

Human Machine Interface Add-ons

- HMI add-ons extend the Tenore platform with all the tools for effective plant control
- Each add-on includes:
 - Support for DCS-specific tags and function blocks
 - Support for import of DCS configuration
 - Pop-up faceplates for common function blocks
 - System Management and Diagnostics
- Available add-ons:
 - Symphony/Harmony, INFI90, Network90
 - Control^{IT} AC800F, Freelance
 - Control^{IT} AC800M



Harmony HMI add-on (1)

■ Supported Function Blocks

- | | | |
|-----------|-----------|-------------|
| ■ ANALOG | ■ MSDD | ■ ANGRPT |
| ■ CLIF | ■ N90STA | ■ DIGRPT |
| ■ DAANALG | ■ RCM | ■ LABANG |
| ■ DADIG | ■ RMCB | ■ LABDIG |
| ■ DADIGTL | ■ RMSC | ■ CALCANG |
| ■ DANG | ■ STATION | ■ CALCDIG |
| ■ DD | ■ TEXT | ■ APMSTA |
| ■ DEVSTAT | ■ TEXTSTR | ■ NODESTA |
| ■ DIGITAL | ■ UNDEF | ■ BITMASK |
| ■ INTANG | ■ EXTANG | ■ COMPOSITE |
| ■ INTDIG | ■ EXTDIG | ■ INTEGER |

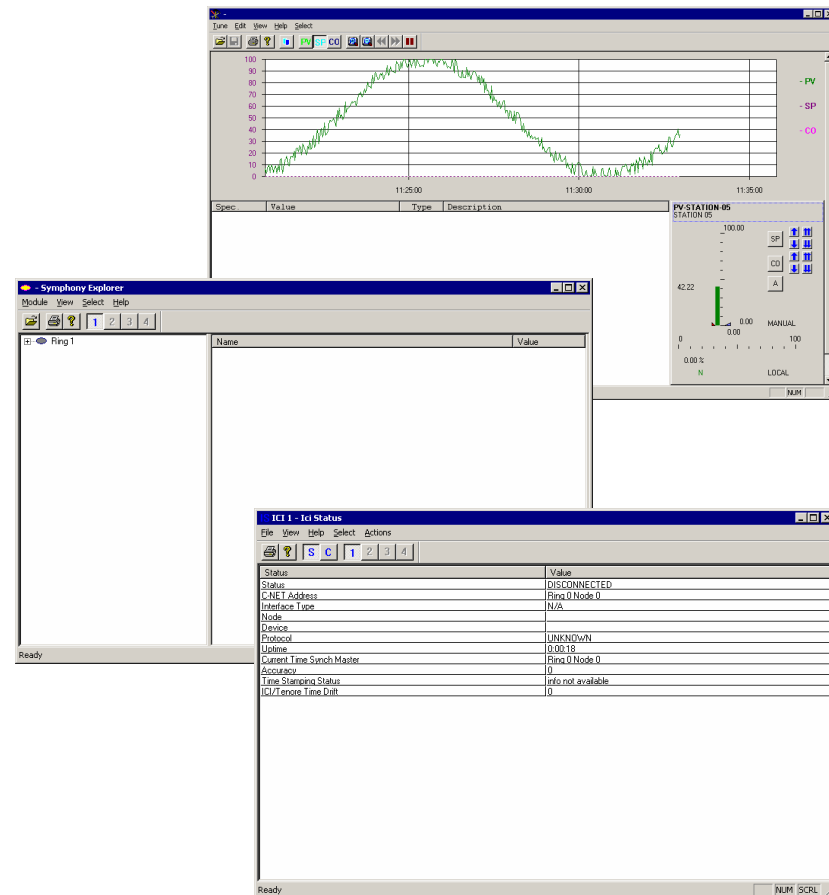
Harmony HMI add-on (2)

■ Faceplates

- DCS Digital Control Stations
- DD Device Driver
- MSDD Multi-state Device Driver
- PV Analog Control Station
- DI Digital Input
- RCM Remote Control Memory
- RMCB Remote Motor Control Block
- RMSC Remote Manual Set Constant
- TEXTSTR Text Selector

Harmony HMI add-on (3)

