

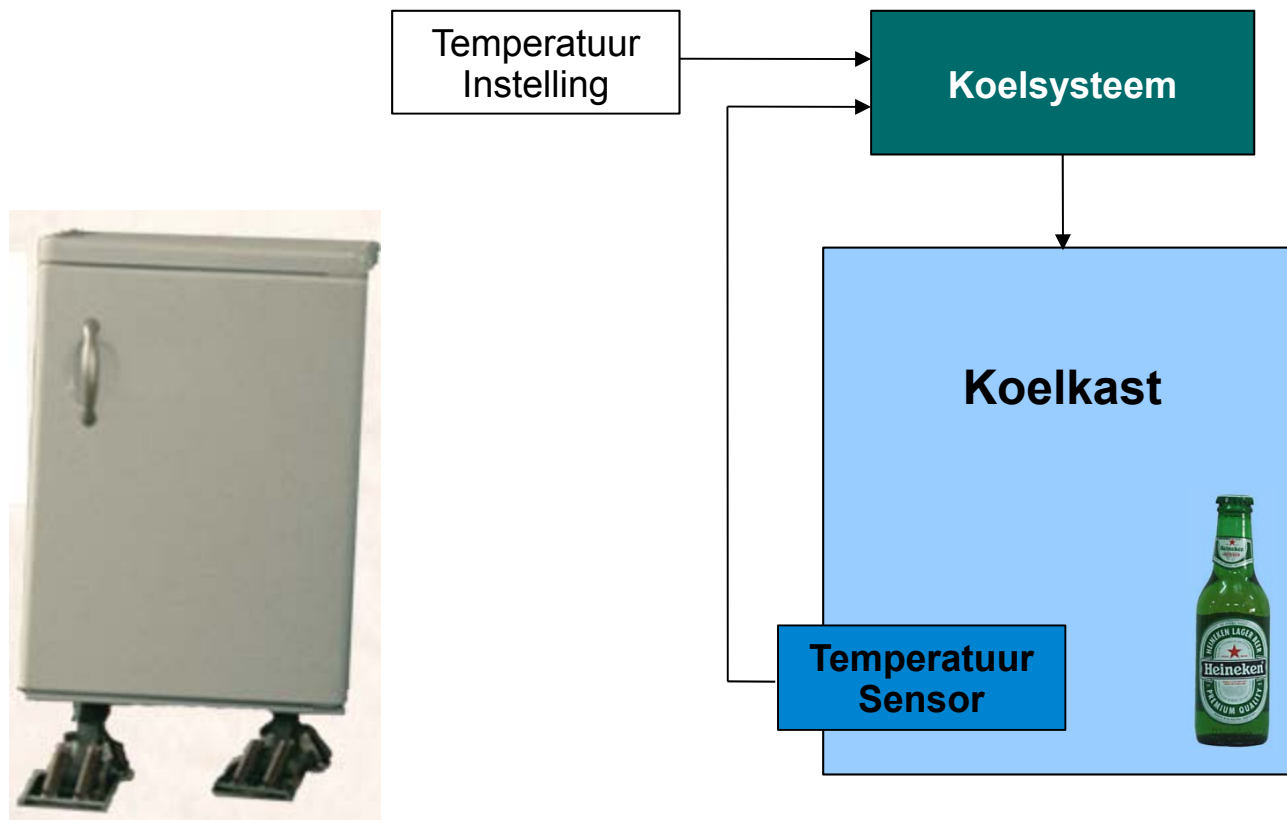
Lineaire Schakelingen

ET1300

Instructie 5

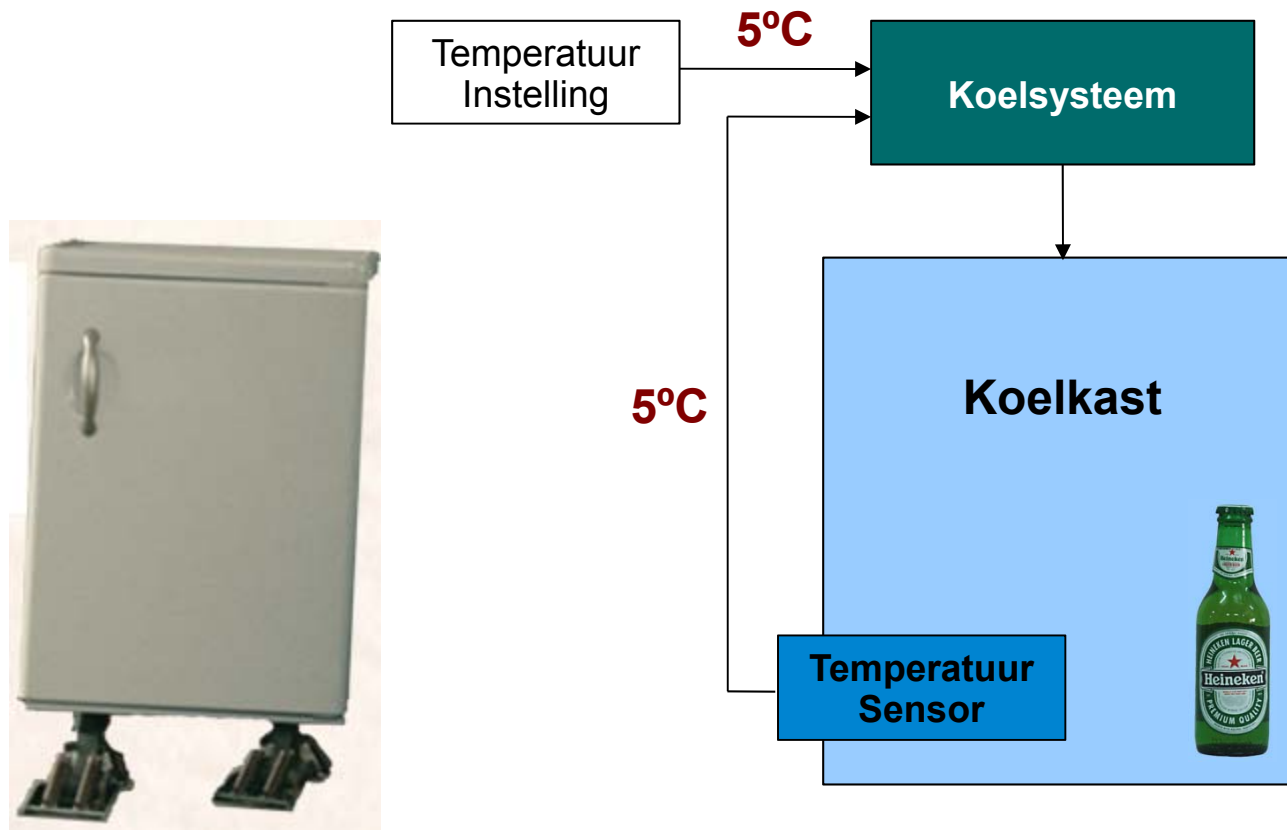
Operationele Versterkers

