1240 Wiring Harnesses

This section covers wiring harnesses in the 6890 gas chromatograph. The following wiring harnesses are described:

- Inlet/Detector harness
- Auxiliary Zone/Valve Box harness
- PTV TC-PCB cable assembly

Inlet/Detector harness (G1530-60640)

The Inlet/Detector harness runs from connector P21 on the main board to the front and back inlets and detectors on top of the instrument. It powers the inlet/detector heater and sensors and the +24 V valve on a manual split/splitless inlet

.

Wire color	Pin # on P21	Signal name	Destination (and Pin #)
Black	1	Sensor GND	FI (3)
	2	Sensor GND	BI (3)
	3	Sensor GND	FDI (3)
	4	Sensor GND	BDI (3)
Green	5	Heater GND	FI (4)
	6	Heater GND	BI (4)
	7	Heater GND	FD (4)
	8	Heater GND	BD (4)
Yellow	9	+24 Volts	FV (1)
	10	+24 Volts	BV (1)
Violet	11	Frnt Inj Sense	FI (2)
Gray w/	12	Back Inj Sense	BI (2)
Violet stripe	13	Frnt Det Sense	FD (2)
Gray	14	Back Det Sense	BD (2)
Red	15	Frnt Inj Htr	FI (1)
Redw/Orange	16	Back Inj Htr	BI (1)
stripe	17	Frnt Det Htr	FD (1)
Orange	18	Back Det Htr	BD (1)
Blue	19	Frnt Inj +24 Vlv	FV (2)
White	20	Back Inj +24 Vlv	BV (2)

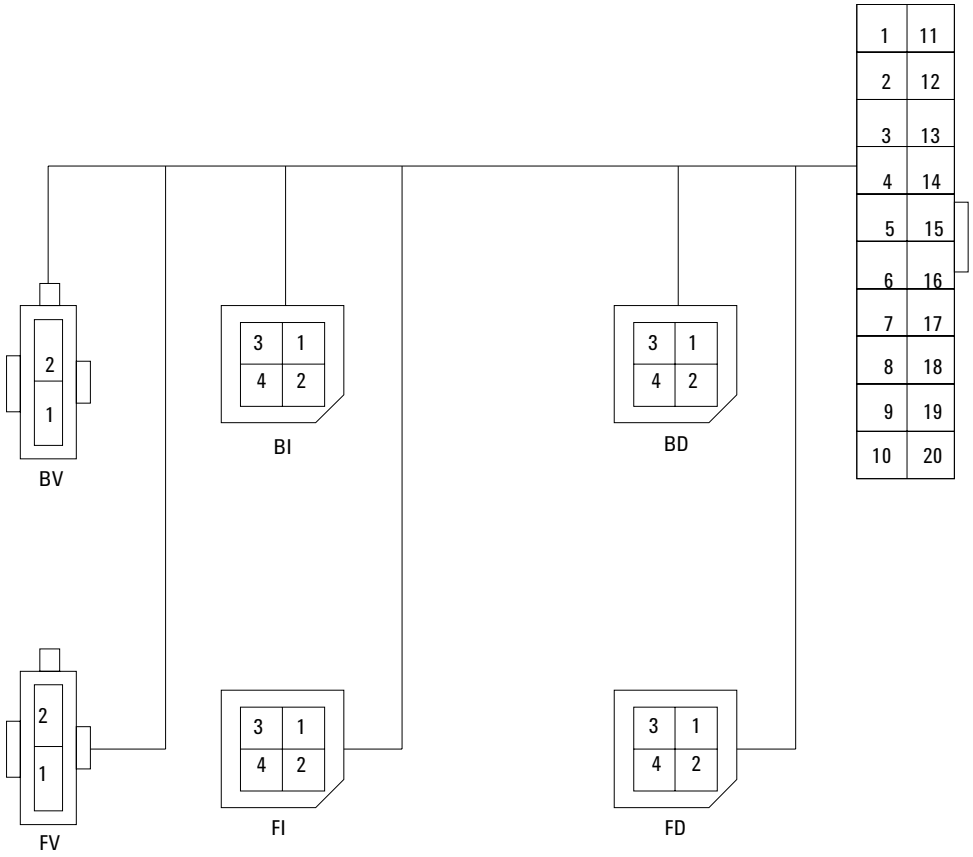

Figure 1240-1 Inlet/Detector wiring harness-view from top of GC (G1530-60640)

Auxiliary Zone/Valve Box Harness (G1530-60660)

The Auxiliary Zone/Valve Box harness runs from connector P22 on the main board to the valve driver bracket screwed on to the right side of the GC above the main board. It powers the valve actuator drivers and two auxiliary heater/sensors.