- System Management and Diagnostics
 - [Block Details](#)
 - [Tune Block](#)
 - System Diagnostics
 - [Module status and module problem reports](#)
 - [Point quality inspection](#)
- Time synchronization
 - Time Master, synchronizes all other modules
 - Time Slave, receives time from other modules
- Configuration data import from Composer



AC800F & Freelance HMI add-on (1)

■ Supported Function Blocks (each with [faceplate](#))

- Analog
 - C_ANA Set Point Controller
 - CT_ANA Counter With Analog Input
- Binary
 - M_BOUT Binary Output
 - CT_P Pulse Counter
 - CTUD Up/Down Counter
 - TOUCH Touch Button
 - MONOF Monoflop
 - TONOF Timer, switch-on/switch-off delay
 - TON Timer, switch-on delay
 - TOF Timer, switch-off delay
- Controller
 - C_CU Continuous Controller, Universal
 - C_CR Continuous Controller, Ratio
- Monitoring
 - M_ANA Analog Monitoring
 - M_BIN Binary Monitoring
 - M_BAV Binary Monitoring of Antivalence
- Open Loop Control
 - IDF_1* IDF for unidirectional units
 - IDF_2 IDF for bi-directional units
 - IDF_A IDF for actuators
- Constant
 - CSTRE Real Constant
- Macro^
 - Breakers control
 - Sequence control
 - Group Control

*IDF: Individual Drive Function

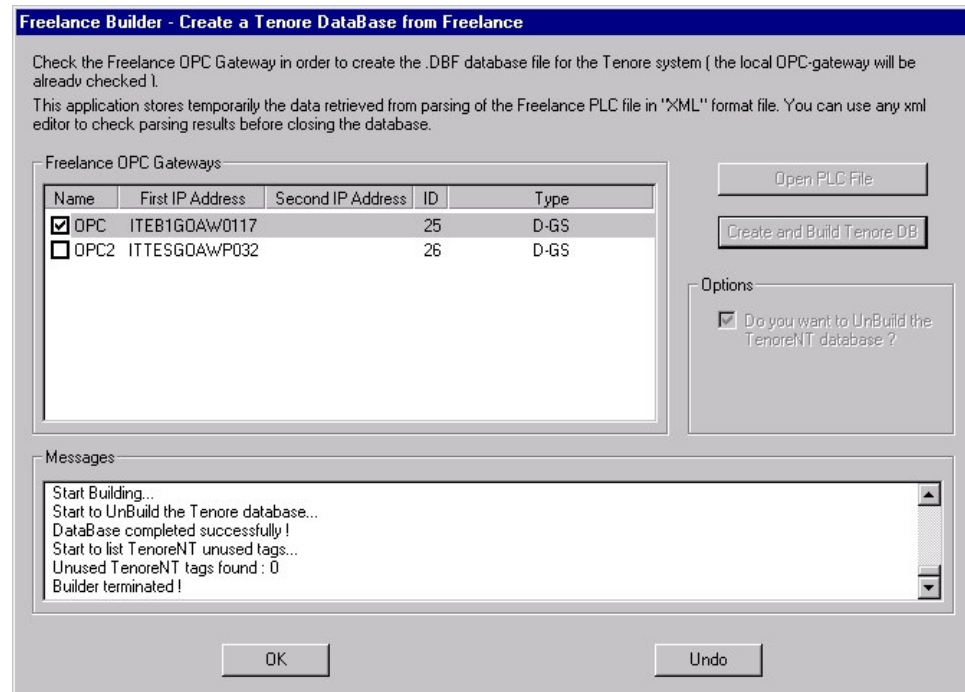
^Developed by ITTES

AC800F & Freelance HMI add-on (2)

- System Management and Diagnostics
 - Support for Diagnostic Function Blocks
 - [AC800FR](#)
 - [EI803FR](#)
 - FI803FR
 - SA801FR
 - Support for Profibus Diagnostics
 - PROFI_S_DEV Profibus Slave Object
 - PROFI_M_DEV Profibus Master Object

AC800F & Freelance HMI add-on (3)

- Support for DCS configuration import
 - Automatic import of controller configuration
 - Support for partial import after controller configuration changes
 - Import driven by selected OPC server



AC800M HMI add-on (1)

■ Supported Function Blocks ([faceplates](#))

