HART APL Transmitter Module

(Preliminary)

Introduction

SES HART-APL module makes it easier to convert your existing HART transmitters to support Advanced Physical Layer interface and reap the benefits of a connected Field Device. If you are a HART Transmitter manufacturer and need help migrating your design to HART-APL, SES HART-APL module can be an easy migration path for your existing designs and Smart Embedded Systems can help you with the migration. The hardware design can be customized, and firmware can be modified for customer's features. SES can also provide design help to developing FDI package for the APL transmitter designs.

Features

Loop Powered from an SPAA port (0.54W maximum)

Low power consumption design to be suitable for with IS designs

4-20 ma Loop powered HART interface to connect to existing HART Transmitters in fixed current mode.

Can easily convert existing HART Transmitters to APL.

Can acts as HART Gateway/Bridge or as a HART-IP Transmitter.

Design is based on Texas Instruments Phy. DP83TD510E.

Implemented with STM32F417 ARM Cortex M4 processor with 512KB Flash for program memory.

External Analog I/O for connections to external sensors or PGA

Serial TX/RX provided for external HART or MODBUS devices

I2C and SPI flash available for device logs, FDI package and other necessary data.

Secure Intelligent Firmware update for reliable operation

HART-IP with recommended secure Protocols supported.

Small Form factor 2.5 inches X 2.5 inches (can be customized)

Complete documentation and support

Specifications

Board Size: 2.5 X 2.5 inches (Can be customized)

Designed for harsh environments (Temperature -40C to +85C)

Designs will incorporate IS design principles for safety including supplementary insulation where required

Maximum Power 540 milli Watts

Available Power for Sensors circuits: 100- 135 milli watts

Ethernet-APL EMC testing is performed at a third-party laboratory per EMC test standards below

IEC 61000-4-4 electrical fast transient (EFT) (±4 kV)

IEC 61000-4-2 ESD (±4 kV contact discharge)

IEC 61000-4-2 ESD (±8 kV air discharge)

IEC 61000-4-6 conducted immunity (10V/m)

IEC 61000-4-3 radiated immunity (Class A)

EN55032 radiated emissions (Class B)

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