SMART EMBEDDED SYSTEMS (SES)

SES OFFERINGS FOR APL FIELD DEVICES:

- 3-Port APL Switch
- 6-Port APL Switch
- APL Module
- HART to HART-IP CONVERTER (APL)
- HART to PROFINET CONVERTER (APL)

Ethernet Advanced Physical layer (APL) is the new standard for field devices and these APL based devices are going to play a key role for digital transformation and connectivity to the outside world. Ethernet APL Technology uses two wires which provides both communication and power to field devices.

Smart Embedded Systems (SES) Inc. is the first company to offer various options for APL Device development as well as converting existing HART instruments to APL.

3-PORT APL SWITCH
(P/N: SES-APL-SWI)

6-PORT APL SWITCH
(P/N: SES-APL-SWI-6)

LIST OF BENEFITS WITH APL DEVICES

- Digital transformation of Field devices
- Connectivity from sensor to cloud
- More bandwidth
- Based on Well-established Ethernet standards
- More reliable
- Allows Convergence of IT & OT
- Top-to-bottom cybersecurity measures
- Access to AI (Artificial Intelligence) based Technology

APL MODULE 9WITH HART-IP OR PROFINET PROTOCOL)

In addition, SES Can do custom hardware and firmware development for HART and APL field devices with HART, HART-IP/ ProfiNet and other protocols such as Ethernet IP.

HART TO HART IP CONVERTER (APL)
HART TO PROFINET CONVERTER (APL)
(P/N: SES-HART-APL)

To place and order, Please contact:

Baldev@smartembeddedsystems.com

510-304-6830

3-Port APL SWITCH
(SES-APL-SWI)

6-Port APL SWITCH
(P/N: SES-APL-SWI-6)

FEATURES

- Standardized Din Rail form factor
- Powered by 24V power from an external source through modular plugs.
- 3-Port or 6-Port with 1 Vpp signaling capabilities
- APL devices can get their power over the data lines.
- 540 milli Watts of power available for each APL device.
- Default output voltage at 15.4V, programmable down to 9V.
- DHCP server, DHCP Client and static IP configurations possible
- Design will use TIL Phy from Texas
- Instruments DP83TD510E.
- Control Software Implemented with
- STM32F417 ARM Cortex M4 processor.
- Web UI for easy configuration.
- Per Port traffic statistics available per port.
- Link status and event logging available.

APL MODULE
(P/N: SES-APL-MOD)

FEATURES

- Loop Powered from an SPAA port
- Module size 44mm x 30 mm.
- Low power consumption design to be suitable for with Intrinsic Safety designs.
- Serial Port available for HART interface to connect to existing HART Transmitters
- Can easily convert existing HART Transmitters to APL.
- Can act as HART Gateway/Bridge or as a HART-IP Transmitter or mimic the connected HART device.
- Design will use TIL Physical layer chip from Texas Instruments DP83TD510E.
- Implemented with STM32F417 ARM Cortex M4 processor with 1 MB Flash for program memory.
- External Analog 1/0 for connections to external sensors or PGA
- Serial TX/RX provided for external HART or MODBUS devices.
- I2C and SPI flash are available for device logs, FDI package and other necessary data.
- Secure Intelligent Firmware update for reliable operation
- HART-IP with recommended secure Protocols supported.
- SES can do custom firmware Development with ProfiNet and Ethernet IP.
- Small Form surface mountable module

HART TO HART-IP OR TO PROFINET CONVERTER (APL)
(P/N: SES-HART-APL)

FEATURES

- Convert your existing HART device to
- HART-IP over APL Interface
  Or Convert your existing HART device to Profinet Device profile on the APL
- Power the HART device from APL2 wire or external power
- Small Compact DIN rail enclosure format
- The design is based on Texas Instruments Phy. DP83TD510E.
- Implemented with STM32F417 ARM Cortex M4 processor with 512KB Flash for program memory.
- External Analog 1/0 for connections to external sensors or PGA
- Serial TX/R provided for external HART or MODBUS devices
- 12C and SPI flash are available for device logs, FDI package and other necessary
- Secure Intelligent Firmware update for reliable operation
- HART-IP with recommended secure Protocols supported.

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