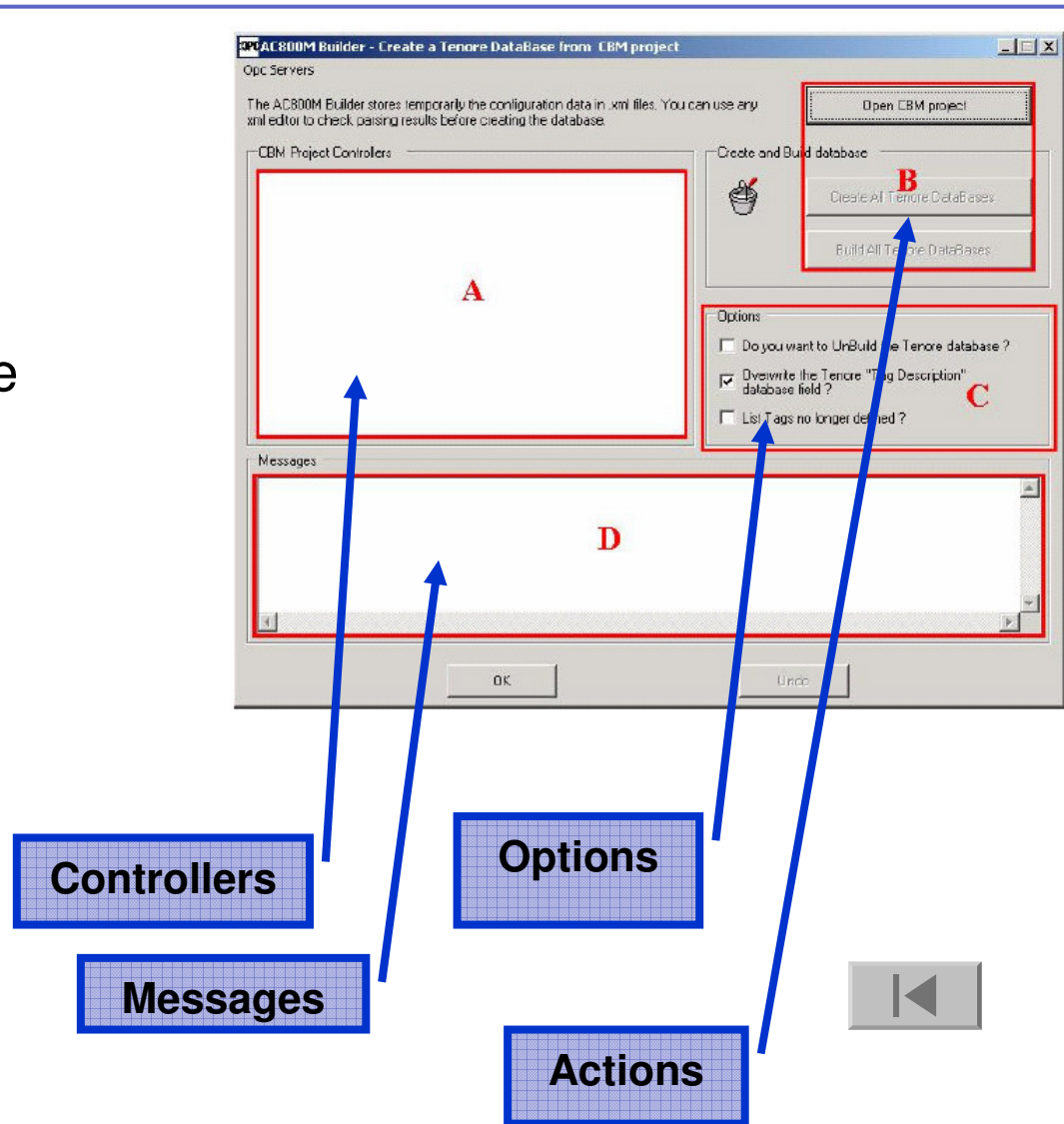
■ AnaOut	set analog value	■ Button	pulse output
■ AnaStat	analog control station	■ DriveUni	drive control UNI
■ B2Alm	inconsistency alarm	■ DriveBi	drive control BI
■ Balm	boolean alarm	■ Ralm	generate thresholds
■ BAlmSoe	boolean SOE alarm	■ Restart	CPU restart
■ Bevt	boolean event	■ RIOAlm	analog I/O alarm
■ BevtSoe	boolean SOE event	■ RIO2Alm	analog I/O alarm (2)
■ BinOut	set boolean value	■ RIOMon	monitor analog I/O
■ BIOAlm	boolean I/O alarm	■ Sel2P	2 positions selector
■ BIOEvt	boolean I/O event	■ Sel3P	3 positions selector
■ BIOMon	monitor boolean I/O		

