

WEINTEK LABS., INC.

Converting Raw Value to Engineering Value

LIN_TRAFO

Demo Project

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1. Overview

When using analog modules, converting raw values to engineering values may be necessary because engineering values are easier for users to identify.

Example:

When the default of iR-AI04-VI's channel 0 is 10V and the raw value is 32000, converting 32000 to 10000 (engineering value) can make the data easier to read (10000 = 10.000V).

There are two ways to convert raw values to engineering values:

- Way 1.** Set analog module's Upper Limit and Lower Limit parameters. Raw data from analog module's channel can be directly converted to engineering value.
- Way 2.** This demo project demonstrates how to use LIN_TRAFO to perform linear transformation.

2. Function

Util Library

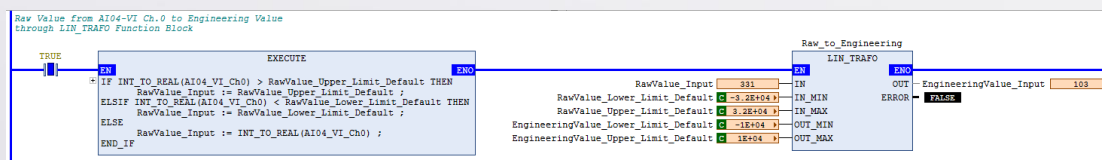
Function Block	Description
LIN_TRAFO	Performs a linear transformation by using the minimum and maximum values of the inputs for a linear approximation of the output value.

3. Demonstration

Analog Input Channel (raw to engineering)

Execute: Filter out raw values greater than 32000 or less than -32000.

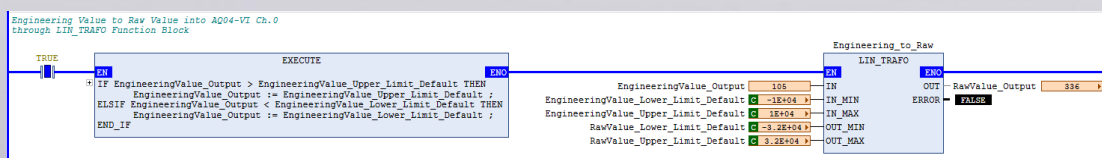
Raw_to_Engineering: Convert raw values 32000 ~ -32000 to engineering values 10000 ~ -10000 (10V ~-10V).



Analog Output Channel (engineering to raw)

Execute: Filter out engineering values greater than 10000 or less than -10000.

Engineering_to_Raw: Convert engineering values 10000 ~ -10000 to raw values 32000 ~ -32000 (10V ~-10V).



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