Structured Electronic Design

Selection of the loop gain reference

Anton J.M. Montagne

Two-step design

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First design step: design of ideal transfer:

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Load quantity sensing

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Feedback network with reciprocal transfer

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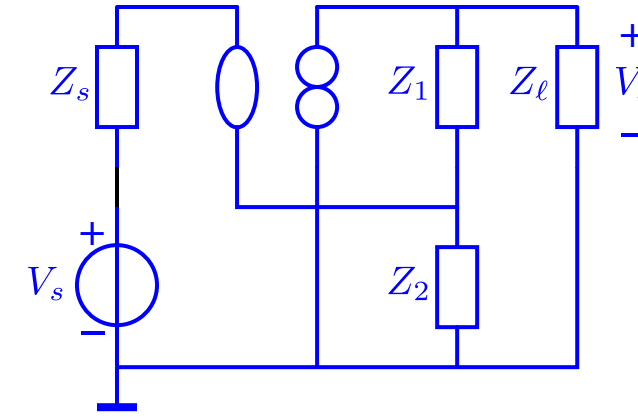Feedback network with reciprocal transfer
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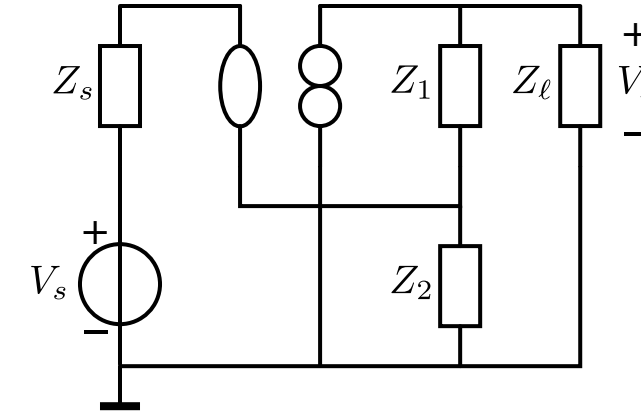
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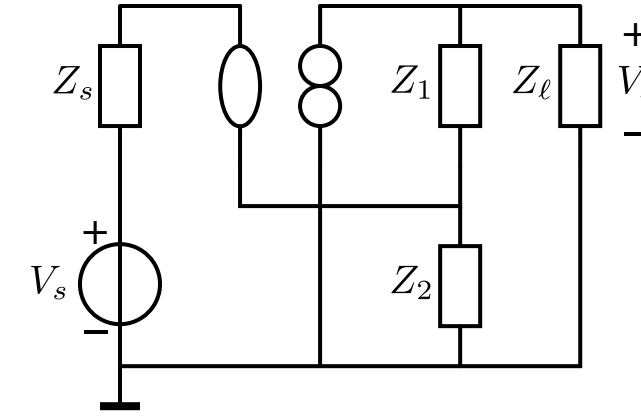- Source quantity comparison
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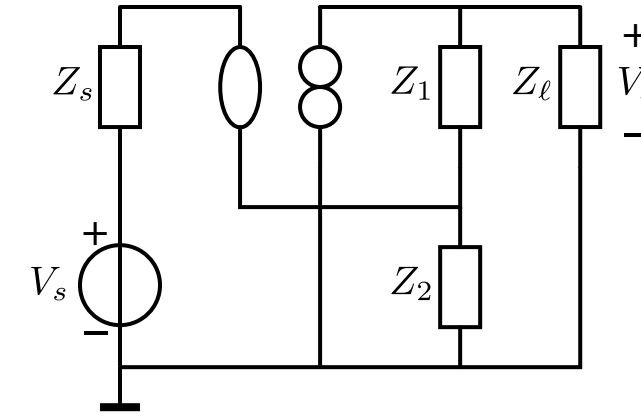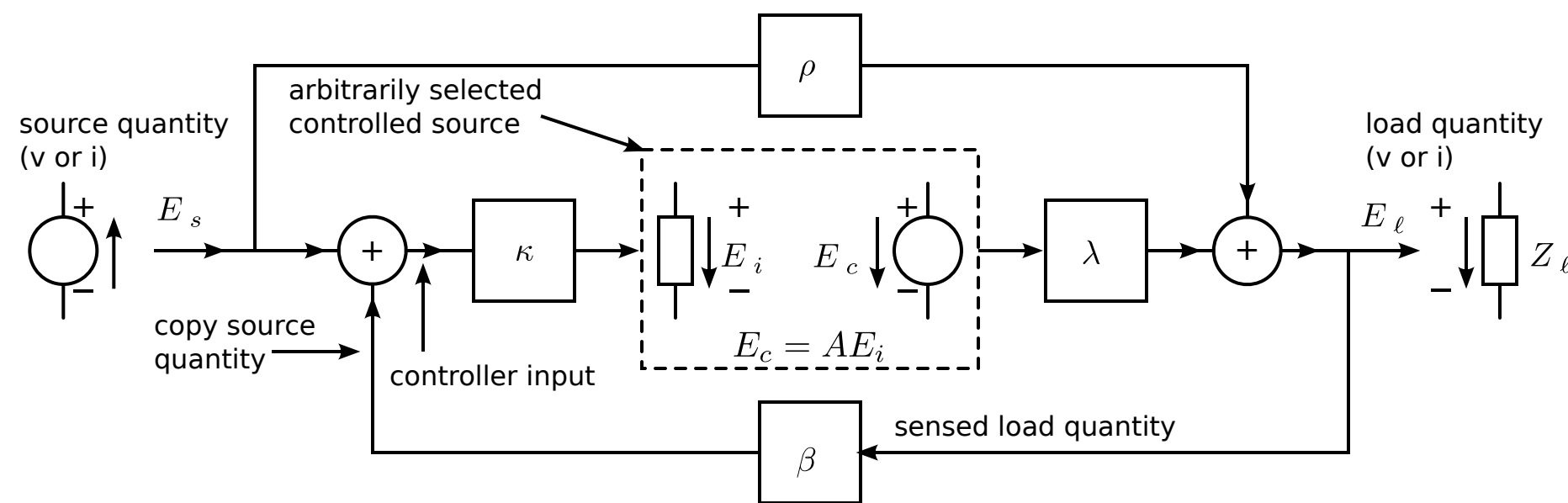- Source quantity comparison
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Generalized model of network with feedback:

