

[www.ledeca.com](http://www.ledeca.com)



# LEDECA

ALWAYS BRIGHT

LEDECA<sup>®</sup>  
ALWAYS BRIGHT



Since 2007, we manufacture, deliver and integrate high quality LED based multimedia solutions across multiple vertical markets, which includes but are not limited to; outdoor advertisement, out-of-home messaging, traffic variable messaging, rental, broadcast, sports and media facade applications.

As of 2023, our installed based of screens number over 50.000 distributed across 50 countries. We complement our LED multimedia products with supplementary offerings where necessary, such as monitoring system, display processors, content automation software, turnkey project design & build & calibration services.

Our philosophy is dedication and constant improvement in the LED display business, in order to provide the best possible value to our customers and competitiveness to our partners with turnkey solutions.

**LEDECA, always bright!**

## WE ANALYSE

We understand your requirements



## WE DESIGN

Create the most suitable and cost effective solution with engineering and industrial experience



## WE PROVIDE SOLUTION

We deliver and execute the turnkey solution for our solution partners and distributors



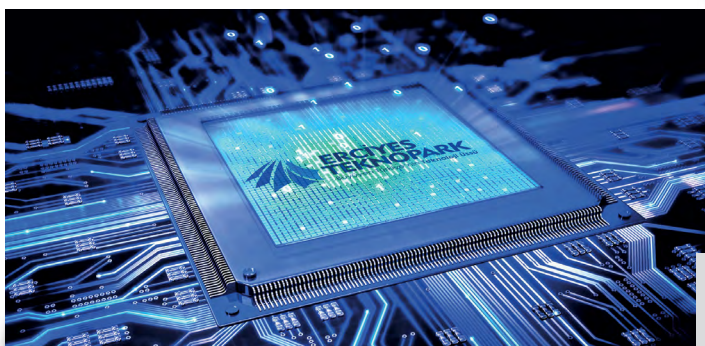
## WHO WE ARE

Apron Teknoloji is a turnkey LED screen manufacturer who was born in 2007, 4.000sqm manufacturing base, operations and subsidiaries in all over the world and best projects and solutions which are best in their own area. To focus on turnkey solution! This is the key of our success. We listen to you, analyze your demands, find solutions with our professional team whose target is to catch the optimum point between cost and performance.



## OUR TEAM

LEDECA was born in Technopark at University of Erciyes. That gives us power for continuous improvement with young and well educated human resource under orientation of academic management.

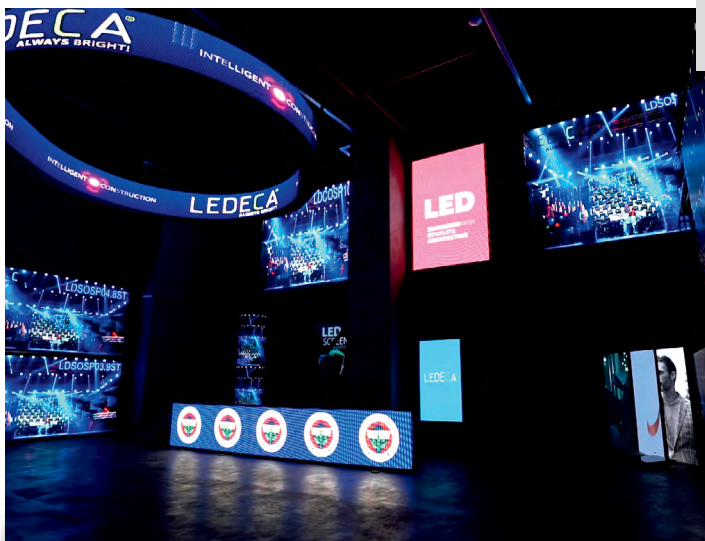


## OFF THE SHELF STANDARDIZED

We provide standardized, off-the-shelf products that are optimized for application. Thus, we can offer the most suitable product per application, achieve standardization of quality, and provide fast turn around to inquiries.

Where required, we do design and provide turnkey projects with all necessary supplementary products including frame design for any kind of metal construction and adaptation, hardware, software, substructure and services.

Just pixel pitch is not enough to talk about led screens. You can see many of our products before making a decision, ask questions that are in your mind, see the difference of LEDECA with your own eyes.



## SUBSIDIARIES

ORKU METAL AS, as subsidiary company of LEDECA; provides a solution-oriented production service for your any kind of indoor & outdoor projects with its innovative concept of advertising and city furnishing industry, design and produce metal constructions. ORKU has over 10 years of operational history as a supplier of brands built across Europe, Africa and Asia.

ALTUM TEKNOLOJİ AS, as subsidiary company of LEDECA; mainly focus on event & entertainment industry and provides signal management equipment where necessary, and includes single or multi channel scalers, video processors, signal extenders, converters, content management software and LED wall controllers.



## PRODUCTION

We have complete control over all mechanical and electronic aspects of the production process. Our products are compliant with CE, LVD, EMC, RoHS standards. Apron Teknoloji has fully ESD compliant production area and all the products are protected for Electro Static Discharges. Not only ESD, but also all steps and processes take action according to IPC standards.



## AGING

The most important QC step is "aging". That's not only to find errors seen in this step, but also it's important to adjust future production adjustment coz of sustainable 100% success. Products tested for 72 hours, faults that may occur during aging test are eliminated once after that step.



## CALIBRATION

All our products are tested and calibrated for uniformity of color and brightness before leaving the factory. We do also provide periodic after-sales calibration services.

## FRAMEWORK

We utilize the experience of our subsidiary company in metalworking to construct the framework and construction necessary for your LED screens. We are able to design and build non standard curved, spherical or any other custom shaped framework.



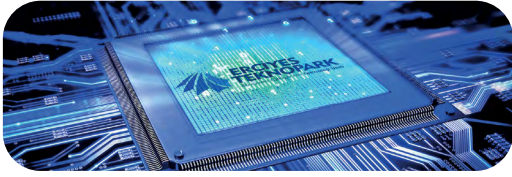
## SAFETY

"Safety first"! is a key principle at LEDECA. Human safety comes first and is more important than anything else. We focus on safety on each step of the production process. Our facilities have the most current ISO standards in operational and environmental safety.

## INSTALLATION

Small or huge screen, located in indoor or outdoor, from snowy mountains to deserts, wherever you are in Europe, Asia or Africa, whatever your project is retail, stadium or facade... We will be there for your turnkey demands .





2007

**FOUNDED**  
LEDECA Founded as a LTD

**FIRST PRODUCT**  
First in-house-designed Product

2008



2018

**FIRST UEFA APPROVED PERIMETER SYSTEM**  
First UEFA approved stadium perimeter screen  
**FIRST FIDS INTEGRATION**  
First FIDS (Flight Information Display System) integration

**EXPORT TO 40 COUNTRY**  
LEDECA products are used in 40 countries

2017



2019

**PATENTED FREEFORM DESIGN**  
Patented freeform / flexible module designed.

**12th BIGGEST MANUFACTURER**  
As a TÜRKİYE's 12th biggest hardware manufacturer in IT industry

2019





2009

**CERTIFICATIONS**  
LEDECA ISO-certified (9001 and 14001)



2015

**METAL PRODUCTION FACILITY INVESTMENT**  
Metalworks facility created



2019

**PRODUCTION FACILITY EXTENSION**  
LEDECA established a subsidiary production extension in PRC

**MOVE TO İSTANBUL**  
LEDECA moves to İstanbul

**FIRST PRODUCTION INVESTMENT**  
First assembly line for serial production created

2010



**FIRST OUTDOOR SMD SCREEN PRODUCTION**

First self-designed outdoor SMD LED screen product

2011



**EXPORT TO 50 COUNTRY**  
LEDECA products are used in 50 countries and more than 50.000 screens

2022



# global brands trust us for years;

while we trust in our quality, power and ability...

APRON TEKNOLOJİ AS, the owner of LEDECA brand; manufacture, deliver and integrate high quality LED based multimedia solutions across multiple vertical markets.

We are producing solutions for our customers with confidence which come from the experience of working with global brands and by their trust in our quality, power and ability...

Our philosophy is dedication and constant improvement in the LED display business, in order to provide the best possible value to our customers and competitiveness to our partners with turnkey solutions.

As of 2023, our installed based of screens number over 50.000 distributed across 50 countries.







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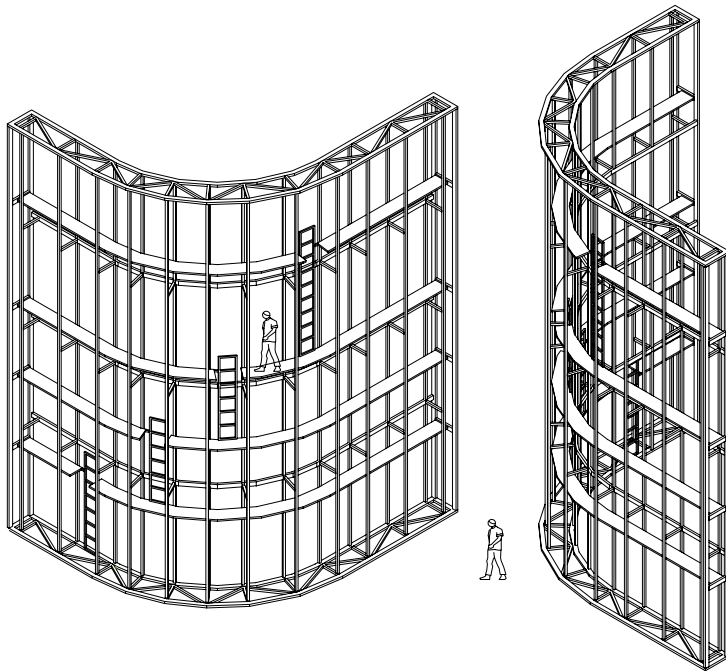
over 50 countries and over 50.000 screens;  
**all turnkey solutions...**



**LEDSCREEN SOLUTIONS**

No matter the sector and the application, no matter the requirements, whether it is for one or one thousand square meters, whether it's a single screen or a network of one hundred points, we can provide the right LED solution at the right price-performance point. This is our core business.

Our products are currently used in the following markets: OOH advertising, retail, digital city furniture, traffic, sport, broadcast, etc. We have standard off-the-shelf products that are optimized for these markets, and further we are able to create custom design products for a specific purpose or project.



**TURNKEY SOLUTION**

The challenge here is to send the right info at the right time to the right target audience. We can design and install centrally managed digital signage networks that could be as large as hundreds of displays made up of different types.



**CONTENT MANAGEMENT SOFTWARE**

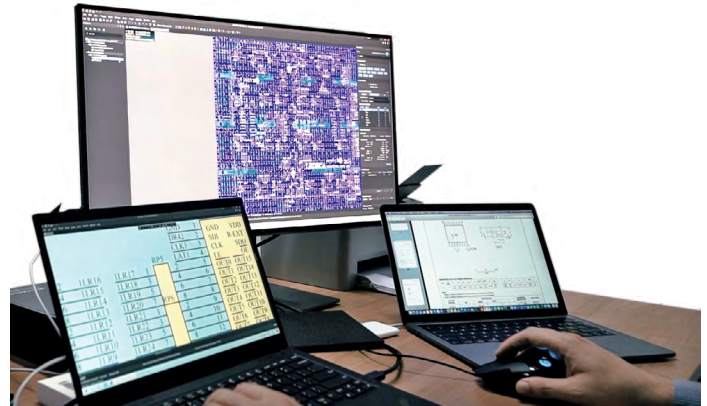
EASESCREEN, our strategic partner, offers you several distinct advantages when compared to other digital broadcasting and information solutions.

Rich content management and convenient report monitoring features, customized messages for your target audience, easy integration of different content into different applications on multiple media, offering excellence by combining rich media content with interactive broadcasts.



## PCBDESIGN

Electronic printed circuit board designs are carried out by our inhouse engineering team.



## MONITORINGSERVICES

As the number of the screens increase, monitoring the hardware status of the screens become complicated for end user. For you, we monitor your all system real time, sense any malfunction instantly, provide service simultaneously and report regularly.

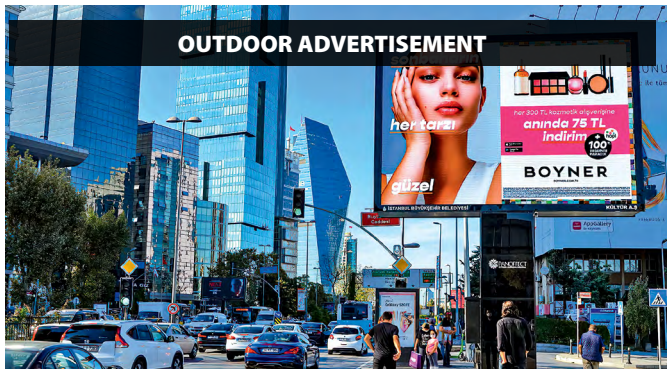
## INDUSTRIALDESIGN

Turnkey frameworks and scaffolding for any conceivable LED screen application. We start by listening to our clients and determine project requirements. We determine the optimum and sustainable solution for our client. Pre-sales team outlines the project. Our priority is to make the project differentiate from competitors and provide an advantage to our client. LEDECA's design team models the project in 3D and presents it for the client's approval and for static validation.