Negatieve terugkoppeling



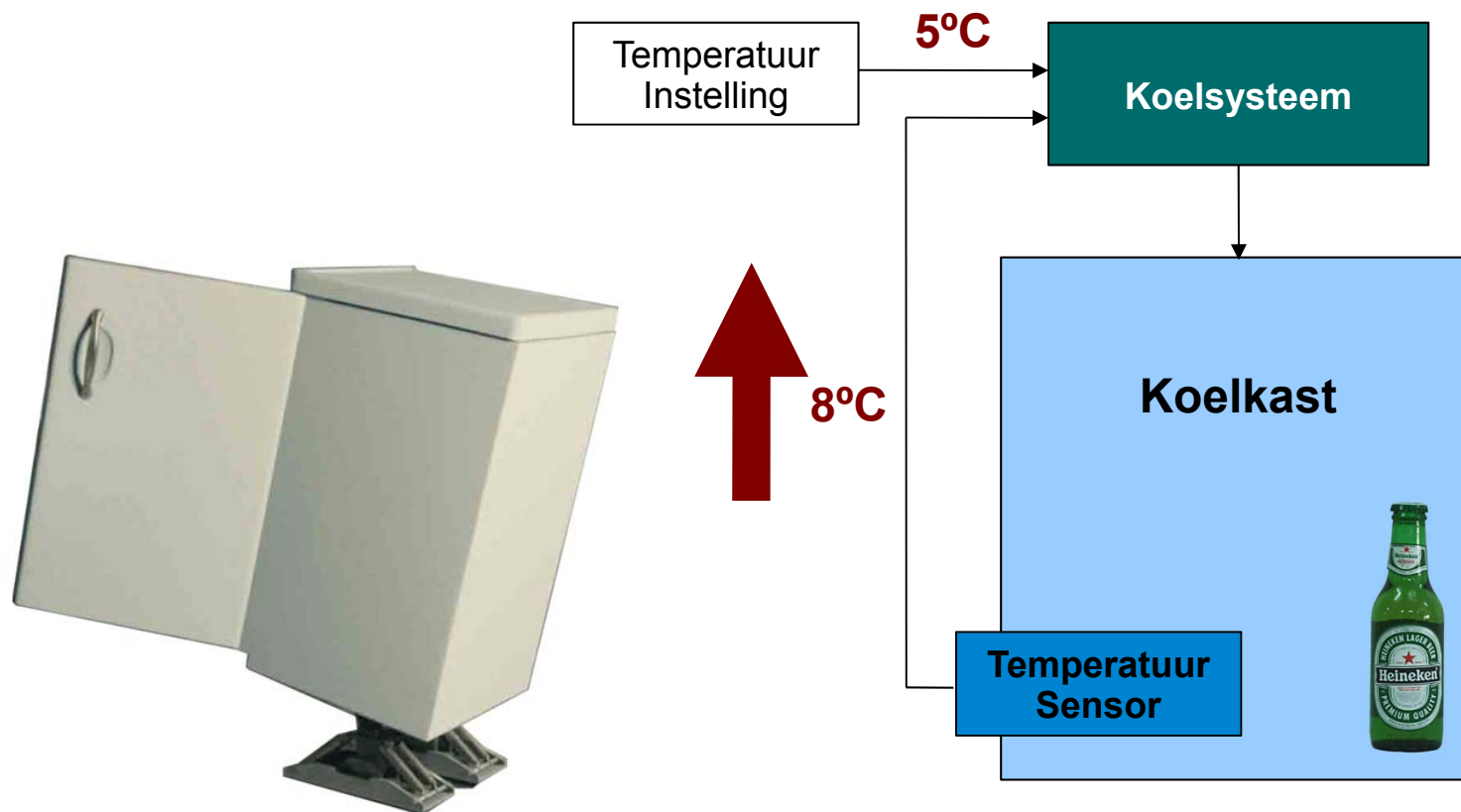
Negatieve terugkoppeling

Normale situatie



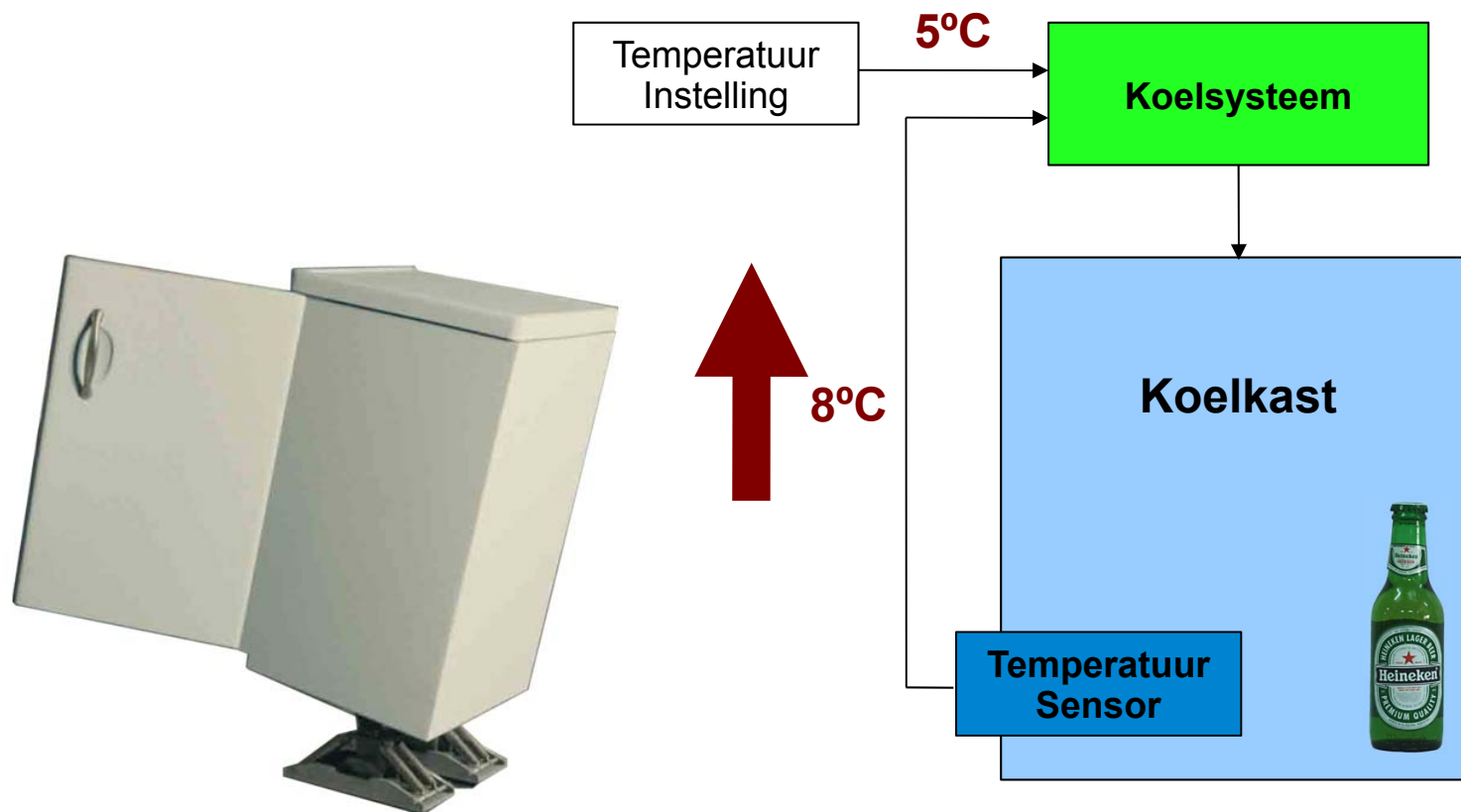
Negatieve terugkoppeling