source quantity
(v or i)

arbitrarily selected
controlled source

load quantity
(v or i)

E_s

copy source
quantity

controller input

$E_c = AE_i$

sensed load quantity

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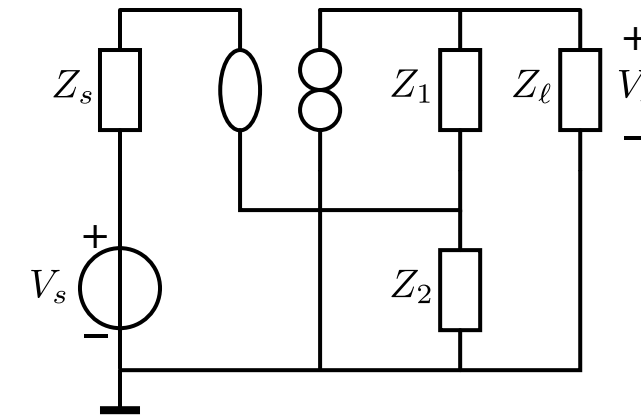controller = nullor:
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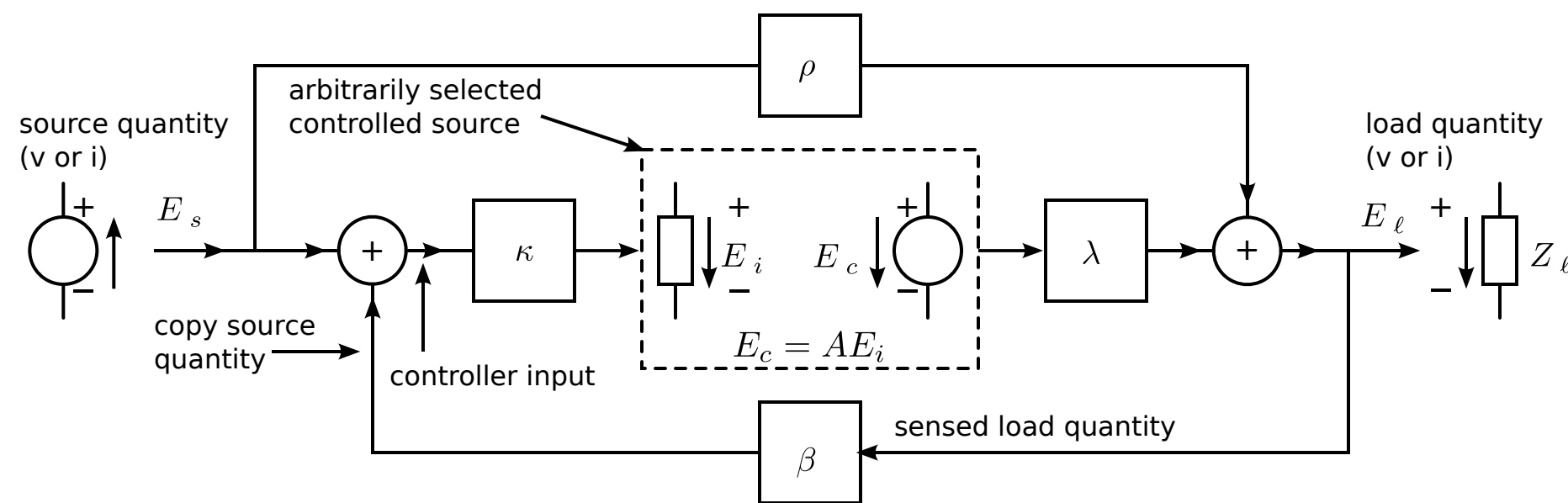## First design step: design of ideal transfer:

