Momentum is defined as $\boldsymbol{p} = \gamma m \boldsymbol{v}$.

$$\boldsymbol{p} = \gamma m \boldsymbol{v} \qquad \text{definition of momentum} \tag{1}$$

$$\boldsymbol{v} = \frac{\boldsymbol{p}}{\gamma m} \qquad \text{solve for velocity} \tag{2}$$

The dot product is really a contraction on two slots, and can be notated as $\mathsf{C}_{1,2}$.

The momentum can be expressed in all the following ways:

$$4\,\mathrm{kg}\cdot\mathrm{m/s}$$
$$4\,\mathrm{kg}\cdot\mathrm{m}\cdot\mathrm{s}^{-1}$$
$$4\,\mathrm{kg}\cdot\mathrm{m/s}$$
$$4\,\mathrm{kg}\cdot\mathrm{m/s}$$
$$\langle 3,2,-4\rangle\,\mathrm{kg}\cdot\mathrm{m/s}$$
$$\langle 3,2,-4\rangle\,\mathrm{kg}\cdot\mathrm{m/s}$$

$$3\,\mathrm{N}$$
$$3\,\mathrm{J}$$
$$3\,\mathrm{N/A}\cdot\mathrm{m}$$

The momentum is $3\,\mathrm{kg}\cdot\mathrm{m/s}$ ***as expected.***
The capacitance can be expressed in all the following ways:

$$4\,\mathrm{A}^2\cdot\mathrm{s}^4\cdot\mathrm{kg}^{-1}\cdot\mathrm{m}^{-2}$$
$$4\,\mathrm{A}^2\cdot\mathrm{s}^4\cdot\mathrm{kg}^{-1}\cdot\mathrm{m}^{-2}$$
$$4\,\mathrm{F}$$
$$4\,\mathrm{C/V}$$

$$3\,\mathrm{kg}\cdot\mathrm{m}\cdot\mathrm{s}^{-2}$$
$$3\,\mathrm{kg}\cdot\mathrm{m}^2\cdot\mathrm{s}^{-2}$$
$$3\,\mathrm{kg}\cdot\mathrm{A}^{-1}\cdot\mathrm{s}^{-2}$$

The resistance can be expressed in all the following ways:

$$4\,\Omega$$
$$4\,\mathrm{kg}\cdot\mathrm{m}^2\cdot\mathrm{A}^{-2}\cdot\mathrm{s}^{-3}$$
$$4\,\Omega$$
$$4\,\Omega$$

$$3\,\mathrm{N}$$
$$3\,\mathrm{J}$$
$$3\,\mathrm{T}$$

A current of $2\,\mathrm{A}$ and a resistance of $3\,\Omega$ gives a potential difference of $6\,\mathrm{V}$.