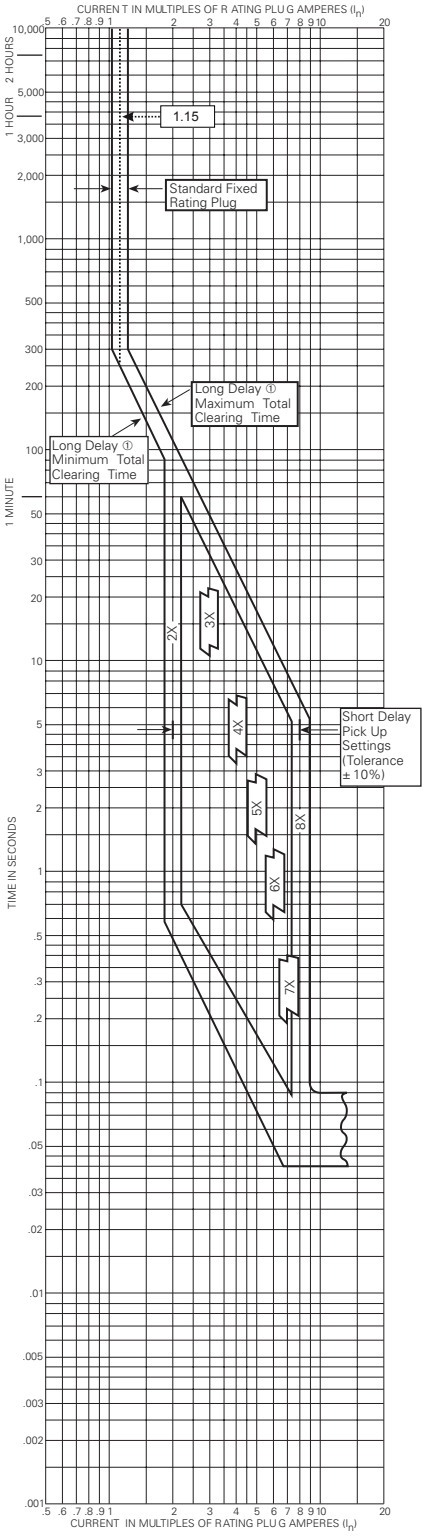
Types ND, CND, HND, CHND, NDC, CNDC, NDU, NGU Equipped With Type NES Digitrip RMS 310 Trip Units With I^2t Ramp Short Time Delay (Phase Protection)



EATON

Circuit Breaker Time/Current Curves (Phase Current)

Series C N-Frame Circuit Breakers

Equipped With Type NES Digitrip RMS 310 Trip Units

The NES Digitrip RMS 310 Trip Units are AC only devices that employ microprocessor based technology that provides true RMS current sensing means for proper correlation with thermal characteristics of conductors and equipment. They are used with Circuit Breaker Types: ND, CND, HND, CHND, NDC, and CNDC.

I^2t Ramp Short Time Delay **Typical Trip Unit Nameplate**

Available Rating Plugs

Frame Rating Amperes (Max.)	Ampere Rating (I_n)	Type	Catalog Number	Short Delay Pickup Range Amperes
800	800	Fixed	8NES800T	1600-6400
800	700	Fixed	8NES700T	1400-5600
800	630	Fixed	8NES630T ④	1260-5040
800	600	Fixed	8NES600T	1200-4800
800	550	Fixed	8NES550T	1100-4400
800	500	Fixed	8NES500T	1000-4000
800	450	Fixed	8NES450T	900-3600
800	400	Fixed	8NES400T	800-3200
1200	400, 500, 600, 800	Adj.	A8NES800T1	800-6400
1200	400, 500, 600, 800	Adj.	A8NES800T2 ④	800-6400
1200	1200	Fixed	12NES1200T	2400-9600
1200	1000	Fixed	12NES1000T	2000-8000
1200	900	Fixed	12NES900T ④	1800-7200
1200	800	Fixed	12NES800T	1600-6400
1200	700	Fixed	12NES700T	1400-5600
1200	630	Fixed	12NES630T ④	1260-5040
1200	600	Fixed	12NES600T	1200-4800
1200	600, 800, 1000, 1200	Adj.	A12NES1200T1	1200-9600

Interrupting Rating

	UL/CSA rms Sym. kA, 50/60 Hz		
Breaker Type	**240V**	**480V**	**600V**
ND, CND	65	50	25
HND, CHND	100	65	35
NDC, CNDC	200	100	50

	IEC 60947-2 rms Sym. kA, 50/60 Hz	
Breaker Type	**240/240V**	**380/415V**
ND, CND	65	50
HND, CHND	100	65
NDC, CNDC	200	100

ICS = .25 ICU, ICW = 15 kA @ .5S, U_{imp} = 8kV

Notes:

Curve accuracy applies from -20°C to +55°C ambient. For possible ampere derating for ambient above 40°C, refer to Eaton.

Digitrip RMS 310 trip units are suitable for functional field testing with test kit Cat. No. STK2. For field testing using primary injection methods, follow NEMA publication AB-4.

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 pick up 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 the memory.

② For high fault current levels a fixed instantaneous override is provided at 14000A (Tolerance ±15%).

③ The end of the curve is determined by the interrupting rating of the circuit breaker. See above tabulation.

④ Not UL/CSA Listed.

⑤ Long Delay Pickup is 115% of In, +/- 5%.

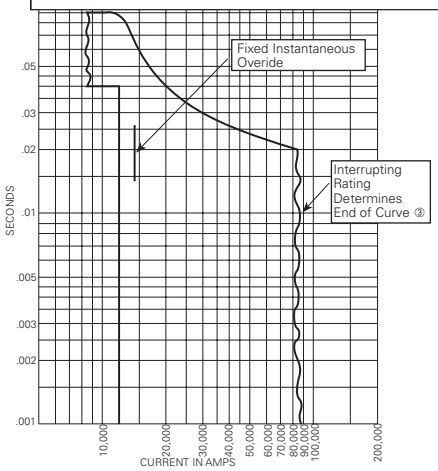


Figure 12. I^2T Ramp Short Time Delay (Phase Protection) - Curve Number SC-5375-92A, October 2006