AC800M HMI add-on (2)

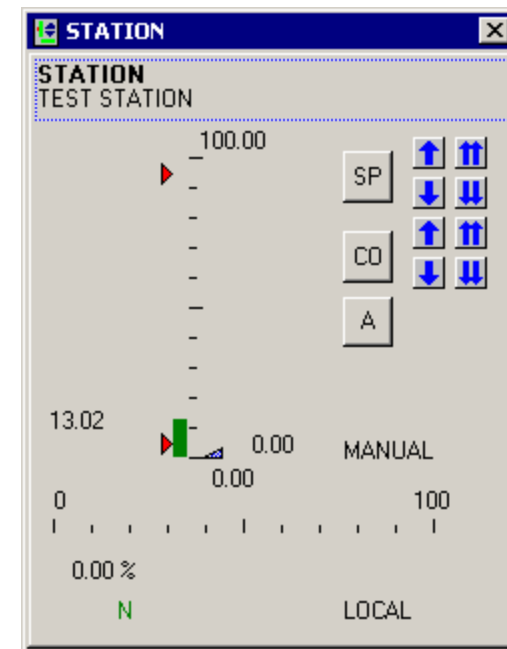
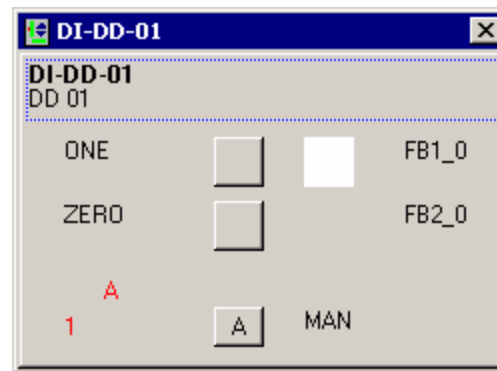
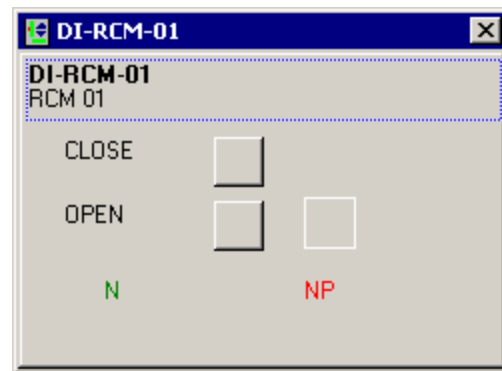
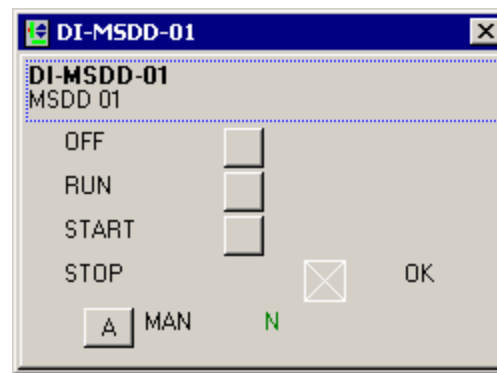
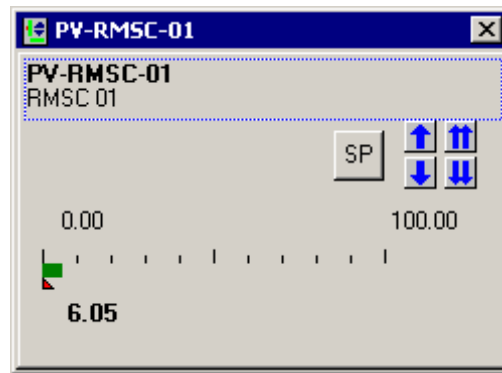
- System Management and Diagnostics
 - Offline AC800M Management and Diagnostics through Control Builder M
 - Online AC800M Management and Diagnostics
 - Import tool provided with Tenore (AC800MBuilder) generates a set of pre-configured diagnostics objects based on the hardware configuration of the project
 - These objects provide AC800M on-line diagnostic information to Tenore
 - AC800M programs available for:
 - Power Failures Information
 - Memory Usage
 - Time Management
 - Restart