Koelkast open



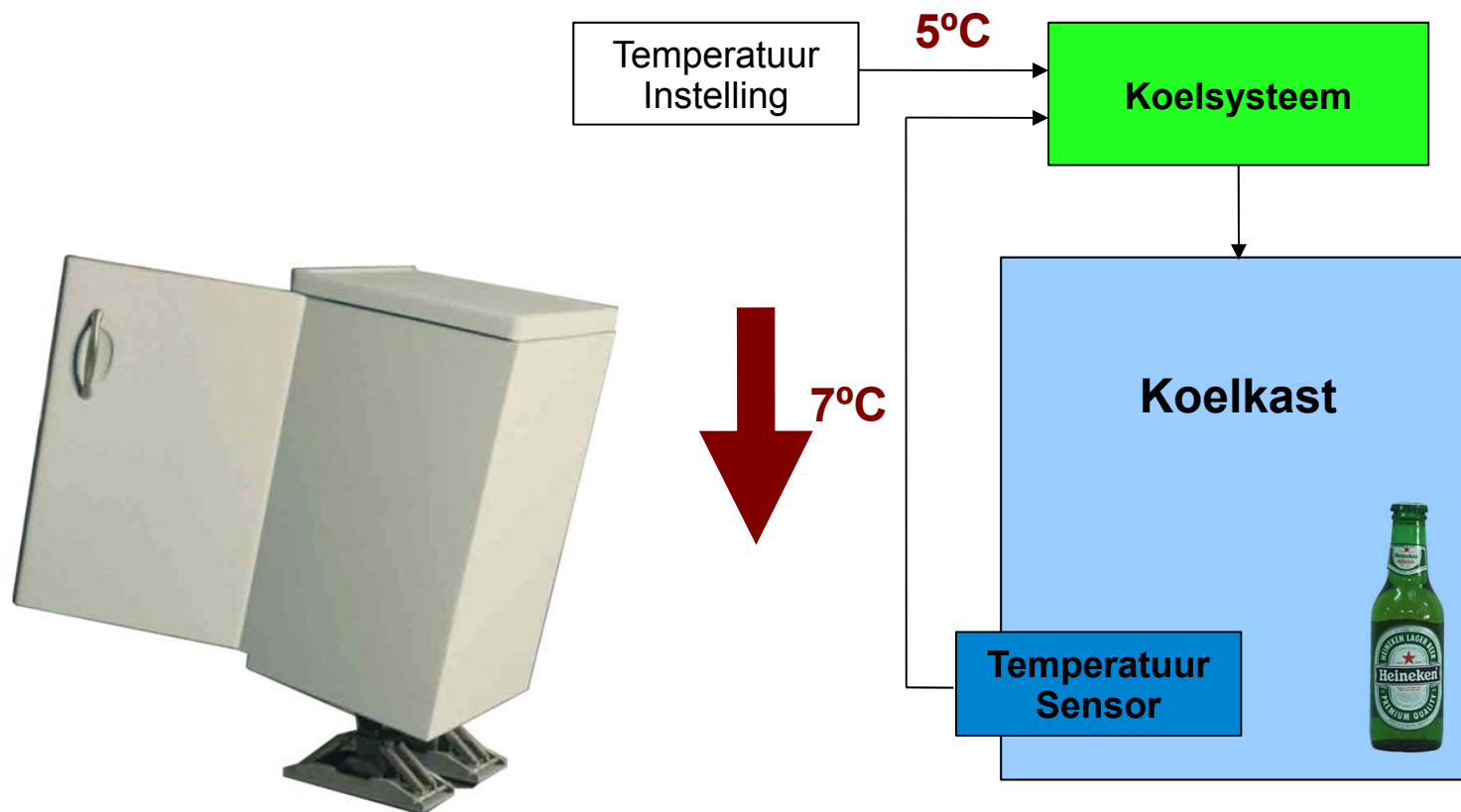
Negatieve terugkoppeling

Koelkast open



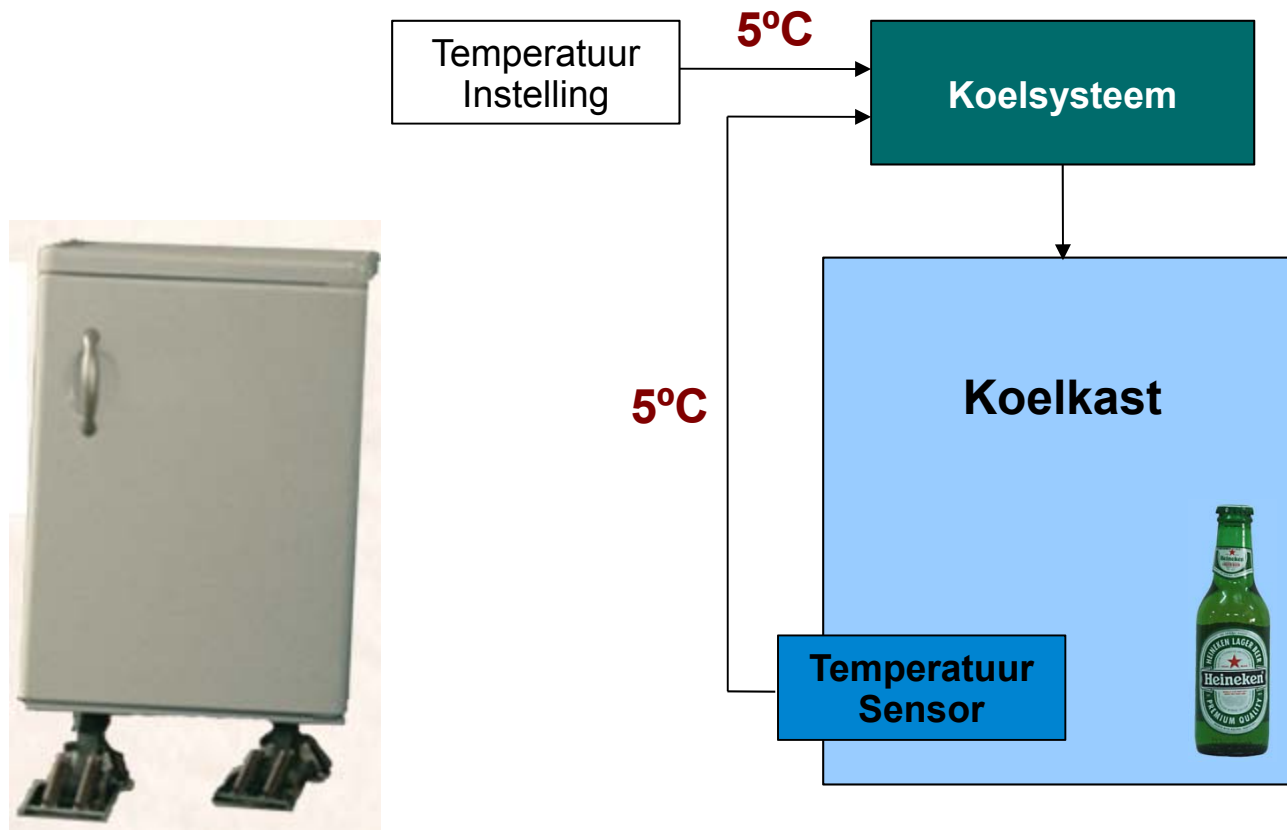
