Flowchart:

- (start) → initialize default values → Get the target and current velocity → calculate error → (decision) → No → Calculate Output of PID → Update Variables → (loops back to calculate error)
- (decision) → Yes → (end)
- Note: is error < 0.0001

PidController

- Kp_:float
- Kd_:float
- Ki_:float
- delta_time_:const float
- clipper_max_value_:const float
- total_error_:float
- current_state_:float

+ compute(float, float):void
+ compute_step(void):float
+ clipper(float):float
+ Pid_controller(void):None
+ get_current_state(void):float