

20 Hz raw data of the Eddy Covariance tower "ROEC001" located in Rollesbroich

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(TR32 Z3)

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Station information

The station is financed by: TERENO
Location: Rollesbroich (50.6219142N, 6.3041256E, 514.7 m asl)
Dominating land use: meadow
actual vegetation type: -
Land owner: Dieter Wilden
Power supply: mains supply
Tower height: 3 m

Dataset information

Period: 2012-01-02 to 2012-04-02
Measurement frequency: 20 Hz
Data format: Campbell TOA5 (ASCII)
The files contain only the raw data that is needed for the computation of the fluxes of latent heat, sensible heat, carbon and momentum. No plausibility check was applied. Missing values in 20 Hz time series are given as "NaN".
Additional meteorological data and measurements of soil water and temperature of this station as well as readily processed fluxes are available through the TR32 Database.

Additional information for flux computation

Direction of the CSAT3: 311°
Direction of the LI7500 (as seen from the CSAT3 : 131°
Sensor separation of CSAT3 and LI7500: 0.18 m

Measured variables (same order as in the data files)

Name	Unit	Variable	offset	Instrument manufacturer
TIMESTAMP	-	timestamp in UTC	-	CR3000, Campbell Scientific, Inc., Logan, USA
RECORD	-	record number	-	CR3000, Campbell Scientific, Inc., Logan, USA
Ux	m s^{-1}	wind speed in x-direction	2.6 m	CSAT3, Campbell Scientific, Inc., Logan, USA
Uy	m s^{-1}	wind speed in y-direction	2.6 m	CSAT3, Campbell Scientific, Inc., Logan, USA
Uz	m s^{-1}	wind speed in z-direction	2.6 m	CSAT3, Campbell Scientific, Inc., Logan, USA
Ts	$^{\circ}\text{C}$	sonic temperature	2.6 m	CSAT3, Campbell Scientific, Inc., Logan, USA
co2	mg m^{-3}	carbon dioxide content	2.6 m	LI7500, LI-COR Inc., Lincoln, NE, USA
h2o	g m^{-3}	water vapor content	2.6 m	LI7500, LI-COR Inc., Lincoln, NE, USA
press	kPa	air pressure	0.57 m	LI7500, LI-COR Inc., Lincoln, NE, USA
diag_csat_work	-	diagnostic information	2.6 m	CSAT3, Campbell Scientific, Inc., Logan, USA
t_hmp	$^{\circ}\text{C}$	air temperature	2.58 m	HMP45C, Vaisala Inc., Helsinki, Finland
rh_hmp	%	relative humidity	2.58 m	HMP45C, Vaisala Inc., Helsinki, Finland
diag_irga_work	-	diagnostic information	2.6 m	LI7500, LI-COR Inc., Lincoln, NE, USA

Table 1: Raw measurements for flux computation of the Eddy Covariance tower in Rollesbroich (ROEC001)