AC800M HMI add-on (3)

- Support for DCS configuration import
 - AC800M Builder provided with Tenore
 - Main functions:
 - Access Control Builder M projects
 - Create Tenore database starting from CBM projects
 - Import database



Examples of Harmony faceplates



Block Details

[1 - 1 - 4 - 1024] - Details

Details Edit View Help

Icons: Folder, Disk, Left Arrow, Right Arrow, Print, Help

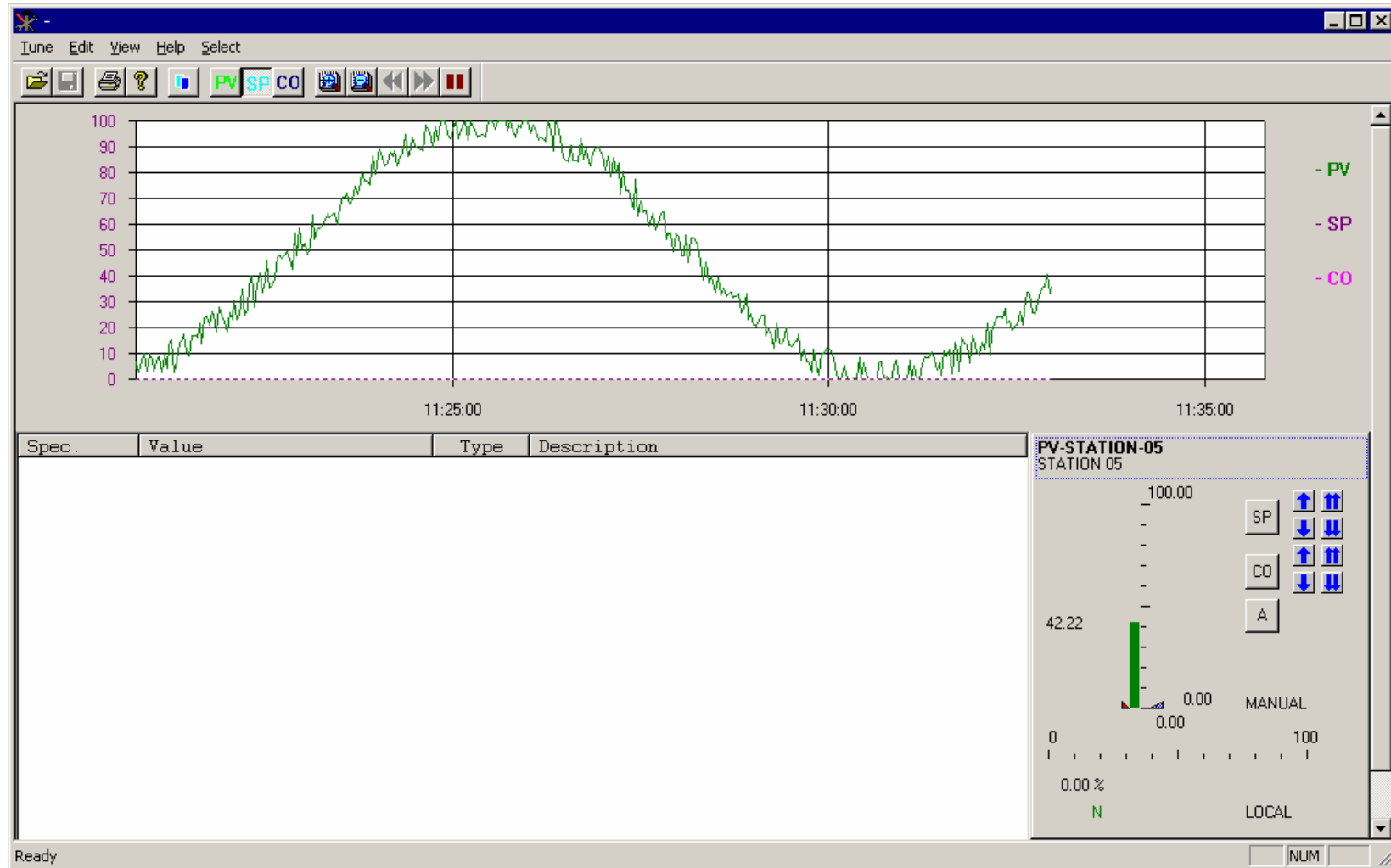
Ring Pcu Mod Block Output 1

