GS1 Web Vocabulary / All Type Codes / Measurement type

Measurement type

https://gs1.org/voc/MeasurementType

A set of measurement types for properties that can be measured or sensed by appropriate measuring devices or sensors

Defined values for this Type Code

Code Value	Name	Description and URI
AbsoluteHumidity	Absolute humidity	The ratio of the mass of water vapour in a sample of moist air to the volume of the sample. SI Units: kilogram per cubic metre gs1:AbsoluteHumidity
AbsorbedDose	Absorbed dose	The energy absorbed per unit mass of the patient from the decay of a radionuclitide given to a patient for diagnostic or therapeutic purposes. SI Units: gray gs1:AbsorbedDose
AbsorbedDoseRate	Absorbed dose rate	The energy absorbed per unit time per unit mass of the patient from the decay of a radionuclitide given to a patient for diagnostic or therapeutic purposes. SI Units: gray per second gs1:AbsorbedDoseRate
Acceleration	Acceleration	The rate of change of velocity, a vector quantity with magnitude and direction. SI Units: metre per second per second gs1:Acceleration
Altitude	Altitude or Elevation	The height above the surface of a defined geoid, typically the World Geodetic System (WGS 84) geoid for measurements from location sensors using satellite technology (e.g. GPS, Glonass, Galileo) , which approximates to the surface of the earth at sea level. Positive values indicate height above the geoid surface. Negative values indicate depth below the geoid surface. SI Units: metres gs1:Altitude
AmountOfSubstance	Amount of substance	The amount of substance that contains a number of atoms, molecules etc. that is equal to the Avogadro constant. SI Units: mole gs1:AmountOfSubstance
AmountOfSubstancePerUnitVolume	Amount of substance per unit volume	The concentration of a solution expressed as the number of moles of dissolved substance per unit volume of solution. SI Units: mole per cubic metre gs1:AmountOfSubstancePerUnitVolume
Angle	Angle	The inclination of one line or plane to another. Units: degrees, radians, etc. gs1:Angle
AngularAcceleration	Angular acceleration	The rate of change of angular velocity with respect to time. SI Units: radian per second per second gs1:AngularAcceleration
AngularMomentum	Angular impulse or Angular momentum	The integral over time of the torque acting on a body that is free to rotate, resulting in a corresponding change in its angular momentum. SI Units: newton metre second, kilogram metre squared per second gs1:AngularMomentum
AngularVelocity	Angular velocity	The rate of change of angle with respect to time; a measure of the number of revolutions per unit time. SI Units: radian per second gs1:AngularVelocity
Area	Area	The amount of two-dimensional space occupied, measured in units of length squared. SI Units: square metre gs1:Area
Capacitance	Capacitance	The capacitance of an isolated conductor is defined as the ratio of the total charge on it to its electric potential. SI Units: farad gs1:Capacitance
Conductance	Conductance	The ratio of the current in the conductor to the potential difference between its ends; reciprocal of resistance. SI Units: siemen gs1:Conductance
Conductivity	Conductivity	A measure of how strongly a material conducts electric current. The ratio of the current density to the electric field that causes the current to flow. SI Units: siemen per metre gs1:Conductivity
Count	Count	A measure of the total quantity of something; the number of individual units present. Typically dimensionless (no units) gs1:Count
Density	Density	The mass per unit volume of a substance. SI Units: kilogram per cubic metre gs1:Density
Dimensionless	Dimensionless	A measurement whose units are dimensionless. gs1:Count or gs1:VolumeFraction or gs1:RelativeHumidity should be used in preference if appropriate. gs1:Dimensionless
DoseEquivalent	Dose Equivalent	The product of the absorbed dose multiplied by a Q factor (relating to the type of radiation) and a factor relating to all relevant aspects of the body being irradiated, multiplied by the exposure time. SI Units: sievert gs1:DoseEquivalent
DoseEquivalentRate	Dose equivalent rate	The product of the absorbed dose rate multiplied by a Q factor (relating to the type of radiation) and a factor relating to all relevant aspects of the body being irradiated. SI Units: sievert per second gs1:DoseEquivalentRate
DynamicViscosity	Dynamic viscosity	The value of the tangential force per unit area which is necessary to maintain unit relative velocty between two parallel planes unit distance apart in a fluid. SI Units: pascal gs1:DynamicViscosity
ElectricCharge	Electric Charge	Quantity of unbalanced electricity in an object, i.e. excess or deficiency of electrons, resulting in negative or positive electrification, respectively. SI Units: coulomb gs1:ElectricCharge
ElectricCurrent	Electric Current	Rate of flow of charge in a substance, whether solid, liquid or gas. SI Units: ampere gs1:ElectricCurrent
ElectricCurrentDensity	Electric current density	Rate of flow of charge in a substance per unit area perpendicular to the current. SI Units: ampere per square metre gs1:ElectricCurrentDensity
