Features and Benefits

- Process objects for a range of field devices and functions
- Standards-based display elements with consistent user interface
  - Quickly identify abnormal situations
- Includes consistent modes of operation, overrides and simulation options
  - Assist maintenance operations without having to open controller code
- Modular design eases construction of complex control strategies
  - Reduced development and maintenance time
- Comprehensive documentation and support

Efficient Design and Operation

The Rockwell Automation® Library of Process Objects is a predefined library of controller code (Add-On Instructions), display elements (global objects), and faceplates that let you quickly assemble large applications with proven strategies, rich functionality, and known performance.

Built with consideration given to international standards such as color, functionality and symbols, these objects are a good fit for many industry sectors.
### Rockwell Automation Library of Process Objects

#### Motor Control
- Single-Speed Motor
- Hand-Operated Motor Monitor
- 2-Speed Motor
- Reversing Motor (e.g., FVR)
- Variable Speed Drive (generic)
- PowerFlex® 755 Variable Frequency Drive
- PowerFlex 753 Variable Frequency Drive
- PowerFlex 523/525 Variable Frequency Drive
- SMC™-50 Smart Motor Controller
- SMC-Flex Smart Motor Controller
- E3/ E3 Plus™ Electronic Overload Relay
- E1 Plus™ Electronic Overload Relay
- E300™ Electronic Overload Relay

#### Regulatory / Vessel Control
- Pulse-Input Flow Meter Dosing with Pre-Act and In-Flight Adjustment
- Analog-Input Flow Meter Dosing with Pre-Act and In-Flight Adjustment
- Weigh-Scale Dosing (Loss-In-Weight and Gain-In-Weight Supported)
- Tank Strapping Table
- Proportional + Integral + Derivative Control (Enhanced, with Autotune)
- High or Low Override Selector Pressure and Temperature Compensation
- Analog Fanout (One CV to Up to 8 Secondary CVs, Handles Split-Range)

#### Valve Control
- Solenoid-Operated 2-State Valve
- Motor-Operated 2-State Valve
- Hand-Operated Valve Monitor
- Mix-Proof Valve (Configurable for Seat Lift and CIP/SIP States)
- Analog/Pulsed Control Valve with Position Feedback

#### Analog and Discrete I/O
- Analog Input with Scaling & Alarms
- Digital Input with Alarms
- Advanced Analog Input with High Rate of Change Alarm, Square Root Extraction, and Deviation Alarms
- Dual Channel Analog Input
- Multiple Analog Input (Up to 8 Sensors for 1 PV)
- Discrete 2-, 3-, or 4-State Device (Fully Configurable)
- Multi-Position Device (Up to 8 Positions, Linear or Circular)
- Discrete Output
- Discrete Logic with Snapshot (Up to 8 Inputs, 8 Gates)
- Analog Input Channel Diagnostics
- Analog Output

#### Valve/Motor Control Extensions
- Permissives/Interlocks with First Out and Bypass
- Run Time and Start Accumulator
- Re-Start Inhibit for Large Motor
- 2-State Valve Statistics (Stroke Times and Counts)

#### System Functions
- Controller CPU Utilization
- Redundant Controllers Monitor
- Controller Change Detector
- Controller Task Monitor

#### Application Infrastructure
- Standard Alarm
- Status Gate, On-Delay, Off-Delay
- Standard Modes
- Strategy Reset

#### Procedural Control
- Simple Sequencer
- Operator Prompt
Objects Based Configuration

By using the Rockwell Automation Library of Process Objects, the end user is able to configure a control application using pre-defined objects for common functions helping to reduce engineering time. The Add-On Instructions allow modules of code, with pre-defined functionality, to be connected together in a drag and drop environment to rapidly define a control function.

When coupled to global objects and faceplates in FactoryTalk® View Studio, these objects enable configuration of a device from I/O to operator interface in a few mouse clicks. When coupled with FactoryTalk® VantagePoint®, the application can be scanned and the process objects are automatically mapped to a business information model. This allows monitoring and reporting on the device status, along with the ability to map additional asset management and maintenance information.

Examples:  Analog Input Object
Add-On Instruction, Global Object and Faceplate
**Add-On Instructions**

Each object is provided as an importable Add-On Instruction and then becomes a native instruction in the application development environment. The Add-On Instructions can be utilized with any CompactLogix™ or ControlLogix® programmable automation controller.

**Global Objects**

For rapid development of information-rich operator displays, the Rockwell Automation Library of of Process Objects provides a collection of display objects that are linked to the Add-On Instructions with a drag and drop wizard. This allows rapid development of main plant display graphics.
Faceplates

All global objects have an associated faceplate which appears when the global object is clicked. These faceplates require no additional configuration. When an object has additional support functions linked, such as Run Time Monitor, Interlock Block, or others, the faceplate for these extended functions will also be accessible from the faceplate.
Business and Maintenance Information

Take advantage of the out-of-the-box mobile and reporting capabilities with FactoryTalk VantagePoint EMI Integration. Within the FactoryTalk VantagePoint portal, standard content makes it easy to associate control objects with additional information in a plant model. Asset information is able to be associated with the object including asset costs, maintenance information, spare part ordering information, etc. This information model can be directly entered or linked to data in other systems.

Once the model is built, this information is accessible via the FactoryTalk VantagePoint portal as a report, dashboard or trend, as required.
**Modes of Operation and Security**

A comprehensive security model is implemented allowing different functions to be granted or denied access based on a defined user or group. This is fully configurable to allow highly defined security schemes to be implemented.

All objects operate within a pre-defined set of modes, these include:

- **Operator** – Controlled from the HMI
- **Program** – Controlled from the application code
- **Override** – Where selected interlocks and permissive conditions can be bypassed
- **Maintenance** – Where all interlocks, permissive conditions and internal checks are bypassed
- **Hand** – Under control of hardwired control stations

**Alarm State Model**

The PlantPAx® system implements the complete state model defined in ANSI/ISA-18.2-2009, Management of Alarm Systems for the Process Industries. This implementation provides three mechanisms to prevent prolonged indications of an alarm: Suppress, Shelve, and Disable. The Shelve mechanism provides an operator initiated means to prevent an alarm from indicating for a configurable period of time.

Alarms which are shelved continue to function normally except that, once acknowledged, they do not transition to the unacknowledged state. Alarms can be unshelved by the operator, when the shelving timer expires, or by program logic. The latter makes it possible to ensure that alarms are not inadvertently shelved by creating unshelved logic that is triggered by an event such as shift change.

The Suppress mechanism provides a control logic initiated means to programmatically prevent an alarm from indicating based on process state or condition.

Alarms which are suppressed continue to function normally except that, once acknowledged, they do not transition to the unacknowledged state. The suppress state makes it possible to implement “suppress by design” logic which, for examples, suppresses alarming when a piece of equipment is not in use.

The Disable mechanism provides a maintenance initiated means to take an alarm out of service without modifying the underlying control logic.

Alarms which are disabled do not transition alarm status and are not logged in the historical database.
Where To Get The Rockwell Automation Library of Process Objects

The Rockwell Automation Library of Process Objects can be downloaded from the Product Compatibility Download Center at:

http://www.rockwellautomation.com/rockwellautomation/support/pcdc.page

A TechConnect™ contract is required for access.