Negatieve terugkoppeling

Koelkast open



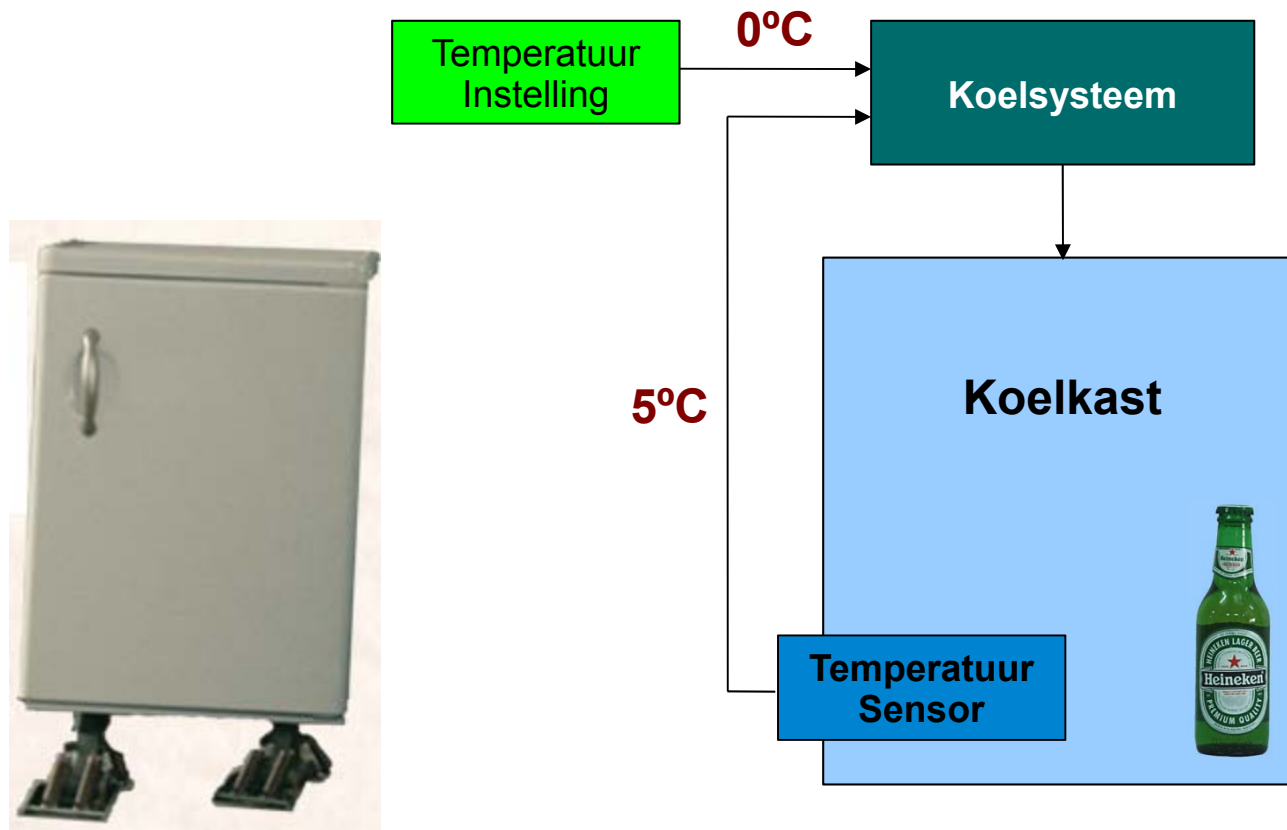
Negatieve terugkoppeling

Normale situatie



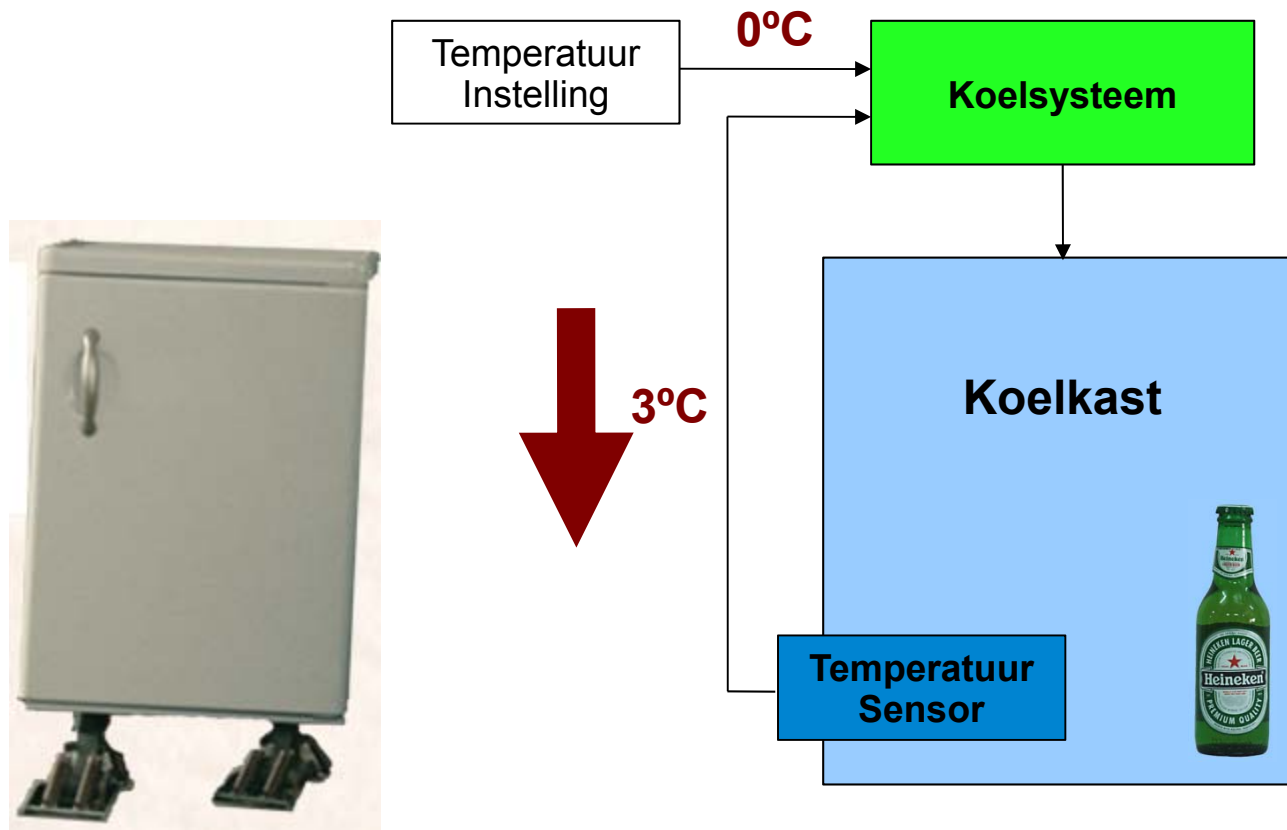