## CALIBRATION

If the contents of the led screen are not formed with homogeneous colors, the brightness and tone differences will start to appear on the led screen over time. Thanks to our expert engineers and professional calibration devices, we eliminate the light and color differences caused by the different brightness and light values of the LEDs and make the colors homogeneous.



**OUTDOOR ADVERTISEMENT**

**CITYLINE**

Outdoor LED screens specialized for outdoor advertising and out-of-home messaging. High brightness, rugged construction, able to function in tough environments.

**GALLERY**

Indoor and semi outdoor LED screens specialized for retail. Featuring high brightness values so that they can be placed in daylight or under sunlight (storefronts) low power consumption, silent operation.



**RETAIL**

**ULTRA**

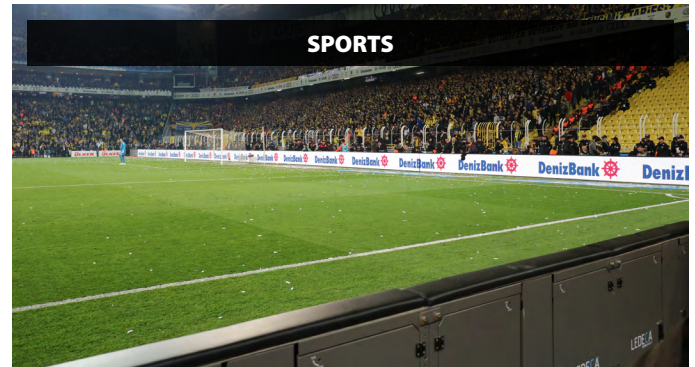
Indoor LED screens for TV studios. Very high pixel density, silent operation, high refresh rate (so as not to cause artifacts in recordings).



**MEDIA BROADCAST**

**ARENA**

Indoor and outdoor LED screens customized for sports venues. Scoreboards, scorecards, perimeter screens. FIBA and UEFA certified where necessary.



**SPORTS**

**FREEFORM**

Flexible indoor and outdoor LED screens that can be built in custom shapes and forms. Use them to give life to your creative designs.



**LIMITLESS DESIGN**

**SCREENS FOR MICE & STAGE INDUSTRY**



**STAGE**

Indoor and outdoor LED screen solutions optimized for live events and rental companies. High brightness and rugged construction that allows repeated installations.

**LEDUP**

Plug&Play LED displays, lightweight, easy to move, easy to manage your contents via mobile phone, cloud software or via direct computer connection, just plug&play.

**PLUG&PLAY SCREENS**



**LED WALLS FOR BUILDINGS**



**FACADE**

Architectural semi transparent LED wall curtains, that allow you to convert your building's glass surfaces without blocking the view of the tenants.

**DOOH**

Standardized outdoor city furniture such as billboard, totem, outdoor kiosk and other message signs. High brightness and affordable price.

**DIGITAL CITY FURNITURE**



**VARIABLE MESSAGE SIGN**



**TRAFFIC**

Variable Message and Traffic Signs designed for highway and traffic management, Compliant with the international standards on display systems for motorways.

# CITYLINE



## ABOUT

Leading DOOH LED panels keep your content visible even in the most challenging outdoor conditions



## MARKETS


- » Digital Out of Home Advertisement
- » Sport Venues
- » Architectural Design
- » Building Facade
- » Digital City Furnitures
- » Smart City

## HIGHLIGHTS

- » Up to 50% lower energy consumption with industry leading design techniques
- » Various designs supporting front/rear installation & maintenance
- » Amazing ingress protection with IP67 level
- » High durability under every condition with full aluminum structure
- » Excellent heat dissipation
- » High precision aluminum alloy moulding technology
- » Calibrated with high bright vivid colors up to 10.000nits

# FEATURES

# FEATURES



**Armour**  
LEDECA

ARMOUR  
SERIES


- » Durable, slim and lightweight panel design
- » Complete aluminum body to achieve best cooling performance in challenging environment
- » Supports front/rear installation & maintenance
- » Up to 10.000nits brightness
- » Common-cathode design providing up to 50% less power consumption
- » Cable-free and redundant module connection
- » IP67 level front/rear ingress protection
- » 90-degree and smooth corner options



**Smart**  
LEDECA

SMART  
SERIES

- » Durable, slim and lightweight panel design
- » Supports front/rear installation & maintenance
- » Up to 10.000nits brightness
- » Cable-free and redundant module connection
- » IP67 level front IP65 rear ingress protection



**Compact**  
LEDECA

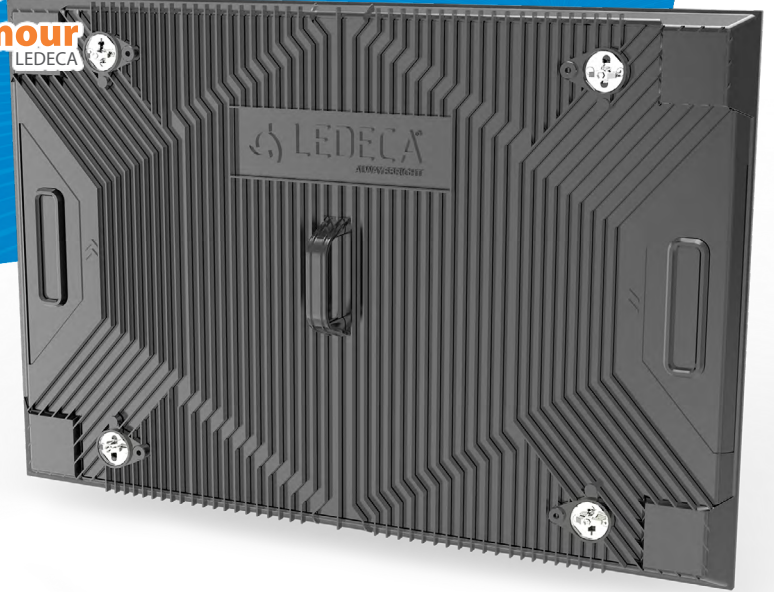
COMPACT  
SERIES

- » Optimized according cost and performance ratio
- » Steel or aluminum (active cooling) panel material options
- » On demand panel sizes for steel panels

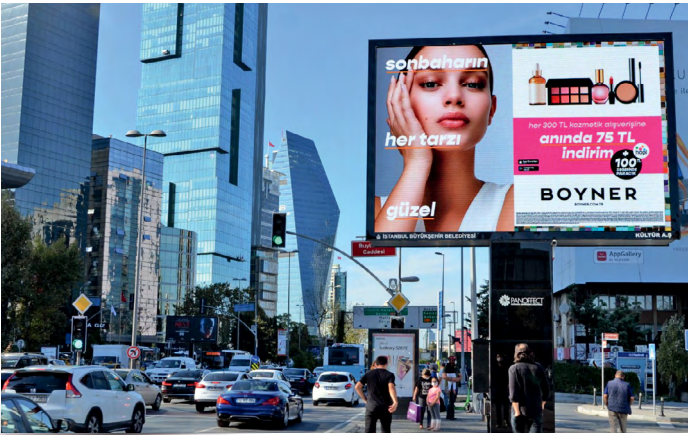
# CITYLINE



OUTDOOR LED SCREENS FOR DIGITAL  
OUT-OF-HOME MESSAGING AT  
EXTREME ENVIRONMENTS



## OUTDOOR CITY FURNITURE İSTANBUL / TÜRKİYE



Aluminum fanless design for high performance under extreme conditions

Adjustable brightness optionally up to 10.000nits

Lower power consumption with common-cathode technology

Lightweight for easy adaptation and low cost framework design

Production level calibration for best color uniformity



## OUTDOOR ADVERTISEMENT İSTANBUL / TÜRKİYE




	ARMOUR	ARMOUR	ARMOUR	ARMOUR	ARMOUR
	LDA0SP02.9CL	LDA0SP03.9CL	LDA0SP05.7CL	LDA0SP06.6CL	LDA0SP10.0CL
<b>General</b>					
Operating environment	outdoor	outdoor	outdoor	outdoor	outdoor
Pixel pitch	2.9mm	3.9mm	5.7mm	6.67mm	10mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	5.000nits	5.500nits	8.500nits	6.500nits	7.000nits
Lamp type	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>					
Module dimensions (mm)	500x250	500x250	480x320	480x320	480x320
Refresh frequency	2.880Hz - 3.840Hz	2.880Hz - 3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	172x86px	128x64px	84x56px	72x48px	48x32px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum	aluminum
Module type	sealed	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>					
Panel material	aluminum	aluminum	aluminum	aluminum	aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	500x1.000	500x1.000	960x960	960x960	960x960
Panel depth	86mm	86mm	94mm	94mm	94mm
IP level	IP67 front, IP65 rear	IP67 front, IP65 rear	IP67 front, IP65 rear	IP67 front, IP65 rear	IP67 front, IP65 rear
Panel weight	<16kg	<16kg	<29kg	<29kg	<29kg
Panel resolution	172x344px	128x256px	168x168px	144x144px	96x96px
Pixel density (pcs/sqm)	118.336	65.536	30.625	22.500	10.000
Viewing angle (horizontal x vertical)	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°
Minimum viewing distance	>3m	>4m	>5m	>6m	>10m
Operating temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Storage temperature range	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50~60Hz	50~60Hz	50~60Hz	50~60Hz	50~60Hz
Average power per sqm	<140W	<140W	<140W	<140W	<140W
Max power per sqm	<650W	<650W	<650W	<650W	<650W
Active PFC	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan
<b>Other</b>					
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>					
Energy-friendly (Average/max power per sqm)	70W/350W	70W/350W	70W/350W	70W/350W	70W/350W
Higher Brightness - CLX	6.500nits	6.500nits	8.500nits	8.500nits	10.000nits
Corner installation	90-degree / curved	90-degree / curved	90-degree / curved	90-degree / curved	90-degree / curved


\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option


Front Access




Lightweight




Slim




Temp Monitoring




Smoke Monitoring




Voltage Monitoring




Remote Control




Easy To Install




Wide Angle




High Refresh Rate




Transparent




Noiseless




Calibration



Pixel Detection



Fanless

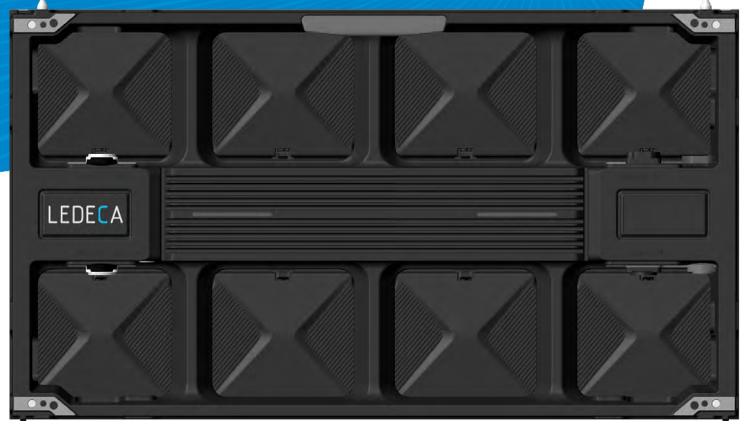


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LEDECA

# CITYLINE

OUTDOOR FINE PITCH LED SCREENS FOR  
DIGITAL OUT-OF-HOME MESSAGING &  
PROFESSIONAL INSTALLATIONS



- New generation full-flip chip microLED technology
- Aluminum fanless design for high performance under extreme conditions
- Adjustable brightness optionally up to 6.500nits
- Lower power consumption with common-cathode technology
- Lightweight for easy adaptation and low cost framework design
- Production level calibration for best color uniformity




