Component	Output quantities				
Vehicle	P_veh_inertia	P_roll	P_air	P_slope	P_trac
Wheels	P_wheel_inertia	---	P_wheel_in		
Brake		P_brake_loss	P_brake_in		
Axle	---	P_axle_loss	P_axle_in		
Retarder	---	P_ret_loss	P_ret_in		
Gearbox	P_gbx_inertia	P_gbx_loss	P_gbx_in		
Clutch	---	P_clutch_loss	P_clutch_out		
Engine	P_eng_inertia	---	P_eng_out	P_eng_fcmap	
		n_eng_avg	T_eng_fcmap		
Auxiliaries	---	P_aux	---		

P_trac = sum

P_wheel_in = P_trac + P_Wheel_inertia

Definition: serially mounted into drivetrain between wheels and axle

Inertia of clutch set to 0 and considered in engine inertia

P_eng_fcmap = T_eng_fcmap * n_eng_avg

T_eng_fcmap = Teng_out + T_eng_inertia + T_aux; T_eng_fcmap relevant for FC-map interpolation

Auxiliaries connected to engine NOT via clutch

Unit test:

P_eng_fcmap = P_aux + Peng_inertia_+ P_clutch_loss
              + P_gbx_loss + P_gbx_inertia
              + P_ret_loss
              + P_axle_loss
              + P_brake_loss
              + P_wheel_inertia
              + P_trac

Definitions:

"in" = engine side

"out" = wheel side

All loss map looks-ups as well as full-load / drag curve perfromed with average (avg) quantities over time steps

Losses always > 0!

P_brake_loss > 0!

; = internal torque minus friction torque