Negatieve terugkoppeling

Alleen als ie ijs en ijskoud is?



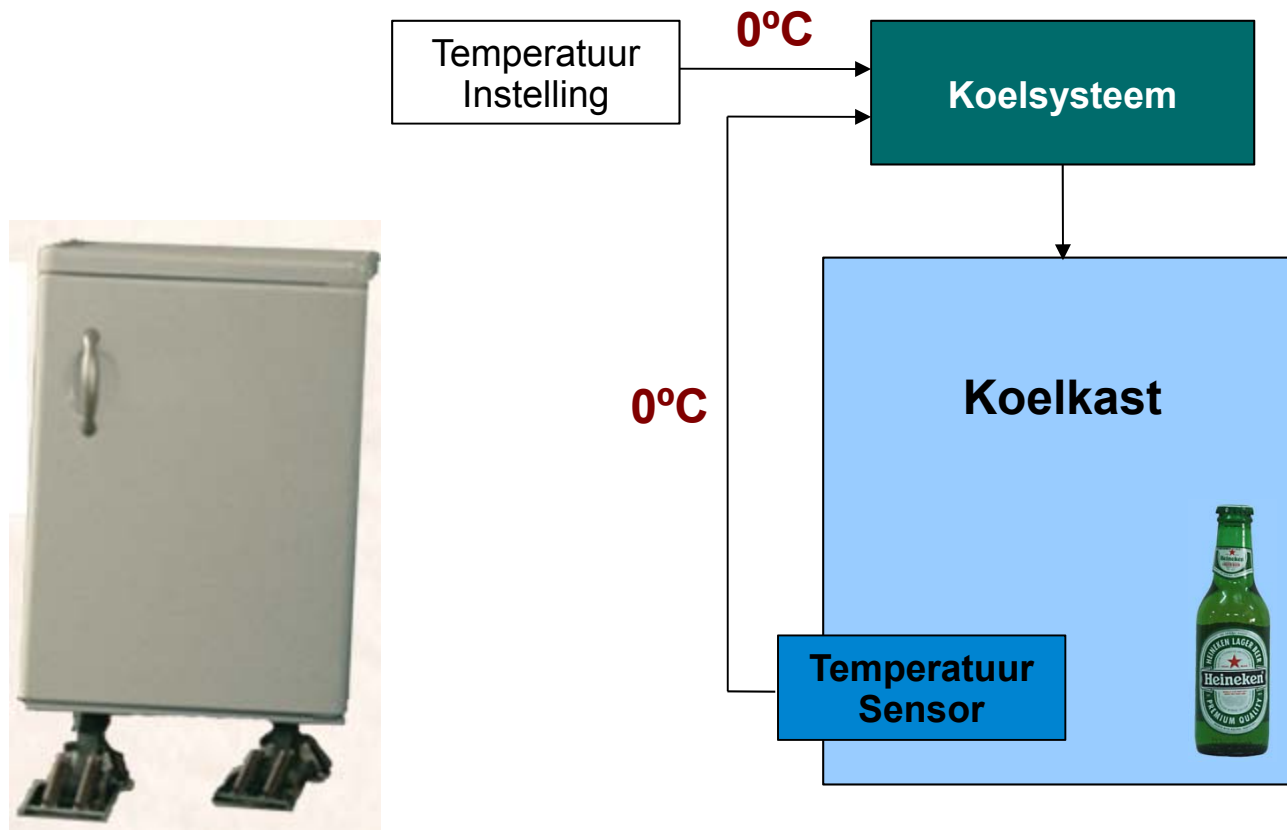
Negatieve terugkoppeling

Alleen als ie ijs en ijskoud is?

