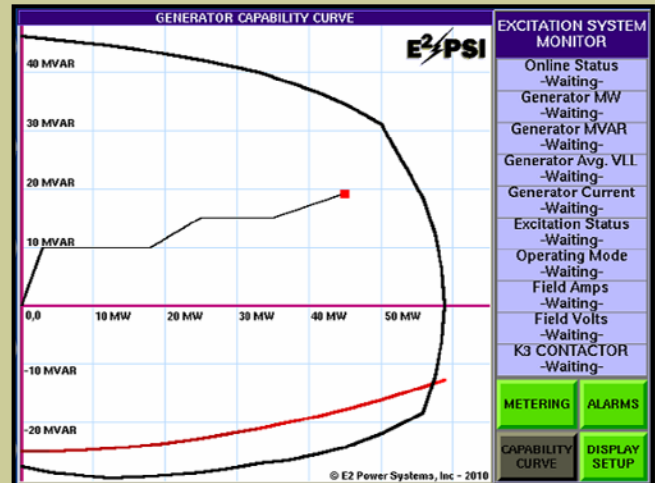


E2ROIP

Remote Operator Interface Panel

Option:

To provide the Turnkey Installation of E² Power System's Model E2ROIP Remote Control and Monitoring Operator Interface 12-inch TouchScreen System for the control and monitoring of the Basler Electric Digital Type DECS Excitation Control System(s) to be mounted in the Control Room.



This Firm Price Adder to include;

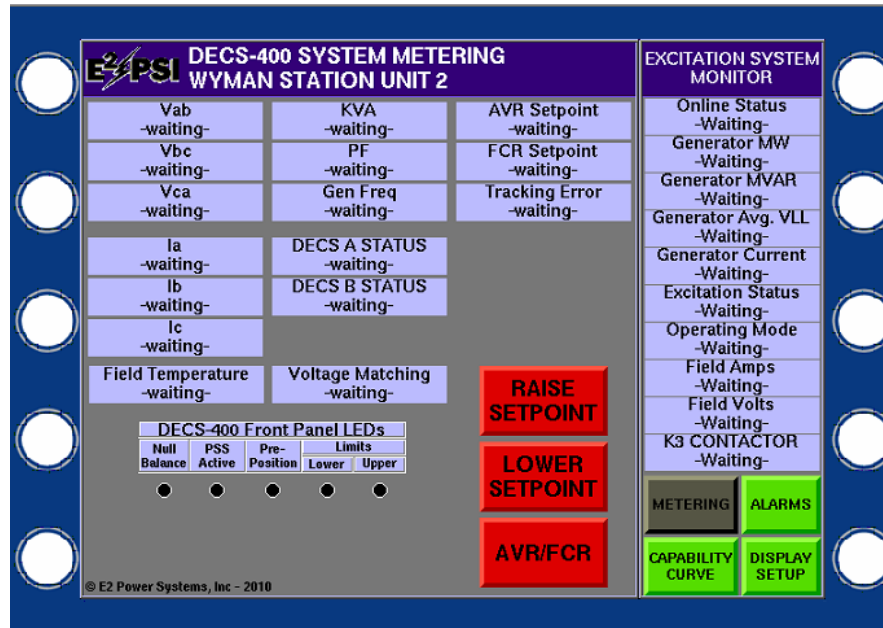
1. All E2ROIP Remote Operator Interface Panel System Devices (TouchScreen, Power Supplies, Fuse Blocks, ModBus I/O Cards, Modems, etc.)
2. System Design Interface.
3. Additional On-Site Turnkey Installation Services as required for the Installation, Interconnection & Testing of the new Remote Operator Interface Panel and all associated devices.
4. All required Installation Materials and associated devices as required.
5. A copy of all associated System Software Packages will be provided and licensed to **End-User**. The System includes Control, Monitoring & Alarm "Screen(s)" for the Operator "TouchScreen" Interface to the new Basler Electric DECS- Excitation Control Systems, including:
 - a. Full control of the DECS- System (AVR/FCR Regulator Transfer, Setpoint Raise/Lower, etc.).
 - b. Full monitoring of the DECS- Operating Parameters (Generator 3-Phase Volts, Generator Frequency, Generator 3-Phase Amps, Watts, VARs, Field Amps & Volts, Generator Breaker Status, Excitation Mode Status, Mode Tracking Error, AVR/FCR/VAR/PF Control Setpoints, etc.) and other optional metering.
 - c. Full monitoring of the DECS- Alarm & Status Functions (Field Overvoltage, Field Overcurrent, Generator Overvoltage, Generator Undervoltage, Over-Excitation Limit, Under-Excitation Limit, Volts/Hertz Limit, Setpoint Upper Limit, Setpoint Lower Limit, Failed-to-Build Generator Voltage, Loss of Excitation, Loss of Voltage Sensing, Failed DECS Module, Failed IFM-150 Module, Bridge Overtemperature, Regulator Trip, Exciter On/Off, Regulator in AVR / FCR Control, PSS On/Off, PSS Enabled / Disabled, etc.) and customizable alarms for all possible annunciations. Including an Alarm Logger indicating the date and times of past alarms .
 - d. Full monitoring of the Unit MW / MVAR Operating Point within the **Generator Capability Curve Displays** as shown above.
 - e. Features of the E2ROIP include Generator Parameters **Trending**, Trending retention on nonvolatile memory, data is stored in .csv format to a USB storage device for viewing in MS Excel, easy feature upgrades, "optional" password protection, "optional" Generator Simulation, with Modbus, Ethernet, and USB communication interfaces.



