signal period: 7 hours, frequency: 0.14286 cycles per hour
sampling rate: 80 X frequency (11.42857 samples per hour)
number of samples: 161, 2 periods
df: 0.07098, Δf: 11.35759 cycles per hour
dt: 0.08750, Δt: 14.00000 hours
$df = 1/\Delta t, \Delta f = (n-1)df = 1/dt$
offset: 0 m, amplitude: 2 m, initial phase: 0.0 °, noise: 0.0

Raw signal

Fourier transform modulus
Most present freq: 0.14197 cycles per hour
Period: 7.04375 Hours

Reconstructed signal
Difference: 6.893E-15

found parameters: amplitude = 2.161 m, period = 6.979 hours, offset = 0.354 m, initial_phase = -3.790 °
train r2: 8.588E-01, test r2: 8.696E-01