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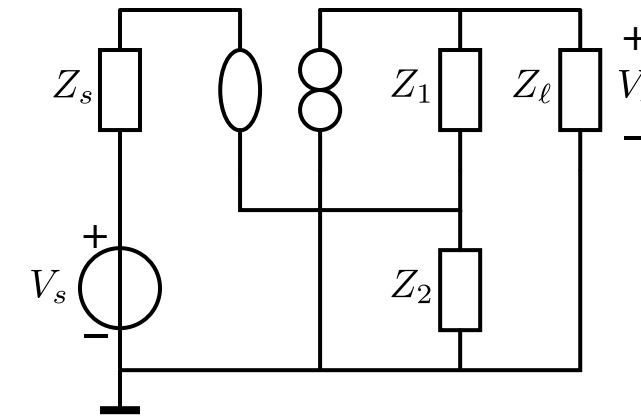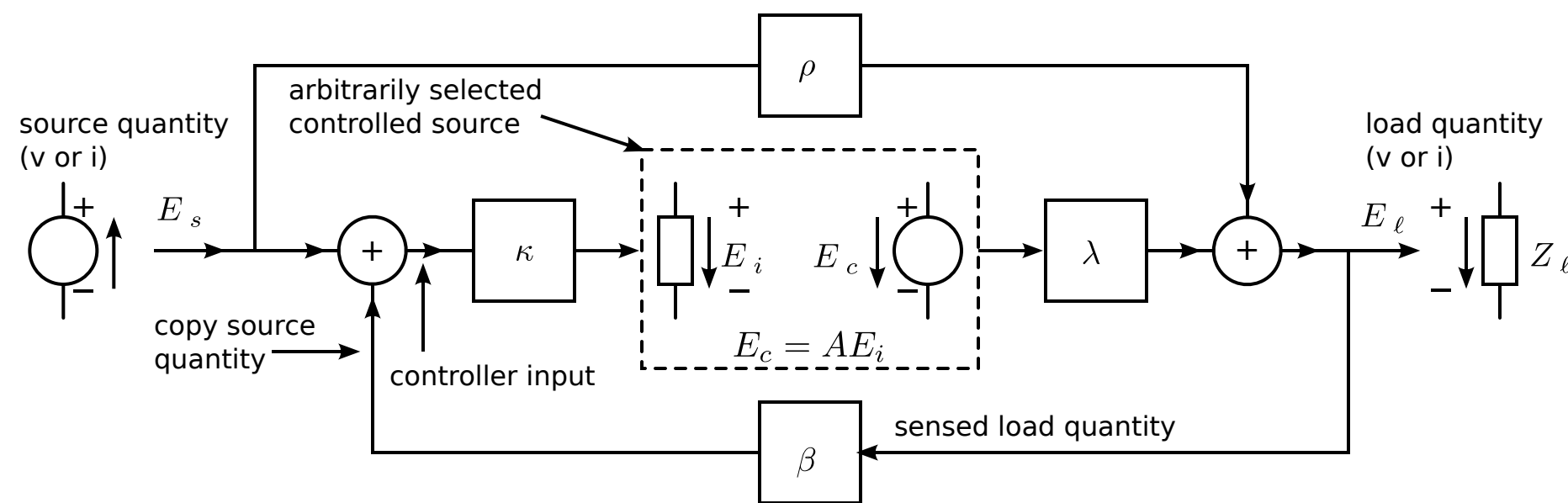
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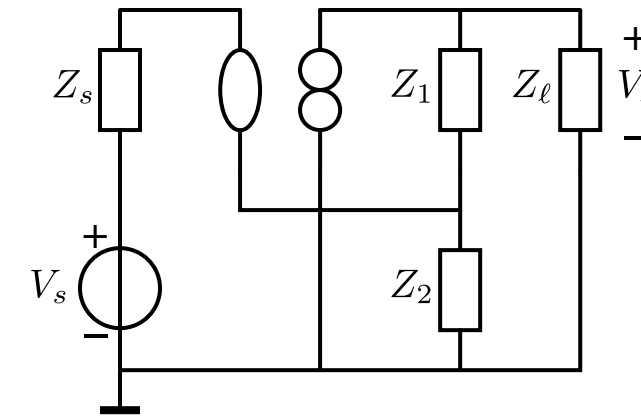## Generalized model of network with feedback:

