1. **GENERAL INFORMATION :**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Serial No. |  |  | Rated Voltage | 125 V DC |
| Make |  | Aux. Voltage | 48 – 250V |
| ORDER NO. | 1MRB150082M0002 | MODEL NO. | REB500 |
| Firmware Ver. | 7.60 | Rated Current | 1.0 A |
| Scheme Type | Double Bus Single Breaker | No. of Bay Units | 25 |
| Frequency | 60 Hz | CT Ratio | 4000/1A |

1. **MECHANICAL CHECKS AND VISUAL INSPECTION:**

|  |  |  |
| --- | --- | --- |
| ITEM | DESCRIPTION | CHECKED |
| 1 | Inspect for physical damage / defects. |  |
| 2 | Check tightness of all connections. |  |
| 3 | Verify connections as per approved drawings |  |

1. **ELECTRICAL TEST:**

|  |  |  |
| --- | --- | --- |
| ITEM | DESCRIPTION | CHECKED |
| 1 | Case earthing checked. |  |
| 2 | Front communication verified by REBWIN software. |  |
| 3 | Set Time and Date |  |
| 4 | Binary Inputs checked as per scheme. |  |
| 5 | Binary Outputs checked as per scheme. |  |
| 6 | LED indications checked. |  |
| 7 | Test Switch function checked. |  |
| 8 | Auxiliary DC supply checked. |  |
| 9 | CT circuit checked. |  |

1. **INPUTS, OUTPUTS AND LEDS CHECK FOR CENTRAL UNIT AND BAY UNIT:**
   1. **CENTRAL UNIT (SLOT no. 16 (500BIO))**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | BB 1A IN |  |
| **OC 02** | BB 1B IN |  |
| **OC 03** | BB 2A IN |  |
| **OC 04** | BB 2B IN |  |
| **OC 05** | CBF OUT OF SERVICE FOR ALL ZONES |  |
| **OC 06** | SPARE |  |
| **OC 07** | SPARE |  |
| **OC 08** | SPARE |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BB-1A OPTD TO FR |  |
| **CR 02** | BB-1B OPTD TO FR |  |
| **CR 03** | SPARE |  |
| **CR 04** | BB-2A OPTD TO FR |  |
| **CR 05** | BB-2B OPTD TO FR |  |
| **CR 06** | CENTRAL UNIT IN CERVICE(RELAY FAULTY) |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **A1.1-2 (SN.01)** | CENTRAL UNIT POWER SUPPLY MODULE-1 FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | BLOCK BB ZONE BUS-1A | STATE LED |  |
| **LED 02** | BLOCK BB ZONE BUS-2A | STATE LED |  |
| **LED 03** | BLOCK BB ZONE BUS-1B | STATE LED |  |
| **LED 04** | BLOCK BB ZONE BUS-2B | STATE LED |  |
| **LED 05** | BUSBAR PROTECTION BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTECTION BLOCKED | STATE LED |  |
| **LED 07** | DIFF. CURRENT ALARM | STATE LED |  |
| **LED 08** | CHECK ZONE DIFF. ALARM | STATE LED |  |
| **LED 09** | ISOLATOR ALARM | STATE LED |  |
| **LED 10** | TRIP BB ZONE BUS-1A | LATCHED LED |  |
| **LED 11** | TRIP BB ZONE BUS-2A | LATCHED LED |  |
| **LED 12** | TRIP BB ZONE BUS-1B | LATCHED LED |  |
| **LED 13** | TRIP BB ZONE BUS-2B | LATCHED LED |  |
| **LED 14** | CHECK ZONE OPERATED | LATCHED LED |  |
| **LED 15** | BUSBAR PROTN TRIP R-PHASE | LATCHED LED |  |
| **LED 16** | BUSBAR PROTN TRIP Y-PHASE | LATCHED LED |  |
| **LED 17** | BUSBAR PROTN TRIP B-PHASE | LATCHED LED |  |
| **LED 18** | CBF OPERATED | LATCHED LED |  |
| **LED 19** | END FAULT PROTECTION OPERATED | LATCHED LED |  |
| **LED 20** | SPARE | ------ |  |

