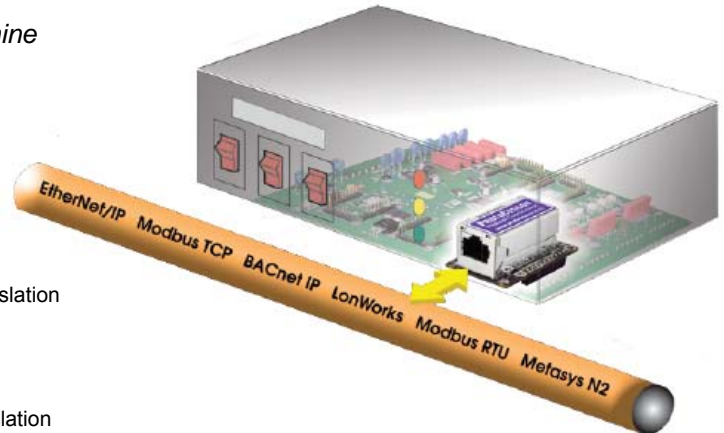
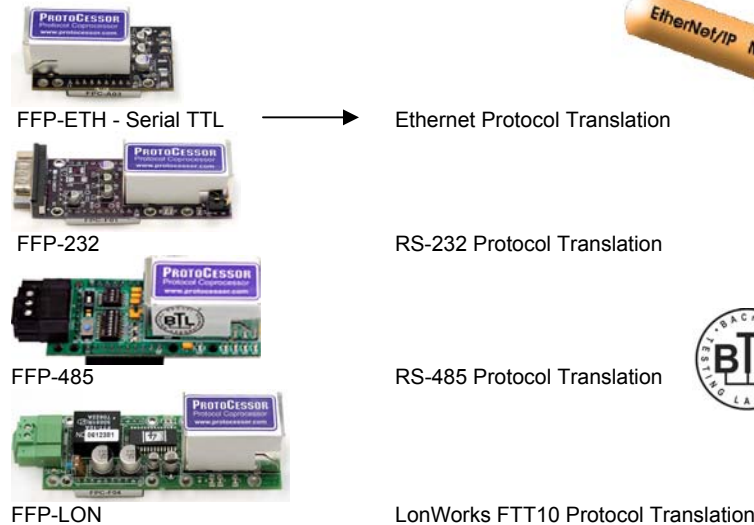


*ProtoCessors are a family of low cost TTL to RS-232, RS-485, Ethernet, and LonWorks Embedded Coprocessor modules enabling OEM's to rapidly implement various Industrial, Building, and Machine Automation protocols in their products.*

### FFP ProtoCessor Family



### Implementing ProtoCessor Power

- One minimal sized common TTL (TX/RX-5VDC) hardware footprint on the OEM's PCB hardware (2x10 pin ProtoCessor Socket) fits any ProtoCessor opening access to full FieldServer driver library.
- ProtoCessor translates from a common Host Protocol to a desired Field Protocol using most protocols found in the extensive FieldServer Driver Library or FieldServer can develop a protocol driver to meet the OEM's needs.
- Supports a wide range of legacy Host Protocols (like Modbus), but for OEM devices that do not have a Host Serial Protocol, ProtoCessor has simple ASCII and Binary protocols that can be implemented.
- ProtoCessor's are field programmable. The Host Protocol's memory registers get mapped to each particular Field Protocol via a CSV file. ProtoCessor technical support works with the OEM to complete the mapping.
- DIP Switches to set baud rate, MAC address, device instance and select from multiple stored predefined configurations.

