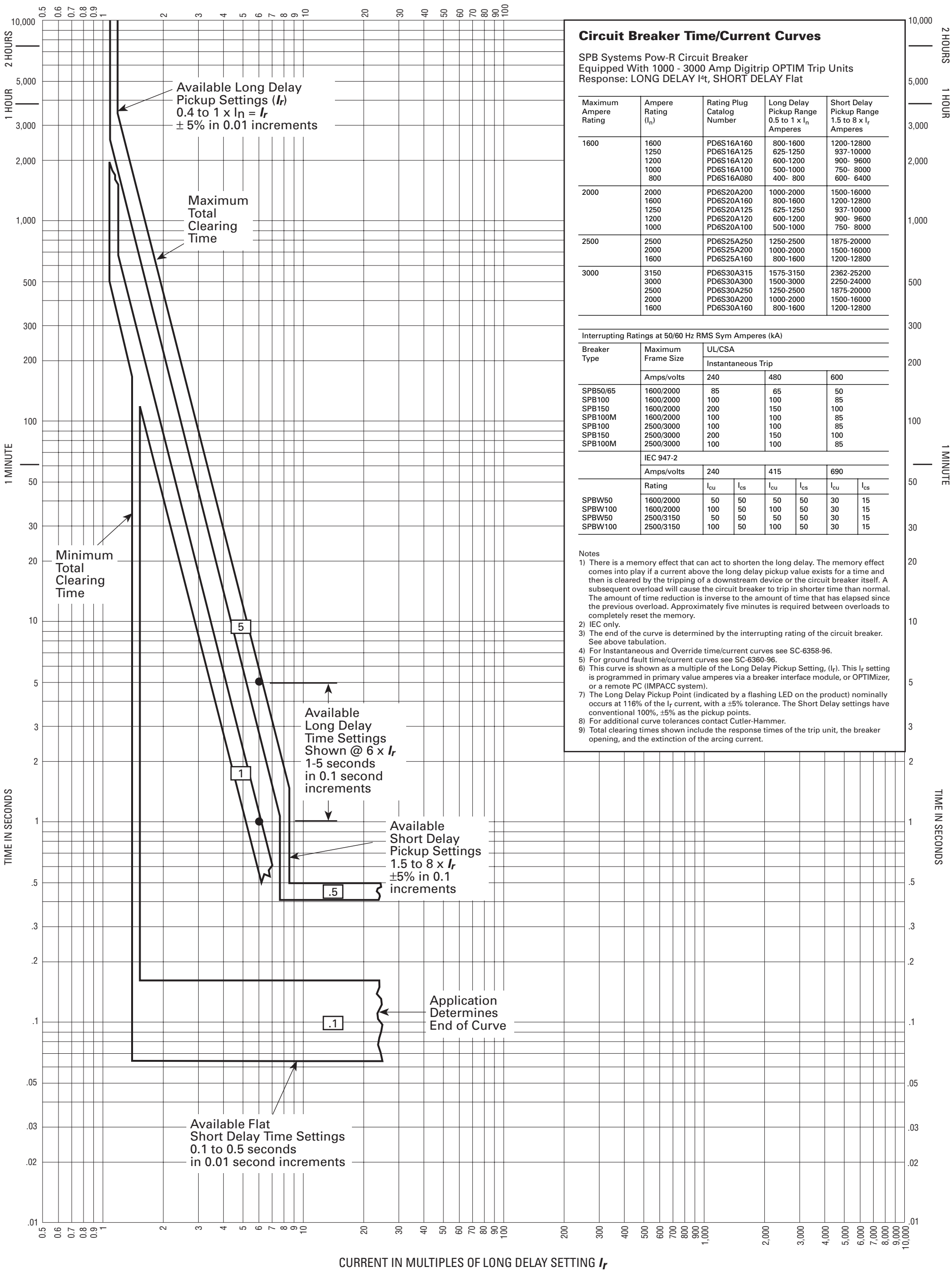

Circuit Breaker Time/Current Curves

SPB Systems Pow-R Circuit Breaker
Equipped With 1000 - 3000 Amp Digitrip OPTIM Trip Units
Response: LONG DELAY I^4t, SHORT DELAY Flat

Maximum Ampere Rating	Ampere Rating (I_n)	Rating Plug Catalog Number	Long Delay Pickup Range 0.5 to 1 x I_n Amperes	Short Delay Pickup Range 1.5 to 8 x I_r Amperes
1600	1600	PD6S16A160	800-1600	1200-12800
	1250	PD6S16A125	625-1250	937-10000
	1200	PD6S16A120	600-1200	900- 9600
	1000	PD6S16A100	500-1000	750- 8000
	800	PD6S16A080	400- 800	600- 6400
2000	2000	PD6S20A200	1000-2000	1500-16000
	1600	PD6S20A160	800-1600	1200-12800
	1250	PD6S20A125	625-1250	937-10000
	1200	PD6S20A120	600-1200	900- 9600
	1000	PD6S20A100	500-1000	750- 8000
2500	2500	PD6S25A250	1250-2500	1875-20000
	2000	PD6S25A200	1000-2000	1500-16000
	1600	PD6S25A160	800-1600	1200-12800
3000	3150	PD6S30A315	1575-3150	2362-25200
	3000	PD6S30A300	1500-3000	2250-24000
	2500	PD6S30A250	1250-2500	1875-20000
	2000	PD6S30A200	1000-2000	1500-16000
	1600	PD6S30A160	800-1600	1200-12800

Interrupting Ratings at 50/60 Hz RMS Sym Amperes (kA)

Breaker Type	Maximum Frame Size	UL/CSA Instantaneous Trip					
	Amps/volts	240		480		600	
SPB50/65	1600/2000	85		65		50	
SPB100	1600/2000	100		100		85	
SPB150	1600/2000	200		150		100	
SPB100M	1600/2000	100		100		85	
SPB100	2500/3000	100		100		85	
SPB150	2500/3000	200		150		100	
SPB100M	2500/3000	100		100		85	
	IEC 947-2						
	Amps/volts	240		415		690	
	Rating	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}
SPBW50	1600/2000	50	50	50	50	30	15
SPBW100	1600/2000	100	50	100	50	30	15
SPBW50	2500/3150	50	50	50	50	30	15
SPBW100	2500/3150	100	50	100	50	30	15

Notes
1) There is a memory effect that can act to shorten the long delay. The memory effect comes into play if a current above the long delay pickup 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 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 the memory.
2) IEC only.
3) The end of the curve is determined by the interrupting rating of the circuit breaker. See above tabulation.
4) For Instantaneous and Override time/current curves see SC-6358-96.
5) For ground fault time/current curves see SC-6360-96.
6) This curve is shown as a multiple of the Long Delay Pickup Setting, (I_r). This I_r setting is programmed in primary value amperes via a breaker interface module, or OPTIMizer, or a remote PC (IMPACC system).
7) The Long Delay Pickup Point (indicated by a flashing LED on the product) nominally occurs at 116% of the I_r current, with a ±5% tolerance. The Short Delay settings have conventional 100%, ±5% as the pickup points.
8) For additional curve tolerances contact Cutler-Hammer.
9) Total clearing times shown include the response times of the trip unit, the breaker opening, and the extinction of the arcing current.