

```

model ElectricalHeater
  extends Icons.Heater;
  //Particle variables
  Types.MassFlowRate m_dot_s_in "inlet mass flow rate";
  Types.MassFlowRate m_dot_s_out "outlet mass flow rate";
  Types.Temperature T_s_in "inlet temperature";
  Types.Temperature T_s_out "outlet temperature";
  Types.Enthalpy h_s_in "inlet enthalpy";
  Types.Enthalpy h_s_out "outlet enthalpy";
  Types.Heat Q_in "electrical heat addition";
  FallingParticleReceiverSystem.Interfaces.ParticleFlow
ParticleOutlet annotation(
  Placement(visible = true, transformation(origin = {0, -100},
extent = {{-10, -10}, {10, 10}}, rotation = 0),
iconTransformation(origin = {0, -100}, extent = {{-10, -10},
{10, 10}}, rotation = 0)));
  FallingParticleReceiverSystem.Interfaces.ParticleFlow
ParticleInlet annotation(
  Placement(visible = true, transformation(origin = {0, 98},
extent = {{-10, -10}, {10, 10}}, rotation = 0),
iconTransformation(origin = {0, 100}, extent = {{-10, -10}, {10,
10}}, rotation = 0)));
equation
//Connection
  m_dot_s_in = ParticleInlet.m_dot;
  m_dot_s_out = -ParticleOutlet.m_dot;
  T_s_out = ParticleOutlet.T;
  T_s_in = ParticleInlet.T;
//Mass Balance
  m_dot_s_in = m_dot_s_out;
//Energy Balance
  Q_in = m_dot_s_in * (h_s_out - h_s_in);
//Properties
  h_s_in = Media.Particle.Enthalpy(T_s_in);
  h_s_out = Media.Particle.Enthalpy(T_s_out);
end ElectricalHeater;

```