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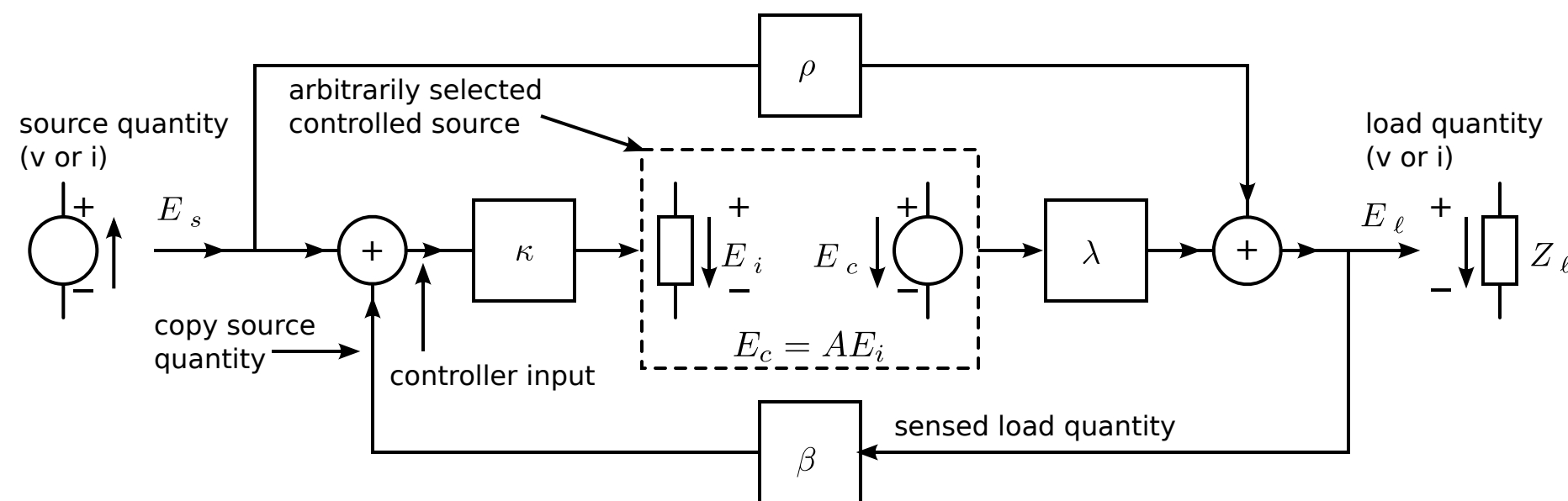First design step: design of ideal transfer:

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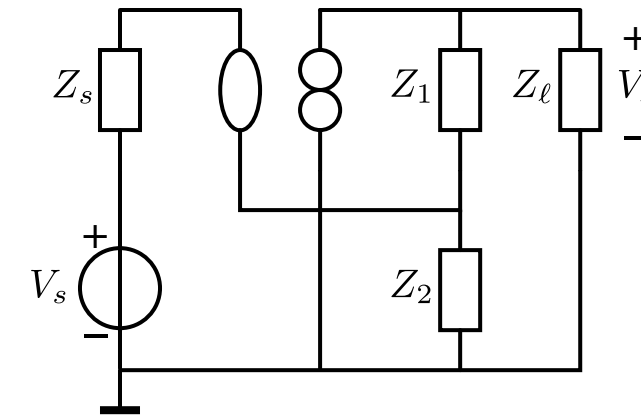