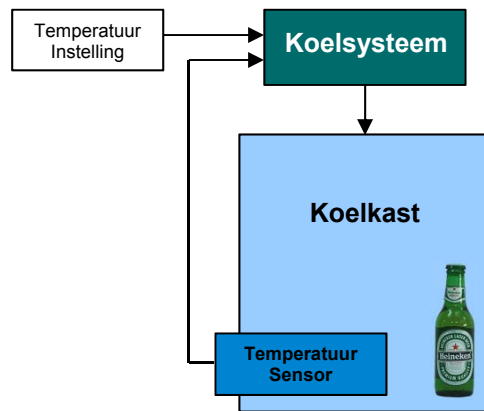


Negatieve terugkoppeling

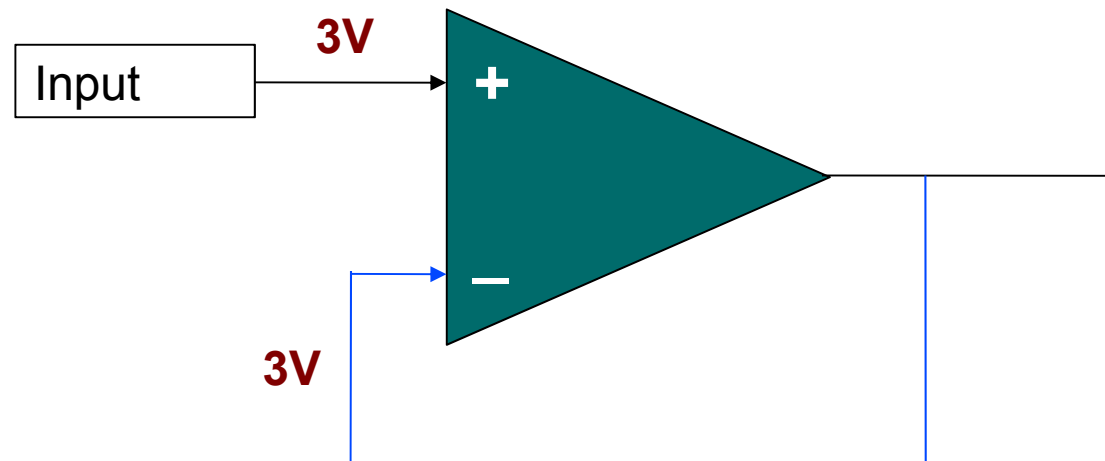
IJskoud!