* 1. **BAY UNIT**
     1. **87BU2-15 (SPARE OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 1505 OPEN |  |
| **OC 02** | CB 1505 CLOSE |  |
| **OC 03** | DS 1504 ISOLATOR OPEN |  |
| **OC 04** | DS 1504 ISOLATOR CLOSE |  |
| **OC 05** | DS 1506 ISOLATOR OPEN |  |
| **OC 06** | DS 1506 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 1504 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 1506 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 1505 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCK | STATE LED |  |
| **LED 07** | CBF PROTN BLOCK | STATE LED |  |
| **LED 08** | EFP OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-13 (SPARE OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 1305 OPEN |  |
| **OC 02** | CB 1305 CLOSE |  |
| **OC 03** | DS 1304 ISOLATOR OPEN |  |
| **OC 04** | DS 1304 ISOLATOR CLOSE |  |
| **OC 05** | DS 1306 ISOLATOR OPEN |  |
| **OC 06** | DS 1306 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 1304 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 1306 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 1305 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-11 (SPARE FOR SVC)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 1105 OPEN |  |
| **OC 02** | CB 1105 CLOSE |  |
| **OC 03** | DS 1104 ISOLATOR OPEN |  |
| **OC 04** | DS 1104 ISOLATOR CLOSE |  |
| **OC 05** | DS 1106 ISOLATOR OPEN |  |
| **OC 06** | DS 1106 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 1104 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 1106 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 1105 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-09 (LINE 8784 OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 905 OPEN |  |
| **OC 02** | CB 905 CLOSE |  |
| **OC 03** | DS 904 ISOLATOR OPEN |  |
| **OC 04** | DS 904 ISOLATOR CLOSE |  |
| **OC 05** | DS 906 ISOLATOR OPEN |  |
| **OC 06** | DS 906 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 904 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 906 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 905 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-07 (GT1 - FUTURE)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 705 OPEN |  |
| **OC 02** | CB 705 CLOSE |  |
| **OC 03** | DS 704 ISOLATOR OPEN |  |
| **OC 04** | DS 704 ISOLATOR CLOSE |  |
| **OC 05** | DS 706 ISOLATOR OPEN |  |
| **OC 06** | DS 706 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 704 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 706 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 705 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-05 (SPARE OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 505 OPEN |  |
| **OC 02** | CB 505 CLOSE |  |
| **OC 03** | DS 504 ISOLATOR OPEN |  |
| **OC 04** | DS 504 ISOLATOR CLOSE |  |
| **OC 05** | DS 506 ISOLATOR OPEN |  |
| **OC 06** | DS 506 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 504 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 506 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 505 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-03 (LINE 8783 OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 305 OPEN |  |
| **OC 02** | CB 305 CLOSE |  |
| **OC 03** | DS 304 ISOLATOR OPEN |  |
| **OC 04** | DS 304 ISOLATOR CLOSE |  |
| **OC 05** | DS 306 ISOLATOR OPEN |  |
| **OC 06** | DS 306 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 03** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 04** | BUSBAR DIFF TRIP TO FR |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 304 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 306 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 305 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-01 (SGT-01)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 105 OPEN |  |
| **OC 02** | CB 105 CLOSE |  |
| **OC 03** | DS 104 ISOLATOR OPEN |  |
| **OC 04** | DS 104 ISOLATOR CLOSE |  |
| **OC 05** | DS 106 ISOLATOR OPEN |  |
| **OC 06** | DS 106 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 104 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 106 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 105 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-130A (BUS COUPLER-1)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 130 OPEN |  |
| **OC 02** | CB 130 CLOSE |  |
| **OC 03** | DS 134 ISOLATOR OPEN |  |
| **OC 04** | DS 134 ISOLATOR CLOSE |  |
| **OC 05** | DS 136 ISOLATOR OPEN |  |
| **OC 06** | DS 136 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | SPARE |  |
| **CR 03** | BB TRIP TO 87BU2-130B |  |
| **CR 04** | BB TRIP TO FR |  |
| **CR 05** | SPARE |  |
| **CR 06** | BB TRIP TO LOR |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | BUSBAR DIFF TRIP |  |
| **CR 11** | SPARE |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 134 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | CB 130 CLOSE | STATE LED |  |
| **LED 03** | CBF INITIATION | LATCHED LED |  |
| **LED 04** | GENERAL ALARM | STATE LED |  |
| **LED 05** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 07** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 08** | SPARE | --- |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-130B (BUS COUPLER-1)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 130 OPEN |  |
| **OC 02** | CB 130 CLOSE |  |
| **OC 03** | DS 134 ISOLATOR OPEN |  |
| **OC 04** | DS 134 ISOLATOR CLOSE |  |
| **OC 05** | DS 136 ISOLATOR OPEN |  |
| **OC 06** | DS 136 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | CBF TRIP TO FR |  |
| **CR 03** | BB TRIP TO 87BU2-130A |  |
| **CR 04** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 05** | BB TRIP TO LOR |  |
| **CR 06** | SPARE |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | SPARE |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 136 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | CB 130 CLOSE | STATE LED |  |
| **LED 03** | CBF INITIATION | LATCHED LED |  |
| **LED 04** | GENERAL ALARM | STATE LED |  |
| **LED 05** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 07** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 08** | SPARE | --- |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-120A (BUS SECTION-1)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 120 OPEN |  |
| **OC 02** | CB 120 CLOSE |  |
| **OC 03** | DS 124A ISOLATOR OPEN |  |
| **OC 04** | DS 124A ISOLATOR CLOSE |  |
| **OC 05** | DS 124B ISOLATOR OPEN |  |
| **OC 06** | DS 124B ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | CBF TRIP TO FR |  |
| **CR 03** | BB TRIP TO 87BU2-120B |  |
| **CR 04** | BB TRIP TO LOR |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | SPARE |  |
| **CR 08** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | SPARE |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 124B ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | CB 120 CLOSE | STATE LED |  |
| **LED 03** | CBF INITIATION | LATCHED LED |  |
| **LED 04** | GENERAL ALARM | STATE LED |  |
| **LED 05** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 07** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 08** | SPARE | --- |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-120B (BUS SECTION-1)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 120 OPEN |  |
| **OC 02** | CB 120 CLOSE |  |
| **OC 03** | DS 124A ISOLATOR OPEN |  |
| **OC 04** | DS 124A ISOLATOR CLOSE |  |
| **OC 05** | DS 124B ISOLATOR OPEN |  |
| **OC 06** | DS 124B ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | CBF TRIP TO FR |  |
| **CR 03** | BB TRIP TO 87BU2-120A |  |
| **CR 04** | BB TRIP TO LOR |  |
| **CR 05** | SPARE |  |
| **CR 06** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | SPARE |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 124A ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | CB 120 CLOSE | STATE LED |  |
| **LED 03** | CBF INITIATION | LATCHED LED |  |
| **LED 04** | GENERAL ALARM | STATE LED |  |
| **LED 05** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 07** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 08** | SPARE | --- |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-220A (BUS SECTION-2)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 220 OPEN |  |
| **OC 02** | CB 220 CLOSE |  |
| **OC 03** | DS 226A ISOLATOR OPEN |  |
| **OC 04** | DS 226A ISOLATOR CLOSE |  |
