306: Separate Bonding Conductor is mandatory
- CEC Rule 34-400: Sign and Outline Lighting

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**Construction / Material / Finish:**

- Hot-dipped zinc galvanized steel core
- PVC (polyvinyl chloride) extruded smooth jacket
- Ink jet printed ratings and technical information
- Full range of trade sizes from 3/8" to 4" (12 to 103mm)
  - 3/8" to 1-1/4", integral copper bonding wire, square lock design
  - 1-1/2" to 4", fully interlocked design
- Colors: Machine Tool Gray (standard), black (optional)

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**Environment ratings:**

Working Temperature:

- UL: Dry: -55 to +105°C (-67 to +221°F)  
Oil: -55 to +70°C (-67 to +158°F)  
Wet: -55 to +60°C (-67 to +140°F)
- CSA: Dry: -50 to +75°C (-58 to +167°F)  
Oil: -50 to +75°C (-58 to +167°F)  
Wet: -50 to +60°C (-58 to +140°F)
- IEC/CE: Gen: -45 to +105°C (-49 to +221°F)

Wide Temperature, UL Listed Liquid-tight Flexible Metallic Conduits provide excellent performance in a wide range of low and high temperatures

**Certifications / Standards:**

**Chemical resistance guide:**

- See publication TDS000117

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**Conforms to:**

- UL 360, Liquid-tight Flexible Metal Conduits (LFMC)
  - UL File: E125517
- CSA C22.2 No. 56, Liquid-tight Flexible Metal Conduits (LFMC)
  - CSA File: LR-72635
- IEC 61386-1, -23, Conduit Systems for Cable Management
  - EU Doc: EC-012-16-100
- RoHS (Restriction of Hazardous Substances Directive)

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**Standards requirements:**

**Meets all UL 360 and CSA C22.2 No. 56 standards requirements**

**including:**

- ID and OD dimensions, chemical & acid resistance, flame retardant & self extinguish, abrasion resistance, UV protection, crush resistance, oil resistance, corrosion resistance and bending strength

**Meets all IEC 61386-1, -23 standard requirements including:**

- Compression strength - Code 4 Heavy; 1250 N/50mm
- Impact strength - Code 4 Heavy; 6 Joules
- Tensile strength - Code 4 Heavy; 1000 N/2 min.

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**Ingress protection:**

- Provides "Ingress Integrity" between enclosures, fittings, conduits & seals when using LTTU conduits and Series 52/53 Liquidtight Fittings
- Covers all trade sizes from 3/8" to 4" (12 .. 103mm)

**UL, CSA & NEMA system ingress rating:**

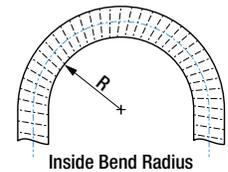
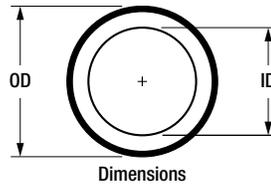
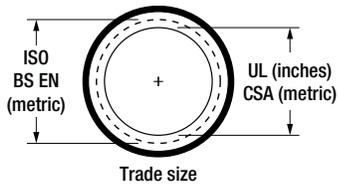
- UL Listed type ratings tested to UL 50/50E requirements
- UL file no.: E23018 (Ser. 52/53 Liquidtight Fittings)
  - Indoor: Type 4, 12, 13
  - Outdoor: Type 3, 3R, 4
- CSA C22.2, No. 94:
- NEMA 250: Type 3, 3R, 4, 12, 13

**IEC system ingress rating:**

- IP Ingress Protection per IEC 60529 requirements
- IEC ingress Ratings: IP66, IP67