### ProtoCessor Benefits

- **Penetrate new markets - Increase sales:** OEMs can easily offer their customers the protocol necessary to meet their interface specifications, enabling market expansion to new arenas.
- **Expanded capabilities with minimal development and in-house protocol support costs:** No need to reinvent the wheel, use FieldServer Technologies' years of experience in protocol translation.
- **Rapid Time-to-Market:** Minimal coding and hardware demands or changes to current OEM design required. Even less time and costs to add in additional protocols!
- **Minimal Impact to application hardware and software design:** Only a single socket needs to be added to the OEM's design to enable access to any ProtoCessor and it is compatible with 8/16/32 bit Microcontrollers.
- **Compliance "built-in":** FieldServer Technologies' leadership in protocol translation means full protocol compliance through continuous testing and certification of the protocols via standards governing groups.
- **Dramatically reduced NRE:** No costly purchase of source code and/or significant engineering time is required. All required source code and hardware is provided.

OEM's Host Serial Protocols	Field Protocol		
BACnet MS/TP	Allen Bradley CSP	DNP3 Ethernet or Serial	Modbus ASCII
DNP3	Allen Bradley DF1	EtherNet/IP	Modbus RTU
LonWorks	BACnet Ethernet	GE-EGD	Modbus TCP
Metasys N2 by JCI	BACnet MS/TP	J-Bus	OPC
Modbus RTU	BACnet PTP	LonWorks	SNMP
ProtoCessor PSP	BACnet/IP	Metasys N2 by JCI	And many more
Your own custom Serial Driver			

**Choose any protocol in the first column to act as the interface between the Host System and the ProtoCessor. Then, choose a protocol in the next column to be supported by your equipment for the Field Protocol.**

## Specifications - FFP ProtoCessors

### Field Connections

- FFP-ETH: Ethernet RJ-45 (8-pin)
- FFP-232: RS-232 DB9 Male
- FFP-485: RS-485 3 way Phoenix connector
- FPC-F04: FTT-10

### Host Connections

- Standard Serial TTL Interface-TX and RX
- Socket on Board: 2 x 10 20-pin (Header Pins Samtec Part # TLW-110-05-G-S)

### Temperature

- Ambient: -40° to 185°F (-40° to 85°C)
- Storage: -40° to 257°F (-40° to 125°C)
- Humidity: 5 to 90% RH

### Power Consumption

- FFP-ETH 5VDC@208 mA
- FFP-485/232 5VDC@252 mA
- FPC-F04 5VDC@470 mA
- ASP-485 5VDC@62 mA

### LonMark Certification on FPC-F04

- SPID: 80:00:95:46:00:84:04:05
- Profiles:
  - 0000 – Node object (1)
  - 0001 – Open Loop Sensor Object (5)
  - 0003 – Open Loop Actuator Object (5)

### Dimensions (LxWxH)

- FFP-ETH 1.8 x 1.2 x 0.8 inches  
4.6 x 3.0 x 2.0 cm
- FFP-485/232 2.7 x 1.2 x 0.8 inches  
6.9 x 3.0 x 2.0 cm
- FPC-F04 3.3 x 1.2 x 0.8 inches  
8.5 x 3.0 x 2.0 cm
- ASP-485 1.5 x 1.2 x 0.3 inches  
3.9 x 3.0 x 0.9 cm

### Settings on FFP-485

- DIP Switches set Baud Rate, MAC address, Device Instance, selection of stored predefined configuration files, and end of line termination for RS-485 networks.

### Approvals

Various ProtoCessors have the following third party approvals:

- DNP3 Conformance tested
- LonMark Certified
- BTL Marked
- OPC Self-tested for Compliance
- RoHS Compliant



ProtoCessor meets your OEM protocol interface needs. Also check out the ProtoCarrier, ProtoNode, ProtoCessor's Semi-Custom product lines:

- External Boards: ProtoCarrier-LON (LonMark Pending) and ProtoCarrier FPC-CD2 (BACnet BTL Marked).
- External Boxes: ProtoNode-LER (LonMark Pending) and ProtoNode RER (BACnet BTL Marked).
- For OEM devices that need our protocols and have a custom form factor that the ProtoCessor Semi-Custom needs to fit.

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LonWorks® is a registered trademark of Echelon Corp.  
BACnet® is a registered trademark of ASHRAE.