

BREAKERS

Circuit Breakers: It is a device used to make and break the circuits with protection. It is going to work as a protecting device for electrical circuits. If the circuits are exceeding its rated current, then breaker will trip and protect the equipments, wiring and switches. Normally these will have three positions On, Off & Trip. Once breaker tripped to reset first keep in "Off" and then switch on.

Sl No	Name Of the Breaker	Location	Energizing/ Protecting in shut down	Energizing / protecting in engine running	Effect on Tripping in shut down	Effect on tripping in engine running
1	Battery Breaker (MB1)	On control panel	All control circuits (Battery +ve only)	Only battery circuit (charging/ discharging)	Engine not cranking (control circuits will not energize)	Battery ammeter shows '0' (zero)
2	Control Breaker (MB2)	On control panel	All control circuits (Battery & Auxiliary -ve)	All control circuits (Negative energizing)	Engine not cranking (control circuits will not energize)	Automatic engine shutdown
3	Master Fuel Pump Breakers (MFPB1 & MFPB2)	On control stand 1 & 2	Fuel pump contactor & other control circuits	Fuel pump contactor & other control circuits	Engine not cranking, FPC will not close & control circuits will not energize	Automatic engine shutdown
4	Fuel pump Breaker (FPM)	On control panel	FP motor and engine starting circuits, Engine Governor & radiator fan circuits	FP motor and engine starting circuits, Engine Governor & radiator fan circuits	Engine not cranking starting circuits will not energize	Automatic engine shutdown (GOV circuits De energizing and FP motor Off
5	Crank Case Exhauster motor Breaker (CCEM)	On control panel	Crank case exhauster motor working	Crankcase exhauster motor working	CCEM motor breaker failure indication	Spring loaded explosive doors opening after some time. No change on engine running.
6	Auxiliary Generator Field Breaker (AGFB)	On control panel	No effect in shut down condition	Auxiliary generator armature supply is connected to Aux Gen Field through VRP	No effect on engine during starting/working.	Battery ammeter will show discharge.

Sl No	Name Of the Breaker	Location	Energizing/Protecting in shut down	Energizing /protecting in engine running	Effect on Tripping in shut down	Effect on tripping in engine running
7	Master control breaker 1 & 2 (MCB1 & MCB 2)	On control stand 1 & 2	Engine speed circuit (DMR, ESR1, 2, 3, 4,) (ERR, AV, BV, CV & DV Solenoids)	Engine speed circuit (DMR, ESR1, 2, 3, 4) (ERR AV, BV, CV & DV Solenoids)	No effect on engine during starting.	Throttle will not respond.
8	Head light breaker (HLB)	On control panel	Head lights will glow through switches	Head lights will glow through switches	Both head lights will not glow	Both head lights will come to off
9	Lighting Breaker	On control panel	All locomotive lights will work through switches	All locomotive lights will work through switches	Lights will not glow	Lights will come to off
10	Dome light breaker	On control panel	Only Dome light will glow through switches	Only Dome light will glow through switches	Dome Light will not glow	Dome light will come to off
11	Dust Exhauster motor breaker	On control panel	Dust exhauster motor (two) will starts working	Dust exhauster motor (two) will starts working	Dust exhauster motors will not work	Dust exhauster motors will come to off
12	Duplicate Breakers a)'MFPB' - SHCS b)'MCB' - LHCS c) 'FPB' - On panel d)'AGFB' - do - e) 'CCEB' - do - f) 'ERFB' - do -	Short hood control stand, Long hood control stand & On control panel	If any defective in original breaker these duplicate breaker will make to energize the circuit	If any defective in original breaker these duplicate breaker will make to energize the circuit	If duplicate breaker also going to trip particular circuit may be defective	If duplicate breaker also going to trip particular circuit may be defective