FC

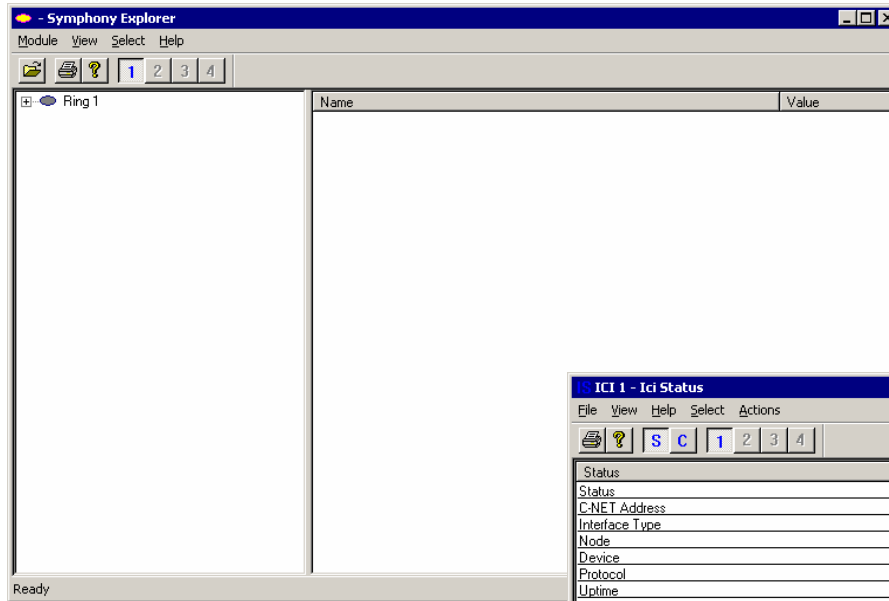
Spec.	Value	Type	Tune	Description
-------	-------	------	------	-------------

Ready NUM

Tune Block



System Diagnostics



System View

Module View

Status	Value
Status	DISCONNECTED
C-NET Address	Ring 0 Node 0
Interface Type	N/A
Node	
Device	
Protocol	UNKNOWN
Uptime	0:00:18
Current Time Synch Master	Ring 0 Node 0
Accuracy	0
Time Stamping Status	info not available
ICI/Tenore Time Drift	0

