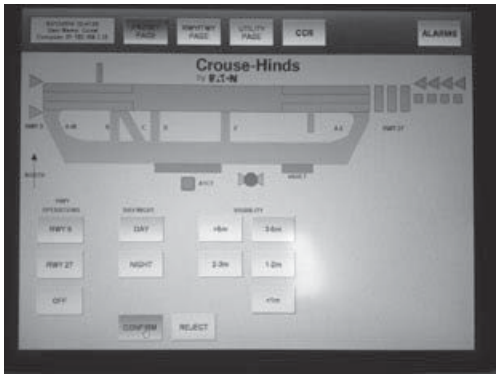
PRO Command ALCMS

PLC Based Control and Monitoring System



Compliances:

FAA AC 150/5345-56: L-890 (Pending)
ICAO Annex 14, Vol. 1
ICAO Aerodrome Design Manuel, Part 5
Transport Canada Aerodrome Standards

Applications

The PRO command ALCMS is offered with the following monitioring options:

- Control Only
- Basic Monitoring
- Advanced Monitoing

The ALCMS has the following fail-safe options

- Preset State
- Last State

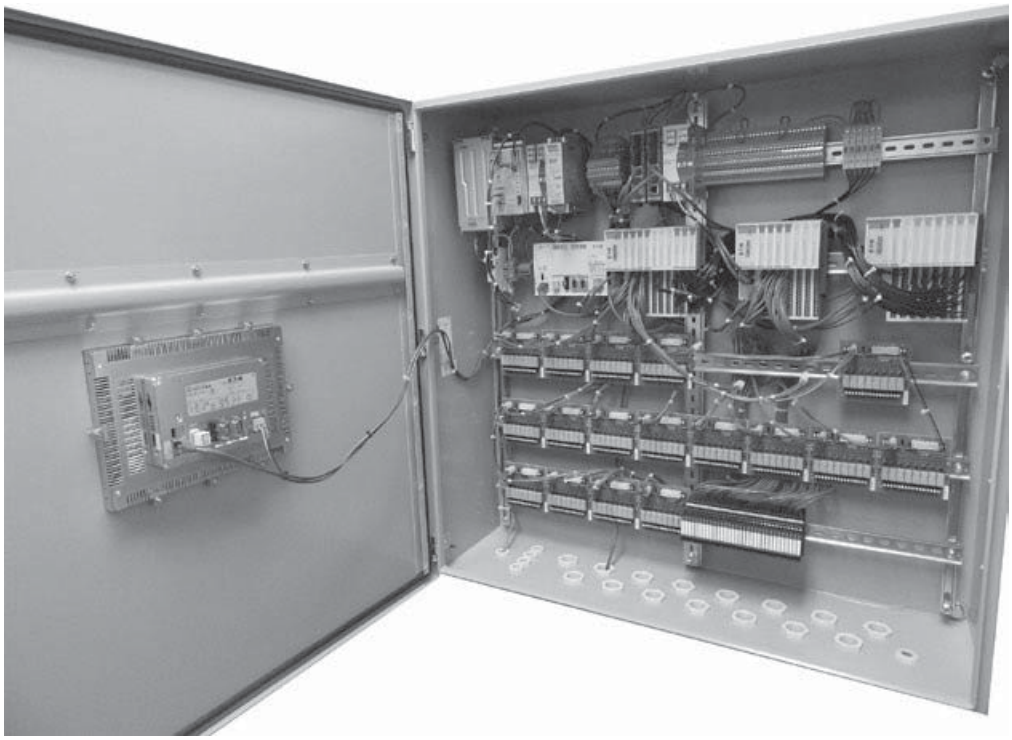
Features

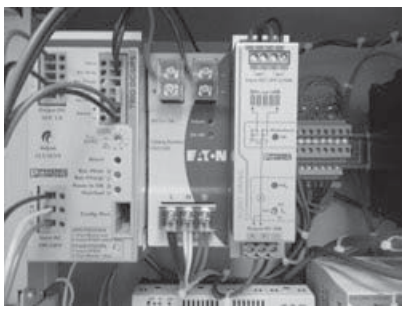
- Flexible and expandable system design
- Touchscreen Control
- Custom graphics that reflect airport layout and user needs
- Real-time monitoring of system with event alarms
- Event Recording for system and circuit analysis
- Intuitive user interface allows for operating system with ease
- Ability to input users and lock screen/transfer control when necessary
- Full system redundancy available
- Fail Safe Feature of Last state or Pre-set state available
- Vault configuration screen for CCR and circuit changes
- CCR configuration screen
- Photo-cell control is available
- Compact system design allows for more room in the vault
- Easy to install with straightforward system layout and few wiring requirements
- Off-the-self reliable Eaton PLC hardware

