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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)
- Conduit sizes ½" and up meet CSA Heavy Duty requirements, when used with series 5200/5300 liquid-tight fittings.
- Trade sizes from ⅜" 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:**

- ⅜" and ½" – grounding in circuits up to 20A
- ¾" to 1 ¼" – grounding in circuits up to 60A
- 1 ½" 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) (3) & 503.30 (B) Class III Div. 1; 503.10 (B) (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
- Suitable to be used in Zone 2, Zone 20, Zone 21, Zone 22, Class I Division 2, Class II Division 1 & 2, and Class III Hazardous locations per CE Code.

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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)
  - ⅜" to 1 ¼", integral copper bonding wire, square lock design
  - 1 ½" to 4", fully interlocked design
- Colors: Machine Tool Gray (standard), black (optional)

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

**Certifications / Standards:**



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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)

**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 extinguishing, abrasion resistance, UV protection, crush resistance, oil resistance, corrosion resistance and bending strength
- CSA Heavy duty requirements

**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:**

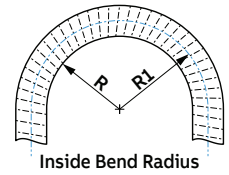
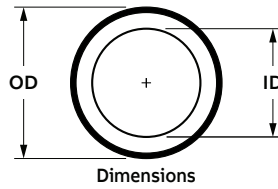
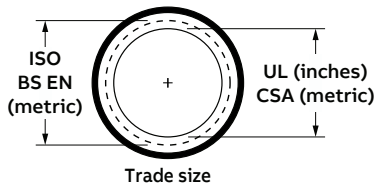
- UL Listed type ratings tested to UL 50/50E requirements
- UL file no.: E23018 (Ser. 52/53 Liquidtight Fittings)
  - Indoor: Type 4, 12, 13
  - Outdoor: Type 3, 3R, 4
- CSA C22.2 No. 94: Type 3, 3R, 4, 12, 13
- NEMA 250: Type 3, 3R, 4, 12, 13

**IEC system ingress rating:**

- IP Ingress Protection per IEC 60529 requirements
- IEC ingress Ratings: IP66, IP67, IP68, IP69

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

| Product selection |     |              |                 |      |       |                 |      |       |                 |             |       |        |      |  |
|-------------------|-----|--------------|-----------------|------|-------|-----------------|------|-------|-----------------|-------------|-------|--------|------|--|
| Trade size        |     |              |                 |      |       |                 |      |       |                 | Coil Length |       |        |      |  |
| UL                | CSA | ISO<br>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 |     |              | Min. inside bend radius (R1) |       | Min. inside bend radius (R) |     |         |       | Inches      |       |              |       | Millimeters |       |              |       |
|             | UL         | CSA | ISO<br>BS EN | NEC Ch. 9,<br>Table 2        |       | Static                      |     | Dynamic |       | Inside (ID) |       | Outside (OD) |       | Inside (ID) |       | Outside (OD) |       |
|             | Inches     | mm  | mm           | Inches                       | 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           | 4.0                          | 101.6 | 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           | 5.0                          | 127.0 | 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           | 6.0                          | 152.4 | 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           | 8.0                          | 203.2 | 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           | 10.0                         | 254.0 | 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           | 12.0                         | 304.8 | 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           | 15.0                         | 381.0 | 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           | 18.0                         | 457.2 | 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          | 24.0                         | 609.6 | 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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