LEDECA OUTDOOR FINE PITCH SOLUTIONS

	ARMOUR	ARMOUR	ARMOUR
	LDAOMP01.2CL	LDAOMP01.5CL	LDAOMP01.8CL
<b>General</b>			
Operating environment	outdoor	outdoor	outdoor
Pixel pitch	1.25mm	1.53mm	1.86mm
Service type	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	3.800nits	3.800nits	3.800nits
Lamp type	Flip-Chip Micro	Flip-Chip Micro	Flip-Chip Micro
Lifespan (hours at %50 brightness)	>80.000hours	>80.000hours	>80.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>24bits	>24bits	>24bits
Brightness control	256 level	256 level	256 level
<b>Module Specifications</b>			
Module dimensions (mm)	160x360	160x360	160x360
Refresh frequency	3.840Hz	3.840Hz	3.840Hz
Module resolution	128x288px	104x232px	86x192px
LED drive method	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum
Module type	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer
Surface coating	UV resistant & high contrast	UV resistant & high contrast	UV resistant & high contrast
<b>Panel Specifications</b>			
Panel material	aluminum	aluminum	aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	640x360	640x360	640x360
Panel depth	70mm	70mm	70mm
IP level	IP65 rear	IP65 rear	IP65 rear
Panel weight	8.5kg	8.5kg	8.5kg
Panel resolution	512x288px	416x232px	344x192px
Pixel density (pcs/sqm)	640.000	418.888	286.666
Viewing angle (horizontal x vertical)	175° x 160°	175° x 160°	175° x 160°
Minimum viewing distance	>1.2m	>1.5m	>1.8m
Operating temperature range	-20°C ~ +40°C	-20°C ~ +40°C	-20°C ~ +40°C
Storage temperature range	-30°C ~ +60°C	-30°C ~ +60°C	-30°C ~ +60°C
Operating humidity	10% ~ 80% non-condensing	10% ~ 80% non-condensing	10% ~ 80% non-condensing
Power input voltage	100 ~ 240 VAC	100 ~ 240 VAC	100 ~ 240 VAC
Power input frequency	50~60Hz	50~60Hz	50~60Hz
Average power per sqm	<200W	<200W	<200W
Max power per sqm	<600W	<600W	<600W
Active PFC	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan
<b>Other</b>			
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional
Module monitoring	YES	YES	YES
Temperature monitoring	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES
Power redundancy	N/A	N/A	N/A
Signal path backup	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional
Power saving mode	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>			
Contrast ratio	10.000:1	10.000:1	10.000:1
Higher Brightness - CLX	6.500nits	6.500nits	6.500nits
Corner installation	N/A	N/A	N/A


\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option


Front Access




Lightweight




Slim




Temp Monitoring




Smoke Monitoring




Voltage Monitoring




Remote Control




Easy To Install




Wide Angle




High Refresh Rate




Transparent




Noiseless




Calibration



Pixel Detection



Fanless



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OUTDOOR LED SCREENS FOR DIGITAL  
OUT-OF-HOME MESSAGING AT HIGH  
GRADE PROJECTS



REFUGE DES GLACIERS  
LES DEUX ALPES / FRANCE



New generation cost effective led screen panel design for outdoor use

Right choice for DOOH media screen installations

Lightweight for easy adaptation and low cost framework design


Production level calibration for best color uniformity





	SMART LDSOSP02.6CL	SMART LDSOSP02.9CL	SMART LDSOSP03.9CL	SMART LDSOSP06.6CLX
<b>General</b>				
Operating environment	outdoor	outdoor	outdoor	outdoor
Pixel pitch	2.6mm	2.9mm	3.9mm	6.67mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	4.500nits	5.000nits	5.500nits	8.500nits
Lamp type	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level
<b>Module Specifications</b>				
Module dimensions (mm)	250x250	250x250	500x250	480x320
Refresh frequency	adjustable	adjustable	adjustable	adjustable
Module resolution	96x96px	86x86px	128x64px	72x48px
LED drive method	dynamic	dynamic	dynamic	dynamic
Module material	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)
Module type	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>				
Panel material	aluminum	aluminum	aluminum	aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	500x1.000	500x1.000	500x1.000	960x960
IP level	IP67 front, IP65 rear	IP67 front, IP65 rear	IP67 front, IP65 rear	IP67 front, IP65 rear
Panel weight	16kg	16kg	16kg	35kg
Panel resolution	192x384px	172x344px	128x256px	144x144px
Pixel density (pcs/sqm)	147.456	118.336	65.536	22.500
Viewing angle (horizontal x vertical)	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°
Minimum viewing distance	>2.5m	>3m	>4m	>6m
Operating temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Storage temperature range	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50~60Hz
Average power per sqm	<140W	<140W	<140W	<140W
Max power per sqm	<800W	<800W	<800W	<600W
Active PFC	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>				
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>				


\*The mechanical and electronic specification options are available.


- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option


Front Access  



Lightweight  



Slim  



Temp Monitoring  



Smoke Monitoring  



Voltage Monitoring  



Remote Control  



Easy To Install  



Wide Angle  



High Refresh Rate  


Transparent  


Noiseless  


Calibration  


Pixel Detection  


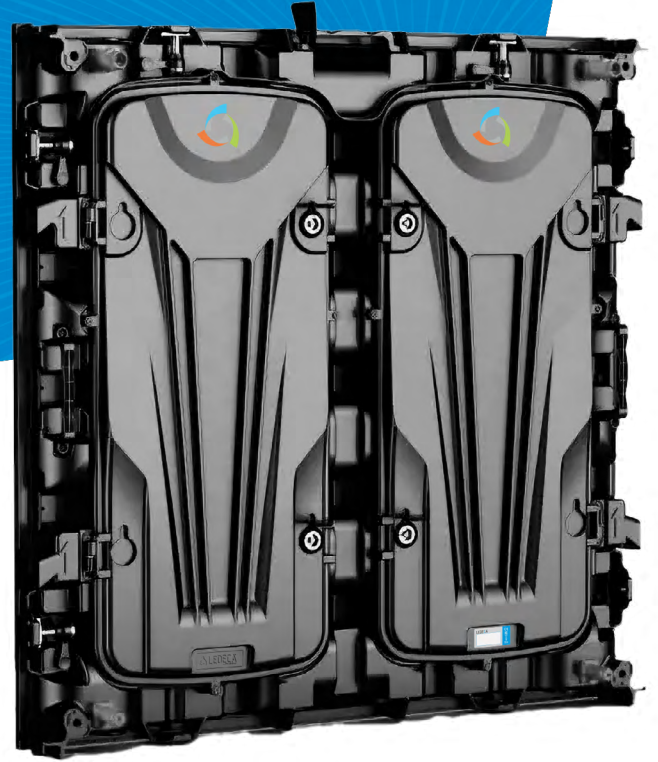
Fanless  


Apron Teknoloji AS. reserves the right to change any product specification, discontinue of any product or services without prior notice

# CITYLINE



OUTDOOR LED SCREENS  
FOR DIGITAL OUT-OF-HOME  
MESSAGING



DIGITAL CITY FURNITURE  
BURSA / TÜRKİYE



- New generation cost effective led screen panel for outdoor use
- Right choice for DOOH media screen installations
- Lightweight for easy adaptation and low cost framework design
- Production level calibration for best color uniformity




PARKORA MALL  
BURSA / TÜRKİYE

	COMPACT	COMPACT	COMPACT	COMPACT	COMPACT	COMPACT
	LDCSP04.OCL	LDCSP05.OCL	LDCSP06.OCL	LDCSP06.GCL	LDCSP08.OCL	LDCSP10.OCL
<b>General</b>						
Operating environment	outdoor	outdoor	outdoor	outdoor	outdoor	outdoor
Pixel pitch	4mm	5mm	6mm	6.6mm	8mm	10mm
Service type	rear access	rear access	rear access	rear access	rear access	rear access
Calibrated brightness (nits)	6.000nits	6.000nits	6.000nits	6.000nits	7.000nits	6.500nits
Lamp type	SMD	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>						
Module dimensions (mm)	320x160	320x160	320x160	320x160	320x160	320x160
Refresh frequency	adjustable	adjustable	adjustable	adjustable	adjustable	adjustable
Module resolution	80x40px	64x32px	52x26px	48x24px	40x20px	32x16px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)
Module type	apparent	apparent	apparent	apparent	apparent	apparent
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>						
Panel material	galvanized steel sheet/ aluminum	galvanized steel sheet/ aluminum	galvanized steel sheet/ aluminum	galvanized steel sheet/ aluminum	galvanized steel sheet/ aluminum	galvanized steel sheet/ aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	960x960	960x960	960x960	960x960	960x960	960x960
IP level	IP67 front, IP54 rear	IP67 front, IP54 rear	IP67 front, IP54 rear	IP67 front, IP54 rear	IP67 front, IP54 rear	IP67 front, IP54 rear
Panel weight	<50kg	45kg/35kg	45kg/35kg	45kg/35kg	45kg/35kg	45kg/35kg
Panel resolution	256x256px	192x192px	156x156px	156x156px	128x128px	96x96px
Pixel density (pcs/sqm)	62.500	40.000	26.244	26.244	15.625	10.000
Viewing angle (horizontal x vertical)	>120°x120°	>120°x120°	>120°x120°	>120°x120°	>120°x120°	>120°x120°
Minimum viewing distance	>4m	>5m	>5m	>6m	>8m	>10m
Operating temperature range	-15°C ~ +45°C	-15°C ~ +45°C	-15°C ~ +45°C	-15°C ~ +45°C	-15°C ~ +45°C	-15°C ~ +45°C
Storage temperature range	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110~240 VAC	110~240 VAC	110~240 VAC	110~240 VAC	110~240 VAC	110~240 VAC
Power input frequency	50~60 Hz	50~60 Hz	50~60 Hz	50~60 Hz	50~60 Hz	50~60 Hz
Average power per sqm	<150W	<150W	<150W	<150W	<150W	<150W
Max power per sqm	<650W	<650W	<650W	<650W	<650W	<650W
Active PFC	YES	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Internal fan	Internal fan	Internal fan	Internal fan	Internal fan	Internal fan
<b>Other</b>						
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC


**Options**  
 \*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option


Front Access




Lightweight




Slim




Temp Monitoring




Smoke Monitoring




Voltage Monitoring




Remote Control




Easy To Install




Wide Angle




High Refresh Rate




Transparent




Noiseless




Calibration



Pixel Detection



Fanless



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LEDECA

# GALLERY



## ABOUT

Best fit for all kind of indoor LED wall projects with various design advantages



## MARKETS

- » Conference Hall
- » Retail
- » Indoor Advertisement
- » Entertainment
- » Guidance
- » Museum
- » Art Installations
- » Architectural
- » Interior Design
- » Meeting Room
- » Sports

## HIGHLIGHTS

- » Industry's thinnest design (down to 29mm)
- » Various design techniques supporting front/rear installation & maintenance
- » High precision aluminum moulding technology
- » Calibrated vivid colors to reach real visual experience



# FEATURES

## FEATURES



SMART  
SERIES

- » Power efficiency
- » Highest brightness in industry
- » Easy to design & install with various panel types
- » Compatible with LEDECA FREEFORM product family
- » Supports unordinary designs
- » Semi outdoor options



SMARTGAO  
SERIES

- » 16:9 ratio in industrial standard
- » Real black surface with highest contrast
- » MiniLED options for various pixel pitches
- » Low power consumption
- » Highest brightness in industry
- » Data & power redundancy option



COMPACT  
SERIES

- » Cost & performance optimized solution
- » High fidelity image

# GALLERY

THE MOST BRIGHT, VERSATILE AND RELIABLE INDOOR LED SCREENS FOR HIGH-LEVEL PROJECTS



RETAIL INSTALLATION  
FRANCE



Wide variety of cabinet sizes (including 16x9 ratio cabinets)

1000+ Nits brightness, high refresh rate

Fanless design without noise

Suitable for retail, corporate, meeting/conference room applications

Production level calibration for best color uniformity



İSTANBUL AIRPORT  
İSTANBUL / TÜRKİYE

	SMART	SMART	SMART	SMART	SMART	SMART
	LDSISP01.5GA	LDSISP01.9GA	LDSISP02.5GA	LDSISP02.9GA	LDSISP03.9GA	LDSISP02.5GAX
<b>General</b>						
Operating environment	indoor	indoor	indoor	indoor	indoor	semioutdoor
Pixel pitch	1.5mm	1.9mm	2.5mm	2.97mm	3.9mm	2.5mm
Service type	front access	front access	front access	front access	front access	front access
Calibrated brightness (nits)	900nits	900nits	900nits	900nits	900nits	3500nits
Lamp type	SMD	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>						
Module dimensions (mm)	250x250	250x250	250x250	250x250	250x250	250x250
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	160x160px	128x128px	100x100px	84x84px	64x64px	100x100px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
Module type	apparent	apparent	apparent	apparent	apparent	apparent
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer
<b>Panel Specifications</b>						
Panel material	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm)	500x250 / 500x750 / 500x500 / 500x1000 / 750x250 / 1000x250mm	500x250 / 500x750 / 500x500 / 500x1000 / 750x250 / 1000x250mm	500x250 / 500x750 / 500x500 / 500x1000 / 750x250 / 1000x250mm	500x250 / 500x750 / 500x500 / 500x1000 / 750x250 / 1000x250mm	500x250 / 500x750 / 500x500 / 500x1000 / 750x250 / 1000x250mm	500x1000
Panel depth	48mm	48mm	48mm	48mm	48mm	48mm
IP level	IP20 front, IP41 rear	IP20 front, IP41 rear	IP20 front, IP41 rear	IP20 front, IP41 rear	IP20 front, IP41 rear	IP20 front, IP41 rear
Panel resolution (for 1000x1000mm)	640x640px	512x512px	400x400px	336x336px	256x256px	400x400px
Pixel density (pcs/sqm)	409.600	262.144	160.000	112.896	65.536	160.000
Viewing angle (horizontal x vertical)	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°
Minimum viewing distance	>1.5m	>2m	>2.5m	>3m	>4m	>2.5m
Operating temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Storage temperature range	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50~60Hz	50~60Hz	50~60Hz	50~60Hz	50~60Hz	50~60Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan
<b>Other</b>						
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All Digital Formats	All Digital Formats	All Digital Formats	All Digital Formats	All Digital Formats	All Digital Formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Dead pixel monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES	YES
Power redundancy	Optional	Optional	Optional	Optional	Optional	Optional
Signal path backup	YES	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC

