# eBMS Branch Monitoring - Split Core

Split Core Branch Monitoring from Tyrrell Products is part of a comprehensive branch monitoring solution for Power Distribution Units and electrical distribution systems.

The split core solution offers the best possible accuracy, with the most flexible number of transducers at the most attractive price with Modbus connectivity as standard.
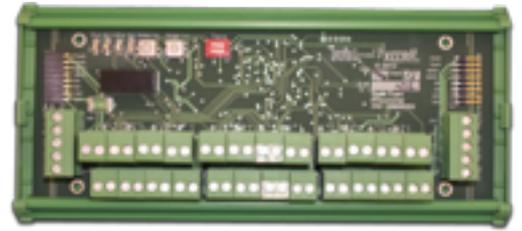
Features

- Better than Class 1 Accuracy (<0.1% over the range)
- Unrivalled Signal to Noise Ratio (72dB)
- Modular to meet exact requirements and budget
- 32-Bit processor for measurement Calculations
- CT cable lengths between 1 and 3 metres
- Adjustable Alarm levels
- Amps, kVA and kWH in 1/2 hourly periods
- Intelligent Breaker Trip alarm capability
- Native Modbus interface for BMS connection
- Optional Advanced System Interface Mini-DCIM

Benefits

- Accurate measurements informing better decisions in the event of failure or high usage
- Small footprint, reducing panel size & cost
- Intelligent Breaker Trip alarm removes the need for auxiliary contacts, saving space and money
- Modbus saves time when connecting to BMS
- Advanced System Interface Setup Wizard creates graphical interface and documentation in minutes
- Modular design with worldwide patent application
- Distributed connectivity reducing deployment cost

Split Core Processor Board

The Split Core Processor Board is DIN mounting and provides two-part connections for 24 x split core transducers. Just like the advanced solid core strips, these boards can also be pushed together using their edge connectors to provide for larger distribution systems, whilst reducing the time required for engineering or wiring. The modules are addressed using the on-board rotary switches to give them unique identifiers.

The modules are equipped with the most powerful in-class on-board 32-bit processing. This allows us to perform the most accurate sampling and calculations right at the point of the measurement. The current value analysis is carried out 6 times per second per transducer and all values are then transmitted digitally to remote systems, these either being our own Advanced Systems Interface or 3rd party BMS system.

Local processing and digital communication provide the best possible accuracy available today.

High Quality Split Core Sensors

We use the highest quality sensors for current measurement. Designed and manufactured in Switzerland to the highest standards for measurement and physical design, built using high-grade materials with reliable clips. The importance of excellent transducers is critical in securing accurate final results and ours are the best available for this type of product. There are different pack sizes, available in multiples of 6 in order to offer volume discount. The range is 0-90 Amps and come complete with a 1m cable. 2m and 3m lengths are available to oder. The sensor can be mounted direct to the backplate or by way of a DIN mounting clip.

Advanced System Interface

The optional Advanced Systems Interface offers a collection of benefits and features that are unique to eBMS/Branch Monitoring. The ASI is based on a JACE, using the Niagara AX Framework in order to deliver a graphically driven Mini-DCIM for the connected branch monitoring modules and transducers. The ASI also provides full integration of up to eight intelligent electricity meters, as well as the ability to connect Input / Output modules by way of RS485 2-wire connections, for the purpose of monitoring ancillary items such as temperature and humidity sensors, MCCB states, PIR's, Cabinet Door Contacts, Leak Detection and more.

On-board graphics provide an automatic view of the entire system and extensive, powerful BMS interfacing provides connectivity and integration using Modbus RTU, ModBbus TCP or BACnet MSTP and BACnet IP.

The unit comes with 2 x Ethernet ports, 3 x RS485 ports and options for 2 x RS485 or 1 x RS232 as needed.

