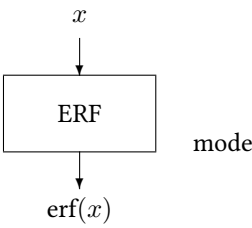


Block ERF

The ERF block calculates the error function.



Name	ERF
Function	fb0040
Inputs	1
Outputs	1
Parameters	1
Strings	0
Group	S

Inputs

1 Any input signal x .

Outputs

1 Error function $\text{erf}(x)$.

Parameters

- 1 Mode
- 0 Polynom of order three
 - 1 Polynom of order five

Strings

None

Description In mode 0 the [ERF](#) block uses the third order polynomial

$$z = \frac{1.0}{1.0 + 0.47047 x}$$

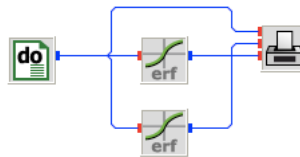
$$\operatorname{erf}(x) = 1.0 - (0.3480242 z - 0.0958798 z^2 + 0.7478556 z^3) \exp(-x^2)$$

In mode 1 the [ERF](#) block uses the fifth order polynomial

$$z = \frac{1.0}{1.0 + 0.3275911 x}$$

$$\operatorname{erf}(x) = 1.0 - (0.254829592 z - 0.284496736 z^2 + 1.421413741 z^3 - 1.453152027 z^4 + 1.061405429 z^5) \exp(-x^2)$$

`erf.vseit`



A [DO](#) block varies x from -1 to 1 in steps of 0.1 . The first [ERF](#) block calculates the error function by a polynomial of order three (mode 0) and the second one by a polynomial of order five (mode 1). The [PLOT](#) block displays both graphs on screen with mode 0 in red.

