**Technical Data Sheet** 

# Type LTBU - computer blue, UL Listed Liquid-tight flexible metallic conduit

LTBU Computer Blue liquid-tight flexible metal conduit is typically used in computer rooms, data centers and infrastructure applications where crush and impact resistant performance is required to protect vital power conductors and communication lines.

#### Features & Benefits:

- Global certification to UL, CSA and IEC requirements
- Trade sizes from 3/8" to 4" (12mm to 103mm)
- Coordinated performance with series 52/53 liquidtight fttings
- UL, CSA & IP ingress protection ratings aligned with industrial enclosures
- Smooth extruded jackets provide best performance with fittings

#### **Applications:**

- Computer rooms, data centers, infrastructure, communication lines, etc.
- Optional colors for application specific solutions such as safety, fire protection, power and control circuits, etc.
- Liquid tight applications against water, oils, cutting fluids, mild acids
- For use in electrical circuits up to 1,000 V
- 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 is 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

#### Construction / Material / Finish:

- Hot-dipped zinc galvanized steel core
- PVC (polyvinyl chloride) extruded smooth jacket
- Inkjet printed technical information and ratings
- Full range of trade sizes from 3/8" to 4" (12mm to 103mm)
   3/8" to 1-1/4", integral copper bonding wire, square lock design
   1-1/2" to 4" fully interlocked design
- Colors: blue (standard)
  - Optional colors: red, yellow, green, orange and many others

#### **Environment ratings:**

#### Working Temperature:

- UL:

Dry:  $-30 \text{ to} + 80^{\circ}\text{C} (-22 \text{ to} +176^{\circ}\text{F})$ 

Oil: -30 to +70°C (-22 to +158°F)

Wet: -30 to +60°C (-22 to +140°F)

- CSA

Dry:  $-30 \text{ to} + 75^{\circ}\text{C} (-22 \text{ to} + 167^{\circ}\text{F})$ 

Oil: -30 to +70°C (-22 to +158°F)

Wet: -30 to +60°C (-22 to +140°F)

- IEC/CE: Gen: -25 to +90°C (-13 to +194°F)

#### Chemical resistance guide:

- See publication TDS000117

## **T&B Liquidtight Systems**™



#### Certifications / Standards:









#### 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-012-16-101
- CE (Conformité Européene, European Conformity)
- RoHS (Restriction of Hazardous Substances Directive)

#### Standards requirements:

### Meets all UL 360 and CSA C22.2 No. 56 standard requirements including:

 ID and OD dimensions, chemical and acid resistance, flame retardant and self extinguishing, abrasion resistance, UV protection, crush resistance, oil resistance, bending 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.

#### Ingress protection:

- Provides "ingress integrity" between enclosures, fittings, conduits and seals when using LTBU conduits and series 52/53 liquid-tight fittings and seals.
- Covers all trade sizes from 3/8" to 4" (12mm to 103mm)

#### UL CSA & NEMA system ingress rating:

- UL Listed type ratings tested to UL 50/50E requirements
- UL file: E23018

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

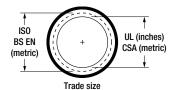
#### IEC system ingress rating:

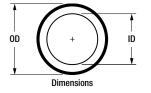
- IP ingress protection per IEC 60529 requirements
- IEC ingress rating: IP66, IP67

