**TEST REPORT FOR INVERTER**

**MMA/TIG POWER SOURCE**

MODEL :

|  |  |
| --- | --- |
| MODEL | **TICK** (✓) |
| CHAMP 400 X |  |

SLIP NO. : SR.NO.:

1.0 SR.NO. OF PWM CONTROLLER CUM IGBT DRIVER PCB:

2.0 MECHANICAL & VISUAL CHECK : OK / NOT OK

3.0 VISUAL INSPECTION:

|  |  |
| --- | --- |
| ENSURE FOLLOWING MECHANICAL ASPECTS | RESULT |
| 1) TIGHTNESS OF ALL HARDWARES OF MAIN TX. & IGBT ASSEMBLY | OK / NOT OK |
| 2) CRIMPING OF ALL LUGS | OK / NOT OK |
| 3) TIGHTNESS OF ALL HARDWARES | OK / NOT OK |

1. CONTINUITY TEST :

A. ISOLATION BETWEEN IGBT HS & DIODE HS : OK/NOT OK

B. ISOLATION BETWEEN FABRICATED BODY & DIODE HS : OK/NOT OK

C. ISOLATION BETWEEN FABRICATED BODY & IGBT HS : OK/NOT OK

5.0 DIELECTRIC (H.V.) TEST:

|  |  |
| --- | --- |
| ENSURE FOLLOWING ASPECTS | RESULT |
| 1. INPUT SUPPLY SHORT CIRCUIT(R,Y,B) & EARTH | OK / NOT OK |
| 1. OUTPUT TERMINAL SHORT CIRCUIT & EARTH | OK / NOT OK |
| 1. INPUT SUPPLY SHORT CIRCUIT(R, Y, B) & OUTPUT TERMINAL SHORT CIRCUIT | OK / NOT OK |

|  |  |  |  |
| --- | --- | --- | --- |
| Insulation Resistance Between | AC Dielectric Test Voltage applied for 5 sec | Current  mA | Remarks |
| Input and Earth | 1.875 KV |  | OK/ NOT OK |
| Output And Earth | 1.875 KV |  | OK/ NOT OK |
| Input And Output | 3.750 KV |  | OK/ NOT OK |

6.0 WIRING CHECK AS PER DRG. NO. CK79/1174 : OK / NOT OK

7.0 FAN FLOW CHECK (BACK TO FRONT) : OK / NOT OK

8.0 NO LOAD TEST: INPUT SUPPLY 415 VOLTS, 3 PHASE, 50 Hz

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NO LOAD CURRENT AMPS. | IR | IY | IB | ACCEPTANCE CRITERIA | RESULT |
|  |  |  | <= 1A | OK / NOT OK |
| OPEN CIRCUIT VOLTAGE (VOLTS) | | OBSERVED VALUE | | ACCEPTANCE CRITERIA | RESULT |
|  | | 70V (+/-5V) | OK / NOT OK |

9.0 MAINS LED (GREEN) GLOWING : OK / NOT OK

10.0 LOAD TEST: INPUT SUPPLY 415 VOLTS, 3 PHASE, 50 Hz.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr.  No. | PARAMETER | ACCEPTANCE  VALUE | ACTUAL  RESULT | REMARKS |
| 1. | CONTROL TX. VOLTAGES | 18-0-18 +/-0.2VAC  0-9.5 +/-0.2VAC  0-9.5 +/-0.2VAC |  | OK / NOT OK |
| 2. | MIN. OUTPUT CURRENT | 10A @ 10V |  | ADJUST BY P3 POT |
| 3. | MAX. OUTPUT CURRENT | 400A @ 36V |  | OK / NOT OK |
| 4. | SHORT CKT. OUTPUT CURRENT WITH ARC FORCE SET AT MIN.(IN MMA MODE) | EQUAL TO 30A MORE THAN SET CURRENT FOR LESS THAN 3 SECOND |  | CHECK AT 100A SET CURRENT |
| 5. | SHORT CKT. OUTPUT CURRENT WITH ARC FORCE SET AT MAX.(IN MMA MODE) | 70-100A MORE THAN SET CURRENT FOR LESS THAN 3 SECOND |  | CHECK AT 100A SET CURRENT |
| 6. | SHORT CKT. OUTPUT CURRENT WITH ARC FORCE POT. AT MAX.(IN TIG MODE) | EQUAL TO 30A MORE THAN SET CURRENT |  | CHECK AT 100A SET CURRENT |
| 7. | SUPPLY VOLTAGE IMMUNITY @ 370VAC & 470VAC (IN MMA MODE) | EQUAL TO SET CURRENT +/- 5A |  | CHECK AT 200A SET CURRENT |

**IMPORTANT: SEAL PRESETS P2, P3 POT BY SILASTIC AT THE EDGE ONLY.**

**DO NOT COVER THE WHOLE PRESET.**

11.0 VRD UNIT TEST (In MMA Mode) : OK / NOT OK

(Keep machine in no load condition.

Keep VRD switch at ON position.

check that OCV will become 6-8V after 3 min

Then do the welding and observe

that OCV will available after arc striking)

12.0 VRD UNIT TEST (In TIG Mode) : OK / NOT OK

(Keep machine in no load condition.

Keep VRD switch at ON position.

OCV will be available.

VRD mode is not applicable.)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| MODEL | LOAD  AMPS. / VOLTS | IR AMPS | IY AMPS | IB  AMPS | I (Avg.)  ACCEPT. CRITERIA | RESULT |
| CHAMP 400 X | 400 / 36 |  |  |  | <= 26 | OK / NOT OK |
| 310 / 32 |  |  |  | <= 19 | OK / NOT OK |

13.0 SINGLE PHASING PROTECTION TEST : OK / NOT OK

(Remove I/P Supply Phases one by one & check Err 001)

14.0 LOW VOLTAGE PROTECTION TEST (350Vac±10V) : OK / NOT OK

(Check Err 001)

15.0 OVERVOLTAGE PROTECTION TEST (485Vac±10V) : OK / NOT OK

(Check Err 002)

16.0 THERMAL PROTECTION TEST : OK / NOT OK

(Remove CN2 from Line Filter PCB & check the Err 003)

17.0 CONNECTION ERROR TEST : OK / NOT OK

(Remove CN9 of Display PCB & Check the Err 011)

18.0 SHORT CIRCUIT PROTECTION TEST (In MMA Mode) : OK / NOT OK

(Load the machine at 100A, short the output & check that output current goes to min. current -in 3-5 sec.)

19.0 ANTISTICK TEST (In MMA Mode)

(Load the machine at 100A, drop the o/p voltage below 10V : OK / NOT OK

& check that output current goes to min. current.)

20.0 ANTISTICK TEST (In TIG Mode) : OK / NOT OK

(Load the machine at 100A, short the output & check that output current remains equal to set current.)

21.0 HOT START TEST (In MMA Mode) : OK / NOT OK

22.0 REMOTE CONTROL OPERATION TEST : OK / NOT OK

(Connect remote & check current variation by remote pot)

23.0 MMA WELDING TEST : OK / NOT OK

24.0 TIG WELDING TEST : OK / NOT OK

25.0 HEAT RUN TEST : OK / NOT OK

Load the machine for 100% @ 310A / 32.4 V (MMA Mode)

For 45 min

TESTED BY: DATE: