Serial Interface FTA for XYR 5000 Specification and Technical Data

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SI-FTA for XYRadio 5000

Introduction
The Serial Interface FTA for XYR 5000 consists of a specially modified Modbus Master Serial Interface FTA (Model MU-TSIM12). The modification allows the Serial Interface to obtain a specific set of data that is available through the XYR 5000 and change that data into a more useable end format. This document will describe the major functionality and enhancements provided.

Serial Interface Overview
Serial Interface FTAs on the TPS NETWORK or on the C200 allow the user to gather data from various devices and populate array tags with that data. The interface that Serial Interfaces use is the Serial Interface IOP for TPS NETWORK Systems. Serial Interface FTAs interface to the Experion PKS through the Serial Interface Module on the C200. Specific information on the standard Serial Interface FTA (Model MU-TSIM12) can be found in Honeywell’s document entitled APM/HPM Serial Interface Options (OP01-501).

This particular Serial Interface FTA provides a method to gather data from the XYR 5000 base radio. The Base Radio acts as a Modbus slave and provides data upon request. The data is in a specific format and data for each of up to 50 transmitters is mapped into the Modbus database that is internal to the Base Radio.

Standard TPS Network Features
- The Serial Interface FTA uses standard HPM Array or Experion Array point types to image the data from third party systems.
- Serial Data is imaged to and from the SI IOP in the case of the TPS Network. In the case of the C200, tags that are associated with the C200’s Serial Interface Module are the imaged tags. The data consists of user-configured Array points. Bidirectional communications of Real and Integer data is supported for this SI-FTA.
- Up to two serial links (one per FTA) are supported. Each link may communicate with a single Base Radio.
- Up to 5 Serial Interface Devices for XYR 5000 can be configured per xPM or SIM.

SI FTA XYR 5000 Features
- The XYR 5000 SI FTA allows the user to use a single base radio to interface to the full complement of 50 transmitters available per radio.
- Uses from 4 to 15 Serial Interface arrays for data storage, depending upon the number of transmitters required.
- Converts status data into flag arrays for ease of interpretation and alarming, making it more simple for the end user to determine actual transmitter status.

Specification and Technical Data
- Packs all PV data per transmitter in line, with 5 transmitters per array.
- Provides the ability to individually convert PV data from DegC to DegF.
- Includes an XYR 5000 Database Configurator that will create the database (in .EB files) required for the TPS Network. The configurator also provides .EC files for building the database. Control Language (.CL) is built for moving data from Arrays into individual tags that may be alarmed or seen as .PV type tags.

Serial Interface FTA Connectivity
Up to 2 FTAs can be connected to a Power Adapter. The Power Adapter is connected to the Serial IOP via the IO Link in the case of xPM communication. In the case of C200/SIM communication, the Power Adapter connects directly to the Serial Interface Module with a single cable.

While the Serial Interface FTA will support both RS-232 and RS-485 communications, the connection from the FTA to the Base Radio is RS-485. See Figure 2-4 in the document APM/HPM Serial Interface Options (OP01-501) for general details on wiring RS-485 connections to the SI-FTA.

(Note: RS-485 is now officially known as ANSI/EIA-485)
Communications Statistics/Diagnostics

- The Serial Interface FTA provides the same diagnostics and communication as the standard Serial Interface FTA for Modbus Master communication (Model MU-TSIM12).

Serial Interface FTA Database Layout

Configuration and building of the arrays to be utilized with the SI-FTA can be found in the APM/HPM Serial Interface Options (OP01-501) manual. The User Manual for the XYR 5000 SI-FTA discusses specific configuration requirements. The AUXDATAx and AB_DATAx parameters are utilized differently with this module.

Array one (1) allows conversion of temperature PV data from DegC to DegF. Array two (2) maintains the transmitter type for the first 25 transmitters. Array three (3) holds the flag/status data for the first 25 transmitters. The next five (5) arrays hold the PV (PV1, PV2, and PV3) data for five (5) transmitters each. Array nine (9) maintains the transmitter type for the last 25 transmitters. Array ten (10) holds the flag/status data for the last 25 transmitters. The final five arrays potentially used hold the PV (PV1, PV2, and PV3 data) for the last 25 transmitters – up to 5 per array.

The number of arrays required is dependent upon the number of transmitters required.

XYR 5000 Database Configurator

Configuration and building of the arrays to be utilized with the SI-FTA for the XYR 5000 can be accomplished with the XYR 5000 Database Configurator. This software tool provided with the SI-FTA will not only build the arrays required for the simplest implementation of the Serial Interface, but where desired, also allows the user to build an xPM database and CL to move the data from the storage arrays into Flag and PV type tags on the TPS system.