ElectricFieldStrength	Electric field strength	The electric force acting on a unit charge. The linear gradient of the electrostatic potential. SI Units: volt per metre = newton / coulomb gs1:ElectricFieldStrength
Energy	Energy	A measure of a the capacity of a system or body to do work. SI Units: joule gs1:Energy
Exposure	Exposure	The product of light intensity and time duration of the exposure. SI Units: lux second gs1:Exposure
Force	Force	The rate of change of linear momentum of a body on which a force acts. A force acting on a body which is free to move produces an acceleration in the motion of the body. SI Units: newton gs1:Force
Frequency	Frequency	The rate of repetition of a periodic oscillation or disturbance; the number of cycles per unit time. SI Units: hertz gs1:Frequency
Illuminance	Illuminance	The energy in the form of visible radiation reaching a surface per unit area in unit time; the amount of luminous flux per unit area. SI Units: lux = 1 lumen per square metre gs1:Illuminance
Inductance	Inductance	The magnitude of the property of an element or circuit to form a magnetic field and store magnetic energy when carrying a current. The property of an electric circuit or component that causes an electromotive force to be generated in it as a result of a change in the current flowing through the circuit (self inductance) or of a change in the current flowing through a neighbouring circuit with which it is magnetically linked (mutual inductance). SI Units: henry gs1:Inductance
Irradiance	Irradiance	The flux of radiant energy per unit area, especially an area perpendicular to the direction of travel through a medium. A measure of the radiant power per unit area that flows across a surface. SI Units: watt per square metre gs1:Irradiance
KinematicViscosity	Kinematic viscosity	The ratio of the viscosity of a liquid to its density. SI Units: square metres per second gs1:KinematicViscosity
Length	Length	The linear magnitude of any thing, as measured end to end. Length, width, depth, height, diameter are all measured in units of length. SI Units: metre gs1:Length
LinearMomentum	Impulse or linear momentum	The impulse is the integral over time of the force acting between two colliding bodies. Linear momentum of a body is the product of its mass and its velocity. SI Units: newton seconds gs1:LinearMomentum
Luminance	Luminance	A measure of the light-emitting intensity of a light source, in a specific direction per unit area of the emitting surface. For a very narrow cone containing the direction, it is the ratio of the luminous flux emitted within that cone to the solid angle of the cone per unit area of the emitting surface. SI Units: candela per square metre gs1:Luminance
LuminousFlux	Luminous flux	A measure of the perceived power of light emitted by a source or received by a surface and irrespective of direction, taking into account the sensitivity of the human eye to different wavelengths of light. SI Units: lumen = 1 candela per steradian gs1:LuminousFlux
LuminousIntensity	Luminous intensity	A measure of the light-emitting intensity of a light source, in a specific direction. For a very narrow cone containing the direction, it is the ratio of the luminous flex emitted within that cone to the solid angle of the cone. SI Units: candela gs1:LuminousIntensity
MagneticFlux	Magnetic flux	A measure of the total magnetic field that passes through a specific area. The surface integral of the product of the permeability of the medium and the magnetic field intensity perpendicular to the surface. SI Units: weber gs1:MagneticFlux
MagneticFluxDensity	Magnetic flux density	The product of the magnetic field strength and the permeability of a material. SI Units: tesla = weber per square metre gs1:MagneticFluxDensity
MagneticVectorPotential	Magnetic vector potential	The potential energy per unit element of current (current multiplied by length). SI Units: weber per metre (Joules per ampere metre) gs1:MagneticVectorPotential
Mass	Mass	The quantity of matter in a body. Inertial mass is the measure of the inertia of a body; its resistance to acceleration. SI Units: kilogram gs1:Mass
MassConcentration	Mass concentration	The mass of the consistutent (or solute) divided by the volume of the mixture (or solvent). SI Units: kilogram per cubic metre gs1:MassConcentration
MassFlowRate	Mass flow rate	The mass of fluid that passes per unit of time. SI Units: kilogram per second gs1:MassFlowRate
MassPerAreaTime	Mass flux / Mass per area per time	The mass of fluid that passes per unit of time per unit area perpendicular to the flow direction. SI Units: kilogram per second per square metre gs1:MassPerAreaTime
MemoryCapacity	Memory capacity	A measure of the size of a data structure or capacity of a data carrier, typically measured in bits (binary digits), bytes or octets (8 bits) or multiples thereof. Units: byte gs1:MemoryCapacity
MolalityOfSolute	Molality of solute	The concentration of a solution expressed as the number of moles of dissolved substance per unit mass of solvent. SI Units: mole per kg gs1:MolalityOfSolute
