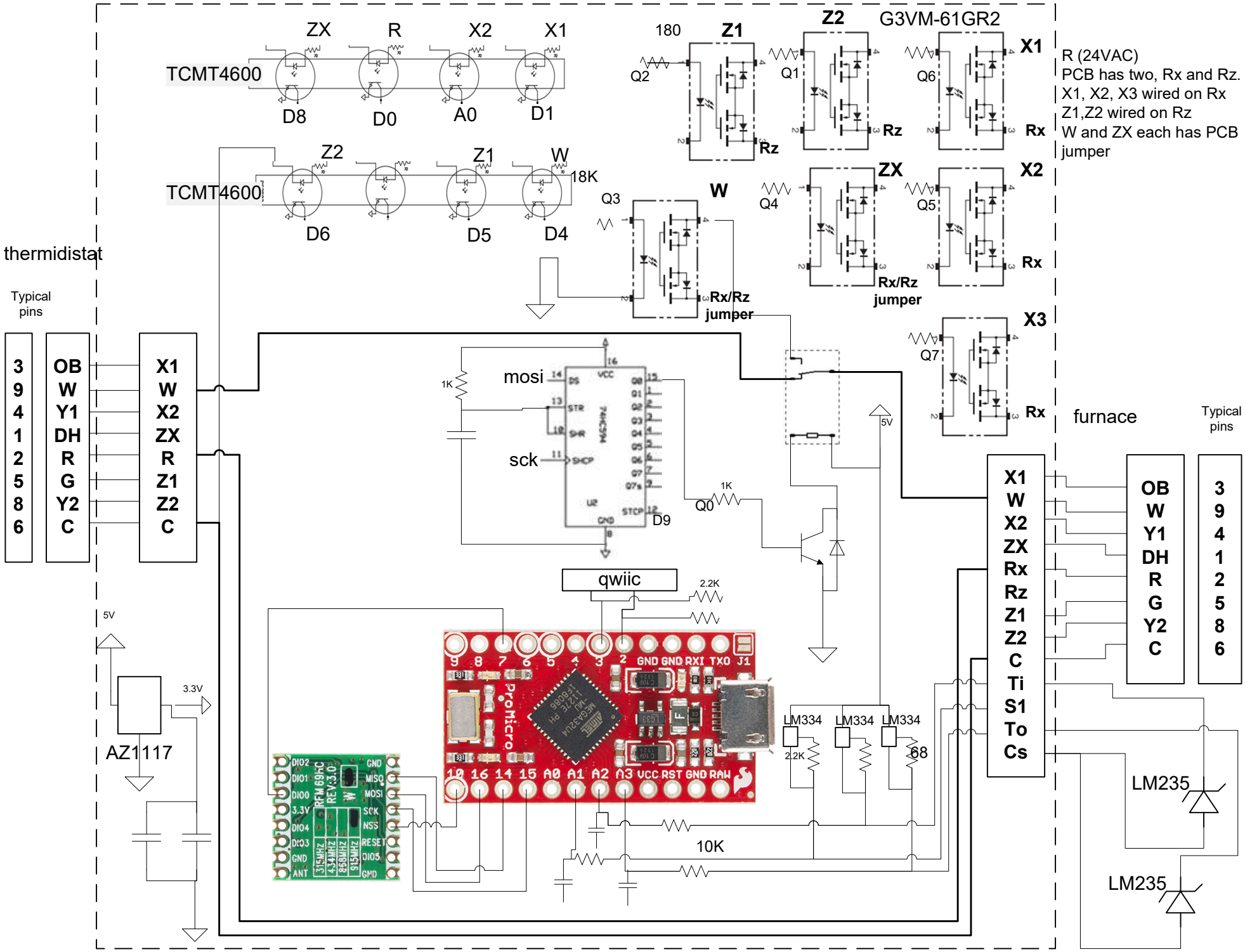
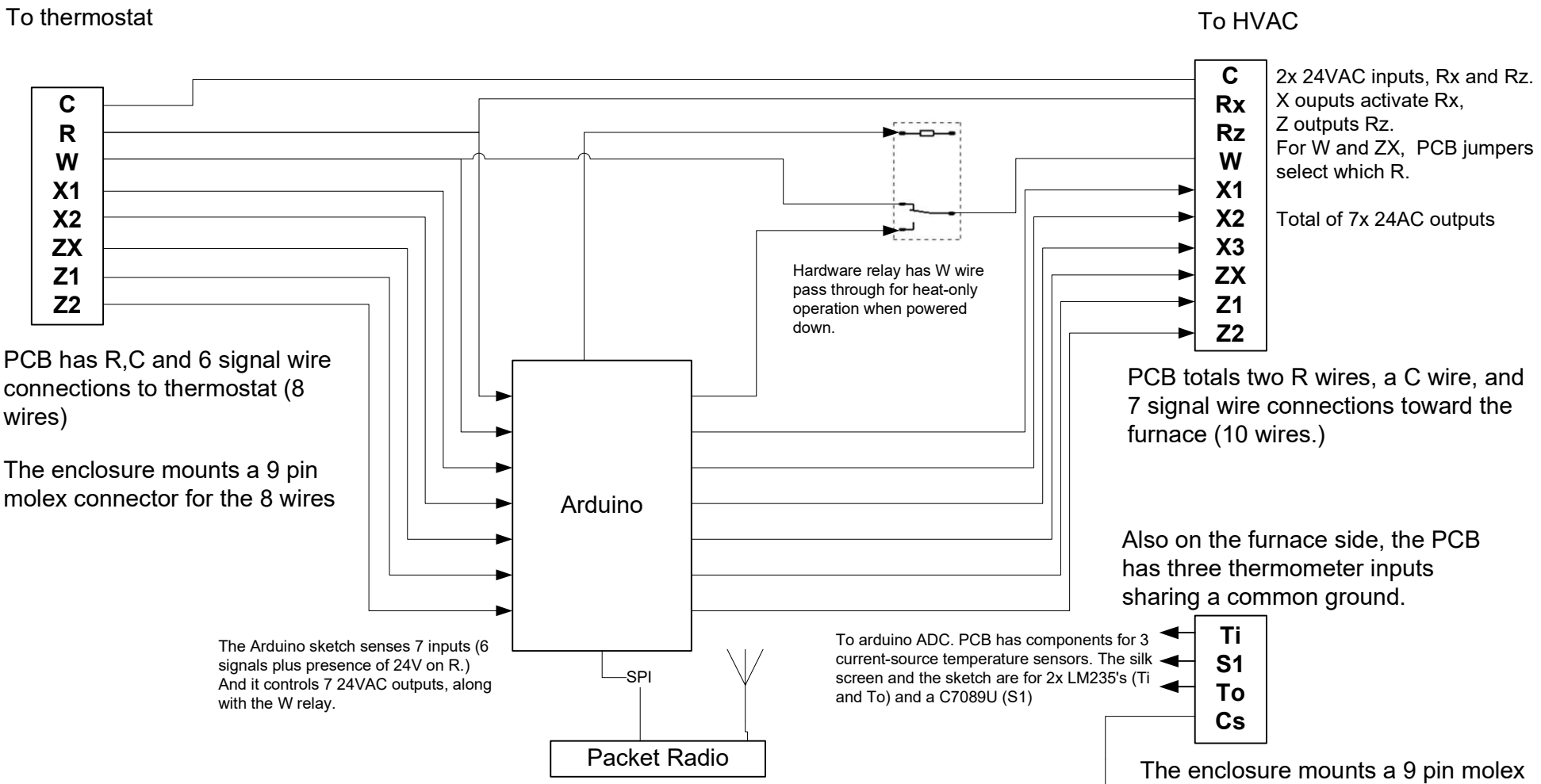