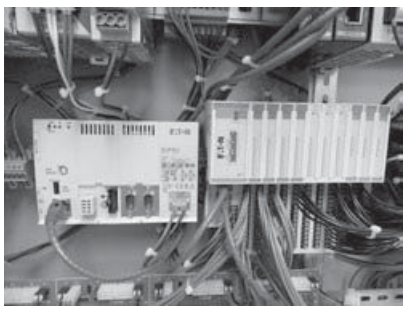
System Overview:

Eaton Crouse-Hinds provides an airfield monitoring and control system (ALCMS) using a Eaton Programmable Logic Controller (PLC). This system was designed with the small to medium airfield or GA Airport in mind. The PLC-ALCMS is designed to provide control and monitoring of constant current regulators and general airfield elements. Eaton Crouse-Hinds works with customers to provide an ease of doing business that results in a reliable and long lasting system for the airport.

System Layout Example:







Ordering Information

8 9 0 _ _ - _ - _ - _ _ - _ _ - _ _ - _ _ - _ _ - _ _ _ - _ _

Cetification:
890G1 = L-890,
PLC ALCMS Gen 1

Failsafe Options:
A = Pre-Set
B = Last - State (Latching)

Control Options:
A = Control Only
B = Basic Control
C = Advanced Control

Potential Transformers*
Number of PTs Needed:
CCR ≥ 20 kW, 6.6A
CCR ≥ 20 kW, 20A
CCR < 20 kW, 6.6A
CCR < 20 kW, 20A

Airport Code:

Project Number:

*If you have a Crouse-Hinds CCR you may already have the PT installed inside the regulator

System Configuration Explanations:

Failsafe Options:

Type A - Preset - Upon a failsafe condition, the ALCMS controlled devices will switch to a pre-defined state (ON to a pre-defined rightness level, or OFF).

Type B - Last State - Upon a failsafe condition, the ALCMS controlled devices must remain on at the same brightness level prior to failsafe condition. The failsafe device must maintain last state (latched) condition.

Control Options:

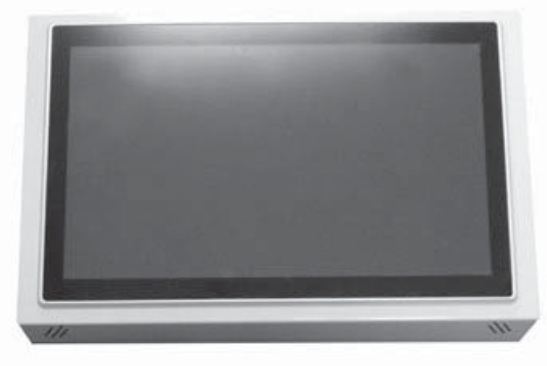
Type A – Control Only. - This type of monitoring provides a basic system level diagnostic and alarm reporting. This monitoring level does not provide monitoring or feedback for the controlled elements of the system (i.e. Constant Current Regulators). The minimum Type A monitoring design criteria is as follows: To indicate a "computer malfunction", "communication link warnings", "failsafe", or a "vault control interface equipment failure". Optional Monitoring: To indicate a loss of system commercial power and/or UPS warnings and alarms

Type B – Basic Monitoring. - This type of monitoring increases system operational awareness and provides basic monitoring for the controlled elements. This level of monitoring is typically required at airports capable of operating in VFR or Category I conditions. The minimum Type B monitoring design criteria is as follows: All monitoring requirements of the Type A with the addition of feedback that a controlled element is on or off. Optional monitoring: To indicate a loss of system commercial power, that the system is operating on generator power and/or UPS warnings and alarms.

Type C – Advanced Monitoring - This type of monitoring expands the monitoring capabilities for the controlled elements not provided in the Type B monitoring. This level of monitoring is typically required at airports capable of operating in Category II and Category III conditions. The minimum Type C monitoring design criteria is as follows: All monitoring requirements of the Type A and Type B with the addition or CCR monitoring, burnt out lamp monitoring, lamps out threshold warning and alarm, RMS output current and RMS output voltage monitoring. Optional monitoring: To indicate a loss of system commercial power, that the system is operating on generator power and/or UPS warnings and alarms.

PRO Command PLC Enclosures:

The PRO Command ALCMS system will be comprised of different locations each with there own control areas and enclosure cabinets to ensure control/ monitoring access and capabilities from all desired airport locations. The following are the ordering and part number explainations that will be used to customize the system to the airports needs. Please contract a Crouse-Hinds Sales or Customer Service Representative for help with ordering.