| **OC 05** | DS 226B ISOLATOR OPEN |  |
| **OC 06** | DS 226B ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | CBF TRIP TO FR |  |
| **CR 03** | SAPRE |  |
| **CR 04** | BB TRIP TO 87BU2-120B |  |
| **CR 05** | SPARE |  |
| **CR 06** | BB TRIP TO LOR |  |
| **CR 07** | SPARE |  |
| **CR 08** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | SPARE |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 226B ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | CB 220 CLOSE | STATE LED |  |
| **LED 03** | CBF INITIATION | LATCHED LED |  |
| **LED 04** | GENERAL ALARM | STATE LED |  |
| **LED 05** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 07** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 08** | SPARE | --- |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-120B (BUS SECTION-2)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 220 OPEN |  |
| **OC 02** | CB 220 CLOSE |  |
| **OC 03** | DS 226A ISOLATOR OPEN |  |
| **OC 04** | DS 226A ISOLATOR CLOSE |  |
| **OC 05** | DS 226B ISOLATOR OPEN |  |
| **OC 06** | DS 226B ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | CBF TRIP TO FR |  |
| **CR 03** | BB TRIP TO 87BU2-220A |  |
| **CR 04** | BB TRIP TO LOR |  |
| **CR 05** | SPARE |  |
| **CR 06** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | SPARE |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 124A ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | CB 120 CLOSE | STATE LED |  |
| **LED 03** | CBF INITIATION | LATCHED LED |  |
| **LED 04** | GENERAL ALARM | STATE LED |  |
| **LED 05** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 07** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 08** | SPARE | --- |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-230A (BUS COUPLER-2)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 230 OPEN |  |
| **OC 02** | CB 230 CLOSE |  |
| **OC 03** | DS 234 ISOLATOR OPEN |  |
| **OC 04** | DS 234 ISOLATOR CLOSE |  |
| **OC 05** | DS 236 ISOLATOR OPEN |  |
| **OC 06** | DS 236 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | CBF STAGE-2 TRIP TO FR |  |
| **CR 03** | SPARE |  |
| **CR 04** | BB TRIP TO 87BU2-230B |  |
| **CR 05** | SPARE |  |
| **CR 06** | BB TRIP TO LOR |  |
| **CR 07** | SPARE |  |
| **CR 08** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN. OPED |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 234 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | CB 230 CLOSE | STATE LED |  |
| **LED 03** | CBF INITIATION | LATCHED LED |  |
| **LED 04** | GENERAL ALARM | STATE LED |  |
| **LED 05** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 07** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 08** | SPARE | --- |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-230B (BUS COUPLER-2)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 230 OPEN |  |
| **OC 02** | CB 230 CLOSE |  |
| **OC 03** | DS 234 ISOLATOR OPEN |  |
| **OC 04** | DS 234 ISOLATOR CLOSE |  |
| **OC 05** | DS 236 ISOLATOR OPEN |  |
| **OC 06** | DS 236 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | CBF TRIP TO FR |  |
| **CR 03** | BB TRIP TO 87BU2-230A |  |
| **CR 04** | BB TRIP TO LOR |  |
| **CR 05** | SPARE |  |
| **CR 06** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 236 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | CB 230 CLOSE | STATE LED |  |
| **LED 03** | CBF INITIATION | LATCHED LED |  |
| **LED 04** | GENERAL ALARM | STATE LED |  |
| **LED 05** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 06** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 07** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 08** | SPARE | --- |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-02 (SGT-02)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 205 OPEN |  |
| **OC 02** | CB 205 CLOSE |  |
| **OC 03** | DS 204 ISOLATOR OPEN |  |
| **OC 04** | DS 204 ISOLATOR CLOSE |  |
| **OC 05** | DS 206 ISOLATOR OPEN |  |
| **OC 06** | DS 206 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 04** | BUSBAR DIFF TRIP TO FR |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 204 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 206 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 205 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-04 (LINE 8784 OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 405 OPEN |  |
| **OC 02** | CB 405 CLOSE |  |
| **OC 03** | DS 404 ISOLATOR OPEN |  |
| **OC 04** | DS 404 ISOLATOR CLOSE |  |
| **OC 05** | DS 406 ISOLATOR OPEN |  |
| **OC 06** | DS 406 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 04** | BUSBAR DIFF TRIP TO FR |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 404 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 406 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 405 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-06 (GT-2 FUTURE)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 605 OPEN |  |
| **OC 02** | CB 605 CLOSE |  |
| **OC 03** | DS 604 ISOLATOR OPEN |  |
| **OC 04** | DS 604 ISOLATOR CLOSE |  |
| **OC 05** | DS 606 ISOLATOR OPEN |  |
| **OC 06** | DS 606 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 604 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 606 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 605 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-08 (LINE 8783 OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 805 OPEN |  |
| **OC 02** | CB 805 CLOSE |  |
| **OC 03** | DS 804 ISOLATOR OPEN |  |
| **OC 04** | DS 804 ISOLATOR CLOSE |  |
| **OC 05** | DS 806 ISOLATOR OPEN |  |
| **OC 06** | DS 806 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 804 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 806 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 805 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-10 (SGT-03)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 1005 OPEN |  |
| **OC 02** | CB 1005 CLOSE |  |
| **OC 03** | DS 1004 ISOLATOR OPEN |  |
| **OC 04** | DS 1004 ISOLATOR CLOSE |  |
| **OC 05** | DS 1006 ISOLATOR OPEN |  |
| **OC 06** | DS 1006 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BUSBAR DIFF TRIP TO FR |  |
| **CR 02** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 1004 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 1006 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 1005 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-12 (LINE 8782 OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 1205 OPEN |  |
| **OC 02** | CB 1205 CLOSE |  |
| **OC 03** | DS 1204 ISOLATOR OPEN |  |
| **OC 04** | DS 1204 ISOLATOR CLOSE |  |
| **OC 05** | DS 1206 ISOLATOR OPEN |  |
| **OC 06** | DS 1206 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | BUSBAR DIFF TRIP TO FR |  |
| **CR 03** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 04** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 1204 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 1206 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 1205 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-14 (SPARE OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 1405 OPEN |  |
| **OC 02** | CB 1405 CLOSE |  |
| **OC 03** | DS 1404 ISOLATOR OPEN |  |
| **OC 04** | DS 1404 ISOLATOR CLOSE |  |
| **OC 05** | DS 1406 ISOLATOR OPEN |  |
| **OC 06** | DS 1406 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | BAY UNIT FAULTY |  |
| **CR 02** | BUSBAR DIFF TRIP TO FR |  |
| **CR 03** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 04** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 1404 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 1406 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 1405 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-16 (GT-3 FUTURE)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 1605 OPEN |  |
| **OC 02** | CB 1605 CLOSE |  |
| **OC 03** | DS 1604 ISOLATOR OPEN |  |
| **OC 04** | DS 1604 ISOLATOR CLOSE |  |
| **OC 05** | DS 1606 ISOLATOR OPEN |  |
| **OC 06** | DS 1606 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | BUSBAR DIFF TRIP TO FR |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | SPARE |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 1404 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 1406 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 1405 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