**Type LTTU - Wide Temperature, UL Listed**  
Product selection and dimensions

Product selection													
Trade size						Coil Length							
UL	CSA	ISO BS EN	Carton			Standard reel			Bulk reel			Weight	
Inches	mm	mm	Part No./GID	Feet	Meter	Part No./GID	Feet	Meter	Part No./GID	Feet	Meter	lbs/ft	kg/m
3/8	12	16	LTTUS01G-C	100	30	LTTUS01G-K	500	150	LTTUS01G-L	1,000	300	0.29	0.43
			7TAA012LD0R0000			7TAA012LD0R0010			7TAA012LD0R0017				
1/2	16	20	LTTUS02G-C	100	30	LTTUS02G-K	500	150	LTTUS02G-L	1,000	300	0.32	0.48
			7TAA012LD0R0001			7TAA012LD0R0011			7TAA012LD0R0018				
3/4	21	25	LTTUS03G-C	100	30	LTTUS03G-K	500	150	LTTUS03G-L	1,000	300	0.53	0.79
			7TAA012LD0R0002			7TAA012LD0R0012			7TAA012LD0R0019				
1	27	32	LTTUS04G-C	100	30	LTTUS04G-J	400	120	-	-	-	0.82	1.22
			7TAA012LD0R0003			7TAA012LD0R0013							
1 1/4	35	40	LTTUS05G-B	50	15	LTTUS05G-E	200	60	-	-	-	1.02	1.52
			7TAA012LD0R0004			7TAA012LD0R0014							
1 1/2	41	50	LTTUS06G-B	50	15	LTTUS06G-D	150	45	-	-	-	1.24	1.84
			7TAA012LD0R0005			7TAA012LD0R0015							
2	53	70	LTTUS07G-B	50	15	LTTUS07G-C	100	30	-	-	-	1.45	2.16
			7TAA012LD0R0006			7TAA012LD0R0016							
2 1/2	63	70	LTTUS08G-A	25	8	-	-	-	-	-	-	1.92	2.86
			7TAA012LD0R0007										
3	78	80	LTTUS09G-A	25	8	-	-	-	-	-	-	2.52	3.75
			7TAA012LD0R0008										
4	103	100	LTTUS11G-A	25	8	-	-	-	-	-	-	3.50	5.21
			7TAA012LD0R0009										



Dimensions															
Part number	Trade Size			Minimum inside bend radius				Inches				Millimeters			
	UL	CSA	ISO BS EN	Static		Dynamic		Inside (ID)		Outside (OD)		Inside (ID)		Outside (OD)	
	Inches	mm	mm	Inches	mm	Inches	mm	Min	Max	Min	Max	Min	Max	Min	Max
LTTUS01G-*	3/8	12	16	2.0	51	4.0	102	0.484	0.504	0.690	0.710	12.3	12.8	17.5	18.0
LTTUS02G-*	1/2	16	20	3.0	76	5.0	127	0.622	0.642	0.820	0.840	15.8	16.3	20.8	21.3
LTTUS03G-*	3/4	21	25	4.2	107	6.0	152	0.820	0.840	1.030	1.050	20.8	21.3	26.2	26.7
LTTUS04G-*	1	27	32	5.5	140	12.0	305	1.041	1.066	1.290	1.315	26.4	27.1	32.8	33.4
LTTUS05G-*	1 1/4	35	40	7.0	178	15.0	381	1.380	1.410	1.630	1.660	35.1	35.8	41.4	42.2
LTTUS06G-*	1 1/2	41	50	4.5	114	17.0	432	1.575	1.600	1.865	1.900	40.0	40.6	47.4	48.3
LTTUS07G-*	2	53	63	6.0	152	22.0	559	2.020	2.045	2.340	2.375	51.3	51.9	59.4	60.3
LTTUS08G-*	2 1/2	63	70	8.0	203	30.0	762	2.480	2.505	2.840	2.875	63.0	63.6	72.1	73.0
LTTUS09G-*	3	78	80	10.0	254	36.0	914	3.070	3.100	3.460	3.500	78.0	78.7	87.9	88.8
LTTUS11G-*	4	103	100	12.0	305	52.0	1,321	4.000	4.040	4.460	4.500	101.6	102.6	113.3	114.3

Note: Products must be installed in accordance with applicable national and local electrical codes

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