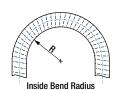


## Type LTBU - computer blue, UL Listed Product selection and dimensions

| Product  | selecti | on           |                 |      |       |                 | <b>.</b> |       | •••••           |          |       |        |      |
|----------|---------|--------------|-----------------|------|-------|-----------------|----------|-------|-----------------|----------|-------|--------|------|
| Trade si | ze      |              | Coil length     |      |       |                 | <b>.</b> |       |                 |          |       |        |      |
| 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           | LTBUS01L-C      | 100  | 30    | LTBUS01L-K      | 500      | 150   | LTBUS01L-L      | 1,000    | 300   | 0.29   | 0.43 |
|          |         |              | 7TAA012LF0R0000 |      |       | 7TAA012LF0R0010 |          |       | 7TAA012LF0R0020 |          |       |        |      |
| 1/2      | 16      | 20           | LTBUS02L-C      | 100  | 30    | LTBUS02L-K      | 500      | 150   | LTBUS02L-L      | 1,000    | 300   | 0.32   | 0.48 |
|          |         |              | 7TAA012LF0R0001 |      |       | 7TAA012LF0R0011 |          |       | 7TAA012LF0R0021 |          |       |        |      |
| 3/4      | 21      | 25           | LTBUS03L-C      | 100  | 30    | LTBUS03L-K      | 500      | 150   | LTBUS03L-L      | 1,000    | 300   | 0.53   | 0.79 |
|          |         |              | 7TAA012LF0R0002 |      |       | 7TAA012LF0R0012 |          |       | 7TAA012LF0R0022 |          |       |        |      |
| 1        | 27      | 32           | LTBUS04L-C      | 100  | 30    | LTBUS04L-J      | 400      | 120   | _               | _        | _     | 0.82   | 1.22 |
|          |         |              | 7TAA012LF0R0003 |      |       | 7TAA012LF0R0013 |          |       |                 |          |       |        |      |
| 1-1/4    | 35      | 40           | LTBUS05L-B      | 50   | 15    | LTBUS05L-E      | 200      | 60    | _               | _        | _     | 1.02   | 1.52 |
|          |         |              | 7TAA012LF0R0004 |      |       | 7TAA012LF0R0014 |          |       |                 |          |       |        |      |
| 1-1/2    | 41      | 50           | LTBUS06L-B      | 50   | 15    | LTBUS06L-D      | 150      | 45    | _               | _        | _     | 1.24   | 1.84 |
|          |         |              | 7TAA012LF0R0005 |      |       | 7TAA012LF0R0015 |          |       |                 |          |       |        |      |
| 2        | 53      | 63           | LTBUS07L-B      | 50   | 15    | LTBUS07L-C      | 100      | 30    | _               | _        | _     | 1.45   | 2.16 |
|          |         |              | 7TAA012LF0R0006 |      |       | 7TAA012LF0R0016 |          |       |                 |          |       |        |      |
| 2-1/2    | 63      | 70           | LTBUS08L-A      | 25   | 8     | LTBUS08L-G      | 275      | 80    | —               | _        | _     | 1.92   | 2.86 |
|          |         |              | 7TAA012LF0R0007 |      |       | 7TAA012LF0R0017 |          |       |                 |          |       |        |      |
| 3        | 78      | 80           | LTBUS09L-A      | 25   | 8     | LTBUS09L-P      | 175      | 50    | _               | <u> </u> | Ī—    | 2.52   | 3.75 |
|          |         |              | 7TAA012LF0R0008 |      |       | 7TAA012LF0R0018 |          |       |                 |          |       |        |      |
| 4        | 103     | 100          | LTBUS11L-A      | 25   | 25 8  | LTBUS11L-C      | 100      | 30    | _               | _        | _     | 3.50   | 5.21 |
|          |         |              | 7TAA012LF0R0009 |      |       | 7TAA012LF0R0019 |          |       |                 |          |       |        |      |







| Dimensions  |              |           |                    |                            |     |         |       |             |       |              |       |             |       |              |       |
|-------------|--------------|-----------|--------------------|----------------------------|-----|---------|-------|-------------|-------|--------------|-------|-------------|-------|--------------|-------|
|             | Trade size   |           |                    | Minimum inside bend radius |     |         |       | Inches      |       |              |       | Millimeters |       |              |       |
|             | UL<br>Inches | CSA<br>mm | ISO<br>BS EN<br>mm | Static                     |     | Dynamic |       | Inside (ID) |       | Outside (OD) |       | Inside (ID) |       | Outside (OD) |       |
| Part number |              |           |                    | Inches                     | mm  | Inches  | mm    | Min         | Max   | Min          | Max   | Min         | Max   | Min          | Max   |
| LTBUS01L-*  | 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  |
| LTBUS02L-*  | 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  |
| LTBUS03L-*  | 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  |
| LTBUS04L-*  | 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  |
| LTBUS05L-*  | 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  |
| LTBUS06L-*  | 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  |
| LTBUS07L-*  | 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  |
| LTBUS08L-*  | 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  |
| LTBUS09L-*  | 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  |
| LTBUS11L-*  | 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: Product must be installed in accordance with applicable national and local electrical codes.

### Contact us

ABB Inc.
Electrification Products
8155 T&B Boulevard
Memphis, TN 38125
www.abb.us/lowvoltage
© 2018 ABB Inc. All rights reserved.