* + 1. **87BU2-18 (SPARE OHL FEEDER)**

|  |  |  |
| --- | --- | --- |
| Binary Inputs | FUNCTION (Duty) | CHECKED |
| **OC 01** | CB 1805 OPEN |  |
| **OC 02** | CB 1805 CLOSE |  |
| **OC 03** | DS 1804 ISOLATOR OPEN |  |
| **OC 04** | DS 1804 ISOLATOR CLOSE |  |
| **OC 05** | DS 1806 ISOLATOR OPEN |  |
| **OC 06** | DS 1806 ISOLATOR CLOSE |  |
| **OC 07** | CBF INITIATION |  |
| **OC 08** | CB CLOSE COMMAND |  |
| **OC 09** | SPARE |  |
| **OC 10** | SPARE |  |
| **OC 11** | SPARE |  |
| **OC 12** | SPARE |  |
| **OC 13** | SPARE |  |
| **OC 14** | SPARE |  |
| **OC 15** | SPARE |  |
| **OC 16** | SPARE |  |
| **OC 17** | SPARE |  |
| **OC 18** | SPARE |  |
| **OC 19** | SPARE |  |
| **OC 20** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| Binary Outputs | FUNCTION (Duty) | CHECKED |
| **CR 01** | CBF STAGE-2 TRIP TO LOR |  |
| **CR 02** | BUSBAR DIFF TRIP TO LOR |  |
| **CR 03** | BAY UNIT FAULTY |  |
| **CR 04** | SPARE |  |
| **CR 05** | SPARE |  |
| **CR 06** | SPARE |  |
| **CR 07** | BUSBAR DIFF TRIP TO FR |  |
| **CR 08** | SPARE |  |
| **CR 09** | SPARE |  |
| **CR 10** | SPARE |  |
| **CR 11** | END FAULT PROTN OPTD |  |
| **CR 12** | SPARE |  |
| **CR 13** | SPARE |  |
| **CR 14** | SPARE |  |
| **CR 15** | SPARE |  |
| **CR 16** | SPARE |  |

|  |  |  |
| --- | --- | --- |
| **P1-2 (SN.01)** | BAY UNIT POWER SUPPLY MODULE FAIL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| LEDS | FUNCTION (Duty) | LED MODE | CHECKED |
| **LED 01** | DS 1804 ISOLATOR CLOSE | STATE LED |  |
| **LED 02** | DS 1806 ISOLATOR CLOSE | STATE LED |  |
| **LED 03** | CB 1805 CLOSE | STATE LED |  |
| **LED 04** | CBF INITIATION | LATCHED LED |  |
| **LED 05** | GENERAL ALARM | STATE LED |  |
| **LED 06** | BUSBAR PROTN BLOCKED | STATE LED |  |
| **LED 07** | CBF PROTN BLOCKED | STATE LED |  |
| **LED 08** | END FAULT PROTN OPTD | STATE LED |  |
| **LED 09** | SPARE | --- |  |
| **LED 10** | SPARE | --- |  |
| **LED 11** | BUSBAR TRIP | LATCHED LED |  |
| **LED 12** | CBF TRIP | LATCHED LED |  |
| **LED 13** | SPARE | --- |  |
| **LED 14** | SPARE | --- |  |
| **LED 15** | SPARE | --- |  |
| **LED 16** | SPARE | --- |  |
| **LED 17** | SPARE | --- |  |
| **LED 18** | SPARE | --- |  |
| **LED 19** | SPARE | --- |  |
| **LED 20** | SPARE | --- |  |

1. **SECONDARY INJECTION TEST:**
   1. **CHECK INPUT CURRENT TRANSFORMERS:**

**Measurements are taken as per Bus Zone Selection by relative dis-connectors**

**closing in the bay.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BAY NO. | CTRATIO[A] | CURRENT INJECTED[A] | | | CURRENT MEASURED IN CU [A] | | | CURRENT MEASURED IN PU [A] | | | | DSNO. | MEAS. ZONES |
| R | Y | B | R | Y | B | R | Y | B | IN |
| **D15** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1504 | Z1A |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1506 | Z2A |
| **D13** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1304 | Z1A |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1306 | Z2A |
| **D11** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1104 | Z1A |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1106 | Z2A |
| **D09** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 904 | Z1A |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 906 | Z2A |
| **D07** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 704 | Z1A |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 706 | Z2A |
| **D05** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 504 | Z1A |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 506 | Z2A |
| **D03** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 304 | Z1A |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 306 | Z2A |
| **D01** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 104 | Z1A |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 106 | Z2A |
| **D130-2A** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | Both & CB | Z1A |
| **D130-1A** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | Both & CB | Z2A |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **D120-1A** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | Both & CB | Z1B |
| **D120-1B** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | Both & CB | Z1A |
| **D220-2A** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | Both & CB | Z2B |
| **D220-2B** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | Both & CB | Z2A |
| **D230-2B** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | Both & CB | Z1B |
| **D230-1B** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | Both & CB | Z2B |
| **D02** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 204 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 206 | Z2B |
| **D04** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 404 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 406 | Z2B |
| **D06** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 604 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 606 | Z2B |
| **D08** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 804 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 806 | Z2B |
| **D10** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1004 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1006 | Z2B |
| **D12** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1204 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1206 | Z2B |
| **D14** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1404 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1406 | Z2B |
| **D16** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1604 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1606 | Z2B |
| **D18** | 4000/1 | 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1804 | Z1B |
| 0.5 | 0.75 | 1.0 |  |  |  |  |  |  |  | 1806 | Z2B |

