

# Units of Measurement

Visual3D computes all [model based items](#) using [MKS units](#), i.e. based on meters, kilograms and seconds. An exception to this rule are [joint angles](#), which are represented in degrees.

| Quantity               | Unit      |
|------------------------|-----------|
| Distance               | m         |
| Velocity               | m/s       |
| Acceleration           | m/s/s     |
| Mass                   | kg        |
| Force                  | N         |
| Energy                 | J         |
| Power                  | W         |
| Moment (Torque)        | Nm        |
| Joint Angle            | degrees   |
| Joint Angular Velocity | degrees/s |
| Volume                 | m cubed   |

## Analog Units

Visual3D expects certain common [parameters](#) to be included in the ANALOG Section of the [C3D file](#) when [ANALOG](#) data is present. If no unit parameter is available for an ANALOG signal then Visual3D defaults to interpreting the signal as being reported in Volts (V).

WorkspaceSignals and EventsModelsReportsReal-Time

+

FORCE

+

COFF

+

FREEMOMENT

+

LANDMARK

+

LINK\_MODEL\_BASED

+

KINETIC\_KINEMATIC

+

DERIVED

+

METRIC

+

P2D

+

FRAME\_NUMBERS

+

TEXT\_DATA

+

HEADER INFORMATION

+

PARAMETERS

+

POINT

+

ANALOG

+

USED

+

LABELS

+

DESCRIPTIONS

+

GEN\_SCALE

+

SCALE

+

OFFSET

+

UNITS

+

RATE

+

RATIO

+

FORMAT

+

GAIN

+

SEG

Parameter Data

Parameter Name :UNITS

Description :Analog Measurement units

Not LockedData Type : CharDimensions : (36, 4)

Parameter Data (20) = V

Parameter Data (21) = V

Parameter Data (22) = V

Parameter Data (23) = V

Parameter Data (24) = V

Parameter Data (25) = N

Parameter Data (26) = N

Parameter Data (27) = N

Parameter Data (28) = Nmm

Parameter Data (29) = Nmm

Parameter Data (30) = Nmm

Parameter Data (31) = N

Parameter Data (32) = N

Parameter Data (33) = N

Parameter Data (34) = Nmm

Parameter Data (35) = Nmm

Parameter Data (36) = Nmm

From:  
<https://has-motion.com/wiki/> - Wiki Documentation Site

Permanent link:  
[https://has-motion.com/wiki/doku.php?id=visual3d:documentation:pipeline:model\\_based\\_data\\_commands:units\\_of\\_measurement&rev=1745935741](https://has-motion.com/wiki/doku.php?id=visual3d:documentation:pipeline:model_based_data_commands:units_of_measurement&rev=1745935741)

Last update: 2025/04/29 14:09

<https://has-motion.com/wiki/>

Printed on 2026/09/16 12:13