MolarEnergy	Molar thermodynamic energy	The ratio of the thermodynamic energy of a chemical compound to the amount of substance (atoms or molecules) contained within it, the amount of substance being measured in moles. SI Units: joule per mole gs1:MolarEnergy
MolarMass	Molar mass	The ratio of the mass of a chemical compound to the amount of substance (atoms or molecules) contained within it, the amount of substance being measured in moles. SI Units: kilogram per mole gs1:MolarMass
MolarVolume	Molar volume	The volume occupied by a substance per unit amount of substance at a specified temperature and pressure. SI Units: cubic metre per mole gs1:MolarVolume
Power	Power	The rate of doing work or rate of production, transfer or consumption of energy; the amount of energy transferred or converted per unit time. SI Units: watt gs1:Power
Pressure	Pressure	The perpendicular force per unit area acting on a material and tending to change its dimensions. SI Units: pascal, newton per square metre gs1:Pressure
RadiantFlux	Radiant flux	The total power emitted, received or passing in the form of electromagnetic radiation; a measure of electromagnetic energy per unit time. SI Units: watt gs1:RadiantFlux
RadiantIntensity	Radiant intensity	The radiant flux per unit solid angle emitted by a point source. SI Units: watt / steradian gs1:RadiantIntensity
Radioactivity	Radioactivity	The rate of spontaneous disintegration or decay of certain natural heavy elements, accompanied by alpha-rays, beta-rays or gamma-rays. SI Units: becquerel gs1:Radioactivity
RelativeHumidity	Relative humidity	The ratio of the partial pressure of water vapour in an an air-water mixture to the saturated vapour pressure of water at a prescribed temperature. Typically expressed as a percentage. gs1:RelativeHumidity
Resistance	Resistance	The ratio of the potential difference across an electrical component to the current passing through it. It is a measure of the opposition to the flow of electric charge. The real part of the impedance, characterised by the dissipation of energy as opposed to its storage. SI Units: ohm gs1:Resistance
Resistivity	Resistivity	A measure of how strongly a material resists the flow of electric current. The electric field required to achieve unit current density flowing through the material. SI Units: ohm metre gs1:Resistivity
SolidAngle	Solid angle	A three-dimensional equivalent to planar angle, indicating a measure of the field of view subtended by an object when viewed from a specified point, the apex. The solid angle is the surface area subtended at radius r from the apex divided by the square of that radius r. SI Units: steradian etc. gs1:SolidAngle
SpecificVolume	Specific volume	The volume of a substance per unit mass. The reciprocal of density. SI Units: cubic metres per kilogram gs1:SpecificVolume
Speed	Speed or Velocity	The ratio of the linear distance travelled by a body to the time taken. Speed is a scalar quantity. Velocity is a vector with magnitude and direction. SI Units: metre per second gs1:Speed
SurfaceDensity	Surface density	The mass per unit area distributed over a surface. SI Units: kilogram per square metre gs1:SurfaceDensity
SurfaceTension	Surface tension	The attractive force exerted upon the surface molecules of a liquid by the molecules beneath that tends to draw the surface molecules into the bulk of the liquid and makes the liquid assume the shape having the minimum surface area. SI Units: newton per metre gs1:SurfaceTension
Temperature	Temperature	A measure of whether two systems are relatively hot or cold with respect to one another; two systems brought into contact will eventually reach thermal equilibrium and reach the same temperature as thermal energy (heat) flows from the system with higher temperature to the system with lower temperature. SI Units: kelvin gs1:Temperature
Time	Time	A dimension that enables distinction between two otherwise identical events that occur at the same point in space. The interval between such events is the basis of time measurement. SI Units: second gs1:Time
Torque	Torque	The product of a force and its perpendicular distance from a point about which it causes rotation or torsion. SI Units: newton metre gs1:Torque
Voltage	Voltage	The value of an electromotive force or electrostatic potential difference, expressed in volts. SI Units: volt gs1:Voltage
Volume	Volume	The amount of three-dimensional space occupied by a body, measured in cubic length units. SI Units: cubic metre gs1:Volume
VolumeFlowRate	Volume flow rate	The volume of fluid that passes per unit of time. SI Units: cubic metre per second gs1:VolumeFlowRate
VolumeFraction	Volume fraction	The dimensionless ratio of a volume of one substance to the volume of solid, liquid or gas in which it is contained. SI Units: parts per million etc. gs1:VolumeFraction
VolumetricFlux	Volumetric flux	The volume of fluid that passes per unit of time per unit area perpendicular to the flow direction. SI Units: cubic metre per second per square metre gs1:VolumetricFlux
Wavenumber	Wavenumber	The number of waves per unit length. SI Units: reciprocal metre gs1:Wavenumber

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