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LEDECA

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RETAIL INSTALLATION  
FRANCE



Wide variety of cabinet sizes (including 16x9 ratio cabinets)

1000+ Nits brightness, high refresh rate

Fanless design without noise

Suitable for retail, corporate, meeting/conference room applications

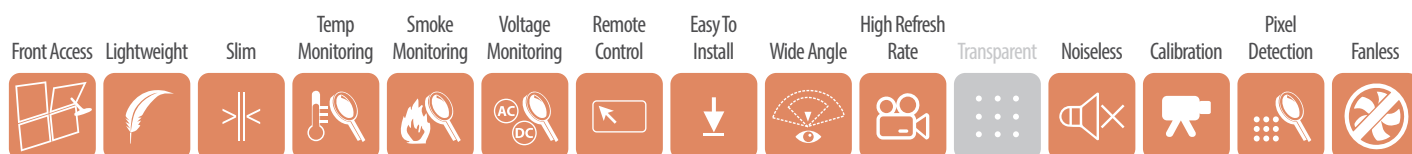
Production level calibration for best color uniformity



	SMART	SMART	SMART	SMART	SMART	SMART
	LDSISP01.5GA0	LDSISP01.9GA0	LDSISP01.9GA0Q	LDSISP02.6GA0	LDSISP02.6GA0Q	LDSISP02.6GA0X
<b>General</b>						
Operating environment	indoor	indoor	indoor	indoor	indoor	semioutdoor
Pixel pitch	1.5mm	1.9mm	1.9mm	2.6mm	2.6mm	2.6mm
Service type	front access	front access	front access	front access	front access	front access
Calibrated brightness (nits)	900nits	900nits	900nits	900nits	900nits	2500nits
Lamp type	SMD	SMD	4in1 MiniLED	SMD	4in1 MiniLED	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>						
Module dimensions (mm)	250x281	250x281	250x281	250x281	250x281	250x281
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	160x180px	128x144px	128x144px	96x108px	96x108px	96x108px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
Module type	apparent	apparent	apparent	apparent	apparent	apparent
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer
<b>Panel Specifications</b>						
Panel material	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm)	1000x562mm 45° 16.9	1000x562mm 45° 16.9	1000x562mm 45° 16.9	1000x562mm 45° 16.9	1000x562mm 45° 16.9	1000x562mm 45° 16.9
Panel depth	29mm	29mm	29mm	29mm	29mm	29mm
IP level	IP20 front, IP41 rear	IP20 front, IP41 rear	IP20 front, IP41 rear	IP20 front, IP41 rear	IP20 front, IP41 rear	IP20 front, IP41 rear
Panel resolution	640x360px	512x288px	512x288px	384x216px	384x216px	384x216px
Pixel density (pcs/sqm)	409.600	262.144	262.144	147.456	147.456	147.456
Viewing angle (horizontal x vertical)	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°
Minimum viewing distance	>1.5m	>2m	>2m	>2.5m	>2.5m	>2.5m
Operating temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Storage temperature range	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50~60Hz	50~60Hz	50~60Hz	50~60Hz	50~60Hz	50~60Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan
<b>Other</b>						
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All Digital Formats	All Digital Formats	All Digital Formats	All Digital Formats	All Digital Formats	All Digital Formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Dead pixel monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES	YES
Power redundancy	Optional	Optional	Optional	Optional	Optional	Optional
Signal path backup	YES	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC

\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option

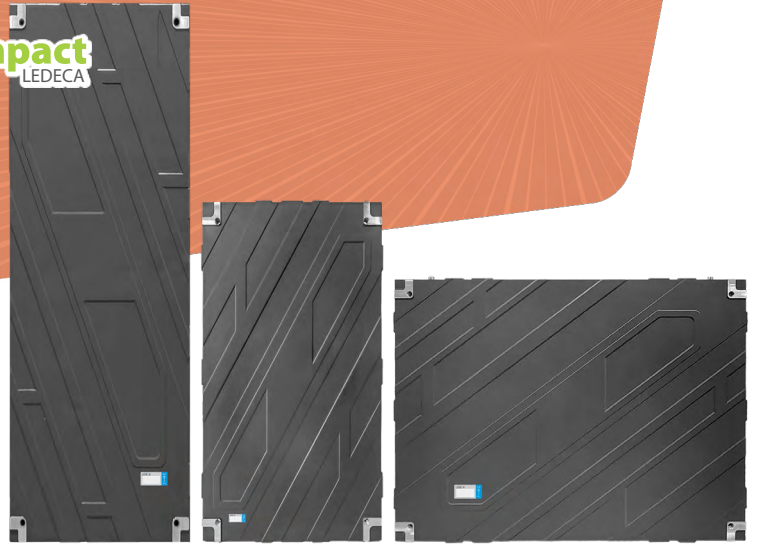


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# GALLERY

**COST EFFECTIVE AND DURABLE  
INDOOR LED SCREENS**

**BEST VALUE DUTY FREE**  
CLUJ / ROMANIA



Affordable and reliable product for retail industry

Right choice for multiple led screen applications

Fanless noiseless design

Easy to install, easy to adapt, easy to connect to DS network

Production level calibration for best color uniformity



**ROLAND GARROS LA GRANDE BOUTIQUE**  
PARIS / FRANCE

	COMPACT	COMPACT	COMPACT	COMPACT	COMPACT	COMPACT
	LDCISP01.5GA	LDCISP01.8GA	LDCISP02.0GA	LDCISP02.5GA	LDCISP03.0GA	LDCISP04.0GA
<b>General</b>						
Operating environment	indoor	indoor	indoor	indoor	indoor	indoor
Pixel pitch	1.5mm	1.86mm	2mm	2.5mm	3mm	4mm
Service type	front access	front access	front access	front access	front access	front access
Calibrated brightness (nits)	600nits	600nits	600nits	600nits	600nits	600nits
Lamp type	SMD	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>13bits	>13bits	>13bits	>13bits	>13bits	>13bits
Brightness control	256 level	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>						
Module dimensions (mm)	320x160	320x160	320x160	320x160	320x160	320x160
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	208x104px	172x86px	160x80px	128x64px	104x52px	80x40px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic	plastic	plastic	plastic	plastic	plastic
Module type	apparent	apparent	apparent	apparent	apparent	apparent
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>						
Panel material	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm)	640x480	640x480	640x480	640x480	640x480	640x480
IP level	IP20 front, IP40 rear	IP20 front, IP40 rear	IP20 front, IP40 rear	IP20 front, IP40 rear	IP20 front, IP40 rear	IP20 front, IP40 rear
Panel depth	54mm~75mm	54mm~75mm	54mm~75mm	54mm~75mm	54mm~75mm	54mm~75mm
Panel resolution	416x312px	344x258px	320x240px	256x192px	208x106px	160x120px
Pixel density (pcs/sqm)	422.500	288.906	250.000	160.000	105.625	62.500
Viewing angle (horizontal x vertical)	>170° x 170°	>170° x 170°	>170° x 170°	>170° x 170°	>170° x 170°	>170° x 170°
Minimum viewing distance	>1.5m	>1.8m	>2m	>2.5m	>3m	>4m
Operating temperature range	20°C ~ +50°C	20°C ~ +50°C	20°C ~ +50°C	20°C ~ +50°C	20°C ~ +50°C	20°C ~ +50°C
Storage temperature range	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110~240 VAC	110~240 VAC	110~240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50~60 Hz	50~60 Hz	50~60 Hz
Average power per sqm	<150W	<150W	<150W	<150W	<150W	<150W
Max power per sqm	<600W	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>						
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC

\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSUs at 100% brightness and white color content
- 3- Different types of video input available as option

Front Access  


Lightweight  


Slim  


Temp Monitoring  


Smoke Monitoring  


Voltage Monitoring  


Remote Control  


Easy To Install  


Wide Angle  


High Refresh Rate  


Transparent  


Noiseless  


Calibration  


Pixel Detection  


Fanless  


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# ULTRA



## ABOUT

The Ultra series is designed for fine-pitch LEDwall applications  
Seamless&Zero bezel integration instead conventional displays due to its 16:9 ratio



## MARKETS

- » Mission critical control room & command centers
- » Broadcast studios
- » Virtual set extension
- » Meeting rooms
- » Corporate projects
- » Digital art wall
- » High-end consumer displays
- » Museum
- » Interior design

## HIGHLIGHTS

- » High precision design (<0.01mm)
- » Cordless connection between LED panels & LED tiles
- » Optional data & power redundancy
- » High stability and durability for 24/7 operation
- » High contrast ratio & sensitive calibration for best color uniformity
- » Lowest power consumption with common-cathode design technics



# FEATURES

# FEATURES



ARMOUR  
SERIES



- » Flip-chip MicroLED technology
- » Auto reduced blue light adjustment for mission critical applications
- » Advanced contrast ratio
- » Advanced precision with aluminum frame
- » Low energy consumption and heat emission
- » Standard PSU & data redundancy
- » Glaze and smooth surface with dust and humidity protection
- » High contrast ratio & sensitive calibration for best color uniformity



SMART  
SERIES



- » Front & rear access
- » Higher precision with aluminum frame
- » Low energy consumption and heat emission
- » Optional PSU & data redundancy
- » High contrast ratio & sensitive calibration for best color uniformity



COMPACT  
SERIES



- » Cost & performance optimized solution
- » High precision with direct PCB
- » Optional PSU & data redundancy
- » High precision with aluminum frame

# ULTRA

FULL FLIP CHIP MICROLED SCREEN PANEL FOR HIGH PRECISION & HIGH DEFINITION LEDWALL PROJECTS



**MEETING ROOM**  
İSTANBUL / TÜRKİYE



- Ultra quality for ultra high definition requirements
- Optimized for meeting room and broadcast studio installations
- Fanless design without noise
- Super high gray scale and refresh rate
- High reliability and stability for 7/24 operation
- Special mask design to reduce moire effect in broadcast studio projects





	ARMOUR LDAISP00.9UL	ARMOUR LDAISP01.2UL	ARMOUR LDAISP01.5UL	ARMOUR LDAISP01.8UL
<b>General</b>				
Operating environment	indoor	indoor	indoor	indoor
Pixel pitch	0,93mm	1,25mm	1,56mm	1,87mm
Service type	front access	front access	front access	front access
Calibrated brightness (nits)	>600nits	>600nits	>600nits	>600nits
Lamp type	Flip Chip COB Micro LED	Flip Chip COB Micro LED	Flip Chip COB Micro LED	Flip Chip COB Micro LED
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.000K~8.500K	3.000K~8.500K	3.000K~8.500K	3.000K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level
<b>Module Specifications</b>				
Refresh frequency	3,840Hz	3,840Hz	3,840Hz	3,840Hz
LED drive method	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum
Module type	apparent	apparent	apparent	apparent
PCB type	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>				
Panel material	aluminum	aluminum	aluminum	aluminum
Panel dimensions 'mm' <sup>1</sup>	600x337,5	600x337,5	600x337,5	600x337,5
Diagonal size	27" [16,9]	27" [16,9]	27" [16,9]	27" [16,9]
Panel weight	<8kg	<8kg	<8kg	<8kg
Panel resolution	640x360px	480x270px	384x216px	320x180px
Pixel density (pcs/sqm)	1.137.777	640.000	409.600	276.676
Viewing angle (horizontal x vertical)	>175° x 175°	>175° x 175°	>175° x 175°	>175° x 175°
Minimum viewing distance	>1m	>1,2m	>1,5m	>1,8m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<80W	<80W	<80W	<80W
Max power per sqm	<400W	<400W	<400W	<400W
Active PFC	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>				
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>				
*The mechanical and electronic specification options are available.				

