Cutler-Hammer

Digitrip 1150 / 1150 -i Ground (Earth) Curve

Circuit Breaker Time/Current Curves (Ground Current)

Magnum and Magnum DS Circuit Breakers
Response: Ground (Earth) Trip (FLAT & IT)
This curve is for 50Hz or 60Hz applications.

Notes:
1. The end of the curve is determined by the interrupting rating of the circuit breaker.
2. For phase current time/current curves, see curves 70C1031 through 70C1040.
3. The curve is shown as a multiple of the Rating Plug (I_n).
4. The Ground Fault settings have conventional 100% ± 10% as their pick up points.
5. Except as noted, tolerances on current levels are ±10% of values shown in chart.
6. The Ground Fault Pickup is limited to 1200A setting for the Digitrip 1150 unit. The Digitrip 1150 unit only has a minimum Earth Pickup setting starting at 0.1 x I_n.
7. With zone interlocking on ground fault utilized and no restraining signal, the minimum time band (FLAT) applies regardless of setting.
8. Total clearing times shown include the response time of the trip unit, the breaker opening, and the interruption of the current.
9. Ground Slope: FLAT
   Tolerance is +0 / -80 ms except
       0.10s setting band is 0.06 to 0.13
       0.2 0s setting band is 0.15 to 0.22
10. Ground Slope: IT
   IT slope flattens out at 0.625x I_n for top of band with FLAT time minimum value prevailing for bottom of band.

   Curve Trip Equation: Trip = (GROUND TIME) x 0.39 / I^2 (top)

   Curve Trip Equation: Trip = ((GROUND TIME) x 0.39 / I^2) * 0.70 (bottom)
   The above equations indicate tolerance is +0 / -30% for all settings except
       0.10s is +30% -25%
       0.20s is +10% -25%

Available GND PU Setting 0.25 to 1.0x I_n ±10% with steps of 0.01. See note 6

0.50s

Available FLAT response GROUND TIME 0.1 to 0.5 seconds

FLAT response for GROUND TIME See notes 7, 9

Available GND PU Setting 0.25 to 1.0x I_n ±10% with steps of 0.01. See note 6

Break point @ 0.625x I_n to FLAT

Max Clearing Time

See notes 9, 10

0.50s

0.10s

Available IT Response GROUND TIME 0.1 to 0.5 seconds with 0.05 s increments

Min Clearing Time for 0.1 s setting

Current in Multiples of Rating (I)$_n$

TIME IN SECONDS

2 HOURS — 1 HOUR — 1 MINUTE

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