HMI (Human Machine Interface) Touchscreen and Enclosure Ordering:

P H 1 - ___ - ___ - ___ - ___ - ___

Touchscreen Type:
PH1 = HMI and PLC Touchscreen Gen 1

Screen Size:
A = 12" Touchscreen
B = 15" Touchscreen
C = 21" Touchscreen*

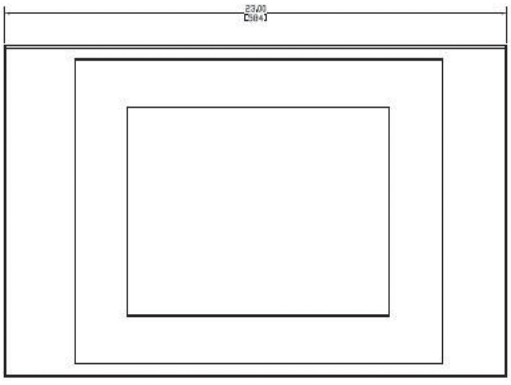
Mounting Options:
0 = Flush Mount (No enclosure) with separate 24" x 24" Cabinet, Nema 12 Rating for Wall Mount
1 = Flush Mount
2 = Wall Mount/Desk Mount (Not Nema 12 Rated)
3 = 24" x 24" Cabinet with Nema 12 Rating, Wall Mount Only*

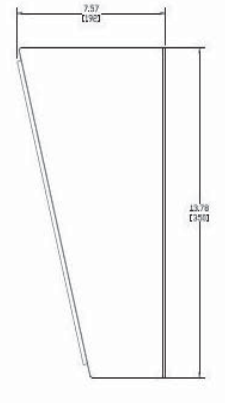
Communication Switch Options:
0 = None (Not needed if located in same location as a PLC enclosure)
1 = One Communication Line
2 = Two Communication Lines

Communication Switch Types:
A = Multi-mode 5 port switch (Reccommended for distances between locations of less than 13,000 feet)
B = Multi-mode 8 port switch (Reccommended for distances between locations of less than 13,000 feet and more than one Touchscreen/Monitor is in the vault))
C = Single-mode 5 port switch (Reccommended for distances between locations of greater than 13,000 feet)
D = Single-mode 8 port switch (Reccommended for distances between locations of greater than 13,000 feet and more than one Touchscreen/Monitor is in the vault)

Power Supply Options:**
1 = Power Supply
2 = Uninterruptible Power Supply

* If 21" touchscreen is chosen it cannot be used with mounting option 3
** These options can only be chosen with mounting option 3





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General Elements Enclosure Ordering:

P G E 1 - ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___

Touchscreen Type:
PGE1 = PLC General Element Enclosure Gen 1

Screen Size:
A = None
B = 12" Touchscreen
C = 15" Touchscreen

Number of General Element Inputs:
Insert Qty above (Note: If greater than 16 inputs are needed constact supplier)

Number of General Elements to be Controlled:
Insert Qty above (Note: If greater than 8 outputs are needed constact supplier)

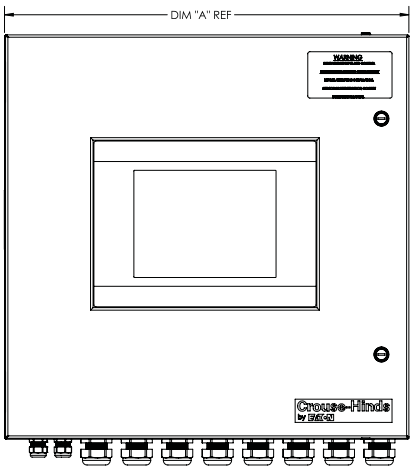
Number of RVR (Runway Visual Range) to be Controlled:
Insert Qty above

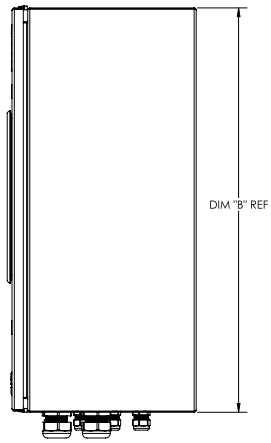
Failsafe Options:
A = Pre-Set
B = Last - State (Latching)

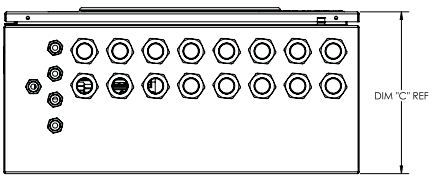
Redundancy:
0 = None
1 = Redundant Communication