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Full System Architecture

Live feed for BACnet, Modbus and OBiX
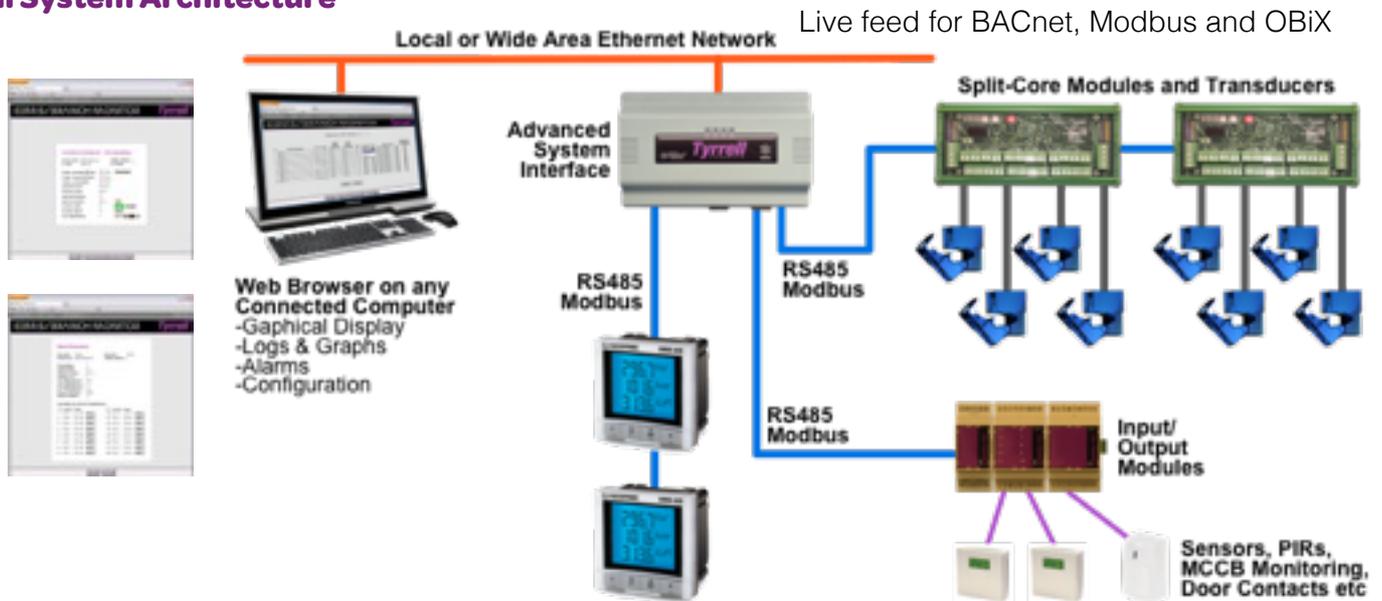
Streamlined Configuration

The ASI Appliance software allows you to configure the entire system in a regular browser in minutes. The ASI setup wizard asks sensible questions to help you get what you want then does the hard work of linking all the data points, setting up alarms, historical logging channels and graphical displays in minutes. Once complete, full system documentation can be downloaded for the client or high-level integrator, saving time and errors.

Intelligent Breaker Trip

This ASI feature monitors every connected circuit for a sudden drop in load. Based on artificial intelligence, the processor monitors trends in current levels and if the level falls sharply below an adjustable threshold, an alarm is set to alert the operator that a breaker has most likely tripped. The benefit of this feature not only extends to removing the need for auxiliary monitoring but also can indicate rack equipment failure.

Communications Standards

The split core boards and ASI have in-built industry standard communications.

24-Way Split Core Module	Modbus RTU on RS485 38400 FIXED	
Advanced System Interface (Modbus Output)	Modbus RTU RS232 or RS485 9600 - 38400	ModbusTCP on Ethernet
Advanced System Interface (BACnet Output)	BACnet MSTP RS232 or RS485 9600 - 38400	BACnetIP on Ethernet BTL Approved

Approvals and Standards for Accuracy and Safety (Tested and certified by external regulated test centre)

Current Sensors:
EN50178: 1997 / IEC 61010-1: 2010
Overall Accuracy +/- 1%
Linearity Error 0.1% across the range
24-Way Split Core Modules: EN 55022, EN 61326-1, IEC62053-21

Detailed test results and conformity statements are available upon request