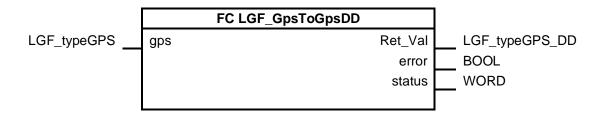## LGF_GpsToGpsDD

Short description

This function block converts GPS data, in the format direction, degrees, minutes, and seconds, into GPS data in decimal degrees.

Block

FC LGF_GpsToGpsDD	
gps	Ret_Val
	error
	status

LGF_typeGPS → gps

Ret_Val → LGF_typeGPS_DD
error → BOOL
status → WORD

Input parameters

Parameters	Data type	Description
gps	LGF_typeGPS	GPS data to be converted (direction, degrees, minutes, and seconds), e.g. N52° 31′ 14.941″ E13° 24′ 34.020″

Output parameters

Parameters	Data type	Description
Ret_Val	LGF_typeGPS_DD	Converted GPS data (decimal degrees), e.g. 52.520817 13.40945
error	BOOL	FALSE: No error TRUE: An error occurred during the execution of the FB.
status	WORD	16#0000-16#7FFF: Status of the FB, 16#8000-16#FFFF: Error identification (see following Table).

Status and error displays

status	Meaning	Remedy / notes
16#0000	No error	-
16#8200	Latitude Direction error	-
16#8201	Latitude Value error	-
16#8202	Longitude Value error	-
16#8203	Longitude Value error	-

LGF_typeGPS data type

Parameters	Data type	Description
latitude	LGF_typeGPS_DMS	Latitude in degrees, minutes, and seconds
longitude	LGF_typeGPS_DMS	Longitude in degrees, minutes, and seconds

LGF_typeGPS_DMS data type

Parameters	Data type	Description
dir	CHAR	Direction [N, S, E, W, n, s, e, w]
deg	UINT	Grad LAT [-89..+89]; LON [-179..+179]
min	UINT	Minutes [0..+59]
sec	UINT	Seconds [0..+59]

LGF_typeGPS_DD data type

Parameters	Data type	Description
latitude	REAL	Degrees latitude with decimal places (Unit: degree decimal), North = positive; South = negative valid value range [-90.00000..90.00000]
longitude	REAL	Longitude in degrees with decimal places (Unit: degree decimal), East = positive; West = negative valid range [-180.0000..180.0000]

Further information on libraries in TIA Portal:

- Topic page libraries
  https://support.industry.siemens.com/cs/ww/en/view/109738702
- Guideline on Library Handling
  https://support.industry.siemens.com/cs/ww/en/view/109747503
- Programming Guideline for S7-1200/1500 in chapter "Libraries"
  https://support.industry.siemens.com/cs/ww/en/view/81318674
- Programming Styleguide
  https://support.industry.siemens.com/cs/ww/en/view/81318674