

Basic Bond Graph Notation

—	power bond	energetic interaction between (sub)systems	e.g. A — B
S _e —	effort source	boundary condition	independent variable
S _f —	flow source	boundary condition	independent variable
R —	(generalized) dissipator	irreversible energy removal	
C —	(generalized) capacitor	(generalized) potential energy storage	
I —	(generalized) inertia	(generalized) kinetic energy storage	
— 0 — 	zero junction	(generalized) continuity equation	
— 1 — 	one junction	(generalized) compatibility equation	

Fundamental quantities and relations

P power

e effort

f flow

$$\mathbf{P} = e \cdot f$$

E energy

$$\mathbf{E} = \int e \cdot dq = \int f \cdot dp$$

p (generalized) momentum

q (generalized) displacement