32-bit Floating Point COS to Host

Intended Audience and Scope

This document is intended for RTU Programmers and personnel that configure systems. It describes how to send 32-bit COS information from a PLC to the MISER Host.

Prerequisites

- 32-bit points in the RTU or PLC.
- RTU software version v8r05 and higher.
- The MISER Host must have the latest version of CSPROC and HSTNCC.

Introduction

The MNET$ library routine “Mnet$input_cos” has support logic for I × 2 (signed 16-bit integer). This routine is used by CSPROC and by some of the specialized NCCs in MISER.

While the FLEXCOS design allows for time-stamping, the host NCC program and its associated ring buffer do not support COS packets longer than 15 bytes in length. To meet this requirement, it is necessary that the COS packet omit the time-stamp information. Therefore, the MISER host point will be time-stamped using the time of the packet arrival at the Host.

Setup

Example of a Point Map Entry

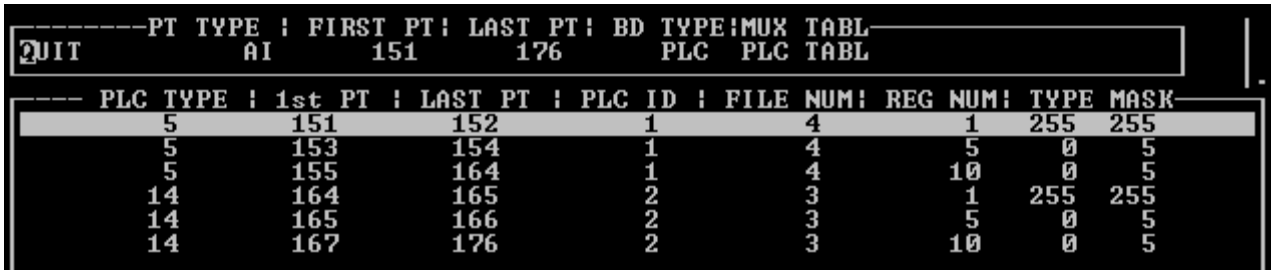

Figure 1 — Point Map Entry example

In the sample Point Map shown above, AIs 151-152 are setup for ordinary 16-bit signed integer reporting, per normal Modbus device operation. AI 153 is setup for 32-bit floating-point COS reporting. AI 154 is the second half of this value and would normally report a meaningful value. AIs 155 through 164 represent 5 registers (10 points).

An explanation for each field is listed below:

- **PLC TYPE** — the PLC board type (1, 2, 4, 5, 6, 7, 8, 14, or 24). Refer to the *RTU Diagnostics User Manual*, *PLC Table Field Entries* and *Point Map for Multiplexing PLC Points* for a description of the board types.
- **1st PT** / **LAST PT** — Each 32-bit register must be comprised of two consecutive points.
- **PLC ID** — the ID number is system dependent. It must conform to the PLC IDs that are setup for your system.
- **FILE NUM** — the Modbus protocol. In the example shown, the point type is an AI so this number must be either 4 (Read Input Register) or 3 (Read Holding Registers). Refer to the *RTU Diagnostics User Manual*, *Reading Modbus Table Values into Points* for a description of Modbus protocol types.
- **REG NUM** — the first desired number in the range of PLC registers.
- **TYPE MASK** — for 32-bit COS reporting it is ***mandatory*** that these numbers be zero (0) and five (5). This is the trigger to tell the Host that these points are read as 32-bit.