Communication Switch Types:
A = Multi-mode 5 port switch (Reccommended for distances between locations of less than 13,000 feet)
B = Multi-mode 8 port switch (Reccommended for distances between locations of less than 13,000 feet and more than one Touchscreen/Monitor is in the vault))
C = Single-mode 5 port switch (Reccommended for distances between locations of greater than 13,000 feet)
D = Single-mode 8 port switch (Reccommended for distances between locations of greater than 13,000 feet and more than one Touchscreen/Monitor is in the vault)

Power Supply Options:
1 = Power Supply
2 = Uninterruptible Power Supply
3 = Uninterruptible Power Supply and Power Supply Redundancy







ENCLOSURE SIZE	DIM "A"	DIM "B"	DIM "C"
24" X 24"	24"	24"	10.93"
36" X 36"	36"	36"	10.93"

*Touchscreen is optional on PGE1 Enclosure

General Elements Enclosure Ordering:

P V 1 - ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___

Touchscreen Type:
PV1 = PLC Vault Enclosure Gen 1

Screen Size:
A = 8.4" Touchscreen
B = 5.7" Touchscreen

Number of CCRs*:
Insert Qty above

Number of 3 or Less Brightness Step CCRs without Circuit Selector Switches:
Insert Qty above

Total Number of General Element and Selector Switch Pole Inputs:**
Insert Qty above (Up to 32 Inputs)

Number of General Elements to be Controlled:**
Insert Qty above (Up to 8 elements)

Enclosure:
A = 24" x 24" Nema 12 Enclosure
B = 36" x 36" Nema 12 Enclosure (Required for units with > 8 CCRs)

Feedback Type:
0 = None
1 = On/Off
2 = Current/Voltage Measurement

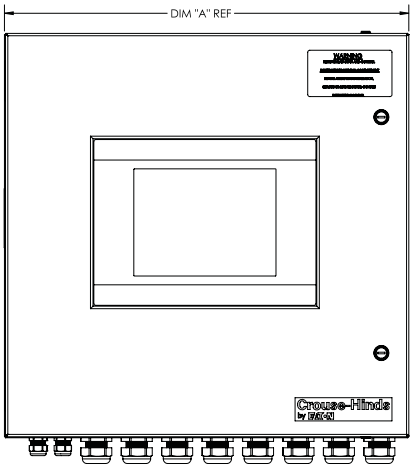
Failsafe Options:
A = Pre-Set
B = Last - State (Latching)

Redundancy:
0 = None
1 = Redundant PLC
2 = Redundant Communication
3 = Redundant PLC and Communication

Communication Switch Types:
A = Multi-mode 5 port switch (Recommended for distances between locations of less than 13,000 feet)
B = Multi-mode 8 port switch (Recommended for distances between locations of less than 13,000 feet and more than one Touchscreen/Monitor is in the vault))
C = Single-mode 5 port switch (Recommended for distances between locations of greater than 13,000 feet)
D = Single-mode 8 port switch (Recommended for distances between locations of greater than 13,000 feet and more than one Touchscreen/Monitor is in the vault)

Power Supply Options:
1 = Power Supply
2 = Uninterruptible Power Supply
3 = Uninterruptible Power Supply and Power Supply Redundancy

* If total number of CCR are greater than 24, contact the supplier for more options.
** If qty is over suggested amount then a custom configuration is needed, contact the supplier for more options.



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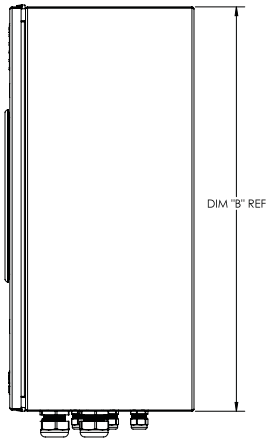