* 1. **DIFF. CURRENT ALARM PICK UP & TIMING TEST:**
     1. **BUS ZONE: (1A & 1B)**

**SET IDIFF = 10%, TIME = 3.0 SEC, K = 70%.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BAY NO. | CTRATIO[A] | I SET VALUE[A] | SETTIME[SEC] | MEASURED PICK UP VALUE [A] | | | MEASURED TIME AT 5\*IDIFF [SEC] | | |
| R, Y, B | R, Y, B | R | Y | B | R | Y | B |
| **D15** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D13** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D11** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D09** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D07** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D05** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D03** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D01** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D130-2A** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D130-1A** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D120-1A** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D120-1B** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D220-2A** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D220-2B** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D230-2B** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D230-1B** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D02** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D04** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D06** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D08** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D10** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D12** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D14** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D16** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D18** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |

* + 1. **BUS ZONE: (2A & 2B)**

**SET IDIFF = 10%, TIME = 3.0 SEC, K = 70%.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BAY NO. | CTRATIO[A] | I SET VALUE[A] | SETTIME[SEC] | MEASURED PICK UP VALUE [A] | | | MEASURED TIME AT 5\*IDIFF [SEC] | | |
| R, Y, B | R, Y, B | R | Y | B | R | Y | B |
| **D15** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D13** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D11** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D09** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D07** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D05** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D03** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D01** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D130-2A** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D130-1A** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D120-1A** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D120-1B** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D220-2A** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D220-2B** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D230-2B** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D230-1B** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D02** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D04** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D06** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D08** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D10** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D12** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D14** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D16** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D18** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |

* 1. **CHECK ZONE CURRENT ALARM PICK UP & TIMING TEST:**

**ALL DIS-CONNECTORS: (OPEN)**

**SET IDIFF = 10%, TIME = 3.0 SEC, K = 30%.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BAY NO. | CTRATIO[A] | I SET VALUE[A] | SETTIME[SEC] | MEASURED PICK UP VALUE [A] | | | MEASURED TIME AT 5\*IDIFF [SEC] | | |
| R, Y, B | R, Y, B | R | Y | B | R | Y | B |
| **D15** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D13** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D11** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D09** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D07** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D05** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D03** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D01** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D130-2A** | 4000/1 | 0.1 | 3.0 | **NO CHECK ZONE FUNCTION** | | | | | |
| **D130-1A** | 4000/1 | 0.1 | 3.0 |
| **D120-1A** | 4000/1 | 0.1 | 3.0 |
| **D120-1B** | 4000/1 | 0.1 | 3.0 |
| **D220-2A** | 4000/1 | 0.1 | 3.0 |
| **D220-2B** | 4000/1 | 0.1 | 3.0 |
| **D230-2B** | 4000/1 | 0.1 | 3.0 |
| **D230-1B** | 4000/1 | 0.1 | 3.0 |
| **D02** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D04** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D06** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D08** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D10** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D12** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D14** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D16** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |
| **D18** | 4000/1 | 0.1 | 3.0 |  |  |  |  |  |  |

* 1. **BUSBAR PRTOECTION PICK UP & TIMING TEST:**
     1. **BUS ZONE: (1A & 1B)**

**SET IDIFF = 4800, K = 70%.**

**FOR BUS COUPLER & BUS SECTION INJECT CHECK ZONE DIFF.**

**TO GET DISC. BUSBAR PICKUP & TIMING**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BAY NO. | CTRATIO[A] | I SET VALUE[A] |  | MEASURED PICK UP & DROP OFF VALUE [A] | | | MEASURED TIME AT 5\*IDIFF [SEC] | | |
| R, Y, B | R | Y | B | R | Y | B |
| **D15** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D13** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D11** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D09** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D07** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D05** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D03** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D01** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D130-2A** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D130-1A** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D120-1A** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D120-1B** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D220-2A** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D220-2B** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D230-2B** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D230-1B** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D02** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D04** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D06** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D08** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D10** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **D12** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D14** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D16** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D18** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |

* + 1. **BUS ZONE: (2A & 2B)**

**SET IDIFF = 4800, K = 70%.**

**FOR BUS COUP. & BUS SEC. INJECT CHECK ZONE DIFF. ALSO**

**TO GET DISC. BUSBAR PICKUP & TIMING**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BAY NO. | CTRATIO[A] | I SET VALUE[A] |  | MEASURED PICK UP & DROP OFF VALUE [A] | | | MEASURED TIME AT 5\*IDIFF [SEC] | | |
| R, Y, B | R | Y | B | R | Y | B |
| **D15** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D13** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D11** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D09** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D07** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D05** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D03** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D01** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D130-2A** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D130-1A** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D120-1A** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D120-1B** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D220-2A** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D220-2B** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D230-2B** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D230-1B** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D02** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **D04** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D06** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D08** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D10** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D12** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D14** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D16** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |
| **D18** | 4000/1 | 1.2 | PICK UP |  |  |  |  |  |  |
| DROP OFF |  |  |  |

* + 1. **CHECK ZONE CURRENT TRIP PICK UP TEST:**

**ALL DIS-CONNECTORS: (OPEN)**

**SET IDIFF = 4800, K = 30%.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BAY NO. | CTRATIO[A] | I SET VALUE[A] |  | MEASUREDPICK UP VALUE [A] | | | MEASURED TIME AT 5\*IDIFF [SEC] | | |
| R, Y, B |  | R | Y | B | R | Y | B |
| **D15** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D13** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D11** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D09** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D07** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D05** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D03** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D01** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D130-2A** | 4000/1 | 1.2 |  | **NO CHECK ZONE FUNCTION** | | | | | |
| **D130-1A** | 4000/1 | 1.2 |  |
| **D120-1A** | 4000/1 | 1.2 |  |
| **D120-1B** | 4000/1 | 1.2 |  |
| **D220-2A** | 4000/1 | 1.2 |  |
| **D220-2B** | 4000/1 | 1.2 |  |
| **D230-2B** | 4000/1 | 1.2 |  |
| **D230-1B** | 4000/1 | 1.2 |  |
| **D02** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D04** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D06** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D08** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D10** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D12** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D14** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D16** | 4000/1 | 1.2 |  |  |  |  |  |  |  |
| **D18** | 4000/1 | 1.2 |  |  |  |  |  |  |  |

