## Glow Worm cxi, hxi & sxi PCB - Components

```
C805 = 47uF 63V
 C813 = 100uF 35V
 C809 & C810 = 470uF 35V. Suggest 63V!
 C708, 812, 816, 817, 823 = 10uF 63V
 T705 = C33725 / BC337
 T706 = BSN254A / BS107A
 User Interface uP = PIC16C72A-04
 D100 = 1N4007
 Z100 = ?
 U102 = 4N35
 U500 = L78L05
 U503 = LM317?
                                                                                  IGNITION
                                                                                                       PCB
                                                    J3ZI Test Pins
 U800 = L7818CV
                                                                                  MODULE (ZIG)
                                                                                                     Connection
                                                      OLD NEW
                                                                       uP Pin
                                        uP Pin
 U801 = TOP247YN
                                                                                  1 = Brown = Ignition
                                                                                                        1
                                                        Busv
                                                                       12
                                         +5V
                                                                                  2 = Blue
                                                                                                        4
                                                                                            = Sense
 T100 = KSP44-028 \text{ or MPSA44}
                                                            Clock
                                               RxD
                                                                       13
                                         15/16
                                                                                  3 = Black
                                                                                            = Ground
                                                                                                        2
 Z800 = BZX55C 7V5
                                         18
      = PIC16C72A-04
                                                            OV, Grd
                                                                       ΩV
                                         19
                                                                                  1 to Grd > 1M Ohm
                                                              Data
                                                                       14
                                                                                  1 to 2
                                                                                         > 1M Ohm
                                                                                  1 to 4
                                                                                          > 1M Ohm
                    230V
                                     USER
                                                                                  2 to 3
                                                                                          = 1.2k Ohm
                    CONTROLS
                                     INTERFACE
                                                                                  2 to 3
                                                                                          = 700mV on Diode Test
                    INTERFACE
                                                                                  2 to Gnd > 1M Ohm
                                                       ST702 = +18V
                                                                                  3 \text{ to Gnd} = 0 \text{ Ohm } ??
                                                               T705 & T706
                                                                                     IGNITION
  GAS CONTROL
                                                                                     MODULE
                                                                       0
  VALVE ETC
                                       J15
                                                                                      (ZIG)
                                ㅇ吕ㅐㅇㅇ
                                               <u>D</u>
                                                                                        PUMP
                                                                  DO
                                                                                        (P2 P1)
                                                      H5
                                             SYMS17.0
     FAN
                             0
                                                                              U800 (+18V Reg)
                             .12
                                  00 & U102 & Z100 & D100
               U503 ·
(Not fitted on new boards)
                                                                      H3<sub>EXT</sub>
                                                                                          230V
                                                                                          CONTROLS
     FLOW
                                                                                          INTERFACE
                                                                      H7
     SENSOR
                                                                                          (TA 230V)
         U500 (+5V Reg)
                                                                   FUSE
           ST803 = +12V
                                             Z800
                                                                   630mAT
                                             7V5
          ST804 = +38V
                              C809 & 810
                                                                       MAINS
          (SMPS Output)
                                                                       SWITCH
                                                                       (ALIM 230V)
```

## **NOTES**

C802 = 47uF 400V

The main DC voltage from the SMPS is around 40V. Interesting that the smoothing capacitors C809 & C810 are 35V working!! Perhaps use 50V or 63V replacement caps here.

The 12V and 38V supplies are from separate secondary windings. +5V is derived from the 12V rail. They all share the common Gnd.

As C809 & C810 capacitors work the hardest they should be replaced as a matter of course (with 50V or 63V working 105deg). C802 is an HV capacitor and should be replaced. C813 is for the 12V rail and again should be replaced as it is next to the heatsink. As should C805. All with 105deg spec parts

F16 Gas Valve Fault

F18 User Interface Fault

F1 Ignition Fault (Boiler failed to light)
F4 Ignition Fault (Boiler went out when lit)
F5 Overheat Fault
F6 Central Heating Flow Thermistor Fault
F10 Central Heating Return Thermistor Fault
F11 Main Board Connection Fault
F12 User Interface Connection Fault
F13 Main PCB Fault

F14 Central Heating Flow Temp Too High

F20 Software Incompatibility F24 CH Return Temp Too High F25 Max Temp Rise Slope to High F26 Max Delta Temp Too Low

F19 CH Thermistor Unplugged

F17 Power Supply Less Than 170V