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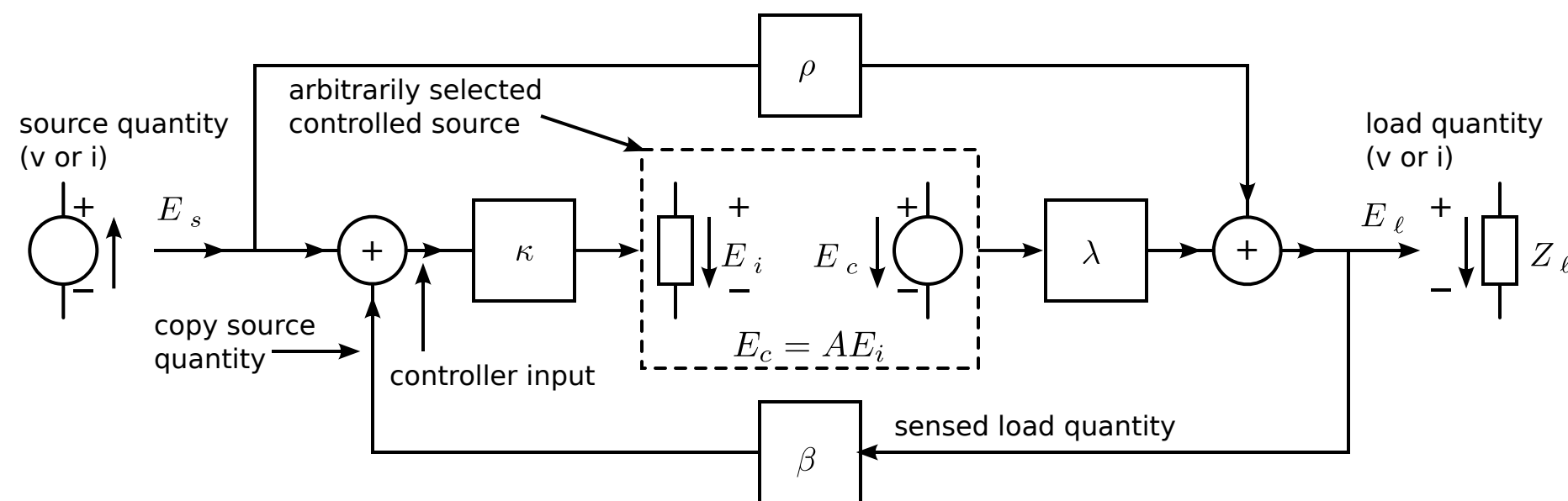## First design step: design of ideal transfer:

