

## SUCCESS STORY

### Development of a new Modbus bus-coupler

...for the Procontrol P13 power plant automation system

#### The Customer

ABB Schweiz AG, Industrial Automation – Power Generation, in Baden, Switzerland.

#### The Project

The ABB Procontrol P13 control system has been a constant in the power generation market since it was introduced in 1982. The automation platform has always provided safe and reliable power plant automation. For this reason, the system has a very large installed base which is still fully supported and maintained today in accordance with ABB's principles.

For overhauling the existing 70BK06a Modbus RTU bus-coupler which has been on the market for more than 15 years, ABB was looking for a partner who could support them with the development of a successor model. The extremely reliable and stable running system – with performance optimized hardware from the 1980's – had de facto no development documentation in digital form and the original developers were only hardly or not at all accessible.

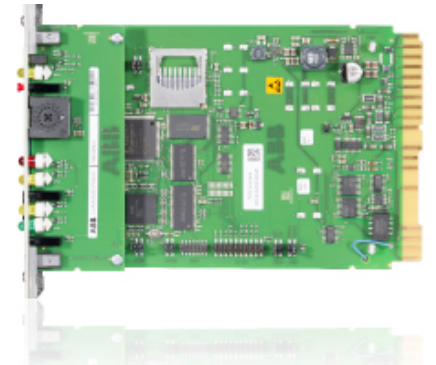
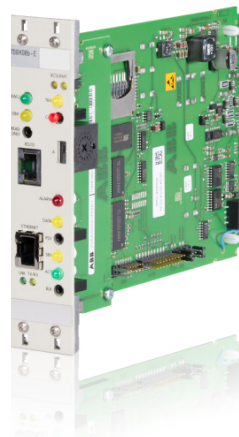
ABB chose the company MESCO, who is well known to ABB for their high engagement and comprehensive expertise in both hardware and software development, specifically but not just for Modbus RTU and Modbus TCP.

#### The Challenge

Electronic parts for the old generation are increasingly hard to acquire and are causing high production cost with a high risk. Moreover, the new bus coupler was to be equipped with modern and up-to date interfaces, Ethernet, Modbus TCP, and flash memory. This meant adding functionality while keeping the unit fully backward compatible to all existing P13 systems and modules. This naturally required firm knowledge of the existing classic technology while at the same time state-of-the-art know-how for the implementation of modern requirements.

#### The Implementation

- Development of a performant universal hardware platform connecting to the P13 bus system, with modern CPU and all interfaces required in the future (Ethernet, serial, SD card)
- Implementation of the bus coupler 70BK08b as successor to the old model 70BK06a on this new platform
- Support for Modbus master and slave protocol, RTU, and TCP



The 70BK08b Modbus RTU/TCP bus coupler

- Ethernet as the new high-speed communications interface
- Enhanced configuration and diagnostic functions maintaining full compatibility to existing P13 systems and engineering tools

#### The Benefit

- Compatibility to all existing Procontrol P13 modules and systems
- New universal P13 compatible hardware platform, ready for future requirements
- High Speed Ethernet connectivity (Modbus TCP) for data exchange between P13 systems, to operator systems, and external devices
- Documentation and development environment in digital form

ABB was excited to replace the old bus coupler with a new performant and versatile module, which shortly after its introduction has already been applied at several clients.

Outsourcing the development to MESCO allowed ABB to use internal capacities for other tasks while at the same time receiving a result that technologically – and sustainably – covers all modern requirements.

We are developing for you as well.

**Give us a call! >**

**...where ideas  
turn into success!**