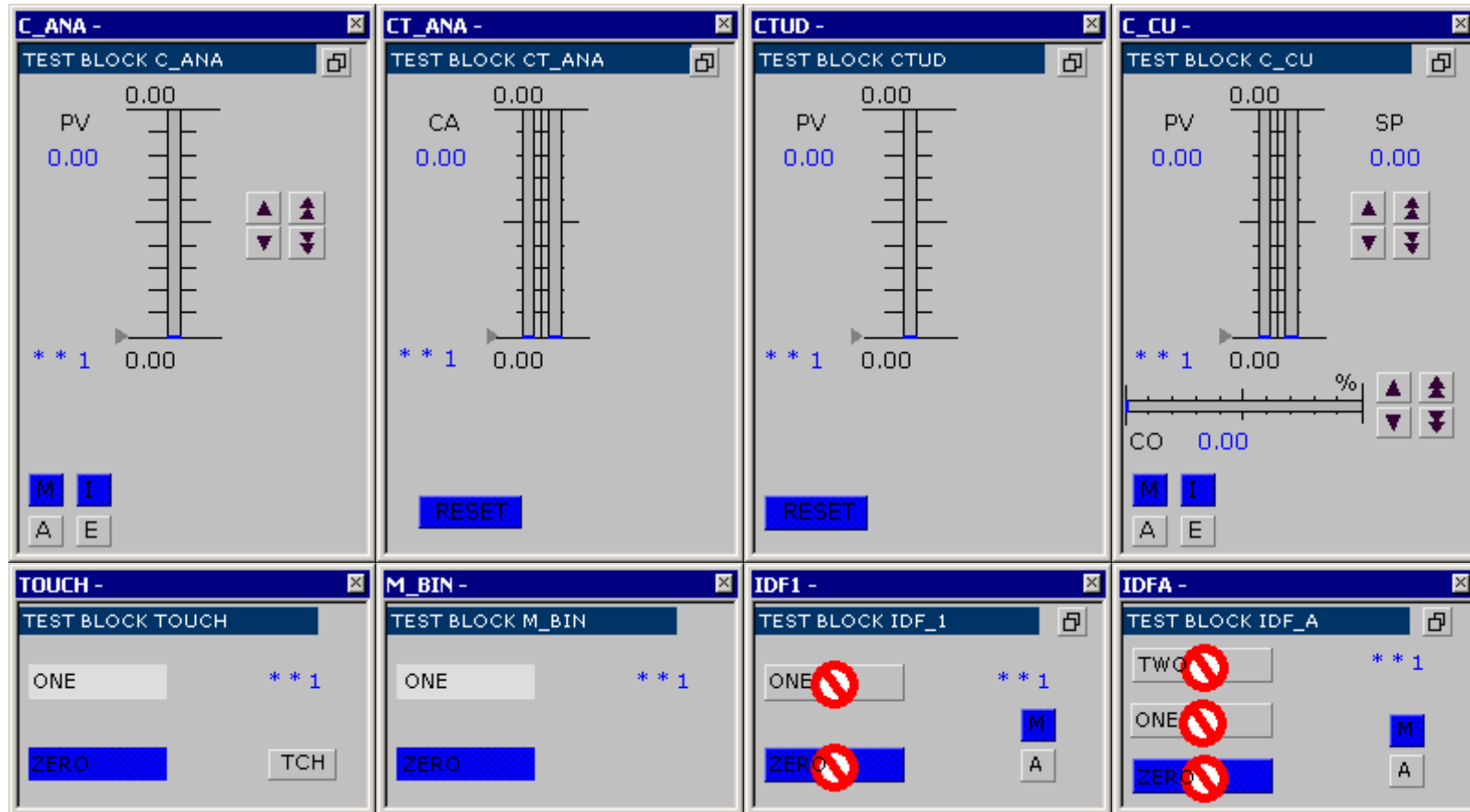
Point Quality Inspection

Quality [X]

☒ Implemented	☐ High instrument range
☒ Unacknowledged	☐ 2-High alarm limit
☐ In alarm	☐ High alarm limit
☐ Old data	☐ Low alarm limit
☐ Off scan	☐ 2-Low alarm limit
☐ Reserved	☐ Low instrument range
☐ Inserted value	☐ Increasing ROC
☐ Alarm check disabled	☐ Decreasing ROC
☐ Alarm inhibited	☐ High deviation
☐ Bad calculated value	☐ Low deviation
☐ Application specific 3	☐ Integer format
☐ Red tag	☐ Tracking
☐ Hardware channel failure	☐ 3-High alarm limit
☐ Application specific 1	☐ 3-Low alarm limit
☐ Application specific 2	☐ Auto/Manual
☐ Reserved	☐ Reserved

Cancel

Examples of AC800F/Freelance faceplates



Examples of Diagnostic Blocks Views

Module Status

Module Address: TEST DIAG AC800FR

Module Type: AC800FR

Name	Value
Error Summary	NO
High Temperature Module IP1	NO
High Temperature Module IP2	NO
Battery Low Voltage Module IP1	NO
Battery Low Voltage Module IP2	NO
Communication Problem Module IP1	NO
Communication Problem Module IP2	NO
Run/Stop State Controller IP1	RUI
Run/Stop State Controller IP2	RUI
Self Test Error	NO
Configuration Match	NO
Boot Test Error	NO
Slot Not Used	NO
Communication Error	NO
Redundancy State IP1	NO
Redundancy State IP2	NO

Cancel

Module Status

Module Address: TEST DIAG EI803FR

Module Type: EI803FR

Name	Value
Error Summary	NO ERRORS
Self Test Error	NO
Configuration Match	NO
Boot Test Error	NO
Slot Not Used	NO
Communication Error	NO
Local Error on Module IP1	NO
Local Error on Module IP2	NO

Cancel

Examples of AC800M faceplates