* 1. **BUSBAR PROTECTION DIFF. CURRENT SLOPE TSET:**
     1. **BUS ZONE: (1A)**

**SETTING:**

**IDIFF SUPERVISION = CONTINUE IN OPERATION**

**STABLIZING FACTOR (BZ) = 70%**

**IDIFF THERSHOLD (BZ) = 1.2 A**

**STABLIZING FACTOR (CZ) = 30 %**

**IDIFF THERSHOLD (BZ) = 1.2 A**

**>> STOP CONTACT BB TRIP 3 POLE**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BU** | **PHASE** | **K – FACTOR (SLOPE)**  **SETTING** | **INJECTED CURRENT** | | **BUS ZONE** | | **K – FACTOR**  **SLOPE = ID/IS**  **MEASURED** | **REMARKS** |
| **I1 (D15)** | **I2 (D09)** | **ID** | **IS** |
| **D15**  **&**  **D09** | **R – PH** | **0.70** | 1.5 |  |  |  |  |  |
| **Y – PH** | 1.5 |  |  |  |  |  |
| **B – PH** | 1.5 |  |  |  |  |  |

* + 1. **BUS ZONE: (2A)**

**SETTING:**

**IDIFF SUPERVISION = CONTINUE IN OPERATION**

**STABLIZING FACTOR (BZ) = 70%**

**IDIFF THERSHOLD (BZ) = 1.2 A**

**STABLIZING FACTOR (CZ) = 30 %**

**IDIFF THERSHOLD (BZ) = 1.2 A**

**>> STOP CONTACT BB TRIP 3 POLE**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BU** | **PHASE** | **K – FACTOR (SLOPE)**  **SETTING** | **INJECTED CURRENT** | | **BUS ZONE** | | **K – FACTOR**  **SLOPE = ID/IS**  **MEASURED** | **REMARKS** |
| **I1 (D15)** | **I2 (D09)** | **ID** | **IS** |
| **D15**  **&**  **D09** | **R – PH** | **0.70** | 1.5 |  |  |  |  |  |
| **Y – PH** | 1.5 |  |  |  |  |  |
| **B – PH** | 1.5 |  |  |  |  |  |

* + 1. **BUS ZONE: (1B)**

**SETTING:**

**IDIFF SUPERVISION = CONTINUE IN OPERATION**

**STABLIZING FACTOR (BZ) = 70%**

**IDIFF THERSHOLD (BZ) = 1.2 A**

**STABLIZING FACTOR (CZ) = 30 %**

**IDIFF THERSHOLD (BZ) = 1.2 A**

**>> STOP CONTACT BB TRIP 3 POLE**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BU** | **PHASE** | **K – FACTOR (SLOPE)**  **SETTING** | **INJECTED CURRENT** | | **BUS ZONE** | | **K – FACTOR**  **SLOPE = ID/IS**  **MEASURED** | **REMARKS** |
| **I1 (D12)** | **I2 (D06)** | **ID** | **IS** |
| **D12**  **&**  **D06** | **R – PH** | **0.70** | 1.5 |  |  |  |  |  |
| **Y – PH** | 1.5 |  |  |  |  |  |
| **B – PH** | 1.5 |  |  |  |  |  |

* + 1. **BUS ZONE: (2B)**

**SETTING:**

**IDIFF SUPERVISION = CONTINUE IN OPERATION**

**STABLIZING FACTOR (BZ) = 70%**

**IDIFF THERSHOLD (BZ) = 1.2 A**

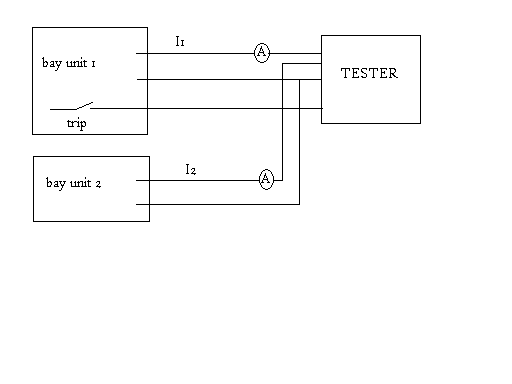
**STABLIZING FACTOR (CZ) = 30 %**

**IDIFF THERSHOLD (BZ) = 1.2 A**

**>> STOP CONTACT BB TRIP 3 POLE**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BU** | **PHASE** | **K – FACTOR (SLOPE)**  **SETTING** | **INJECTED CURRENT** | | **BUS ZONE** | | **K – FACTOR**  **SLOPE = ID/IS**  **MEASURED** | **REMARKS** |
| **I1 (D12)** | **I2 (D06)** | **ID** | **IS** |
| **D12**  **&**  **D06** | **R – PH** | **0.70** | 1.5 |  |  |  |  |  |
| **Y – PH** | 1.5 |  |  |  |  |  |
| **B – PH** | 1.5 |  |  |  |  |  |

**ID = |I1 – I2| IS = |I1| + |I2| K = ID/IS**

**VERIFY THIS CONNECTION:**

BAY UNIT – 1 & BAY UNIT – 2

ON THE SAME BUS ZONE (BZ).

INJECT I1∟0 & I2∟180 EQUALS,

DECREASE ANY ONE UP TO TRIP,

CALCULATE SLOP = ID/IS

* + 1. **CHECK ZONE: (ALL ISOLATOR ARE OPEN)**

**SETTING:**

**IDIFF SUPERVISION = CONTINUE IN OPERATION**

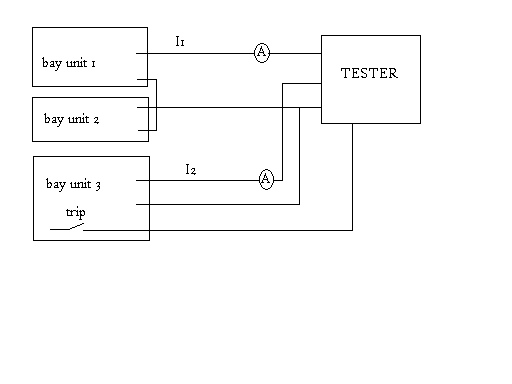
**STABLIZING FACTOR (BZ) = 70%**

**IDIFF THERSHOLD (BZ) = 1.2 A**

**STABLIZING FACTOR (CZ) = 30 %**

**IDIFF THERSHOLD (BZ) = 1.2 A**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PHASE** | **K – FACTOR (SLOPE)**  **SETTING** | **INJECTED CURRENT** | | **K – FACTOR**  **SLOPE = ID/IS**  **MEASURED** | **REMARKS** |
| **I1** | **I2** |
| **R – PH** | **0.30** | 2.0 |  |  |  |
| **Y – PH** | 2.0 |  |  |  |
| **B – PH** | 2.0 |  |  |  |