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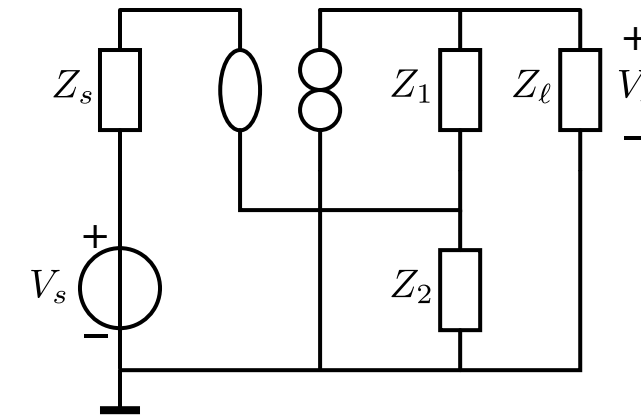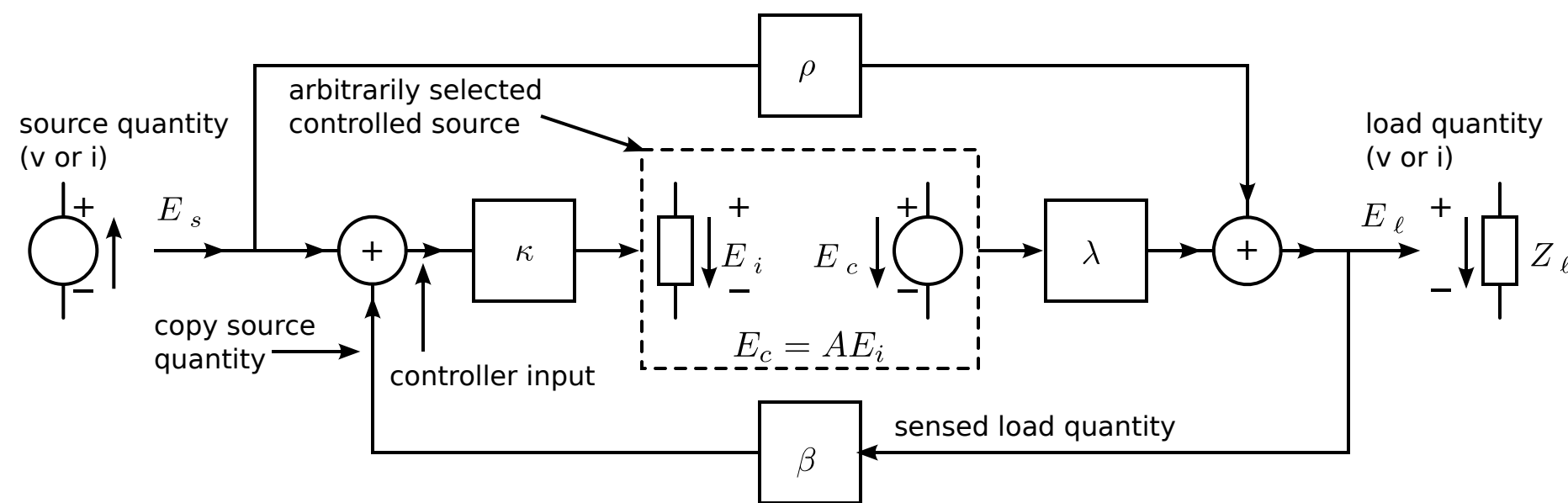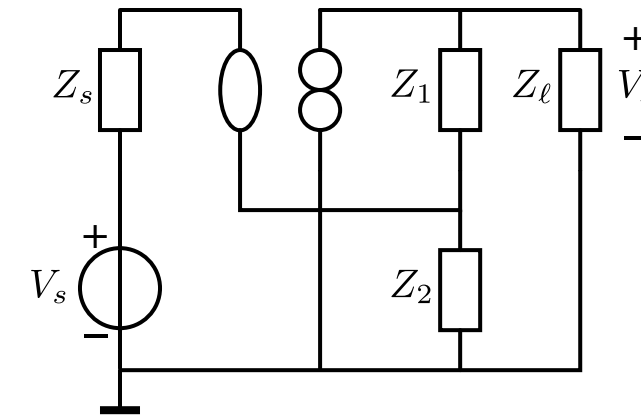$$A_f = A_{f\infty}\frac{-L}{1-L} + \frac{\rho}{1-L}$$