Wire color	Pin # on P21	Signal name	Destination (and Pin #)
Violet	1	Aux 1 Sense	A1 (2)
	2	Aux 2 Sense	A2 (2)
Green	3	Heater GND	A1 (4)
	4	Heater GND	A2 (4)
Yellow	5	+24 Volts	V1 (1)
	6	+24 Volts	V2 (1)
	7	+24 Volts	V3 (1)
	8	+24 Volts	V4 (1)
Black	9	Sensor GND	A1 (3)
	10	Sensor GND	A2 (3)
Red	11	Aux 1 Heater	A1 (1)
Orange	12	Aux 2 Heater	A2 (1)
Brown	13	Valve #1	V1 (2)
Blue	14	Valve #2	V2 (2)
Gray	15	Valve #3	V3 (2)
White	16	Valve #4	V4 (2)

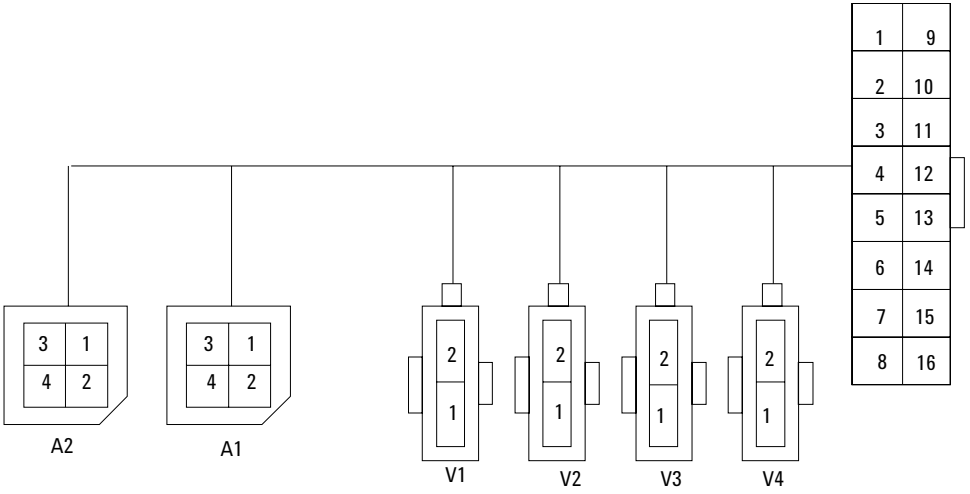

Figure 1240-2 Auxiliary Zone/Valve Box wiring harness (G1530-60660)

PTV TC-PCB Cable Assembly

The PTV TC-PCB Cable Assembly connects the PTV "TCB" to the PTV inlet heater/sensor cable, and to the valve and power connectors on the inlet/detector wiring harness.

Temperature sensor resistance

The approximate resistance of a temperature sensor is:

$R = 100 + (.35 \times t)$

where R is resistance in ohms and t is sensor temperature in °C.

Table 1240-1 Temperature Sensor Resistance by Heater Temperature

°C	+0°	+10°	+20°	+30°	+40°	+50°	+60°	+70°	+80°	+90°	+100°
0°	100.00	103.90	107.79	111.67	115.54	119.40	123.24	127.07	130.89	134.70	138.50
100°	138.50	142.28	146.06	149.82	153.57	157.32	161.04	164.76	168.47	172.16	175.84
200°	175.84	179.51	183.17	186.82	190.46	194.08	197.70	201.30	204.88	208.46	212.03
300°	212.03	215.58	219.13	222.66	226.18	229.69	233.19	236.67	240.15	243.61	247.06
400°	247.06	250.50	253.34	257.34	260.75	264.14	267.52	270.89	274.25	277.60	280.93

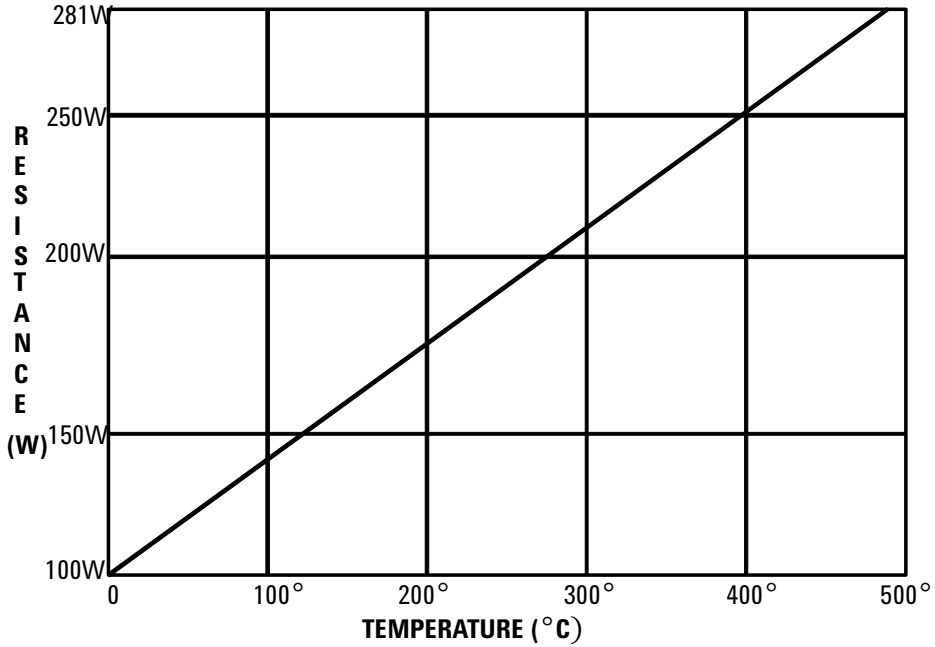

Figure 1240-3 Chart of temperature sensor resistances by heater temperature