Example of a Host Point Definition

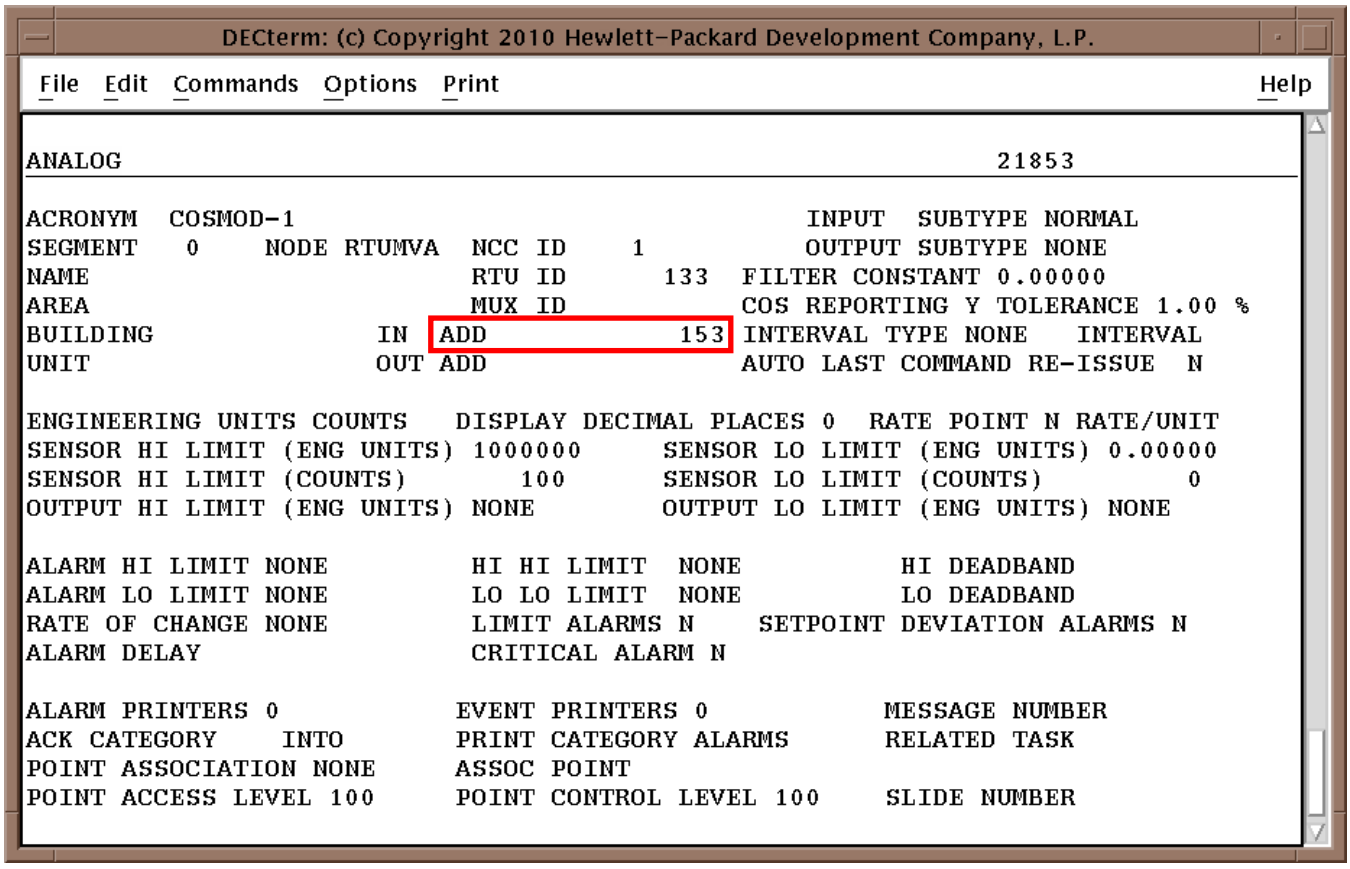

Figure 2 — Host Point Definition example

A sample Host point definition (corresponding to the Point Map entry) is shown above. The Input Point Address (153) must match the RTU Point Map starting address. The values for the “SENSOR HI LIMIT (COUNTS)” and “SENSOR LO LIMIT (COUNTS)” fields are unimportant, as long as the two values are not equal.

For each pair of 32 bit floating points, only the first half needs a Host Point Definition.