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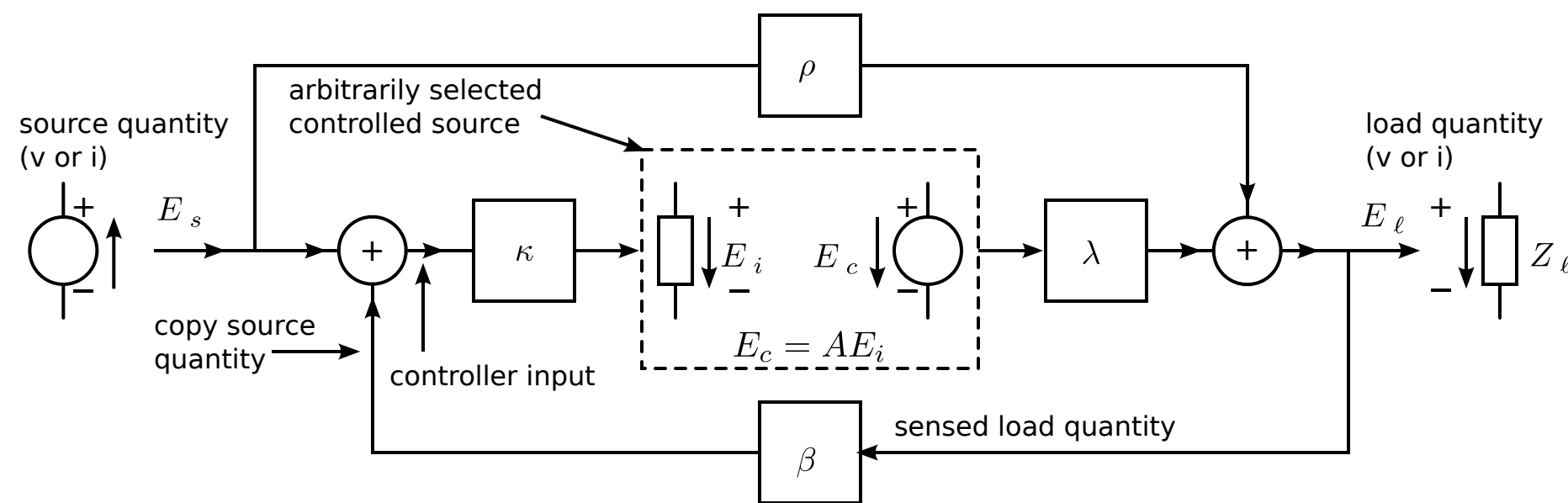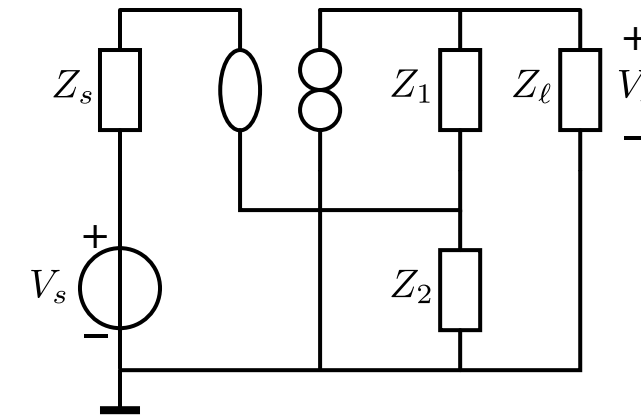
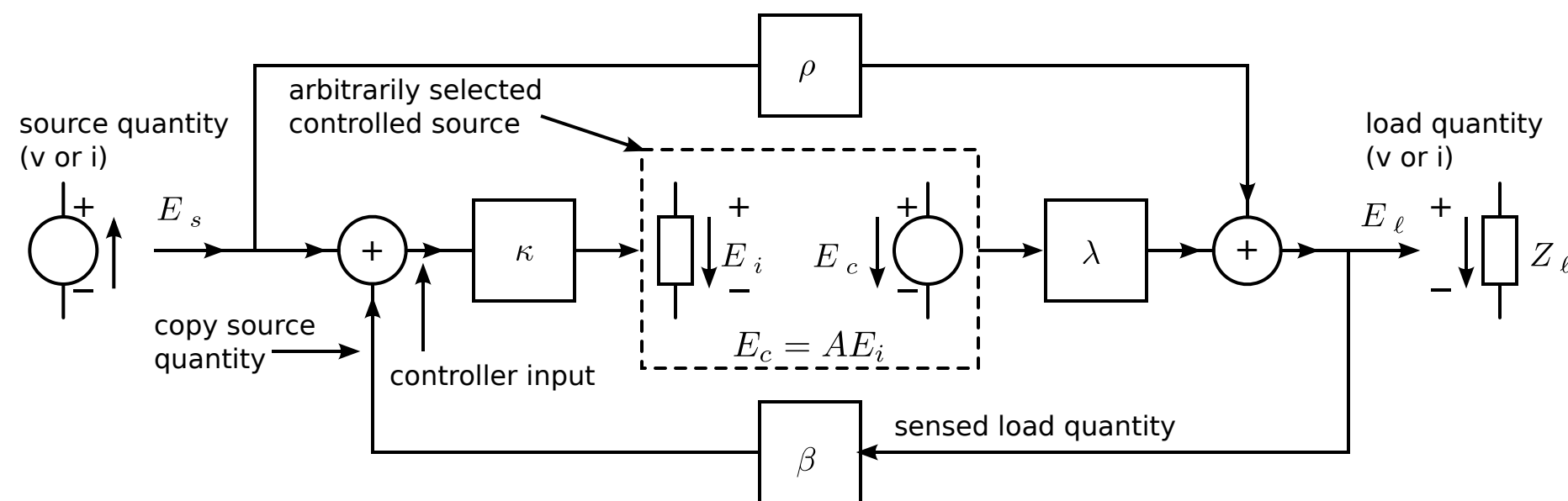First design step: design of ideal transfer:

