**commModule APL** (preliminary)

**Core Electronics for APL Field Devices**

- Fast and cost-effective Ethernet-APL implementation for process automation devices
- PROFINET protocol software according to PA profile 4.02 already onboard
- Allows for intrinsically safe hardware designs for use in hazardous areas
- Easy integration into HART and Modbus devices

**Fast and cost-effective implementation**

- Small footprint for use in majority of process equipment
- No need for a complex hardware development
- No stack porting, no application programming
- Components placed on one side only for automatic assembly on motherboard

**PROFINET protocol software according to PA profile 4.02 already onboard**

- Implementation follows latest APL and PI specifications
- Run-time license for the software is already included

**Made for intrinsically safe hardware designs**

- Potted and non-potted version for optimized ex design
- ATEX and IECEx approval for use in explosive environments

**Easy integration into HART and Modbus devices**

- Script-controlled mapping of function block application to device specific HART or Modbus commands
- No need for C programming
- commScripter tool checks script and creates mapping table
- Off-the-shelf commModules are customized by downloading mapping table
## Technical Data

### Hardware
- **Processor**: Renesas RX64M
- **RAM**: 2.5 MByte
- **Flash**: 4 MByte (on chip)
- **Non-volatile RAM**: On chip for persistent storage of parameters
- **Connectors**: Solder pads on edge of PCB
- **Current Consumption**: 50 mA
- **Power Supply to Device**: 3.2 V (max. 70 mW) and 6.2 V (max. 90 mW)
- **Operating Temperature**: -40 °C ... +80 °C
- **Storage Temperature**: -40 °C ... +125 °C
- **Relative Humidity**: 10 % ... 90% non condensing
- **Mounting**: Soldering (automatic assembly possible for non-potted version)
- **Weight**: 15 g (potted), 8 g (non-potted)
- **Dimensions**: 32.0 x 54.7 x 8.0 mm

### Interfaces
- **Fieldbus Interface**: PROFINET over APL with PA Profile 4.02
- **Interface to Application Device**: for regular firmware for commKit: UART, for user specific firmware: UART, I2C, SPI
- **Protocol to Application Device**: HART, Modbus (coming soon) or user specific

### Certificates
- **ATEX**: In preparation
- **IECEx**: In preparation

### Scope of Delivery
- **Hardware**: Preliminary engineering samples of commModule APL available on request
  Production devices on tray (sealed dry pack) available later this year
- **Firmware**: PROFINET device stack, mapping application
- **Documentation**: Hardware Manual

### Order Numbers
- **EIA-AS-022430**: commModule APL potted, samples
- **EIA-AS-022450**: commModule APL non-potted, samples

### Additional Products and Services
- **EVA-MA-022240**: commModule Evaluation Kit (commModule APL in housing with connectors)
- **DXA-KL-020621**: Renesas E2 Lite Flasher
- **LDA-AM-022755**: commScripter, Single Seat Developer License PROFINET to HART
- **LDA-AM-022756**: commScripter, Single Seat Developer License PROFINET to Modbus
- **HUA-AA-001012**: USB Hardlock for commScripter Licenses
- **SIA-AY-022471**: commScripter APL Workshop (per day)
- **SIA-KL-020100**: Integration Support (per hour)