



# LC Plus Series

LC Plus™ is a modular system of LED video panels designed for the demanding rental and staging market as well as fixed installations. A true IP65 protection rating, wide operating temperature range and high level of brightness enable the LC Plus to be used in most outdoor applications. A low weight and high degree of transparency enable use in applications that simply are not possible with conventional LED screens.

## FEATURES

## TECHNICAL SPECIFICATIONS

### Physical

Height: LC Plus 2140 2000 mm  
Width: 1000 mm  
Depth: 152 mm  
Weight: LC Plus 2140 22.4 kg

### Control/User Interface

Device status and addressing: Onboard control panel with LED display, status LEDs  
Setup testing: Local test patterns

### Photometric Data

Light source: 5 mm oval LED  
Brightness (calibrated): 3000 Nit (candela per square meter)  
Pitch (pixel center-to-center): 40 mm  
Red dominant wavelength: 621 nm  
Green dominant wavelength: 527 nm  
Blue dominant wavelength: 470 nm  
Color resolution: 16 bits per color  
Viewing angle: >100° horizontal, >40° vertical at 50% intensity

### Video Processing

Video signal processor: External P3 System Controller (one per system)  
Processor capacity: 500 000 pixels (400 LCP 2140 panels) with P3-100 System Controller  
Output resolution: Any within 500k pixel limit  
Total system latency (worst case): Less than 3 frames  
DVI video input: Up to 1280 x 1024, 50/60/75 Hz  
Analog video input: Composite, component and S-video, PAL, NTSC and SECAM  
Frame synchronization to analog signal: Yes, integrated in P3 System Controller  
Image rotation: Yes, integrated in P3 System Controller  
Scaling: Yes, integrated in P3 System Controller  
De-interlacing: Yes, integrated in P3 System Controller  
Gamma curve selection and adjustment: Yes, integrated in P3 System Controller  
Real-time panel content remapping: Yes, integrated in P3 System Controller

### P3 Signal Protocol

Signal type: Gigabit Ethernet  
Protocol: Proprietary Martin P3  
Hot pluggable: Yes, electrically isolated at all connections  
Cable type: CAT 5e, UTP  
Cable length: Up to 100 m between any 2 devices, extendable with Ethernet switch  
Max. number of panels per line: 50, extendable with Ethernet switch  
Latency between first and last panel: None

### Construction

Panel frames: Aluminum  
LED tubes: UV-resistant acrylic  
Transparency through panel (unmasked area): >60%  
Color: Matt black  
Protection rating: IP65, NEMA 1

### Installation

Orientation: Individually mounted panel any angle; stack or suspended chain horizontal or vertical only  
Max. suspended in one chain: Max. six 2140 panels hung vertically per single chain  
Max. stacked: Max. seven 2140 panels standing vertically per single stack  
Panel interlocking: Prolyte CCS6 conical coupler system

### Connections

Power in/out: Ruggedized IP67-rated power connectors  
P3 data in/out: Ruggedized IP67-rated RJ45 connectors

### Electrical

AC power: 200-240 V nominal, 50/60 Hz  
Power supply unit: Integrated, auto-sensing multi-voltage  
Standby power: < 35 W  
Main fuse: Single-phase power input 10 AT; 2-phase power input 2 x 10 AT

#### Typical Power and Current

LCP 2140:  
200 V, 60 Hz: 319 W, 1.6 A, PF 0.978  
208 V, 60 Hz: 319 W, 1.6 A, PF 0.978  
230 V, 50 Hz: 320 W, 1.5 A, PF 0.967  
240 V, 50 Hz: 323 W, 1.4 A, PF 0.965

*Measurements made at nominal voltage with all LEDs at full intensity. Allow for a deviation of +/- 10%.*

Thermal

Cooling: Convection  
Maximum ambient temperature (Ta max.), 50% duty cycle, full white 1 sec. on/1 sec. off: 40° C  
Minimum ambient temperature (Ta min.): -20° C  
Total heat dissipation (calculated, +/- 10%): 1160 BTU/hr.

#### Approvals

EU safety: EN 60825-1, EN 60950, EN 60529  
EU EMC: EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3  
US safety (pending): ANSI/UL 60950-1  
Canadian safety (pending): CAN/CSA 60950-1

#### Included Items

Supplied in accessories box with Cardboard Box models:  
4 x Prolyte CCS6 conical couplers: 21021150  
8 x threaded spigots for LC Plus conical couplers: 08330127  
8 mm hex key for threaded spigots: 50520619  
5 m power input cable with IP67-rated input connector (single-phase power input): 11521030  
5 m power input cable with IP67-rated input connector (2-phase power input): 11521034  
1.5 m power throughput cable with IP67-rated connectors (single-phase power): 11521031  
1.5 m power throughput cable with IP67-rated connectors (2-phase power): 11521033  
1.5 m CAT 5e STP cable, RJ45 to RJ45, IP67 connectors: 11840147  
2.5 m CAT 5e STP cable, RJ45 to RJ45, IP67 connectors: 11840148  
Installation and safety manual: 35000218  
Supplied in accessories box with 4-unit flightcase:  
16 x Prolyte CCS6 conical couplers: 21021150  
32 x threaded spigots for LC Plus conical couplers: 08330127  
8 mm hex key for threaded spigots: 50520619  
5 m power input cable with IP67-rated input connector (single-phase power input): 11521030  
5 m power input cable with IP67-rated input connector (2-phase power input): 11521034  
4 x 1.5 m power throughput cable with IP67-rated connectors (single-phase power): 11521031  
4 x 1.5 m power throughput cable with IP67-rated connectors (2-phase power): 11521033  
1.5 m CAT 5e STP cable, RJ45 to RJ45, IP67 connectors: 11840147  
4 x 2.5 m CAT 5e STP cable, RJ45 to RJ45, IP67 connectors: 11840148  
Installation and safety manual: 35000218

#### Accessories

Conical coupler (Prolyte CCS6 system): 21021150  
Threaded spigot for LC Plus conical coupler: 08330127  
*Threaded spigots for LC Plus and standard LC panels are not interchangeable:*  
Female conical coupler socket with hole for spigot: 21021151  
Half conical coupler with hole for spigot, length 44 mm: 21021152  
Half conical coupler with hole for spigot, length 63 mm: 21021153  
Half conical coupler without hole for spigot, length 44 mm: 26820300  
30 m CAT 5e STP video data input cable, RJ45 to IP67 RJ45: 11840145  
Four-unit flightcase for 4 x LC Plus 2140 video panels: 91510120  
*All Martin video system user documentation is available for download from [www.martin.com](http://www.martin.com):*

Related Items

P3 Upgrade Kit for standard LC 1140 panel: 91614031  
P3 Upgrade Kit for standard LC 2140 panel: 91614030

#### Ordering Information

LC Plus™ 2140 panel, in flightcase: 90354101  
LC Plus™ 2140 panel, in cardboard box: 90354102  
Martin P3-100™ System Controller: 90721010  
Martin P3-200™ System Controller: 90721020  
Martin P3-PC™ License on One-Key™ USB stick: 90721030