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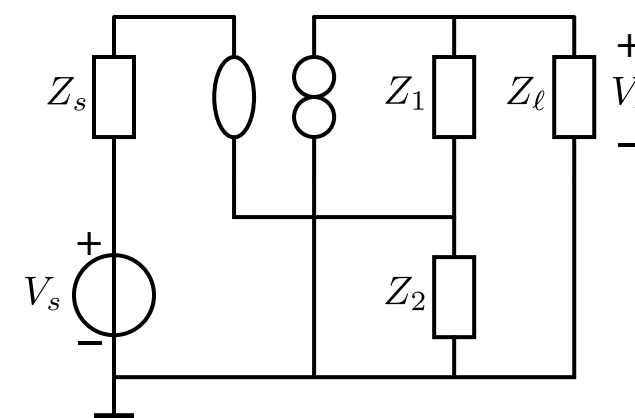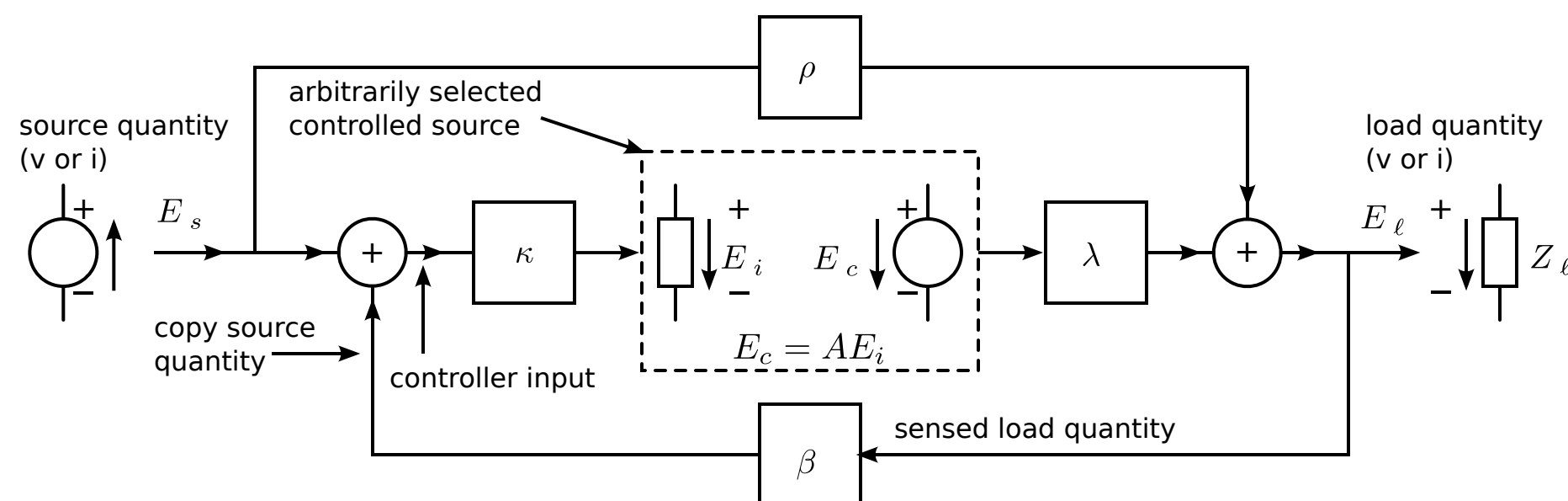$$A_f = A_{f\infty}\frac{-L}{1-L} + \frac{\rho}{1-L}$$

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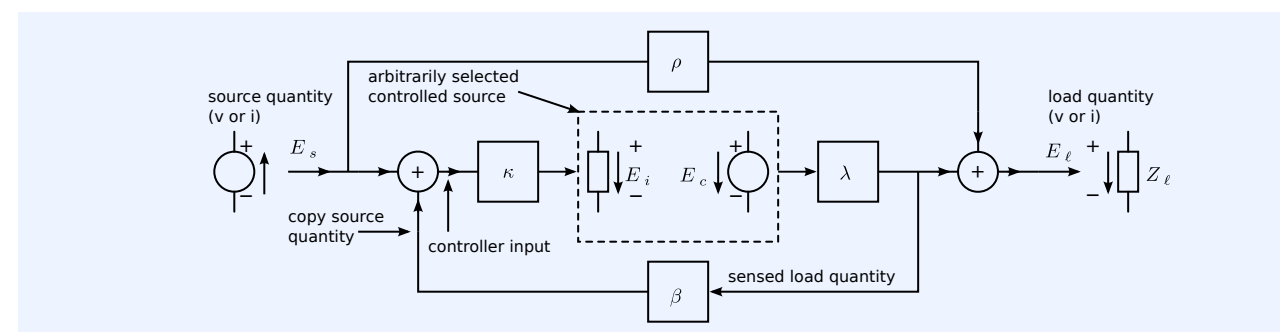
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