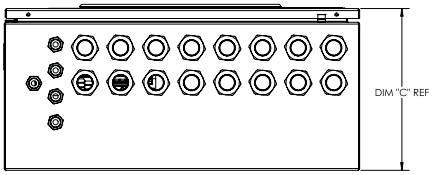
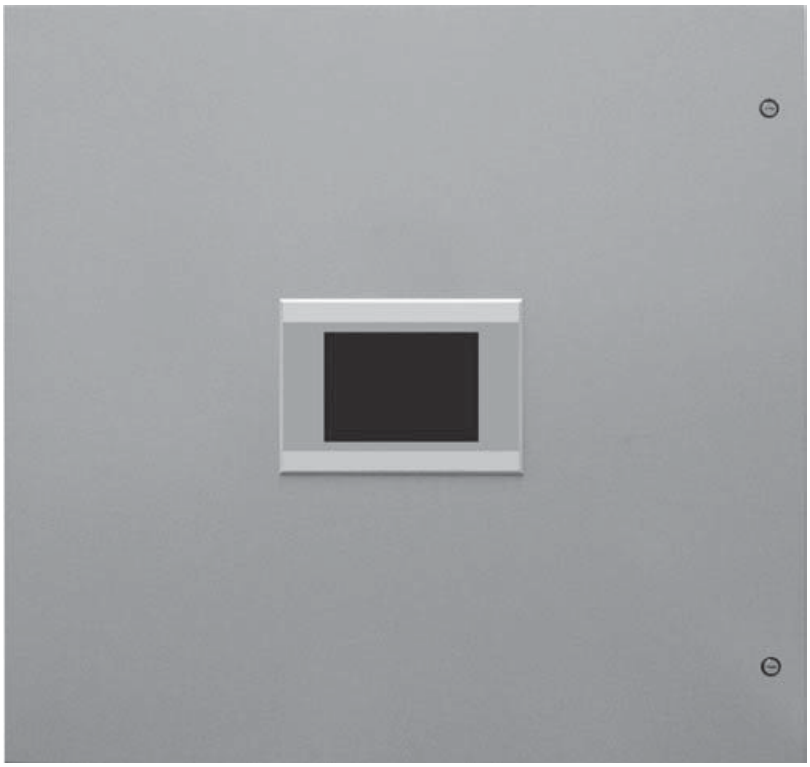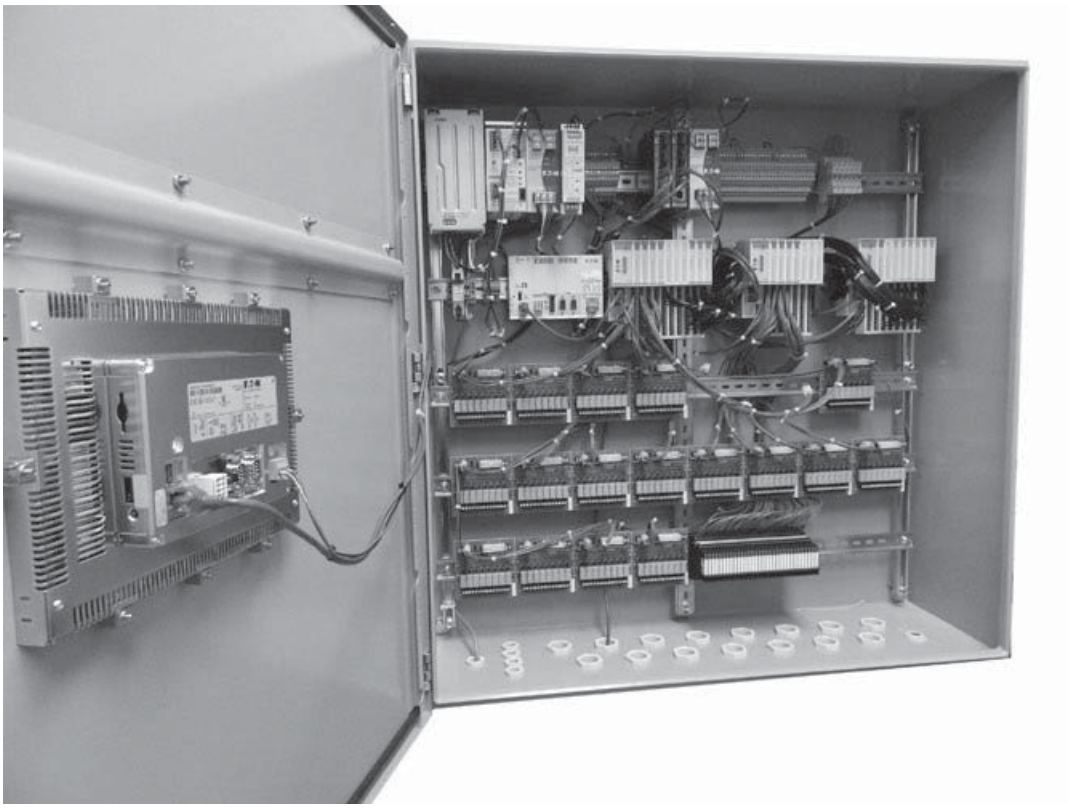
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