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Visit us at
www.e2powersystems.com

E2ROIP Sample Screens

Remote Operator Interface Panel



The E2ROIP Metering Screen Includes:

1. Generator 3-Phase Voltage
2. Generator 3-Phase Current
3. Field Temperature – a calculated Value
4. Generator MVA
5. Generator Power Factor
6. Generator Frequency
7. Active DECS Status
8. Voltage Matching Status
9. DECS LED Display Emulator
10. AVR Setpoint
11. FCR Setpoint
12. Tracking Error
13. Setpoint Raise Control
14. Setpoint Lower Control
15. Auto / Manual Command Control

The Excitation System Monitor Includes:

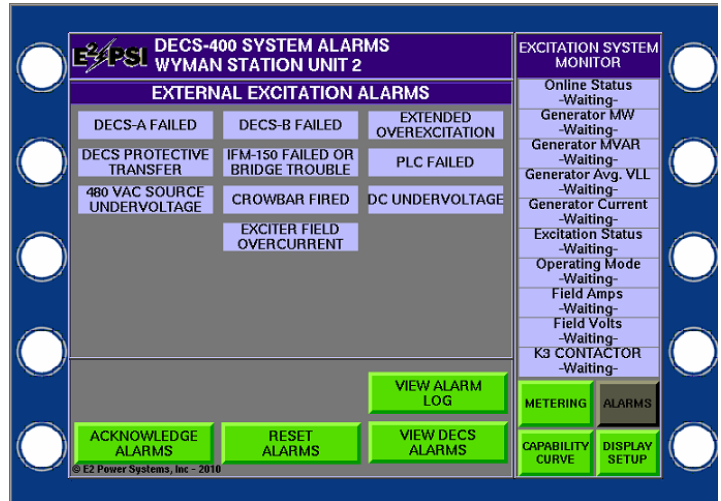
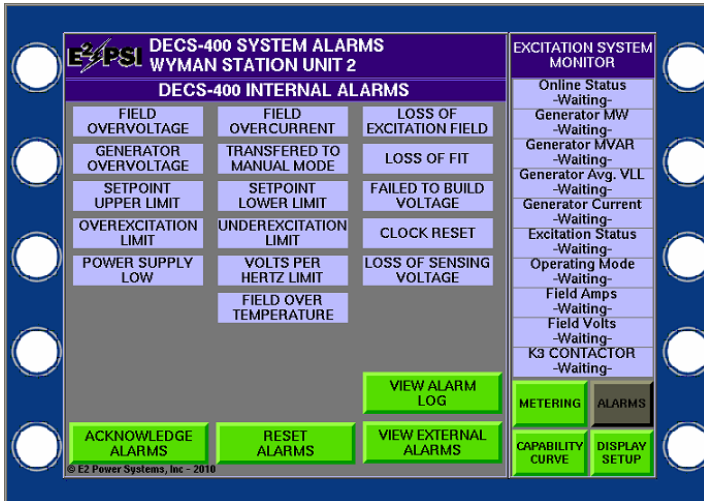
1. Always available on all screens
2. Online Status
3. Generator MW
4. Generator MVAR
5. Generator Average Voltage
6. Generator Average Current
7. Excitation On/Off Status
8. Excitation Mode in Control (Auto or Manual)
9. Field Amps
10. Field Volts
11. DC Contactor/Breaker Status
12. Navigation Buttons



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E2ROIP Sample Screens

Remote Operator Interface Panel



The E2ROIP Alarm Screen Includes:

1. Alarm Acknowledge
2. Alarm Reset
3. Alarm Log Access
4. External Alarm Access
5. All DECS Internal Alarms Including:
 - a. Field Overvoltage
 - b. Field Overcurrent
 - c. Loss Of Excitation
 - d. Generator Overvoltage
 - e. Transferred to manual
 - f. Loss of Field Isolation Transducer
 - g. Setpoint Upper Limit
 - h. Setpoint Lower Limit
 - i. Failed to Build Voltage
 - j. Overexcitation Limit
 - k. Underexcitation Limit
 - l. Clock Reset
 - m. Power Supply Low
 - n. Volts/Hertz Limit
 - o. Loss of Sensing Voltage Alarm
 - p. Field Overtemperature
 - q. Exciter Diode Open (optional on brushless exciters)
 - r. Exciter Diode Shorted (optional on brushless exciters)