1- Panel dimensions can change upon customer request  
 2- That value is the remain capacity of PSU's at 100% brightness and white color content  
 3- Different types of video input available as option


Front Access  



Lightweight  


Slim  



Temp Monitoring  


Smoke Monitoring  



Voltage Monitoring  



Remote Control  



Easy To Install  


Wide Angle  



High Refresh Rate  


GOB  


Noiseless  


Calibration  


Pixel Detection  


Fanless  


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# ULTRA



SMALL PIXEL PITCH LED DISPLAYS FOR  
HIGH PRECISION & HIGH DEFINITION & HIGH  
RESOLUTION LED WALL PROJECTS



**QATAR TV**  
DOHA / QATAR



- Ultra quality for ultra high definition requirements
- Optimized for meeting room and broadcast studio installations
- Fanless design without noise
- Super high gray scale and refresh rate
- High reliability and stability for 7/24 operation
- Special mask design to reduce moire effect in broadcast studio projects



**TRT NEWS**  
ANKARA / TÜRKİYE

	SMART LDSISP00.9UL	SMART LDSISP01.2UL	SMART LDSISP01.5UL	SMART LDSISP01.8UL
<b>General</b>				
Operating environment	indoor	indoor	indoor	indoor
Pixel pitch	0,93mm	1,25mm	1,56mm	1,87mm
Service type	front access	front access	front access	front access
Calibrated brightness (nits)	>600nits	>600nits	>600nits	>600nits
Lamp type	Flip Chip COB Micro LED	Flip Chip COB Micro LED	Flip Chip COB Micro LED	Flip Chip COB Micro LED
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.000K~8.500K	3.000K~8.500K	3.000K~8.500K	3.000K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level
<b>Module Specifications</b>				
Refresh frequency	3,840Hz	3,840Hz	3,840Hz	3,840Hz
LED drive method	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum
Module type	apparent	apparent	apparent	apparent
PCB type	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>				
Panel material	aluminum	aluminum	aluminum	aluminum
Panel dimensions 'mm' <sup>1</sup>	600x337,5	600x337,5	600x337,5	600x337,5
Diagonal size	27" [16,9]	27" [16,9]	27" [16,9]	27" [16,9]
Panel weight	<8kg	<8kg	<8kg	<8kg
Panel resolution	640x360px	480x270px	384x216px	320x180px
Pixel density (pcs/sqm)	1.137.777	640.000	409.600	276.676
Viewing angle (horizontal x vertical)	>175° x 175°	>175° x 175°	>175° x 175°	>175° x 175°
Minimum viewing distance	>1m	>1,2m	>1,5m	>1,8m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<80W	<80W	<80W	<80W
Max power per sqm	<400W	<400W	<400W	<400W
Active PFC	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>				
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>				
*The mechanical and electronic specification options are available.				

1- Panel dimensions can change upon customer request  
 2- That value is the remain capacity of PSU's at 100% brightness and white color content  
 3- Different types of video input available as option

Front Access Lightweight Slim Temp Monitoring Smoke Monitoring Voltage Monitoring Remote Control Easy To Install Wide Angle High Refresh Rate GOB Noiseless Calibration Pixel Detection Fanless

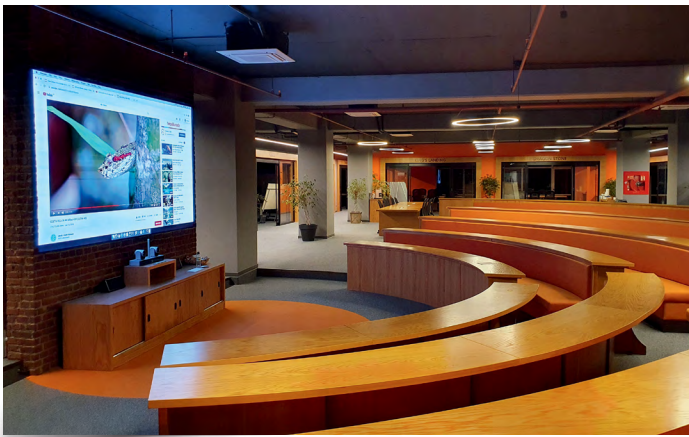
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# ULTRA Compact LEDECA

SMALL PIXEL PITCH LED DISPLAYS FOR HIGH RESOLUTION LED WALL PROJECTS



## JOTFORM AUDITORIUM ANKARA / TÜRKİYE



Ultra quality for ultra high definition requirements

Optimized for meeting room and broadcast studio installations

Fanless design without noise

Super high gray scale and refresh rate

High reliability and stability for 7/24 operation

Special mask design to reduce moire effect in broadcast studio projects




LOBBY  
İSTANBUL / TÜRKİYE

	COMPACT	COMPACT	COMPACT	COMPACT	COMPACT
	LDCISP00.9UL	LDCISP01.2UL	LDCISP01.5UL	LDCISP01.8UL	LDCISP02.5UL
<b>General</b>					
Operating environment	indoor	indoor	indoor	indoor	indoor
Pixel pitch	0.93mm	1.25mm	1.56mm	1.87mm	2.54mm
Service type	front access	front access	front access	front access	front access
Calibrated brightness (nits)	>600nits	>600nits	>600nits	>600nits	>600nits
Lamp type	4in1 MiniLED	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.000K~8.500K	3.000K~8.500K	3.000K~8.500K	3.000K~8.500K	3.000K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>					
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum	aluminum
Module type	apparent	apparent	apparent	apparent	apparent
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>					
Panel material	aluminum	aluminum	aluminum	aluminum	aluminum
Panel dimensions (mm) <sup>1</sup>	600x337.5	600x337.5	600x337.5	600x337.5	600x337.5
Diagonal size	27" [16.9]	27" [16.9]	27" [16.9]	27" [16.9]	27" [16.9]
Panel weight	<8kg	<8kg	<8kg	<8kg	<8kg
Panel resolution	640x360px	480x270px	384x216px	320x180px	240x135px
Pixel density (pcs/sqm)	1.137.777	640.000	409.600	284.444	160.000
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>1m	>1.2m	>1.5m	>1.9m	>2.5m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>					
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC

\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option

Front Access



Lightweight




Slim



Temp Monitoring



Smoke Monitoring



Voltage Monitoring




Remote Control



Easy To Install



Wide Angle



High Refresh Rate



Transparent



Noiseless



Calibration



Pixel Detection



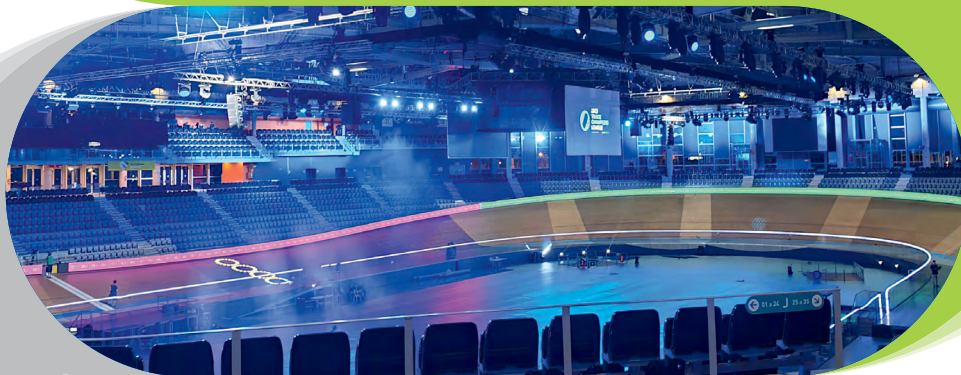
Fanless



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LEDECA

# ARENA



## ABOUT

Products designed specifically for indoor and outdoor sports venues



## MARKETS


- » Stadium
- » Sport Hall
- » Venue
- » Competition
- » Festival
- » Event

## HIGHLIGHTS

- » Wide viewing angle and sturdy surfaces
- » Patented mask designed to prevent injury to players
- » High refresh rate for optimum picture quality on camera
- » Easy to install and quick maintenance
- » Real-time live broadcasting, seamless cut-in ads




# FEATURES



**Armour**  
LEDECA

ARMOUR  
SERIES

- » UEFA compliant system design and engineering
- » Pixel by pixel fine tuning; system viewed as one single screen
- » EMC protection to EU standards; CE, ROHS, EN, TUV certified
- » Amphenol or Neutrik connectors IP67 for 240VAC, Power loss limited to one panel, Breaker in each panel, Heavy high flex rubber cabling for outdoor use
- » Module or panel change time of less than 1 minute without affecting the running of the system (hot-swappable)
- » Rubber louvers and rubber padding (impact protection) to protect players from injury on the top and the face of each module
- » System will allow access/emergency exit safety gates where necessary to comply with Local stadium regulations without interruption of signal



**Smart**  
LEDECA

SMART  
SERIES

- » UEFA compliant system design and engineering
- » Full redundant and accessible structure from anywhere
- » EMC protection to EU standards; CE, ROHS, EN, TUV certified
- » Amphenol or Neutrik connectors IP67 for 240VAC, Power loss limited to one panel, Breaker in each panel, Heavy high flex rubber cabling for outdoor use
- » Module or panel change time of less than 1 minute without affecting the running of the system (hot-swappable)
- » Rubber louvers and rubber padding (impact protection) to protect players from injury on the top and the face of each module
- » System will allow access/emergency exit safety gates where necessary to comply with Local stadium regulations without interruption of signal



**Compact**  
LEDECA

COMPACT  
SERIES

- » Cost & performance optimized solution
- » Adjustable viewing angle with stepped foot
- » Rubber louvers and rubber padding (impact protection) to protect players from injury on the top and the face of each module
- » No foot stand with rear angled support to avoid disruption to photographers
- » Control signal connection via two redundant feed points; data ring loop configured

# ARENA



DURABLE LED SCREENS FOR  
SPORT VENUE PROJECTS



TRABZONSPOR STADIUM  
TRABZON / TÜRKİYE



Customized wide viewing angle mask structure

Quick maintenance within 1.5 minutes module change period

High level vandalism protection with strong PC surface

Patented mask structure to prevent injuries

Strong aluminum structure with passive cooling



FENERBAHÇE STADIUM  
İSTANBUL / TÜRKİYE



COMPLIANT



COMPLIANT



COMPLIANT



COMPLIANT



COMPLIANT

	ARMOUR	ARMOUR	ARMOUR	ARMOUR	ARMOUR
	LDAISP06.2AR	LDAISP08.3AR	LDAISP10.0AR	LDAOSP10.0AR	LDAOSP12.5AR
<b>General</b>					
Operating environment	indoor	indoor	indoor	outdoor	outdoor
Pixel pitch	6.2mm	8.3mm	10mm	10mm	12.5mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	>1.500nits	>1.500nits	>1.500nits	>7.000nits	>7.000nits
Lamp type	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>					
Module dimensions (mm)	200x400	200x400	200x400	400x300	400x300
Refresh frequency	adjustable	adjustable	adjustable	adjustable	adjustable
Module resolution	32x64px	24x48px	20x40px	40x30px	32x24
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum	aluminum
Module type	sealed	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>					
Panel material	aluminum	aluminum	aluminum	aluminum	aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm)1	1.200x800	1.200x800	1.200x800	1.600x900	1.600x900
IP level	IP22 front and rear	IP22 front and rear	IP22 front and rear	IP67 front and rear	IP67 front and rear
Panel weight	<40kg	<40kg	<40kg	<40kg	<40kg
Panel resolution	192x128	144x96	120x80	160x90	128x72
Pixel density (pcs/sqm)	25.600	14.400	10.000	10.000	6.400
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>6m	>8m	>10m	>10m	>12m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	-15°C ~ +50°C	-15°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES
Load tolerance2	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>					
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources3	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, TUV, FCC	CE-EMC, CE-LVD, RoHS, TUV, FCC

\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option



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# ARENA

LED SCREENS OPTIMIZED FOR  
SPORT VENUES



**KIGALI ARENA**  
KIGALI / RWANDA



Customized wide viewing angle mask structure

Quick maintenance within 1.5 minutes module change period

High level vandalism protection with strong PC surface

Patented mask structure to prevent injuries

Strong aluminum structure with passive cooling



**GALATASARAY STADIUM**  
İSTANBUL / TÜRKİYE



COMPLIANT



COMPLIANT



COMPLIANT



COMPLIANT



COMPLIANT

	SMART	SMART	SMART	SMART	SMART
	LDSISP06.2AR	LDSISP08.3AR	LDSISP10.0AR	LDSOSP10.0AR	LDSOSP12.5AR
<b>General</b>					
Operating environment	indoor	indoor	indoor	outdoor	outdoor
Pixel pitch	6.2mm	8.3mm	10mm	10mm	12.5mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	>1.500nits	>1.500nits	>1.500nits	>7.000nits	>7.000nits
Lamp type	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>					
Module dimensions (mm)	200x400	200x400	200x400	400x300	400x300
Refresh frequency	adjustable	adjustable	adjustable	adjustable	adjustable
Module resolution	32x64px	24x48px	20x40px	40x30px	32x24
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)
Module type	sealed	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>					
Panel material	aluminum	aluminum	aluminum	aluminum	aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	1.200x800	1.200x800	1.200x800	1.600x900	1.600x900
IP level	IP22 front and rear	IP22 front and rear	IP22 front and rear	IP67 front and rear	IP67 front and rear
Panel weight	<40kg	<40kg	<40kg	<40kg	<40kg
Panel resolution	192x128	144x96	120x80	160x90	128x72
Pixel density (pcs/sqm)	25.600	14.400	10.000	10.000	6.400
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>6m	>8m	>10m	>10m	>12m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	-15°C ~ +50°C	-15°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>					
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, TUV, FCC	CE-EMC, CE-LVD, RoHS, TUV, FCC
<b>Options</b>					
*The mechanical and electronic specification options are available.					

