|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Protection Operated | Protection Panel  Indication | | | | | Phase  Segregation | LEDs’ on Relay | SAS HMI Alarm | CB  Operation | | | IN/OUT |
| RET670  87T Diff | TRIP INST. | 86T1 OPTD | 94T1  OPTD | HV  CBF INIT | LV  CBF INIT | R – Y – B | R- PH TRIP + Y-PH TRIP +  B-PH TRIP + DIFF TRIP | 86T1 OPTD + 94T1 OPTD + DIFF OPTD +  LV CBF-1 INIT. + LV CBF-2 INIT. + HV CBF-1 INIT. + HV CBF-2 INIT. + CB CLOSE LOCKOUT + ACSE INITIATION | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
| OK | OK | OK | OK | OK | OK | OK | OK | OK | OK | OK | OK |
| RET670  REF HV | TRIP INST. | 86T1 OPTD | 94T1  OPTD | HV  CBF INIT | LV  CBF INIT | R – Y – B | REF HV TRIP | HV REF 64NP-1 OPTD + 86T1 OPTD + 94T1 OPTD + LV CBF-1 INIT. + LV CBF-2 INIT. + HV CBF-1 INIT. + HV CBF-2 INIT. + CB CLOSE LOCKOUT + ACSE INITIATION | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
| OK | OK | OK | OK | OK | OK | OK | OK | OK | OK | OK | OK |
| RET670  REF LV | TRIP INST. | 86T1 OPTD | 94T1  OPTD | HV  CBF INIT | LV  CBF INIT | R – Y – B | REF LV TRIP | LV REF 64NS-1 OPTD + 86T1 OPTD + 94T1 OPTD + LV CBF-1 INIT. + LV CBF-2 INIT. + HV CBF-1 INIT. + HV CBF-2 INIT. + CB CLOSE LOCKOUT + ACSE INITIATION | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
| OK | OK | OK | OK | OK | OK | OK | OK | OK | OK | OK | OK |
| RET670  OC HV | TRIP  DELAYED | 86T1 OPTD | 94T1  OPTD | HV  CBF INIT | LV  CBF INIT | R – Y – B | R- PH TRIP + Y-PH TRIP +  B-PH TRIP + 51 HV TRIP | 86T1 OPTD + 94T1 OPTD + HV 51-1 OPTD +  LV CBF-1 INIT. + LV CBF-2 INIT. +  HV CBF-1 INIT. + HV CBF-2 INIT. +  CB CLOSE LOCKOUT | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
| OK | OK | OK | OK | OK | OK | OK | OK | OK | OK | OK | OK |
| RET670  OC LV | TRIP  DELAYED |  | 94T1  OPTD |  | LV  CBF INIT | R – Y – B | R- PH TRIP + Y-PH TRIP +  B-PH TRIP + 51 LV TRIP | 86T1 OPTD + 94T1 OPTD + LV 51-1 OPTD +  LV CBF-1 INIT. + LV CBF-2 INIT. +  + CB CLOSE LOCKOUT | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
| OK |  | OK |  | OK | OK | OK | OK | OK | OK | OK | OK |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Protection Operated | Protection Panel  Indication | | | | | Phase  Segregation | LEDs’ on Relay | SAS HMI Alarm | CB  Operation | | | IN/OUT |
| RET670  EF HV | TRIP DELAYED | 86T1 OPTD | 94T1  OPTD | HV  CBF INIT | LV  CBF INIT |  | 51N HV TRIP | 86T1 OPTD + 94T1 OPTD + HV 51N-1 OPTD  + LV CBF-1 INIT. + LV CBF-2 INIT. +  HV CBF-1 INIT. + HV CBF-2 INIT. +  CB CLOSE LOCKOUT | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
| OK | OK | OK | OK | OK |  | OK | OK | OK | OK | OK | OK |
| RET670  EF LV | TRIP DELAYED |  | 94T1  OPTD |  | LV  CBF INIT |  | 51N LV TRIP | 86T1 OPTD + 94T1 OPTD + LV 51N-1 OPTD  + LV CBF-1 INIT. + LV CBF-2 INIT. + | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
| OK |  | OK |  | OK |  | OK | OK | OK | OK | OK | OK |
| RET670  CBF HV |  |  |  | HV  CBF INIT |  |  | CBF HV TRIP | HV CBF-1 INIT. + HV CBF-2 INIT. +  HV CBF LOCKOUT OPTD | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
|  |  |  | OK |  |  | OK | OK | OK | OK | OK | OK |
| RET670  CBF LV | TRIP  DELAYED | 86T1 OPTD | 94T1  OPTD |  | LV  CBF INIT |  | CBF LV TRIP | LV CBF-1 INIT. + LV CBF-2 INIT.  + HV CBF-1 INIT. + HV CBF-2 INIT.  + LV CBF LOCKOUT OPTD  + CB CLOSE LOCKOUT | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
| OK | OK | OK |  | OK |  | OK | OK | OK | OK | OK | OK |
| RET670  N. ALARM |  |  |  |  |  |  | NEUTRAL ALARM | NEUTRAL ALARM | TRIP BY TC1 | HV CB CLOSE BLK | LV CB CLOSE BLK | IN/OUT CHECKED |
|  |  |  |  |  |  | OK | OK | OK | OK | OK | OK |
| Protection Operated | Protection Panel  Indication | | | | | Phase  Segregation | LEDs’ on Relay | SAS HMI Alarm | CB  Operation | | | IN/OUT |
| RET670  SBEF | TRIP DELAYED |  | 94T1  OPTD |  | LV  CBF INIT |  | SBEF TRIP | SBEF TRIP + 94T1 OPTD + LV CBF-1 INIT.  + LV CBF-2 INIT. | TRIP BY TC1 |  |  | IN/OUT CHECKED |
| OK |  | OK |  | OK |  | OK | OK | OK |  |  | OK |