ZX
R
X2
X1
TCMT4600
D8
D0
A0
D1
Z2
Z1
W
18K
TCMT4600
D6
D5
D4
180
Z1
Z2
G3VM-61GR2
Q2
Q1
Q6
X1
Rz
Rx
R (24VAC)
PCB has two, Rx and Rz.
X1, X2, X3 wired on Rx
Z1,Z2 wired on Rz
W and ZX each has PCB jumper
Q3
W
Q4
ZX
Q5
X2
Rx/Rz jumper
Rx/Rz jumper
X3
Q7
thermidistat
Typical pins
3 9 4 1 2 5 8 6
OB W Y1 DH R G Y2 C
X1 W X2 ZX R Z1 Z2 C
1K
mosi
sck
D9
1K
Q0
5V
qwiic
2.2K
furnace
Typical pins
X1 W X2 ZX Rx Rz Z1 Z2 C Ti S1 To Cs
OB W Y1 DH R G Y2 C
3 9 4 1 2 5 8 6
5V
3.3V
AZ1117
LM334
LM334
LM334
2.2K
68
10K
LM235
LM235

Packet Thermostat Block Diagram



Why are only R, C and W the only standard names?

R and C are 24VAC. W is specially wired on the PCB through a hardware relay to support heat-only operation while the PCB is powered off.

The other 5 signals are not named O, B, Y, G, etc. because you decide how the Arduino controls them, and how to wire them to the enclosure's molex connectors.

The enclosure mounts 9 pin molex connectors of opposite gender for the thermostat and the furnace. This allows the possibility of removal of the device and plugging the furnace directly to the thermostat

Note the total of one more PCB connection, 14, than there are molex pins, 13. A given deployment must choose one PCB connection not connected to a molex pin.