1- Panel dimensions can change upon customer request

2- That value is the remain capacity of PSU's at 100% brightness and white color content

3- Different types of video input available as option



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# ARENA

LED SCREENS OPTIMIZED FOR  
SPORT VENUES



**KUZEYBORU SPORT CLUB**  
AKSARAY / TÜRKİYE



- Rubber louvers and rubber padding (impact protection)
- Cost effective LED screen panels for sport venues
- Customized wide viewing angle mask structure
- High level vandalism protection with strong PC surface
- Patented mask structure to prevent injuries
- Strong aluminum structure with passive cooling



**BOZSIK STADIUM**  
BUDAPEST / HUNGARY

	COMPACT	COMPACT	COMPACT	COMPACT	COMPACT
	LDCISP06.6AR	LDCISP08.0AR	LDCOSP06.6AR	LDCOSP08.0AR	LDCOSP10.0AR
<b>General</b>					
Operating environment	indoor	indoor	outdoor	outdoor	outdoor
Pixel pitch	6.6mm	8mm	6.6mm	8mm	10mm
Service type	rear access	rear access	rear access	rear access	rear access
Calibrated brightness (nits)	1.000nits	1.000nits	5.500nits	5.500nits	5.500nits
Lamp type	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>					
Module dimensions (mm)	320x160	320x160	320x160	320x160	320x160
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	48x24px	40x20px	48x24px	40x20px	32x16px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)
Module type	apparent	apparent	apparent	apparent	apparent
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>					
Panel material	galvanized steel sheet	galvanized steel sheet	aluminum	aluminum	aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm)1	960x960	960x960	960x960	960x960	960x960
IP level	IP22 front and rear	IP22 front and rear	IP67 front and IP54 rear	IP67 front and IP54 rear	IP67 front and IP54 rear
Panel weight	<40kg	<40kg	<40kg	<40kg	<40kg
Panel resolution	144x144	120x120	144x144	120x120	96x96
Pixel density (pcs/sqm)	22.500	15.625	22.500	15.625	10.000
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>6m	>8m	>6m	>8m	>10m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	-15°C ~ +50°C	-15°C ~ +50°C	-15°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES
Load tolerance2	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Internal fan	Internal fan	Internal fan	Internal fan	Internal fan
<b>Other</b>					
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources3	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC

\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option

Front Access



Lightweight



Slim



Temp Monitoring



Smoke Monitoring



Voltage Monitoring



Remote Control



Easy To Install



Wide Angle



High Refresh Rate



Transparent



Noiseless



Calibration



Pixel Detection



Fanless



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LEDECA

# STAGE



## ABOUT

Important events requires durable products . LEDECA STAGE product family brings you durable solutions with variety of products with different specifications and functions



## MARKETS

- » Event
- » Exhibition
- » Concert
- » Show
- » Congress

## HIGHLIGHTS

- » High durability for continuous installations
- » Quick installation , dismantling and loading
- » Suitable for one-man installation
- » Lightweight
- » Low power consumption at the highest brightness



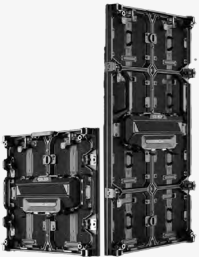
# FEATURES

## FEATURES



ARMOUR  
SERIES

- » Stainless steel corner and edge protection
- » -6 / +6 degrees curve lock
- » Pixel pitch starts from 1.8mm
- » Ladder function which support up to 100kg per person weight
- » Magnetic modules which support front & rear access
- » On site easy power & control box replacement in 10 seconds
- » HDR upgrade option
- » Suitable for on stack applications by panel body connections
- » ARC Design with Quarter Round Shape corner Panels



SMART  
SERIES

- » -10 / +10 degrees curve lock
- » Magnetic modules which supports front & rear access
- » 45 degree Cut Corner panel for all pixel pitches
- » On site easy power & control box replacement in 10 seconds
- » Pixel pitch starts from 2,6mm
- » One man installation with magnet on top panel design
- » Magnetic modules which support front & rear access
- » 45 degree cut corner panel availability for all pixel pitch
- » Suitable for on stack applications by panel body connections



COMPACT  
SERIES

- » Optional Corner protection aparat by finger control
- » -10 / +10 degrees curve lock
- » Rear access , optional Magnetic module applications for front access
- » Pixel pitch starts from 2,9mm
- » 45 degree Cut Corner panel for all pixel pitches
- » Optional power & control box
- » Pixel pitch starts from 2,9mm
- » 45 degree cut corner panel availability for all pixel pitch
- » Suitable for on stack applications by brackets

# STAGE



LED SCREENS FOR STAGE,  
EVENT AND RENTAL  
INDUSTRIES



## OUTDOOR EVENT MOSCOW/RUSSIA



- Quick maintenance within 20 seconds
- Small pixel pitch, 4in1 chip. and HDR options
- Aluminum structure with passive cooling and fanless design
- Advanced locking mechanism: One person alone can install the video wall
- Production level calibration for best color uniformity
- All models have 500x500mm panel options
- Strong structure supporting +6 and -6 degree curving
- Stainless steel corner and edge protection
- ARC Design with Quarter Round Shape corner Panels





## INDOOR EVENT İSTANBUL / TÜRKİYE


	ARMOUR	ARMOUR	ARMOUR	ARMOUR	ARMOUR	ARMOUR
	LDAISP01.95TQ	LDAISP02.65TQ	LDAISP02.95T	LDAISP03.95T	LDAOSP03.95T	LDAOSP04.85T
<b>General</b>						
Operating environment	indoor	indoor	indoor	indoor	outdoor	outdoor
Pixel pitch	1.9mm	2.6mm	2.9mm	3.9mm	3.9mm	4.8mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access	rear access	rear access
Calibrated brightness (nits)	800~1.000nits	1.000~1.500nits	1.000nits	1.000nits	4.500~5.000nits	4.500~5.000nits
Lamp type	4in1 MiniLED	4in1 MiniLED	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>						
Module dimensions (mm)	250x250	250x250	250x250	250x250	250x250	250x250
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	128x128px	96x96px	84x84px	64x64px	64x64px	52x52px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)
Module type	sealed	sealed	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>						
Panel material	die-casting aluminum	die-casting aluminum	die-casting aluminum	die-casting aluminum	die-casting aluminum	die-casting aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	500x500	500x500	500x500	500x500	500x1.000	500x1.000
IP level	IP22 front and rear	IP22 front and rear	IP22 front and rear	IP22 front and rear	IP54 front and rear	IP54 front and rear
Panel weight	<8kg	<8kg	<8kg	<8kg	<15kg	<15kg
Panel resolution	256x256px	192x192px	168x168px	128x128px	128x256px	104x208px
Pixel density (pcs/sqm)	262.144	147.456	112.896	65.536	65.536	43.264
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>2m	>2.6m	>3m	>4m	>4m	>5m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	-15°C ~ +50°C	-15°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Rental type	Rental type	Rental type	Rental type	Rental type	Rental type
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>						
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC


\*The mechanical and electronic specification options are available.


- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option


Front Access  



Lightweight  



Slim  



Temp Monitoring  



Smoke Monitoring  



Voltage Monitoring  



Remote Control  



Easy To Install  



Wide Angle  



High Refresh Rate  


Transparent  


Noiseless  


Calibration  


Pixel Detection  


Fanless  


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# STAGE



LED SCREENS FOR STAGE,  
EVENT AND RENTAL  
INDUSTRIES



## INDOOR EVENT PARIS / FRANCE



- Quick maintenance within 20 seconds
- One man installation with magnet on top panel design
- Aluminum structure with passive cooling and fanless design
- Reinforced module structure suitable for continuous disassembly and installation
- Production level calibration for best color uniformity
- All models have 500x500mm panel options
- Strong structure supporting +10 and -10 degree curving
- 45 degree Cut Corner panel for all pixel pitches
- Creative design installation




	SMART	SMART	SMART	SMART	SMART
	LDSISP02.6ST	LDSISP02.9ST	LDSISP03.9ST	LDSOSP03.9ST	LDSOSP04.8ST
<b>General</b>					
Operating environment	indoor	indoor	indoor	outdoor	outdoor
Pixel pitch	2,6mm	2,9mm	3,9mm	3,9mm	4,8mm
Service type	rear&front access	rear&front access	rear&front access	rear&front access	rear&front access
Calibrated brightness (nits)	>800nits	>800nits	>800nits	4.500nits	4.500nits
Lamp type	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>					
Module dimensions (mm)	250x250	250x250	250x250	250x250	250x250
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	96x96px	84x84px	64x64px	64x64px	52x52px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)
Module type	sealed	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>					
Panel material	die-casting aluminum	die-casting aluminum	die-casting aluminum	die-casting aluminum	die-casting aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	500*500	500x500 & 500x1.000	500x500 & 500x1.000	500x500 & 500x1.000	500x500 & 500x1.000
IP level	IP30 front and rear	IP30 front and rear	IP30 front and rear	IP65 front and IP54 rear	IP65 front and IP54 rear
Panel weight	7,9kg	7,9kg & 13kg	7,9kg & 13kg	8,5kg & 13,9kg	8,5kg & 13,9kg
Panel resolution	192x192px	172x172px & 172x344px	128x128px & 128x256	128x128px & 128x256	104x104px & 104x208px
Pixel density (pcs/sqm)	147.456px	118.336px	65.536px	65.536px	43.264px
Curve angle	+/-10	+/-10	+/-10	+/-10	+/-10
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>3m	>3m	>4m	>4m	>5m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	-15°C ~ +50°C	-15°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Rental type	Rental type	Rental type	Rental type	Rental type
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>					
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Manual	Manual	Manual	Manual	Manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional
Power saving mode	N/A	N/A	N/A	N/A	N/A
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC


**Options**  
 \*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option


Front Access




Lightweight




Slim




Temp Monitoring




Smoke Monitoring




Voltage Monitoring




Remote Control




Easy To Install




Wide Angle




High Refresh Rate




Transparent




Noiseless




Calibration



Pixel Detection



Fanless



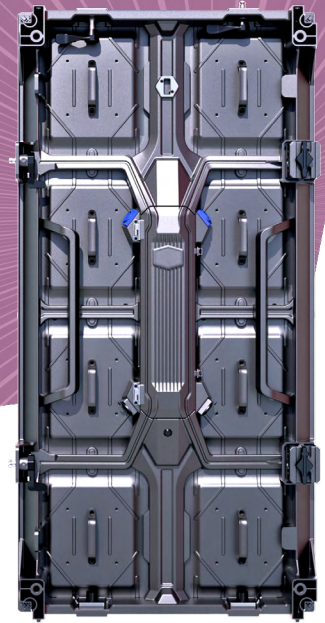
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LEDECA

# STAGE



LED SCREENS FOR STAGE,  
EVENT AND RENTAL  
INDUSTRIES



## INDOOR EVENT PARIS / FRANCE





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- Production level calibration for best color uniformity
- All models have 500x500mm panel options
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- 45 degree Cut Corner panel for all pixel pitches
- Creative design installation





	COMPACT	COMPACT	COMPACT	COMPACT
	LDCISP02.95T	LDCISP03.95T	LDCOSP02.95T	LDCOSP03.95T
<b>General</b>				
Operating environment	indoor	indoor	outdoor	outdoor
Pixel pitch	2.9mm	3.9mm	2.9mm	3.9mm
Service type	rear access	rear access	rear access	rear access
Calibrated brightness (nits)	600nits	600nits	4.000~4.500nits	4.000~4.500nits
Lamp type	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level
<b>Module Specifications</b>				
Module dimensions (mm)	250x250	250x250	250x250	250x250
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	86x86px	64x64px	86x86px	64x64px
LED drive method	dynamic	dynamic	dynamic	dynamic
Module material	plastic (PC)	plastic (PC)	plastic (PC)	plastic (PC)
Module type	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>				
Panel material	die-casting aluminum	die-casting aluminum	die-casting aluminum	die-casting aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	500x1.000	500x1.000	500x1.000	500x1.000
IP level	IP22 front and rear	IP22 front and rear	IP54 front and rear	IP54 front and rear
Panel weight	<15kg	<15kg	<15kg	<15kg
Panel resolution	172x344px	128x256px	172x344px	128x256px
Pixel density (pcs/sqm)	118.336	65.536	118.336	65.536
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>3m	>4m	>3m	>4m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	-15°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.
Panel installation type	Rental type	Rental type	Rental type	Rental type
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
Other				
<b>Max input resolution</b>				
	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>				
*The mechanical and electronic specification options are available.				


- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option


Front Access  



Lightweight  



Slim  



Temp Monitoring  


Smoke Monitoring  



Voltage Monitoring  



Remote Control  



Easy To Install  



Wide Angle  



High Refresh Rate  


Transparent  


Noiseless  


Calibration  


Pixel Detection  


Fanless  


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# LEDUP



## ABOUT

LEDUP is family of standardized plug & play and portable digital poster display



## MARKETS

- » Hospitality
- » Event
- » Digital signage
- » Wayfinding
- » Information
- » Advertisement
- » Rental
- » Corporate
- » Architectural element
- » Digital art

## HIGHLIGHTS

- » Plug & play and portable
- » Brighter and longer life than LCD indoor totems
- » Poster shape ideal for certain applications not possible with LCD
- » Easy to use content management over LAN, Wifi, or Cloud with built-in player
- » HDMI input for external media player connection
- » Single or multiple units usage by cascade connection
- » High brightness option up to 3500nits
- » Various installation choices: vertical, angled leg, hanging, wallmount
- » Customized and secured carry case for safe transportation



# FEATURES

## FEATURES



### SMART SERIES



- » Durable and robust structure in thin form
- » Optional enclosure colors (Limited with MOQ)
- » Easy to setup, less than 5 minutes
- » Easy to move, weight less than 35kg
- » Different size options:
  - 82" - 562x2.000mm
  - 85" - 845x2.000mm
  - 90" - 1.124x2.000mm (9x16 form factor, can be used as LCD replacement)All above size adjustable (Limited with MOQ)
- » MiniLED option available
- » Optional protective GOB layer on screen
- » Cable-free module connection
- » Optional semi-outdoor high bright LED



### COMPACT SERIES



- » Cost & performance optimized solution
- » Unit size is 640x1920mm (WxH)
- » Customized sizes available depends on MOQ
- » Durable and robust structure in thin form
- » Optional enclosure colors (Limited with MOQ)
- » Easy to setup, less than 5 minutes
- » Weight less than 55kg
- » Optional semi-outdoor high bright LED

# LEDUP

PLUG & PLAY LED SCREEN  
SOLUTIONS FOR INDOOR  
AND OUTDOOR PROJECTS



- Key solutions for lower operational cost
- No limit on advertisement content and change all content within 1 second
- Turnkey solution for OOH digital advertisement
- Integrated to centralized content management system
- Customization for size, shape and color available upon request



**SETUR DUTY FREE**  
İSTANBUL / TÜRKİYE


	INDOOR	INDOOR	INDOOR	SEMIOUTDOOR	INDOOR	INDOOR
	LUSISP01.5	LUSISP01.9	LUSISP02.6	LUSOSP02.6	LUCISP01.8	LUCOSP02.5
<b>General</b>						
Operating environment	indoor	indoor	indoor	semioutdoor	indoor	indoor
Pixel pitch	1.56mm	1.94mm	2.6mm	2.6mm	1.8mm	2.5mm
Service type	front access	front access	front access	front access	front access	front access
Calibrated brightness (nits)	900nits	900nits	900nits	2.500nits	600nits	600nits
Lamp type <sup>1</sup>	SMD	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>80.000hours	>80.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>14bits	>14bits
Brightness control	256 level	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>						
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic	plastic	plastic	plastic	plastic	plastic
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>						
Product material	Aluminum	Aluminum	Aluminum	Aluminum	Steel sheet	Steel sheet
Screen dimensions (mm)	281x2.000 <sup>(1)</sup>	281x2.000 <sup>(1)</sup>	281x2.000 <sup>(1)</sup>	281x2.000 <sup>(1)</sup>	640x1.920 <sup>(1)</sup> 960x1.920 <sup>(2)</sup>	640x1.920 <sup>(1)</sup> 960x1.920 <sup>(2)</sup>
	562x2.000 <sup>(2)</sup>	562x2.000 <sup>(2)</sup>	562x2.000 <sup>(2)</sup>	562x2.000 <sup>(2)</sup>		
	843x2.000 <sup>(3)</sup>	843x2.000 <sup>(3)</sup>	843x2.000 <sup>(3)</sup>	843x2.000 <sup>(3)</sup>		
	1.124x2.000 <sup>(4)</sup>	1.124x2.000 <sup>(4)</sup>	1.124x2.000 <sup>(4)</sup>	1.124x2.000 <sup>(4)</sup>		
Product depth	53mm	53mm	53mm	53mm	58mm	58mm
Diagonal Size	80 <sup>(1)</sup> 82 <sup>(2)</sup> 85 <sup>(3)</sup> 90 <sup>(4)</sup>	80 <sup>(1)</sup> 82 <sup>(2)</sup> 85 <sup>(3)</sup> 90 <sup>(4)</sup>	80 <sup>(1)</sup> 82 <sup>(2)</sup> 85 <sup>(3)</sup> 90 <sup>(4)</sup>	80 <sup>(1)</sup> 82 <sup>(2)</sup> 85 <sup>(3)</sup> 90 <sup>(4)</sup>	-	-
Aspect Ratio	2.25:16 <sup>(1)</sup>	2.25:16 <sup>(1)</sup>	2.25:16 <sup>(1)</sup>	2.25:16 <sup>(1)</sup>	5.3:16 <sup>(1)</sup> 8:16 <sup>(2)</sup>	5.3:16 <sup>(1)</sup> 8:16 <sup>(2)</sup>
	4.5:16 <sup>(2)</sup>	4.5:16 <sup>(2)</sup>	4.5:16 <sup>(2)</sup>	4.5:16 <sup>(2)</sup>		
	6.75:16 <sup>(3)</sup>	6.75:16 <sup>(3)</sup>	6.75:16 <sup>(3)</sup>	6.75:16 <sup>(3)</sup>		
	9:16 <sup>(4)</sup>	9:16 <sup>(4)</sup>	9:16 <sup>(4)</sup>	9:16 <sup>(4)</sup>		
IP Level	IP22/IP44	IP22/IP44	IP22/IP44	IP22/IP44	IP22/IP44	IP22/IP44
Product weight (~single side)	22kg <sup>(2)</sup> 38kg <sup>(2)</sup> 75kg <sup>(3)</sup> 95kg <sup>(4)</sup>	22kg <sup>(2)</sup> 38kg <sup>(2)</sup> 75kg <sup>(3)</sup> 95kg <sup>(4)</sup>	22kg <sup>(2)</sup> 38kg <sup>(2)</sup> 75kg <sup>(3)</sup> 95kg <sup>(4)</sup>	22kg <sup>(2)</sup> 38kg <sup>(2)</sup> 75kg <sup>(3)</sup> 95kg <sup>(4)</sup>	55kg <sup>(1)</sup> 82kg <sup>(2)</sup>	55kg <sup>(1)</sup> 82kg <sup>(2)</sup>
Screen resolution	180x1.280px <sup>(1)</sup>	144x1.024px <sup>(1)</sup>	108x768px <sup>(1)</sup>	108x768px <sup>(1)</sup>	336x1024px <sup>(1)</sup> 504x1024px <sup>(2)</sup>	256x768px <sup>(1)</sup> 384x768px <sup>(2)</sup>
	360x1.280px <sup>(2)</sup>	288x1.024px <sup>(2)</sup>	216x768px <sup>(2)</sup>	216x768px <sup>(2)</sup>		
	540x1.280px <sup>(3)</sup>	432x1.024px <sup>(3)</sup>	324x768px <sup>(3)</sup>	324x768px <sup>(3)</sup>		
	720x1.280px <sup>(4)</sup>	576x1.024px <sup>(4)</sup>	432x768px <sup>(4)</sup>	432x768px <sup>(4)</sup>		
Viewing angle (horizontal x vertical)	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°
Minimum viewing distance	>1.5m	>2m	>2.6m	>2.6m	>1.8m	>2.5m
Operating temperature range	-5°C ~ +45°C	-5°C ~ +45°C	-5°C ~ +45°C	-5°C ~ +45°C	-5°C ~ +45°C	-5°C ~ +45°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50~60Hz	50~60Hz	50~60Hz	50~60Hz	50~60Hz	50~60Hz
Average power	<105W~200W	<105W~200W	<105W~200W	<105W~200W	<105W~200W	<105W~200W
Max power	<360W~650W	<360W~650W	<360W~650W	<360W~650W	<360W~650W	<360W~650W
Active PFC	YES	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
Product color <sup>3</sup>	Grey (RAL 7016)	Grey (RAL 7016)	Grey (RAL 7016)	Grey (RAL 7016)	Grey (RAL 7016)	Grey (RAL 7016)
<b>Other</b>						
Internal player	YES	YES	YES	YES	YES	YES
Combined screen function	YES	YES	YES	YES	YES	YES
Installation type	Stand, hanging or wall mounting	Stand, hanging or wall mounting	Stand, hanging or wall mounting	Stand, hanging or wall mounting	Stand, hanging or wall mounting	Stand, hanging or wall mounting
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Dead pixel monitoring	N/A	N/A	N/A	N/A	N/A	N/A
Module monitoring	N/A	N/A	N/A	N/A	N/A	N/A
Temperature monitoring	YES	YES	YES	YES	YES	YES
Signal path backup	YES	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	CE-EMC, CE-LVD, RoHS,FCC	RoHS	RoHS


\*The mechanical and electronic specification options are available.


1- That value is the remain capacity of PSU's at 100% brightness and white color content


2- Available LED options are CREE [CR], NICHIA [NC], EVERLIGHT [EV], MULTICOLOR [MC], NATIONSTAR [NS]. Please check order code for details.


3- It's available to change product color with MOQ.


Front Access  



Lightweight  



Slim  



Temp Monitoring  



Smoke Monitoring  



Voltage Monitoring  



Remote Control  



Easy To Install  



Wide Angle  



High Refresh Rate  


Transparent  


Noiseless  


Calibration  


Pixel Detection  


Fanless  


Apron Teknoloji AS. reserves the right to change any product specification, discontinue of any product or services without prior notice

# FACADE



## ABOUT

Semi transparent light permeable LED displays for indoor and outdoor usage



## MARKETS

- » Retail
- » Banking
- » Corporate
- » Plazas
- » Architecture
- » Visitor Attraction
- » Congress Center

## HIGHLIGHTS

- » Lightweight, visible and offer multiple brightness options
- » Up to 70% high transparency contributes to a reduction in wind resistance
- » No cooling needed, silent running
- » Low rigging and transportation cost
- » Easy installation by one person

# FEATURES

## FEATURES



The image shows a perspective view of a white, three-dimensional brochure for the 'Armour Series'. On the left panel, there is a logo featuring a stylized hand holding a key, with the text 'Armour LEDECA' below it. Below the logo is a photograph of the 'Armour Series' LED lighting fixture, which consists of a grid of thin, parallel metal rods held together by vertical wires. The middle panel of the brochure has the words 'ARMOUR SERIES' written vertically in a large, grey, sans-serif font. The right panel is a light grey background with a list of features. At the bottom of the brochure, there is a solid orange horizontal bar.

**Armour**  
LEDECA

ARMOUR  
SERIES

- » Fully outdoor and made out of aluminum
- » Industrial transparent outdoor units, that are applied on the outdoor surface with steel ropes
- » Minimally intrusive on the architecture
- » Lightweight down to 14kg/sqm
- » No need to require massive complicated substructures
- » Up to %70 transparency
- » Made up of individual LED strips



The image shows a perspective view of a white, three-dimensional brochure for the 'Smart Series'. On the left panel, there is a logo featuring a stylized hand holding a key, with the text 'Smart LEDECA' below it. Below the logo is a photograph of the 'Smart Series' LED lighting fixture, which is a rectangular panel with a grid of small, square LED units. The middle panel of the brochure has the words 'SMART SERIES' written vertically in a large, grey, sans-serif font. The right panel is a light grey background with a list of features. At the bottom of the brochure, there is a solid blue horizontal bar.

**Smart**  
LEDECA

SMART  
SERIES

- » Different product types according to the transparency ratio
- » Indoor, semi-outdoor and outdoor
- » Can be mounted on a frame or hanged from ceiling
- » Up to %85 transparency
- » Optional GOB protection on LED strips



The image shows a perspective view of a white, three-dimensional brochure for the 'Compact Series'. On the left panel, there is a logo featuring a stylized hand holding a key, with the text 'Compact LEDECA' below it. Below the logo is a photograph of the 'Compact Series' LED lighting fixture, which is a rectangular panel with a grid of small, square LED units. The middle panel of the brochure has the words 'COMPACT SERIES' written vertically in a large, grey, sans-serif font. The right panel is a light grey background with a list of features. At the bottom of the brochure, there is a solid green horizontal bar.

