

## **ANSI/IEEE Device Numbers**

Protective relays are generally referred to by standard device numbers. For example, a time overcurrent relay is designated a 51 device, while an instantaneous overcurrent is a 50 device. Multifunction relays have combinations of device numbers. A 27/59 device, for example, is a combination under/over voltage relay. Letters can be added to clarify application (87T for transformer differential, 59G for ground overvoltage). This is a partial list of the device numbers commonly used on the Basler web site. For a complete listing, refer to ANSI/IEEE C37.2.

## **Device Number Function**

24	OVEREXCITATION RELAY - Functions with time delay (inverse, step or definite time) for overexcitation conditions as evidenced by Volts/Hertz.
25	SYNC-CHECK RELAY - Functions when two ac circuits are within desired limits of frequency, phase angle and voltage to permit the paralleling of these two circuits.
25A	AUTOMATIC SYNCHRONIZING RELAY - Acts to bring two ac circuits within desired limits of frequency, phase angle and voltage, then initiates the paralleling of these two circuits.
27	UNDERVOLTAGE RELAY - Functions on a given value of undervoltage.
27N	GROUND FAULT UNDERVOLTAGE RELAY - Functions on a given value of third harmonic undervoltage.
32	POWER RELAY - Functions on a desired value of power flow in a given direction.
37	UNDERCURRENT RELAY - Functions on a given value of undercurrent.
40	LOSS OF FIELD RELAY - Functions on a given value of dc field current.
46	PHASE BALANCE CURRENT RELAY - Functions on a given degree of unbalance between the polyphase currents.
46N	NEGATIVE SEQUENCE OVERCURRENT - Functions when the polyphase currents contain negative sequence components above a given value.
47	PHASE SEQUENCE VOLTAGE RELAY - Functions on a given value of polyphase voltage in the desired phase sequence.
47N	NEGATIVE SEQUENCE VOLTAGE RELAY - Functions on a given value of the negative sequence component of the polyphase voltage.
49	THERMAL RELAY - Functions when the temperature of a machine, transformer or other load-carrying winding exceeds a given value.
50	INSTANTANEOUS OVERCURRENT RELAY - Functions without intentional time delay when the current exceeds a given value.
50BF	BREAKER FAILURE RELAY - Functions when current continues to flow after the monitored breaker should have interrupted a fault.
51	TIME OVERCURRENT RELAY - Functions with a definite or inverse time characteristic when the current exceeds a given value.
51/27C	VOLTAGE CONTROLLED TIME OVERCURRENT RELAY - A time overcurrent relay whose pickup is adjusted by an undervoltage function.
51/27R	VOLTAGE RESTRAINED TIME OVERCURRENT RELAY - A time overcurrent relay whose pickup is adjusted by an undervoltage function.
59	OVERVOLTAGE RELAY - Functions as a given value of overvoltage.
59N	GROUND FAULT OVERVOLTAGE RELAY - Functions on a given value of Overvoltage at the fundamental frequency.
60	VOLTAGE BALANCE RELAY - Functions on a quantitative voltage difference between two circuits.
67	AC DIRECTIONAL OVERCURRENT RELAY - Functions on a desired value of ac overcurrent flowing in a predetermined direction.
79	AC RECLOSING RELAY - Controls the automatic reclosing and locking out of an ac circuit interrupter.
81	FREQUENCY RELAY - Functions on a predetermined value of frequency (either under or over or on normal system frequency) or rate of change of frequency.
87	DIFFERENTIAL PROTECTIVE RELAY - Functions on a percentage or phase angle or other quantitative difference of two currents or of some other electrical quantities.

If you need additional information, contact



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