DATA SHEET

CONTROL BUILDER SAFE

Independent High Integrity

Control Builder Safe is an efficient engineering tool used to configure and download the AC 800M High Integrity safety applications.

In addition to editors compliant with IEC 61131-3, Control Modules and Diagram editors are provided for object-oriented design and engineering of the safety applications.

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01 Control Builder Safe 3.1 can be used with PM857, PM863, PM867 and SM812

Control Builder Safe is TÜV certified and includes Control Builder M, the connectivity modules and the licenses required to engineer SIL1-3 safety systems in stand alone applications.

Overview
Control Builder Safe provides all of the components and functions to fully engineer and download safety applications into the High Integrity controllers, including:

- Core engineering functions
- Programming tools and editors
- Safety Certified Libraries
- Inter Application Communications (IAC)
- Connectivity modules

Control Builder Safe's reuse capabilities and TÜV certified functionality provide maximum engineering performance. Significant benefits include:

- Safety safeguards to ensure correct configuration (according to the standards)
- Reduced engineering time
- Improved quality
- Reduced maintenance
- Proven, consistent and flexible solutions
- Efficient testing and deployment

What is new with Control Builder Safe 3.1
The latest release of Control Builder Safe extends supported hardware and software covering:

- Engineering for PM857, PM863 and PM867 High Integrity Controllers
- Select I/O High Integrity empowering single channel I/O solutions
- WIndows 10 2019 LTSC and 2022 LTSC
- Support for Microsoft Office 2016, 2019 and 2021

Core Engineering Functions
SIL communications to PROFIsafe field devices to reduce project engineering and instalaltion costs. Control Builder Safe has many built in functions that simplify engineering and ensure consistent and safe operations including:

- Distributed engineering
- Security and Access Control
- Millisecond Sequence of Events (SOE) tagging
- Time stamped audit trail
- System diagnostics and Difference Report
- Optional "Soft Controller" for application testing and debugging

Programming Tools and Editors
Control Builder Safe offers several different IEC 61131-3 compliant and TÜV certified editors and programming languages including: Function Block Diagram, Sequential Function Chart, Structured Text, Control Module, Diagrams.

Safety Certified Libraries
Control Builder Safe comes with TÜV certified safety libraries for SIL2 and SIL3 functions. These libraries include data types, functions, function blocks and control modules that can be used to create safety applications. Dedicated libraries are available for Fire & Gas, Emergency Shutdown and Burner Managemen applications. The SIL certified objects and functions in the standard libraries are identified with a SIL marking in the engineering tool.

Connectivity and Communications
The SIL certified inter-application communication protocol (SIL IAC) is included for variable communications between high integrity controllers (peer to peer) and applications. This ensures efficient system engineering in the smallest possible footprint.

Hardware and scalability
The Controller hardware is scalable with three performance and size options. The PM857 for up to 128 I/O points and the PM863 and PM867 when larger applications and more I/O is needed. In addition to SIL3 certification, all Controller types are ISASecure CSA certified to SL-1

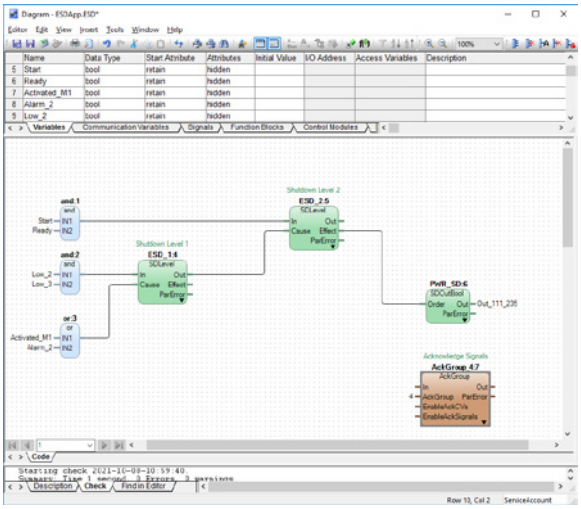

Figure 2: Example program using Diagrams

In the Diagram Editor, all programming methods can be used in one high level diagram providing ease of use and great flexibility. (Figure 2)

ISA Security for Safety Controllers
The AC 800M HI controllers are ISA Secure certified.

Control Builder Safe also comes with the connectivity required for read-only (*) communication with ABB DCS systems including Freelance, Symphony Plus (Harmony, Melody), Advant and MOD300 as well as any other 3rd party systems or HMI's. The available protocols include:

- OPC DA & AE
- Modbus
- Profibus
- Profinet
- Other non-interfering protocols enable read access to the safety system data

(*) ABB's unique Safe Online Write (SOW) functionality can be used with any operator interface by following our remote SOW procedure as outlined in the Safety Manual.

Independent High Integrity based on the Control Builder Safe engineering tool along with High Integrity controllers and I/Os is the perfect safety system when certified safety is all you need.

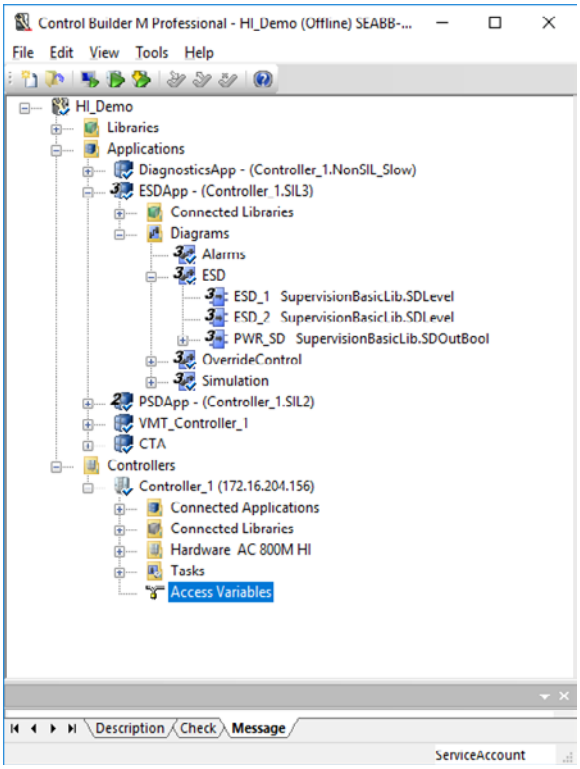

Figure 3: SIL marked objects in Control Builder

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