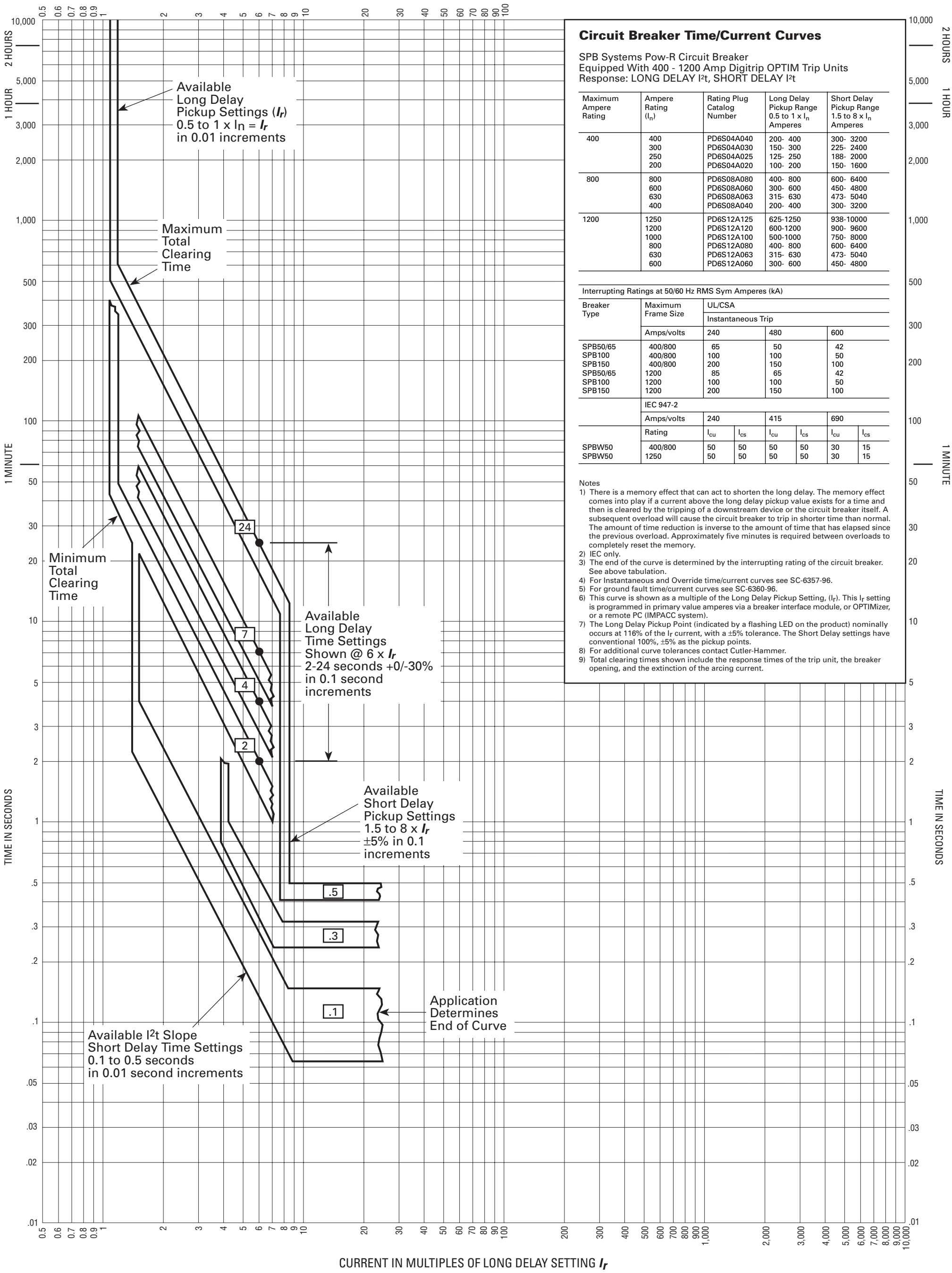

Circuit Breaker Time/Current Curves

SPB Systems Pow-R Circuit Breaker
Equipped With 400 - 1200 Amp Digitrip OPTIM Trip Units
Response: LONG DELAY I^2t, SHORT DELAY I^2t

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_n Amperes
400	400	PD6S04A040	200- 400	300- 3200
	300	PD6S04A030	150- 300	225- 2400
	250	PD6S04A025	125- 250	188- 2000
	200	PD6S04A020	100- 200	150- 1600
800	800	PD6S08A080	400- 800	600- 6400
	600	PD6S08A060	300- 600	450- 4800
	630	PD6S08A063	315- 630	473- 5040
	400	PD6S08A040	200- 400	300- 3200
1200	1250	PD6S12A125	625-1250	938-10000
	1200	PD6S12A120	600-1200	900- 9600
	1000	PD6S12A100	500-1000	750- 8000
	800	PD6S12A080	400- 800	600- 6400
	630	PD6S12A063	315- 630	473- 5040
	600	PD6S12A060	300- 600	450- 4800

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	400/800	65		50		42	
SPB100	400/800	100		100		50	
SPB150	400/800	200		150		100	
SPB50/65	1200	85		65		42	
SPB100	1200	100		100		50	
SPB150	1200	200		150		100	
	IEC 947-2						
	Amps/volts	240		415		690	
	Rating	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}
SPBW50	400/800	50	50	50	50	30	15
SPBW50	1250	50	50	50	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-6357-96.
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.