**VERIFY THIS CONNECTION:**

INJECT I1∟0 > 2 IDIFF THRESHOLD (CZ),

INCREASE I2∟180 UP TO TRIP,

CALCULATE SLOPE = **I2/ (2I1+ I2)**

* 1. **BUSBAR PROTECTION DIFF. CURRENT SLOPE TSET:**
     1. **BUS ZONE: (1A & 2A)**

**CONNECTED IN SAME BUS.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BU** | **SN** | **CURRENT (IA = 1.2A) INJECTED**  **IN REFERENCE BAY**  **WITH 0° & 180° ANGLE** | | | **OPERATING ANGLE (IB = 1.2A)**  **IN BAY UNDER TEST** | | |
| **R – PH** | **Y – PH** | **B – PH** | **R – PH** | **Y – PH** | **B – PH** |
| **D15**  **&**  **D09** | **1** | **0°** | **0°** | **0°** |  |  |  |
| **2** | **0°** | **0°** | **0°** |  |  |  |
| **3** | **180°** | **180°** | **180°** |  |  |  |
| **4** | **180°** | **180°** | **180°** |  |  |  |

* + 1. **BUS ZONE: (1B & 2B)**

**CONNECTED IN SAME BUS.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BU** | **SN** | **CURRENT (IA = 1.2A) INJECTED**  **IN REFERENCE BAY**  **WITH 0° & 180° ANGLE** | | | **OPERATING ANGLE (IB = 1.2A)**  **IN BAY UNDER TEST** | | |
| **R – PH** | **Y – PH** | **B – PH** | **R – PH** | **Y – PH** | **B – PH** |
| **D12**  **&**  **D06** | **1** | **0°** | **0°** | **0°** |  |  |  |
| **2** | **0°** | **0°** | **0°** |  |  |  |
| **3** | **180°** | **180°** | **180°** |  |  |  |
| **4** | **180°** | **180°** | **180°** |  |  |  |

1. **DECREASE** ANGLE FOR IB FROM 90°
2. **INCREASE** ANGLE FOR IB FROM 270°
3. **INCREASE** ANGLE FOR IB FROM 90°
4. **DECREASE** ANGLE FOR IB FROM 270°
   1. **ISOLATOR ALARM TSET:**
      1. **BUS ZONE: (1A)**

**CONNECTED IN SAME BUS.**

|  |  |  |
| --- | --- | --- |
| **BU** | **ISOLATOR ALARM**  **TIME SETTING [SEC]** | **MEASURED TIME [SEC]** |
| D15 |  |  |

* + 1. **BUS ZONE: (2A)**

**CONNECTED IN SAME BUS.**

|  |  |  |
| --- | --- | --- |
| **BU** | **ISOLATOR ALARM**  **TIME SETTING [SEC]** | **MEASURED TIME [SEC]** |
| D15 |  |  |

* + 1. **BUS ZONE: (1B)**

**CONNECTED IN SAME BUS.**

|  |  |  |
| --- | --- | --- |
| **BU** | **ISOLATOR ALARM**  **TIME SETTING [SEC]** | **MEASURED TIME [SEC]** |
| D12 |  |  |

* + 1. **BUS ZONE: (2B)**

**CONNECTED IN SAME BUS.**

|  |  |  |
| --- | --- | --- |
| **BU** | **ISOLATOR ALARM**  **TIME SETTING [SEC]** | **MEASURED TIME [SEC]** |
| D12 |  |  |

* 1. **BREAKER FAIL PROTECTION PICK UP, DROP OFF & TIMING TEST:**
     1. **EXTERNAL INITIATION**

SETTING: CURRENT THERSHOLD FOR BF = 0.1A

TIME SETTING FOR BF = 150 mSEC

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **PHASE** | **CIRCUIT BREAKER FAILURE** | | | | **RELAY LEDS** | **REMARKS** |
| **I SET (A)** | **PICK UP (A)** | **DROP OFF (A)** | **STG-2 (mSEC)** |
| **D15** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D13** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D11** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D09** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D07** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D05** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **D03** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D01** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D130A** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D130B** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D120A** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D220A** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D220B** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D230A** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D230B** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **D02** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D04** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D06** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D08** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D10** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D12** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D14** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D16** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D18** | R – N | 0.1 |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |

* + 1. **INTERNAL INITIATION**

**For Bus Couplers & Bus Section inject for Check Zone from other bay.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **CIRCUIT BREAKER FAILURE** | | | | **RELAY LEDS** | **REMARKS** |
| **IINJECT (A)** | **R - PH** | **Y - PH** | **B - PH** |
| **D15** | 1.2 |  |  |  |  |  |
| **D13** | 1.2 |  |  |  |  |  |
| **D11** | 1.2 |  |  |  |  |  |
| **D09** | 1.2 |  |  |  |  |  |
| **D07** | 1.2 |  |  |  |  |  |
| **D05** | 1.2 |  |  |  |  |  |
| **D03** | 1.2 |  |  |  |  |  |
| **D01** | 1.2 |  |  |  |  |  |
| **D130A** | 1.2 |  |  |  |  |  |
| **D130B** | 1.2 |  |  |  |  |  |
| **D120A** | 1.2 |  |  |  |  |  |
| **D120B** | 1.2 |  |  |  |  |  |
| **D220A** | 1.2 |  |  |  |  |  |
| **D220B** | 1.2 |  |  |  |  |  |
| **D230A** | 1.2 |  |  |  |  |  |
| **D230B** | 1.2 |  |  |  |  |  |
| **D02** | 1.2 |  |  |  |  |  |
| **D04** | 1.2 |  |  |  |  |  |
| **D06** | 1.2 |  |  |  |  |  |
| **D08** | 1.2 |  |  |  |  |  |
| **D10** | 1.2 |  |  |  |  |  |
| **D12** | 1.2 |  |  |  |  |  |
| **D14** | 1.2 |  |  |  |  |  |
| **D16** | 1.2 |  |  |  |  |  |
| **D18** | 1.2 |  |  |  |  |  |

* 1. **END FAULT PROTECTION PICK UP & TIMING TEST:**

SETTING: CURRENT THERSHOLD FOR EFP = 1.2A

TIME SETTING FOR EFP = 200 msec

ACTIVATE CB CLOSE COMMAND BINARY INPUT.

