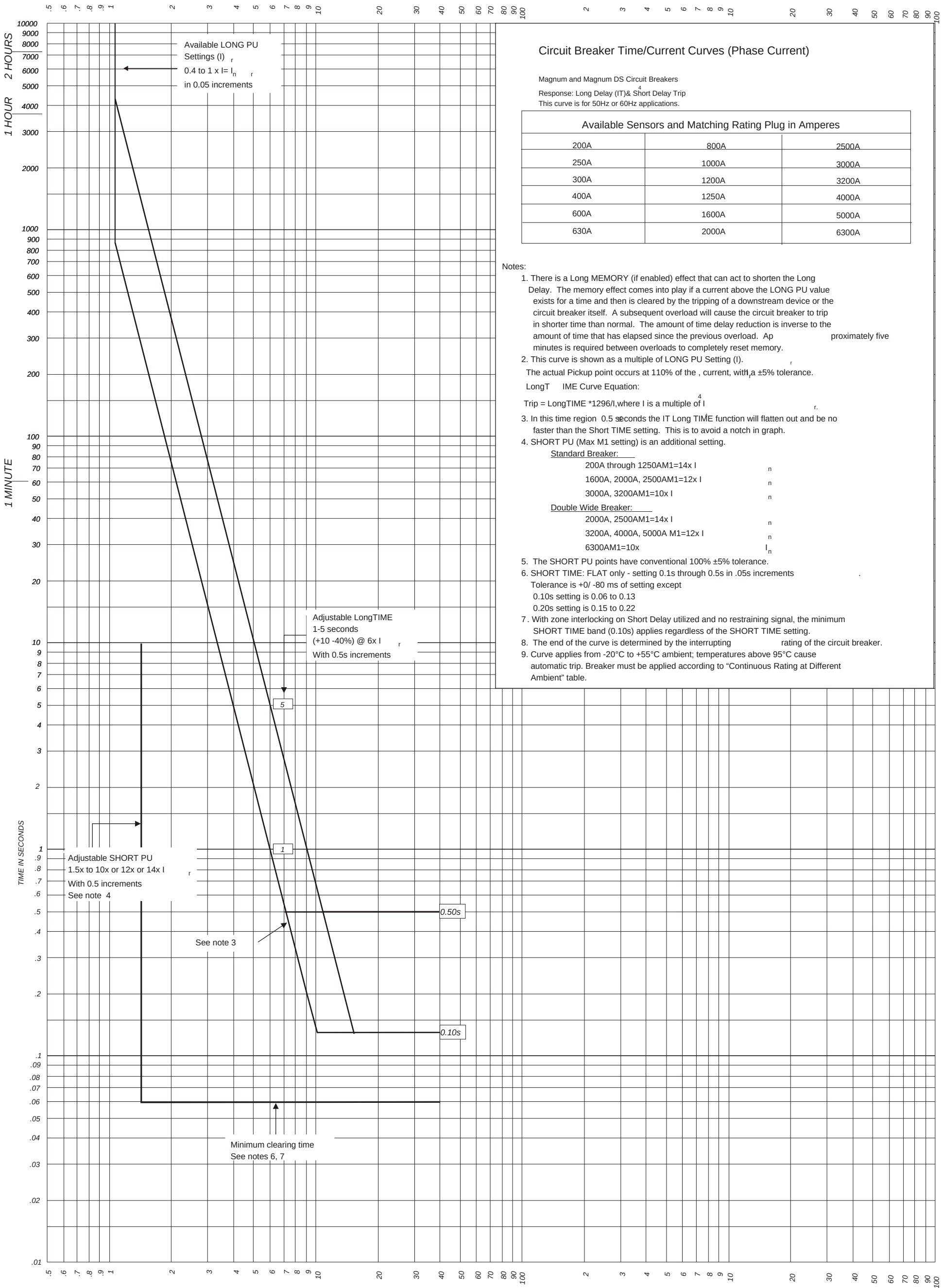
Cutler-Hammer

Digitrip 1150 / 1150 - Curves

Range: 1-5 seconds @ 6x I_r



Circuit Breaker Time/Current Curves (Phase Current)

Magnum and Magnum DS Circuit Breakers

Response: Long Delay (IT)& Short Delay Trip

This curve is for 50Hz or 60Hz applications.

Available Sensors and Matching Rating Plug in Amperes		
200A	800A	2500A
250A	1000A	3000A
300A	1200A	3200A
400A	1250A	4000A
600A	1600A	5000A
630A	2000A	6300A

Notes:

1. There is a Long MEMORY (if enabled) effect that can act to shorten the Long Delay. The memory effect comes into play if a current above the LONG PU value exists for a time and then is cleared by the tripping of a downstream device or the circuit breaker itself. A subsequent overload will cause the circuit breaker to trip in shorter time than normal. The amount of time delay reduction is inverse to the amount of time that has elapsed since the previous overload. Approximately five minutes is required between overloads to completely reset memory.
2. This curve is shown as a multiple of LONG PU Setting (I_r).
   The actual Pickup point occurs at 110% of the I_r, current, with a ±5% tolerance.
   LongTIME Curve Equation:
   Trip = LongTIME *1296/I^4, where I is a multiple of I_r.
3. In this time region 0.5 seconds the IT Long TIME function will flatten out and be no faster than the Short TIME setting. This is to avoid a notch in graph.
4. SHORT PU (Max M1 setting) is an additional setting.
   Standard Breaker:
   200A through 1250AM1=14x I_n
   1600A, 2000A, 2500AM1=12x I_n
   3000A, 3200AM1=10x I_n
   Double Wide Breaker:
   2000A, 2500AM1=14x I_n
   3200A, 4000A, 5000A M1=12x I_n
   6300AM1=10x I_n
5. The SHORT PU points have conventional 100% ±5% tolerance.
6. SHORT TIME: FLAT only - setting 0.1s through 0.5s in .05s increments.
   Tolerance is +0/ -80 ms of setting except
   0.10s setting is 0.06 to 0.13
   0.20s setting is 0.15 to 0.22
7. With zone interlocking on Short Delay utilized and no restraining signal, the minimum SHORT TIME band (0.10s) applies regardless of the SHORT TIME setting.
8. The end of the curve is determined by the interrupting rating of the circuit breaker.
9. Curve applies from -20°C to +55°C ambient; temperatures above 95°C cause automatic trip. Breaker must be applied according to “Continuous Rating at Different Ambient” table.

Cutler-Hammer

Dwg. No: 70C1035
November 2, 1999