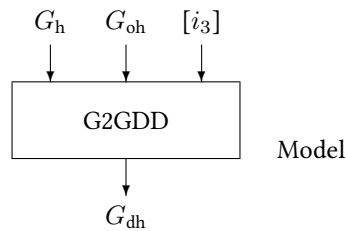


Block G2GDD

The G2GDD block returns the diffuse radiation according to various correlations for daily data.



Name	G2GDD
Function	em0010
Inputs	2 . . . [3]
Outputs	1
Parameters	1
Strings	0
Group	S

Inputs

- 1 Global radiation G_h / W m^{-2} on a horizontal plane
- 2 Global radiation outside the atmosphere G_{oh} / W m^{-2} on a horizontal plane
- 3 Model dependent (see Parameters section for further details)

Outputs

- 1 Diffuse radiation G_{dh} / W m^{-2} on a horizontal plane

Parameters

- 1 Correlation
 - 0 Liu, Jordan
 - 1 Ruth, Chant
 - 2 Collares-Pereira
 - 3 Vignola, McDaniels
 - 4 Erbs, Klein, Duffie – this correlation requires the sunrise hour angle ω_{sr} / $^\circ$ as third block input.
 - 5 Vignola, McDaniels – this correlation requires the day of the year DOY as third block input.

Strings

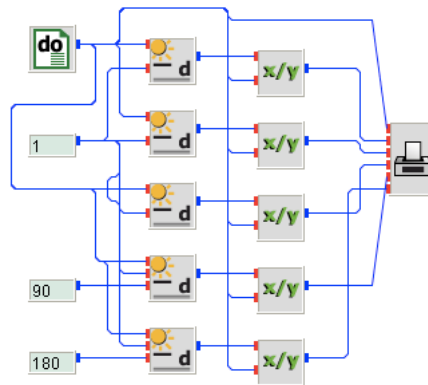
None

Description The block calculates the fraction of daily diffuse and global radiation on a horizontal surface mainly on the basis of the clearness index which is defined as

$$k_t = \frac{G_h}{G_{oh}}$$

Through the setting of the first block parameter one of several correlations can be chosen.

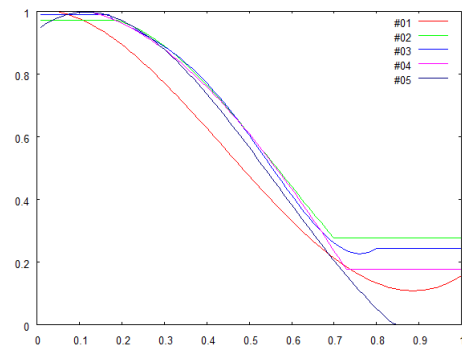
g2gdd.vseit



A **DO** block is used to vary the (normalised) global radiation on a horizontal surface from 0.01 to 1 in steps of 0.01. The extraterrestrial radiation is set to one by a **CONST** block. Hence the two inputs to the **G2GDD** blocks correspond exactly to a clearness index. Usually, the second input to the **G2GDD** block comes from block **GOH**.

The **DIV** blocks calculate the diffuse fraction by dividing the diffuse radiation from the **G2GDD** blocks by the output of the **DO** block.

As shown by the [PLOT](#) block the results for all correlations are quite similar.



See also [Block G2GDH and G2GDM](#)