

## Airfield Lighting Control & Monitoring Systems Product Comparison Matrix

Liberty Airport Systems offers a complete range of Airfield Lighting Control and Monitoring Systems (ALCMS). The table below provides a comparison of the various features and functions available in each of the systems.

The *Spirit Series*™ family is available in three versions, LT (Lite Version), Standard, and SE (Special Edition). The *Freedom Series*™ family is available in Standard and Redundant Versions.

ALCMS	<i>Spirit LT</i>	<i>Spirit</i>	<i>Spirit SE</i>	<i>Freedom</i>	<i>Freedom-R</i>
	Lite Version	Standard Version	Special Edition	Standard Version	Redundant Version
<b>General Capabilities</b>					
Airport Operation	VFR, CAT I	VFR, CAT I	VFR, CAT I, II	VFR, CAT I, II, III	VFR, CAT I, II, III
Certified to L-890 Specifications	•	•	•	•	•
L-890 Monitoring Level A - No Monitoring	•	•	•	•	•
L-890 Monitoring Level B - Basic	•	•	•	•	•
L-890 Monitoring Level C - Advanced (L-827 Features)			•	•	•
L-890 Monitoring Level D - SMGCS Ready				•	•
L-890 Failsafe Level A - Preset	•	•	•	•	•
L-890 Failsafe Level B - Latching			•	•	•
Insulation Resistance Monitoring (IRMS)		Spirit Series	Freedom Series	Freedom Series	Freedom Series
Redundant Communication Networks				Optional	•
Fully Redundant Architecture					•
Remote Access Support - Dial-up Modem	Optional	Optional	•	•	•
Remote Access Support - Internet using VPN	Optional	Optional	Optional	Optional	Optional
<b>Control Capabilities</b>					
Control Technology	PLC	PLC	PLC	PLC (PC Optional)	Redundant PLC (PC Optional)
Number of PLC or PC Controllers Supported	1	1	1	Unlimited	Unlimited
Non-volatile Memory for Program Backup	•	•	•	•	•
CCR Control Architecture	Central PLC Control	Central PLC Control	Distributed Control & Monitoring (Direct)	Distributed Control & Monitoring (DCMU)	Distributed Control & Monitoring (DCMU)
Connection to Liberty CCRs	Discrete Wiring	Discrete Wiring	100MB Ethernet (CAT5)	100MB Ethernet (CAT5)	100MB Ethernet (CAT5)
Connection to Other Manufacturer's CCRs	Discrete Wiring	Discrete Wiring		100MB Ethernet (CAT5)	100MB Ethernet (CAT5)
Redundant Communication to CCRs				Optional	•
Other Networks Supported				RS485 (DF1, Modbus)	RS485 (DF1, Modbus)
Failsafe Methodology	Preset	Preset	Latching Failsafe or Preset	Latching Failsafe or Preset	Latching Failsafe or Preset
Total Number of Vaults	1	1	Unlimited	Unlimited	Unlimited
Number of CCRs Supported	Up to 12	30	60	Unlimited	Unlimited
Number of Circuit Selectors per CCR	4	6	6	6	6
Support for ARCAL (pilot controlled radio)	•	•	•	•	•
Support for Photocell Control	•	•	•	•	•
Support for Generator Control and Monitoring	•	•	•	•	•
Softstart Capability (Adjustable)	•	•	•	•	•
On-Delay Capability (Adjustable)	•	•	•	•	•
<b>HMI Software Capabilities</b>					
Total Number of HMIs Supported	3	3	3	Unlimited	Unlimited
On-screen Pushbuttons	•	•	•	•	•
Animated Airfield graphical display		•	•	•	•
Accept and Cancel Buttons	•	•	•	•	•
Transfer Control Procedure		•	•	•	•
Clean Screen Button	•	•	•	•	•
Calibrate Touchscreen	•	•	•	•	•
Indication of Current Alarms	•	•	•	•	•
Alarming and Event Logging		Optional	Optional	•	•
IRMS Scheduling Routine		Optional	Optional	•	•

ALCMS	<i>Spirit L7</i>	<i>Spirit</i>	<i>Spirit SE</i>	<i>Freedom</i>	<i>Freedom-R</i>
	Lite Version	Standard Version	Special Edition	Standard Version	Redundant Version
<b>ATCT Operator Interface</b>					
Operator Interface Type	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen
Touchscreen Technology	Resistive	Surface Acoustic Wave	Surface Acoustic Wave	Surface Acoustic Wave	Surface Acoustic Wave
Standard Screen Sizes	8", 10", 12"	15", 17"	15", 17"	17", 19", 20"	17", 19", 20"
Touchscreen Mounting Options	Desktop, Panel Mount, Pedestal, Arm	Desktop, Panel Mount, Pedestal, Arm	Desktop, Panel Mount, Pedestal, Arm	Desktop, Panel Mount, Pedestal, Arm	Desktop, Panel Mount, Pedestal, Arm
Computer Type	Industrial Operator Display	Industrial Grade Embedded Computer	Industrial Grade Embedded Computer	Industrial Grade Embedded Computer	Industrial Grade Embedded Computer
Data and Program Storage	Flash	Compact Flash	Compact Flash	Compact Flash	Compact Flash
Operating System	N/A	Win XP Embedded	Win XP Embedded	Win XP Embedded	Win XP Embedded
<b>Maintenance Operator Interface</b>					
Interface Type	LCD Touchscreen	LCD Monitor	LCD Monitor	LCD Monitor	LCD Monitor
Touchscreen Technology	Resistive	Optional (SAW)	Optional (SAW)	Optional (SAW)	Optional (SAW)
Standard Screen Sizes	8", 10", 12"	15", 17"	15", 17"	17", 19", 20"	17", 19", 20"
Computer	Industrial Operator Display	Commercial Grade Computer	Commercial Grade Computer	Commercial Grade Computer	Commercial Grade Computer
Data and Program Storage	Flash	Hard Drive	Hard Drive	Hard Drive	Hard Drive
Operating System	N/A	Win XP Professional	Win XP Professional	Win XP Professional	Win XP Professional
<b>Ethernet Communication Networks</b>					
Network Type	100MB Ethernet	100MB Ethernet	100MB Ethernet	100MB Ethernet	100MB Ethernet
Number of Ethernet Networks Supported	1	1	1	Unlimited	Unlimited
Ethernet Switch Type	Non-managed Industrial Grade	Non-managed Industrial Grade	Non-managed Industrial Grade	Managed Industrial Grade	Managed Industrial Grade
IGMP Snooping / Filtering for Multicast Industrial traffic				•	•
Monitoring of Individual Switch Ports				•	•
Media - CAT 5e Cable (up to 100m)	•	•	•	•	•
Media - Multimode Fiber Cable (up to 2 km)	•	•	•	•	•
Media - Singlemode Fiber Cable (> 2 km)	•	•	•	•	•
Media - DSL Modem (telephone lines) (up to 2 km)	•	•	•	•	•
Media - Radio Modem (up to 5 km)	•	•	•	•	•
Redundant Media - Redundant Fiber				Optional	•
Redundant Media - Redundant Fiber Ring Network				Optional	•
Redundant Media - Redundant Ring Fiber + Radio				Optional	•

## Custom Applications

If you have any unique control or monitoring requirements that are not specifically listed above, please give us a call. Chances are we already have a custom solution developed that can be implemented very easily and within your budget.

For any new requirements, our engineering staff would be pleased to work with you on developing a custom version of any of the systems to meet your needs.

With our *Spirit Series™* and *Freedom Series™* control systems, any request is a welcome opportunity to advance the current state of ALCMS technology.



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