Multi-Function Electronic Trip Units for All Applications

Digitrip RMS Trip Units

True rms Sensing

Digitrip RMS Trip Units utilize our patented microprocessor-based intelligence to provide true rms sensing, permitting increased accuracy and reliable system protection. True rms sensing is not susceptible to nuisance tripping when waveforms containing high harmonic currents are present.

Digitrip RMS 310

Digitrip RMS 310 Electronic Trip Units are available with Cutler-Hammer Circuit Breakers J- and L-Frames 20 through 600 amperes.

Digitrip RMS 310+

Digitrip RMS 310+ Electronic Trip Units are available with Cutler-Hammer Circuit Breakers JG and LG. They are selectable long time delay (t_{LD}) and pickup settings (I_r). A rating plug is not required. The Digitrip 310+ offers true rms sensing, is front adjustable and has an optional local display of current and cause of trip.

RCurve Shaping

When selectively coordinated systems are called for, Digitrip RMS 310 will provide a cost-effective solution for a variety of applications.

The standard Digitrip RMS 310 includes an adjustable short time pickup setting encompassing an I^2t ramp function which provides the basic LS curve shaping function. JG- and LG-Frames have an adjustable long time delay.

JG- and LG-Frames have selectable long time delay (t_{LD}) and pickup settings (I_r). A rating plug is not required.

The optional Digitrip RMS 310 provides additional flat response short time delay adjustments on an instantaneous setting to provide LSI curve shaping capability.

Digitrip RMS 310 Trip Units are available with ground fault pickup and flat response ground fault delay which provides the trip unit with full function LSG and LSIG curve shaping flexibility.

Note: Contact factory for availability of ground fault for LG-Frame trip unit.

Digitrip RMS 310 Trip Units can effectively coordinate with both sophisticated upstream power breakers as well as downstream thermal magnetic breakers…making Digitrip RMS 310 Trip Units the cost-effective reliable choice for selectively coordinated systems.

Thermal Memory

All Digitrip RMS Trip Units incorporate a long delay. Thermal memory prevents the system from cumulative overheating due to repeated overcurrent events that may occur in quick succession.

Field Testing

A field test kit is available for Digitrip RMS 310 trip units.

Digitrip RMS 610 and 910

RMS 610

RMS 910

Digitrip RMS 610 and 910 Trip Units are available with Cutler-Hammer R-Frame Circuit Breakers 800 through 2500 amperes. Digitrip 610 and 910 Trip Units provide unparalleled system protection with the added convenience of a local display.

Curve Shaping

Digitrip RMS 610 and 910 Trip Units are available with up to nine curve shaping choices achieved by adjusting up to seven switches on the front of the unit for optimum system coordination. Maximum curve shaping flexibility is provided by dependent long and short delay adjustments that are long delay pickup (I_r) based, depicted on the front of the unit by the blue portion of the time-current curve.

Additional coordination capability can be provided by utilizing the short delay and ground fault zone selective interlocking features available on these trip units.

Digitrip RMS Electronic Trip Unit Selection Guide

Table 45-5. Digitrip RMS Electronic Trip Unit Selection Guide

Digitrip	RMS 310
	 RG  JG  LG/NG

Breaker Type			
Cutler-Hammer Frame(s)		JG-, LG-Frames	
Ampere Rating		20 – 2500 A	
Interrupting Rating at 415 V		35, 70, 100 kA	
Trip Unit Sensing			
rms Sensing		Yes	
Protection and Coordination			
Protection	Ordering Options	LS, LSG	LSI, LSIG
	Fixed Rating Plug (I_n) ①	Yes	Yes
	Overtemperature Trip	Yes	Yes
Long Delay	Adjustable Rating Plug (I_n) ①	Yes	Yes
	Long Delay Setting	0.5 – 1.0 (I_n) ②	0.5 – 1.0 (I_n) ②
	Long Delay Time I^2t at 6x	10 Seconds ②	10 Seconds ②
	Long Delay Thermal Memory	Yes	Yes
	High Load Alarm	No	No
Short Delay	Short Delay Setting	Var/Frame ③	Var/Frame ③
	Short Delay Time I^2t	100 ms	No
	Short Delay Time Flat	No	I – 300 ms
	Short Delay Time ZSI	No	No
Instantaneous	Instantaneous Setting	No	200 – 800% x (I_n) ④
	Discriminator	No	No
	Instantaneous Override	Yes	Yes
Ground Fault	Ground Fault Setting	Var/Frame ⑤	Var/Frame ⑤
	Ground Fault Delay I^2t at .62x	No	No
	Ground Fault Delay Flat	I – 500 ms ⑥	I – 500 ms ⑥
	Ground Fault ZSI	No	No
	Ground Fault Thermal Memory	No	No
System Diagnostics			
Cause of Trip LEDs		No	No
Magnitude of Trip Information		No	No
Remote Signal Contacts		No	No
System Monitoring			
Digital Display		No	No
Current		No	No
Voltage		No	No
Power and Energy		No	No
Power Quality — Harmonics		No	No
Power Factor		No	No
System Communications			
PowerNet		No	No
Field Testing			
Testing Method		Test Set	Test Set

① JG- and LG-Frames have selectable settings instead of a rating plug.

② JG-, LG- and NG-Frames have adjustable long delay times of 2 – 24 seconds.

③ JG/LG: 2X – 14X (I_n); NG: 2X – 8X (I_n); RG: 2X – 8X (I_n); 2500 ampere RG-Frame 200 – 600% x (I_n).

④ JG-Frame also has a 14X setting.

⑤ Not to exceed 1200 amperes.

⑥ JG- and LG-Frames are Instantaneous, 120 ms. NG- and RG-Frames are Instantaneous, 100, 300 and 500 ms.

Note: I_n = Rating plug rating.
I_r = Long delay setting.

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