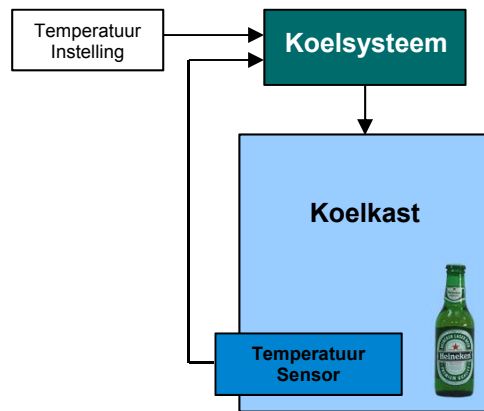
Negatieve terugkoppeling



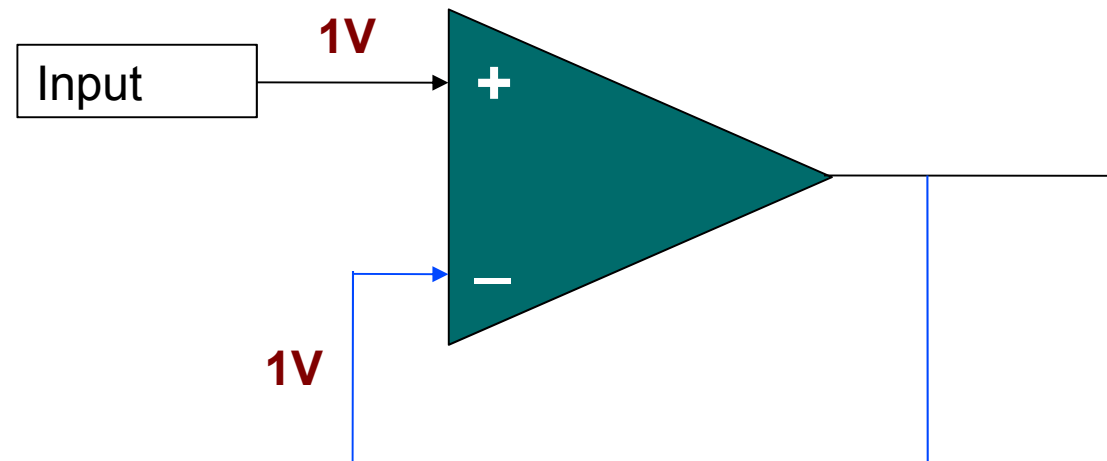
Spanningsvolger



Negatieve terugkoppeling



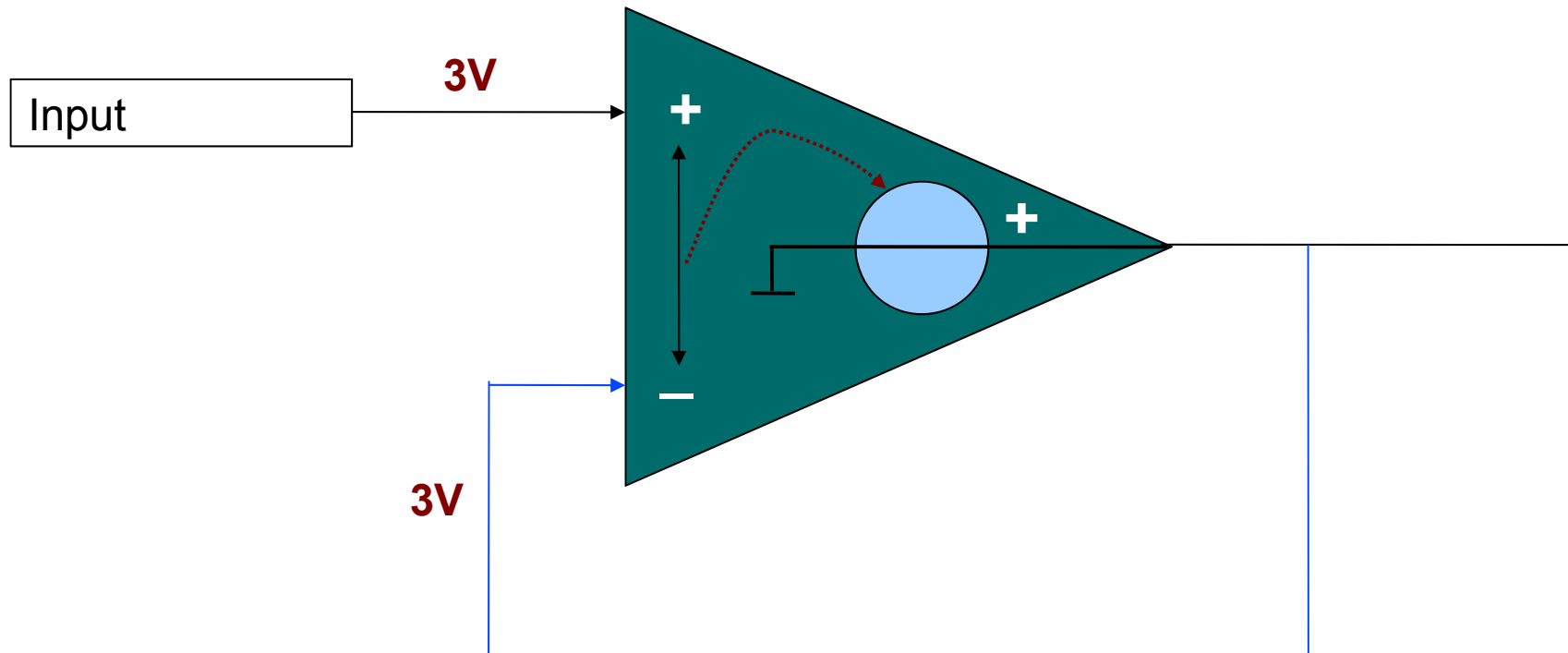
Spanningsvolger



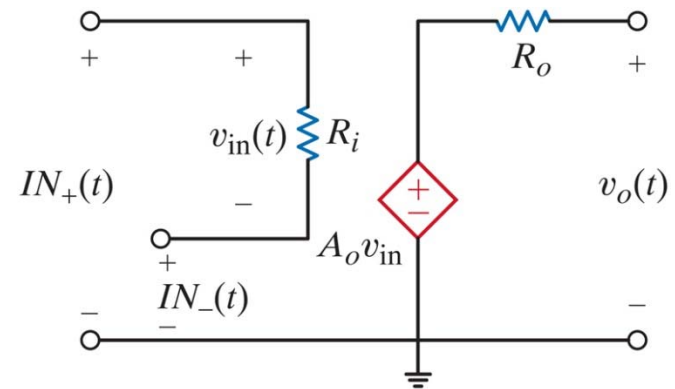
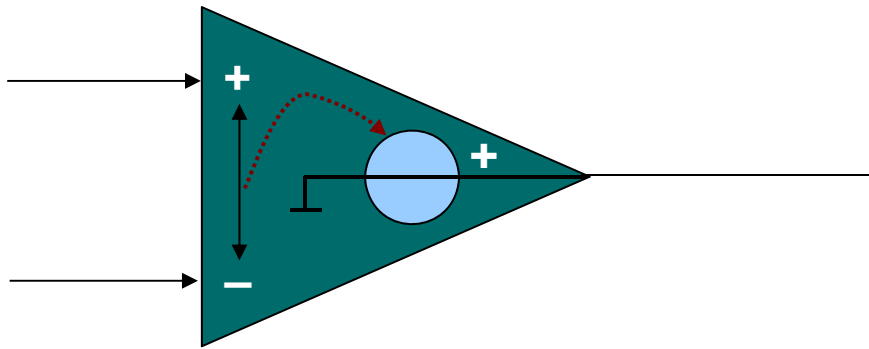
= Koelkast in het elektrisch domein!

