



SMART
EMBEDDED
SYSTEMS

ADVANCED PHYSICAL LAYER (APL)

TO ETHERNET SWITCH
(P/N: SES-APL-SWI)



FEATURES

- ◆ Standardized Din Rail form factor
- ◆ Powered by 24V power from an external source through modular plugs
- ◆ 3 – APL port with 1 Vpp signaling capabilities.
- ◆ APL devices can get their power over the data lines.
- ◆ 540 milliWatts 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 T1L 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.
- ◆ LED indicators for link and traffic.

INTRODUCTION

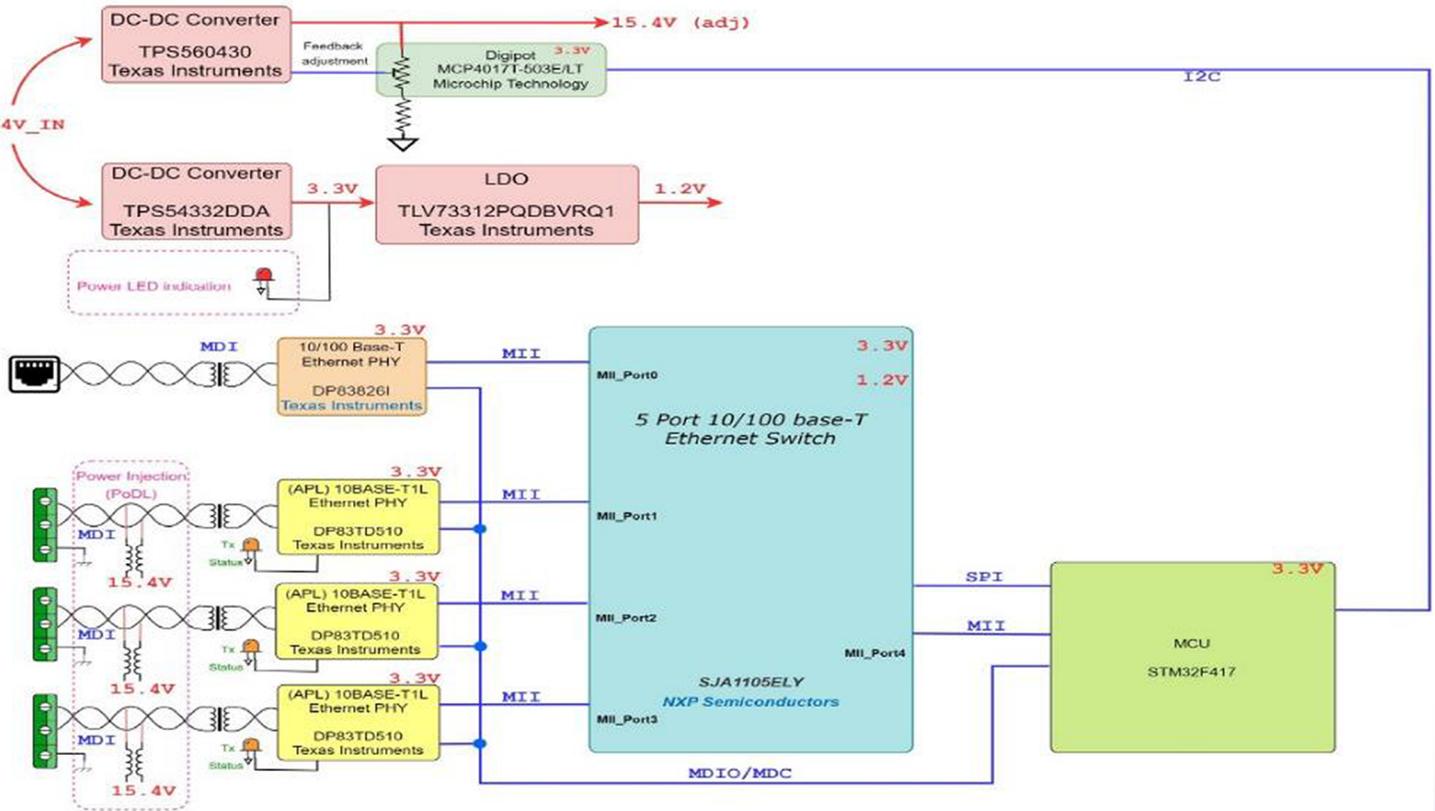
SES (Smart Embedded Systems)

3-Port APL to Ethernet switch DIN module allows one to easily connect your APL devices to an Ethernet based infrastructure.

This allows operators and product developers to create a bench setup for development, device configuration and testing. The switch can also be a great self-contained setup for demonstrations and tradeshows. transmitters to support Advanced Physical Layer interface and reap the benefits of a connected Field Device. With a DHCP server built-in, you do not need any additional setup to connect and start showing your APL devices. You can also deploy it in a small production setup with the 3 available APL ports. SES's APL to Ethernet switch is an ideal and cost-effective solution for the scenarios described above.



BLOCK DIAGRAM



OTHER SERVICES OFFERED BY SES

- License and customization of HART-IP stack
- Hardware and software customization of the HART-IP module
- Software development of other protocols Profinet, EthernetIP etc.

APPLICABLE STANDARDS. CERTIFICATIONS PENDING

- ◆ **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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