Glow Worm cxi, hxi & sxi PCB - Voltages

BUS VOLTAGES

Loc	Pwr On	Burner On
ST804	40V	32V
ST702	18V	18V
ST803	12V	10V
J3ZI P1	5V	5V

GAS VALVE (J1)

Pin		On	Water Temp 40deg	20deg
1	=	5V	5V	5V
2	=	0V		
3	=	0V		
4 b	=		3V	3V4
5 w	=		3V4	3V4
6 b	=	0V		
7	=	0V		
8	=	40V	32V	32V
9 g	=	0V	0V	0V
10 w	=	0V	-13V	
11 bk	=	0.09V		
12 bk	=	0.09V		
13	=	0.06V		

USER I/F (J13)

1	=	0V
2	=	5V0
3	=	2V Appx
4	=	5V0
5	=	N/C
6	=	Data

230V CONTROLS I/F (J15)

1	=	13V-18V
2 gn	=	36V
3 r	=	40V
4	=	30V
5 w	=	Gnd

J10ZH

1	=	
2	=	Gnd
3	=	Gnd
4	=	

The 12V and 40V supplies are from separate secondary windings. This is NOT a regulated SMPS. +5V is derived from the 12V rail. +18V is derived from the 40V rail. All supplies share the common Gnd or 0V, connection P8 on J3Z1. Mains input to PCB from switch is H8, bottom right corner, marked ALIM 230V in this diagram.

230V CONTROLS BOARD

		On	Heat
1 gn	=	37V	1V0
2	=	38V	0V
3 r	=	40V	40V
4	=	Gnd	0V
5 w	=	Gnd	Gnd

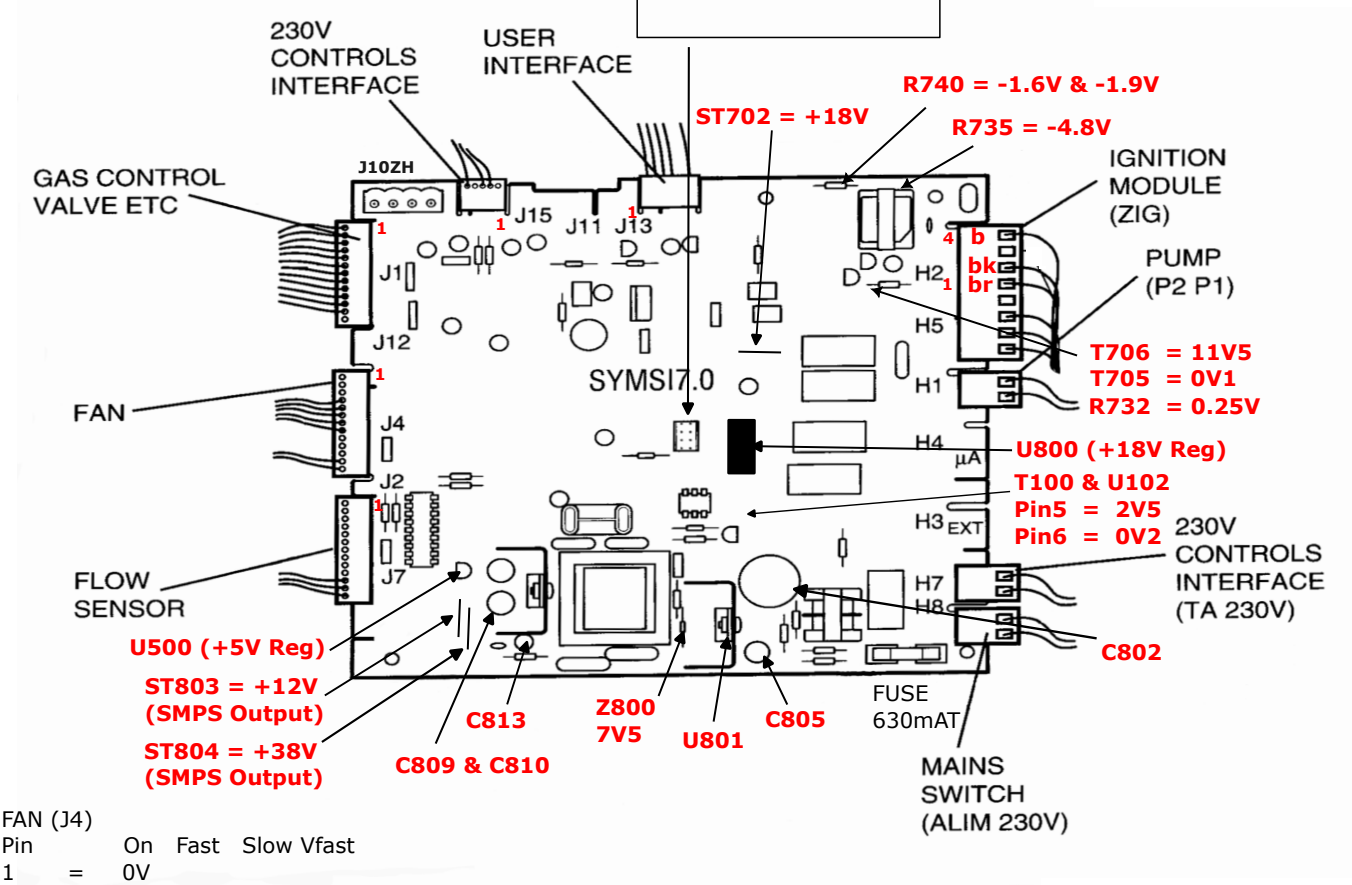
A low voltage thermostat can be connected to Pins 2 and 4 of the connector. Heat = P2 to Gnd

J3Z1 Test Pins

OLD	NEW
+5V	uP Busy
RxD	Clock
?	Data
Reset	0V, Grd
?	Data

IGNITION (H2 ZIG) PCB

MODULE	CON	On	Burner On
1 = br = Ignition	1	67V	32V
2 = b = Sense	4	0.08V	-4V8
3 = bk = Ground	2	0V	0V
R740 High Z		0V	-1V6
R740/R735 High Z		0V	-1V9
R735 High Z		0V	-4V8



FAN (J4)

Pin		On	Fast	Slow	Vfast
1	=	0V			
2	=	0V			
3	=	0V			
4 b	=	0V			
5 y	=	1V0	4V5	2V4	8V0
6 w	=	2V6	6V1	6V7	6V8
7 gn	=	0V			
8 r	=	40V	30V	30V	31V
9 g	=	0V			
10 w	=	0V			
11	=	11V5		11V5	
12	=	5V0		5V0	
13	=	0V			

U102 provides mains voltage info to uP to indicate low supply voltage. Touching U102 P6 with multimeter usually makes the burner (uP) hiccup!

Note: C809 & C810 are 35V working as supplied. Boiler on but no heat then supply is around 40V!

br = Brown g/y = Green/Yellow
b = Blue p = Pink gn = Green
bk = Black g = Gray y = Yellow
w = White r = Red or = Orange

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
F16 Gas Valve Fault
F17 Power Supply Less Than 170V
F18 User Interface Fault
F19 CH Thermistor Unplugged
F20 Software Incompatibility
F24 CH Return Temp Too High
F25 Max Temp Rise Slope to High
F26 Max Delta Temp Too Low