Negatieve terugkoppeling

Spanningsvolger



Operationele versterker

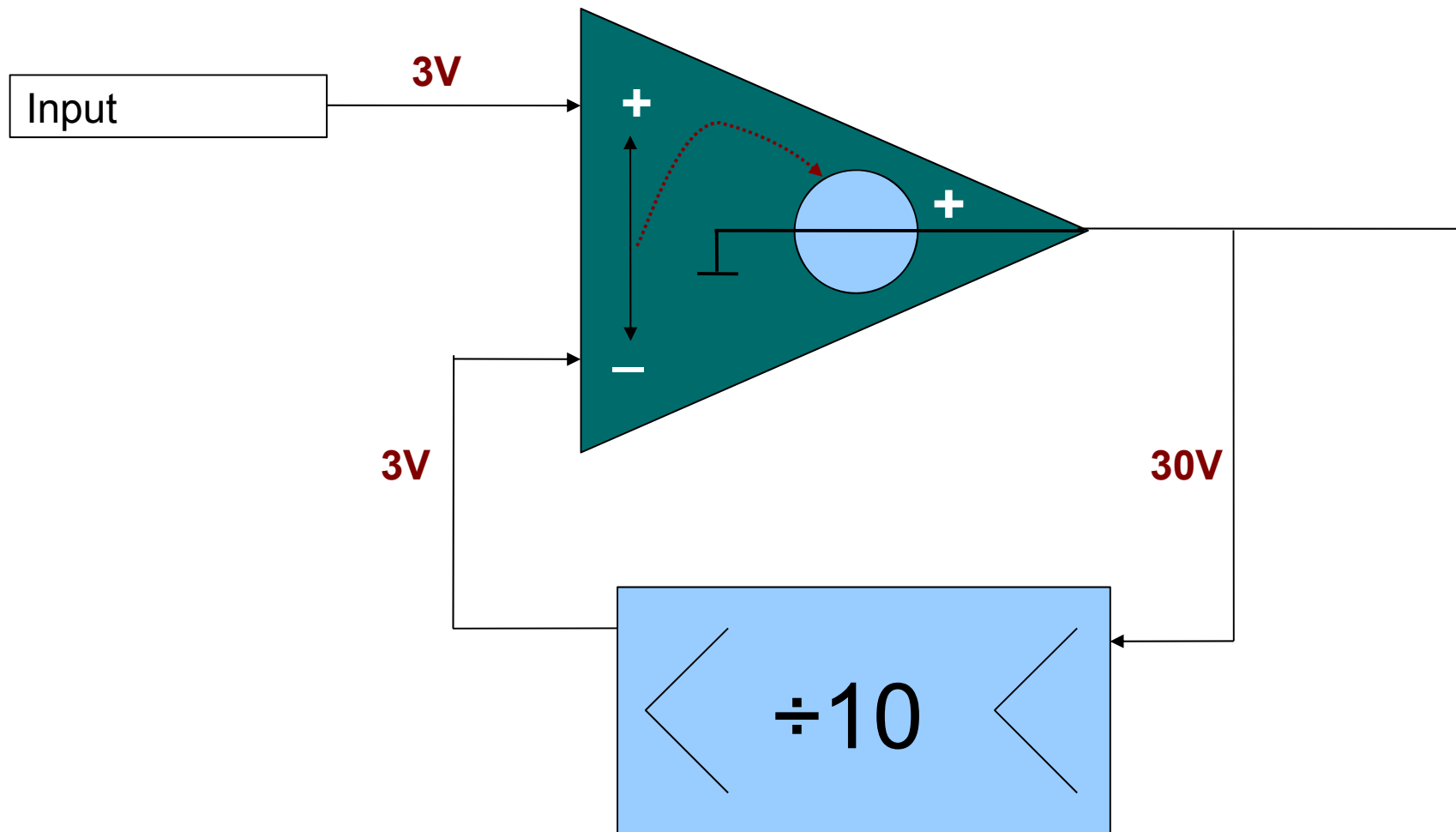


- $R_{in} = \infty$, $R_{out} = 0 \rightarrow V_{out} = A_o V_{in}$ voor alle I_{out}

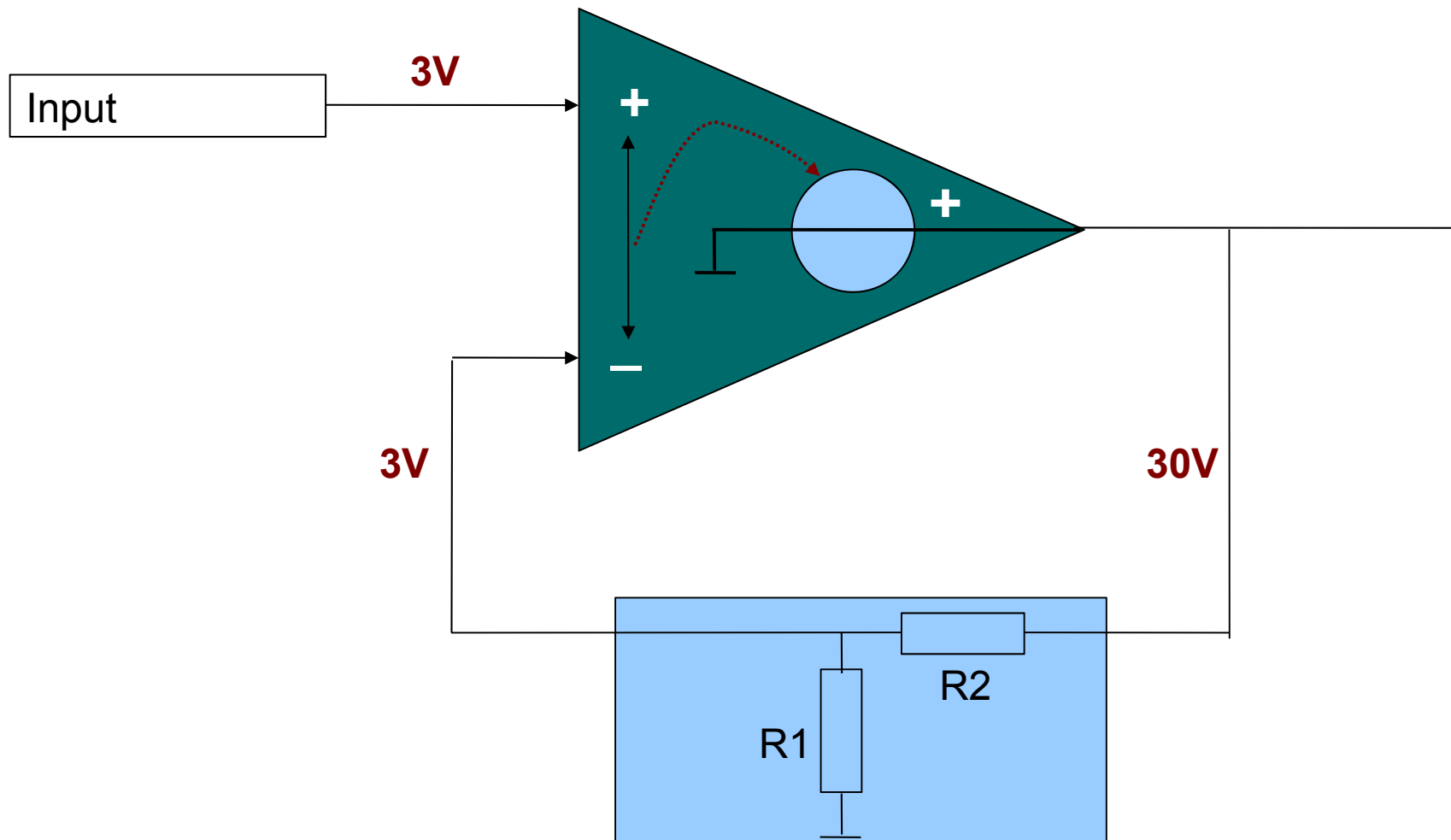
Door de negatieve terugkoppeling en doordat A_o heel groot is:

- $V_{in+} = V_{in-}$ oftewel $V_{in} = 0$
- $I_{in} = 0$

Spanningsversterker



Spanningsversterker



Spanningsversterker

