Rough Fan Settings:

From fan sizing calculations, if low is around 1/3 of rated power, Low should be sufficient to cool normal operation.

Assign variables:

Topt = 0.53 \* current +26.01 (from Ballard manual) (optimum operating temperature)

Tmax = Topt + 20 (estimate based on table of max/min temperatures at current ratings)

Tmin = Topt – 20 (same estimate as max)

T – actual stack temperature from thermistor

Assuming Low mode provides enough cooling and oxygen supply for normal operation

If (Topt – T) > 18

Turn fan off (to prevent overcooling and drying out of the stack)

If (Topt-18) < T < (Topt +5)

Keep on low

If (Topt +5) < T < (Topt + 12)

Switch to medium

If (T > Topt + 12)

Switch to High

If T still above Topt + 15 after 30 seconds

shutdown? Now at risk of overheating

… - values to be adjusted. Rough initial guess