TESTING END FAULT WITH CB IN OPEN POSITION

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **PHASE** | **END FAULT PROTECTION** | | | | **EFP IN**  **CB**  **CLOSE** | **REMARKS** |
| **I SET (A)** | **PICK UP (A)** | **PICK UP TIME (msec)** | **TRIP PULSE TIME (msec)** |
| **D15** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |
| **D13** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |
| **D11** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D09** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |
| **D07** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D05** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |
| **D03** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **D01** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D130A** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D130B** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D120A** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D120B** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D220A** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D220B** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D230A** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D230B** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **D02** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D04** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |
| **D06** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D08** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |
| **D10** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D12** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |
| **D14** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |
| **D16** | R – N |  |  |  |  |  |  |
| Y – N |  |  |  |  |  |
| B – N |  |  |  |  |  |
| **D18** | R – N | 1.2 |  |  |  | No |  |
| Y – N |  |  |  | No |  |
| B – N |  |  |  | No |  |

* 1. **BUSBAR TOPOLOGY TEST:**

**We follow the following connection.**

**2B**

**2A**

**226A**

**226B**

**220**

**124B**

**230**

**403**

**503**

**136**

**236**

**404**

**405**

**505**

**130**

**120**

**1B**

**1A**

**124A**

**406**

**506**

**504**

**134**

**234**

* + 1. **CBF EXTERNAL INITIATION:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **INJECTED VALUE (A)** | **STOP CONTACT TIMING (mSEC)** | | **OPERATED ZONES** | | | |
| **BUSBAR** | **CBF** | **Z1A** | **Z2A** | **Z1B** | **Z2B** |
| **D05** | 1.0 |  |  |  |  |  |  |
| **D130A** | 1.0 |  |  |  |  |  |  |
| **D130B** | 1.0 |  |  |  |  |  |  |
| **D120A** | 1.0 |  |  |  |  |  |  |
| **D120B** | 1.0 |  |  |  |  |  |  |
| **D230A** | 1.0 |  |  |  |  |  |  |
| **D230B** | 1.0 |  |  |  |  |  |  |
| **D04** | 1.0 |  |  |  |  |  |  |

* + 1. **CBF INTERNAL INITIATION:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **INJECTED VALUE (A)** | **STOP CONTACT TIMING (mSEC)** | | **OPERATED ZONES** | | | |
| **BUSBAR** | **CBF** | **Z1A** | **Z2A** | **Z1B** | **Z2B** |
| **D05** | 1.2 |  |  |  |  |  |  |
| **D130A** | 1.2 |  |  |  |  |  |  |
| **D130B** | 1.2 |  |  |  |  |  |  |
| **D120A** | 1.2 |  |  |  |  |  |  |
| **D120B** | 1.2 |  |  |  |  |  |  |
| **D230A** | 1.2 |  |  |  |  |  |  |
| **D230B** | 1.2 |  |  |  |  |  |  |
| **D04** | 1.2 |  |  |  |  |  |  |

* + 1. **LOAD TRANSFER CONDITION (1A & 2A):**
       1. **CONDITION (BUS COUPLER 130):**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **INJECTED VALUE (A)** | **OPERATED ZONES** | | | |
| **Z1A** | **Z2A** | **Z1B** | **Z2B** |
| **D05** | 1.2 |  |  |  |  |

**We follow the following connection:**

**2A**

**1B**

**2B**

**1A**

**226A**

**226B**

**220**

**124B**

**230**

**403**

**503**

**136**

**236**

**404**

**405**

**505**

**130**

**120**

**124A**

**406**

**506**

**504**

**134**

**234**

* + - 1. **CONDITION (BUS COUPLER 230):**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **INJECTED VALUE (A)** | **OPERATED ZONES** | | | |
| **Z1A** | **Z2A** | **Z1B** | **Z2B** |
| **D05** | 1.2 |  |  |  |  |

**We follow the following connection:**

**2A**

**1B**

**2B**

**1A**

**226A**

**226B**

**220**

**124B**

**230**

**403**

**503**

**136**

**236**

**404**

**405**

**505**

**130**

**120**

**124A**

**406**

**506**

**504**

**134**

**234**

* + 1. **LOAD TRANSFER CONDITION (1B & 2B):**
       1. **CONDITION (BUS COUPLER 230):**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **INJECTED VALUE (A)** | **OPERATED ZONES** | | | |
| **Z1A** | **Z2A** | **Z1B** | **Z2B** |
| **D04** | 1.2 |  |  |  |  |

**We follow the following connection:**

**2A**

**1B**

**2B**

**1A**

**226A**

**226B**

**220**

**124B**

**230**

**403**

**503**

**136**

**236**

**404**

**405**

**505**

**130**

**120**

**124A**

**406**

**506**

**504**

**134**

**234**

* + - 1. **CONDITION (BUS COUPLER 130):**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PANEL**  **REF.** | **INJECTED VALUE (A)** | **OPERATED ZONES** | | | |
| **Z1A** | **Z2A** | **Z1B** | **Z2B** |
| **D04** | 1.2 | ----- | ----- | Ok | Ok |

**We follow the following connection:**

**2A**

**1B**

**2B**

**1A**

**226A**

**226B**

**220**

**124B**

**230**

**403**

**503**

**136**

**236**

**404**

**405**

**505**

**130**

**120**

**124A**

**406**

**506**

**504**

**134**

**234**