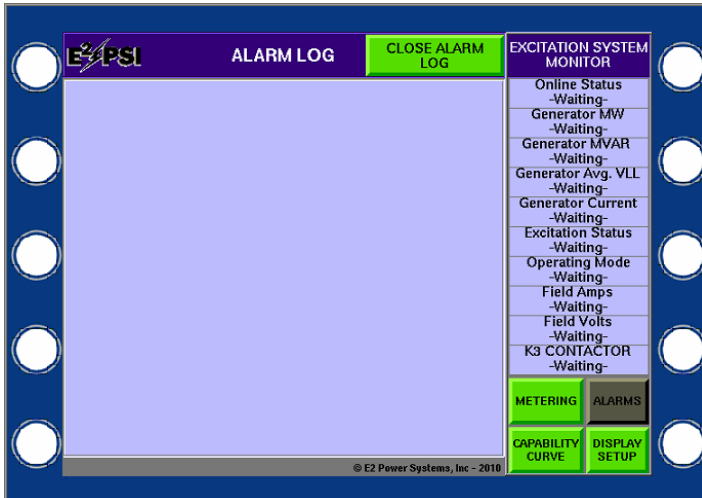
The E2ROIP Alarm Screen Includes: (continued)

1. All DECS external Alarms Including:
 - a. DECS Failure
 - b. Extended Overexcitation
 - c. Protective Transfer
 - d. IFM Failure
 - e. PLC Failure
 - f. DC Undervoltage
 - g. Crowbar Fired
 - h. 480 VAC Source Status
 - i. Exciter Field Overcurrent

This screen is fully customizable to every specific system and may or may not contain these alarms.

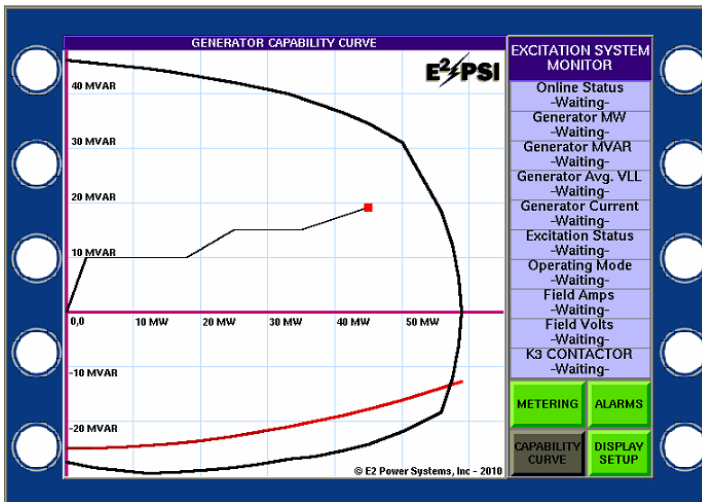
E2ROIP Sample Screens

Remote Operator Interface Panel



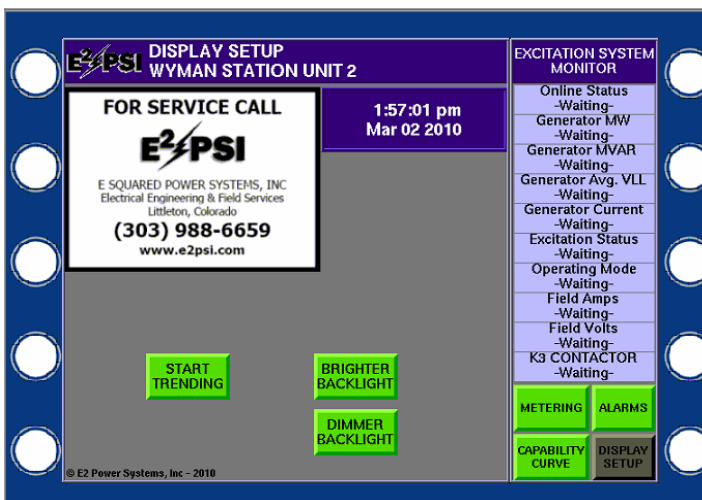
The E2ROIP Alarm Screen Includes: (continued)

An Alarm Log that records the date and time that alarms came in



The E2ROIP Generator Capability Curve Screen Includes:

1. Actual Capability Curve of your generator
2. Underexcitation Limiter Curve
3. Tracking for the last hour of online activity (or customizable to your requirements)
4. The Red Dot shows the present location



The E2ROIP Display Setup Screen Includes:

1. E2PSI Service Information
2. Backlight Brightness Control
3. Date and Time Display
4. Trending Start/Stop Button



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