Circuit Breaker Time/Current Curves (Phase Current)

**Digitrip 1150 / 1150 / T Curves**
Range: 2-24 seconds @ 6x I

**Notes:**
1. If Long delay memory is enabled, trip times may be shorter than indicated on this chart.
2. This curve shown as a multiple of the LONG PU Setting (I). The actual Pickup point (indicated by rapid flashing of Unit Status LED on the product) occurs at 110% of the I, current, with a ±5% tolerance.
3. Curve Trip Equation: Trip = SHORT TIME * 64/ I , where I is a multiple of I (top)
4. LongTIME Curve Equation: Trip = LongTIME * 36/ I , where I is a multiple of I
5. The SHORT PU points have 100% ± 5% tolerance.
6. SHORT SLOPE: FLAT
   Tolerance is +0/ -80 ms for all settings except
   0.10s setting is 0.08 to 0.12
   0.15s setting is 0.10 to 0.17
   0.20s setting is 0.15 to 0.22
7. SHORT SLOPE: I T
   I T slope flattens out at 8 x I for top of band with FLAT time minimum value prevailing for bottom of band.
   Curve Trip Equation: Trip = SHORT TIME * 64/ I T, where I is a multiple of I (top)
   Curve Trip Equation: Trip = SHORT TIME * 64/ I T * 0.70 (bottom)
   The above equations indicate tolerance is +0 -30% for all settings except
   0.10s is +30%-25%
   0.15s is +30%-25%
   0.20s is +10%-25%

For all curves the lower flat response time value projected to I T line will determine the other
Break Point and shape of the curve.
8. 3-phase fault
10. The end of the curve is determined by the interrupting rating of the circuit breaker.

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**Time/Current Curves:**
- **1000A, 1200A, 1600A:** 1.5 to 12x I M1=12x I
- **2000A:** 1.5 to 12x I M1=12x I
- **3000A:** 1.5 to 12x I M1=12x I
- **4000A:** 1.5 to 12x I M1=12x I
- **5000A:** 1.5 to 12x I M1=12x I
- **6000A, 6300A:** 1.5 to 10x I M1=10x I
- **3000A, 3200A:** 1.5 to 10x I M1=10x I
- **2000A, 2500A:** 1.5 to 12x I M1=12x I
- **1600A, 2000A, 2500A:** 1.5 to 12x I M1=12x I
- **200A through 1250A:** 1.5 to 14x I M1=14x I
- **2000A (IEC only):** 1.5 to 10x I M1=12x I
- **1600A:** 1.5 to 12x I M1=12x I
- **200A through 1250A:** 1.5 to 14x I M1=14x I

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**Notes:**
- **9. Curve applies from -20°C to +55°C ambient. Temperatures above +85°C cause automatic trip.**
- **8. The end of the curve is determined by the interrupting rating of the circuit breaker.**
- **7. SHORT SLOPE: FLAT**
  - For all curves the lower flat response time value projected to I T line will determine the other
  - Break Point and shape of the curve.
- **6. SHORT SLOPE: FLAT**
  - Tolerance is +0/ -80 ms for all settings except
  - 0.10s setting is 0.08 to 0.12
  - 0.15s setting is 0.10 to 0.17
  - 0.20s setting is 0.15 to 0.22
- **5. The SHORT PU points have 100% ± 5% tolerance.**
- **4. SHORT PU has an additional setting, M1, based on In (Plug), that can extend out where the SHORT PU will be active.**

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**Adjustable Long PU:**
- 0.4 to 1.0x In = Ir

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**Adjustable Long Time:**
- 0.2 to 0.50 seconds
- +0 -30% @ 6x I

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**Adjustable SHORT PU:**
- 0.4 to 1.0x In = Ir
- With 0.05s increments

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**Adjustable SHORT TIME:**
- 0.10 to 0.50s
- With 0.05s increments

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**Minimum Clearing Time:**
See Notes 3, 4