**Compact**  
LEDECA

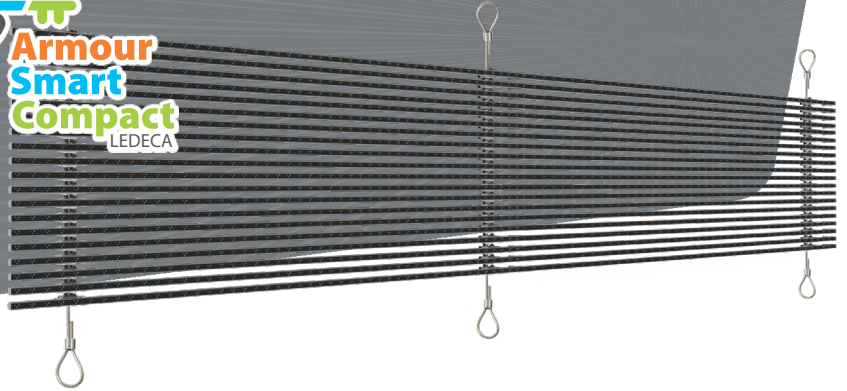
COMPACT  
SERIES

- » Different product types according to the transparency ratio
- » Indoor, semi-outdoor and outdoor
- » Can be mounted on a frame or hanged from ceiling
- » Up to %85 transparency
- » Optional GOB protection on LED strips

# FACADE



TRANSPARENT LED CURTAIN  
FOR ARCHITECTURAL FACADE  
APPLICATIONS



**INSTREET**  
İSTANBUL / TÜRKİYE



- Right choice for facades with front or rear access
- Intelligent construction for ultra-thin frame depth
- Lightweight for easy adaptation and low cost framework design
- The right solution for architectural and facade installations
- Improved mask structure that increases viewing angle



**SELÇUKLU CONGRESS CENTER**  
KONYA / TÜRKİYE

	SMART	SMART	SMART	SMART	SMART	SMART	SMART	ARMOUR	ARMOUR
	LDSISP02.6/5.2FA	LDSISP02.8/5.6FA	LDSISP3.9/7.8FA	LDSOSP3.9/7.8FA	LDSISP5.2/10.4FA	LDSISP10.4FA	LDSISP15.6FA	LDAOTP25.0FA	LDAOTP42.5FA

General

Operating environment	indoor and semi outdoor	indoor and semi outdoor	indoor and semi outdoor	outdoor	outdoor	outdoor	outdoor	outdoor	outdoor
Pixel pitch	2.6(H)/5.2mm(V)	2.6(H)/5.2mm(V)	3.9(H)/7.8mm(V)	3.9(H)/7.8mm(V)	5.2(H)/10.41m-m(V)	10.41mm	15.6mm	25mm	42.5mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	3.200nits	4.000nits	4.000nits	4.500nits	4.500nits	4.500nits	4.500nits	7.000nits	6.500nits
Lamp type	SMD	SMD	SMD	SMD	SMD	SMD	SMD	DIP	DIP
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level	256 level	256 level	256 level	256 level

Module Specifications

Module dimensions (mm)	500x125	500x125	500x125	500x250	500x250	500x250	500x125	2.700x10	3.060x10
Refresh frequency	1.920Hz	1.920Hz	1.920Hz	3.840Hz	1.920Hz	1.920Hz	1.920Hz	adjustable	adjustable
Module resolution	192x24px	178x22px	128x16px	128x32px	96x24px	48x24px	32x8px	108x1px	72x1px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
Module type	sealed	sealed	sealed	sealed	sealed	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal	humiseal	humiseal	humiseal	humiseal

Panel Specifications

Panel material	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum	aluminum strip	aluminum strip
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	1.000x500	1.000x500	1.000x500	1.000x500	1.000x500	1.000x500	1.000x500	adjustable	adjustable
IP level	IP54 front and rear	IP54 front and rear	IP54 front and rear	IP54 front and rear	IP54 front and rear	IP54 front and rear	IP54 front and rear	IP65 front and rear	IP66 front and rear
Transparency ratio	52%	55%	60%	55%	60%	60%	70%	~46%	~70%
Panel weight	<20kg	<20kg	<20kg	<20kg	<20kg	<20kg	<20kg	-	-
Panel resolution	384x96px	356x88px	256x64px	256x64px	192x48px	96x48px	64x32px	108 (per strip)	72 (per strip)
Pixel density (pcs/sqm)	73.728	62.656	32.768	32.768	18.432	9.216	4.096	1.600	555
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>4m	>4m	>5m	>5m	>7m	>10m	>15m	>25m	>40m
Operating temperature range	-5°C ~ +50°C	-5°C ~ +50°C	-5°C ~ +50°C	-5°C ~ +50°C	-5°C ~ +50°C	-5°C ~ +50°C	-5°C ~ +50°C	-15°C ~ +50°C	-15°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<100W	<100W	<100W	<100W	<100W	<100W	<100W	<100W	<100W
Max power per sqm	<600W	<600W	<600W	<600W	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Rental type	Rental type	Rental type	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
















Other

Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC

Options

\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option

Front Access	Lightweight	Slim	Temp Monitoring	Smoke Monitoring	Voltage Monitoring	Remote Control	Easy To Install	Wide Angle	High Refresh Rate	Transparent	Noiseless	Calibration	Pixel Detection	Fanless
														

Apron Teknoloji AS. reserves the right to change any product specification, discontinue of any product or services without prior notice

# DOOH



## ABOUT

DOOH (Digital Out of Home) are standardized outdoor advertisement or messaging products standardized the digital city furnitures for outdoor advertising



## MARKETS

- » Outdoor advertising
- » Digital signage
- » Outdoor signage
- » Public address/messaging

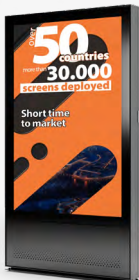
## HIGHLIGHTS

- » Higher brightness and longer life compared to outdoor LCDs | Instead ---> | High brightness and clearly visible in direct sunlight
- » The housing is treated with electrostatic paint, and is resistant to corrosion
- » Custom color schemes and branding options are available for all models.
- » Single sided - double sided options are available
- » One side can be provided with static advertisement surface
- » All connection points and hinge details are hidden inside of the housing to avoid corrosion.
- » Internal locks provide hidden protection against vandalism and secure doors.
- » Features LED control unit with embedded media player/wifi/LAN/GSM, and support vesa mount PC
- » Auto brightness adjustment by light ambient sensor
- » High IP level protection for all weather conditions
- » Energy-friendly and long life time



# FEATURES

# FEATURES



ARMOUR  
SERIES

- » P2.2mm pitch highest in the market
- » Fully aluminum panel & module with the sealed type
- » Adjustable screen size in multiple of 250x250mm module dimensions
- » The housing is made out of steel and aluminum, with vandal-resistant tempered glass doors.
- » The housing is resistant to water and dust ingress
- » Gas spring provides easy service and locking of the door for safe maintenance of the structure.
- » Landscape and portrait format options available
- » Features sufficient internal space for controller, energy analyzer, 3G modem, monitoring device

# DOOH

PROFESSIONAL PLUG & PLAY  
DIGITAL-OUT-OF-HOME PRODUCTS

1000x1750

**DOOH**  
BODRUM / TÜRKİYE



1500x2500

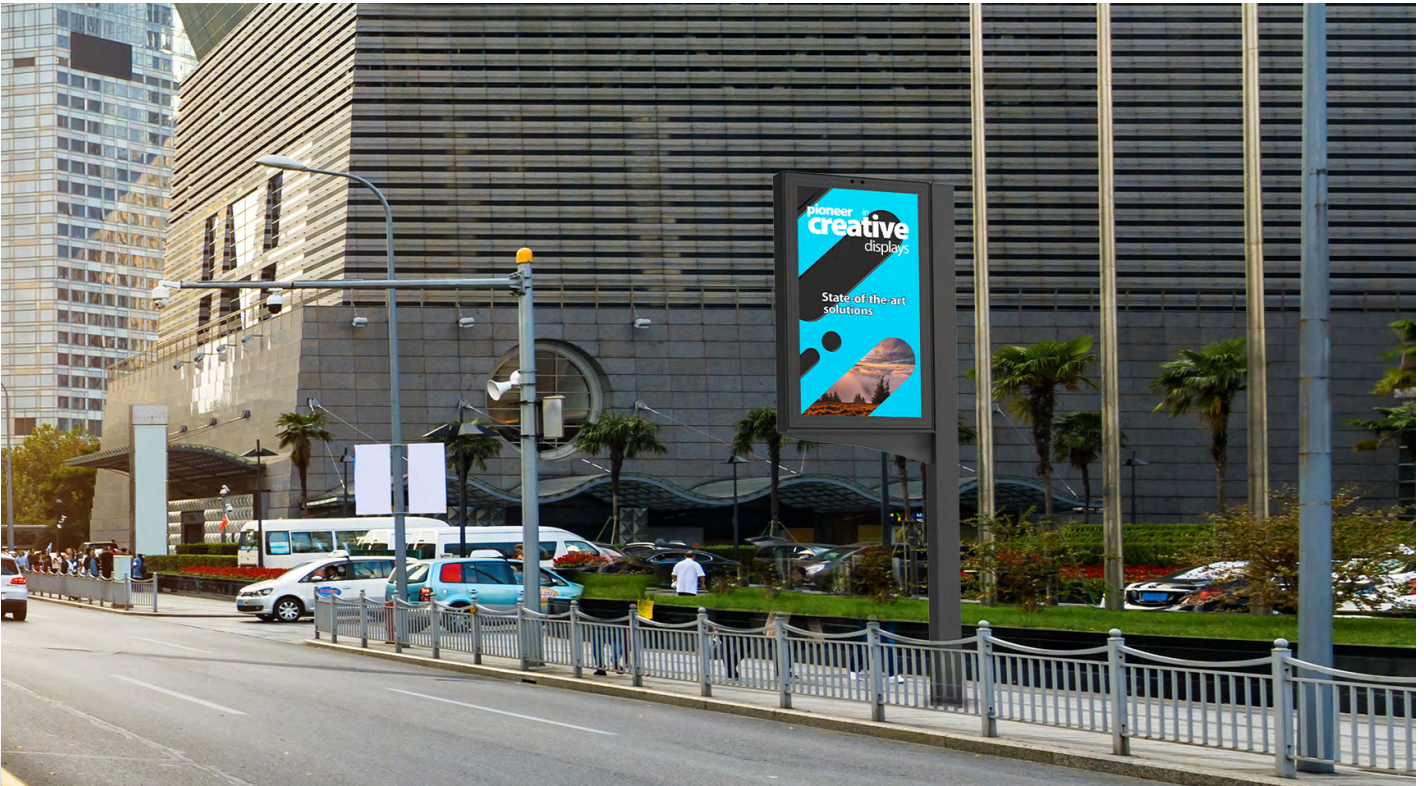
1000x1750

Centralized content management and lower operational cost

Limitless advertisement content management


Turnkey solution for DOOH digital advertisement


Customization for size, shape and color availability on request





	1.080 x 1.920 mm	1.000 x 1.750 mm		1.500 x 2.500 mm	
	DHAOSP01.8	DHAOSP02.9	DHAOSP03.9	DHAOSP02.9	DHAOSP03.9
<b>General</b>					
Operating environment	outdoor	outdoor	outdoor	outdoor	outdoor
Pixel pitch	1.8mm	2.9mm	3.9mm	2.9mm	3.9mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	>3.650nits	>4.500nits	>5.500nits	>4.500nits	>5.500nits
Lamp type	Flip-Chip Micro	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>14bits	>14bits	>14bits	>14bits
Brightness control	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>					
Module dimensions (mm)	160x180	250x250	500x250	250x250	500x250
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	88x100	86x86	128x64	86x86	128x64
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum	aluminum
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	UV protected film	humiseal	humiseal	humiseal	humiseal
<b>Product Specifications</b>					
Optional double side	YES	YES	YES	YES	YES
Product material (housing)	steel & aluminum	steel & aluminum	steel & aluminum	steel & aluminum	steel & aluminum
Product material (screen cover)	without glass	without glass	without glass	without glass	without glass
Enclosure dimensions (mm) (width x height x depth)	1.315x2.782x255	1.235x2.612x255	1.235x2.612x255	1.732x3.360x255	1.732x3.360x255
IP level	IP65	IP65	IP65	IP65	IP65
Screen resolution	600x1066px	344x602px	256x448px	516x860px	384x640px
Viewing angle (horizontal x vertical)	>160° x 160°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>2m	>3m	>4m	>3m	>4m
Operating temperature range	-15°C ~ +45°C	-15°C ~ +45°C	-15°C ~ +45°C	-15°C ~ +45°C	-15°C ~ +45°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50~60Hz	50~60Hz	50~60Hz	50~60Hz	50~60Hz
Active PFC	YES	YES	YES	YES	YES
Load tolerance	25% min.	25% min.	25% min.	25% min.	25% min.
Cooling	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan	Passive cooling without fan
Standard product color	Grey (RAL 7016)	Grey (RAL 7016)	Grey (RAL 7016)	Grey (RAL 7016)	Grey (RAL 7016)
<b>Other</b>					
Combined screen function	Optional	Optional	Optional	Optional	Optional
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Dead pixel monitoring	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>					
Internal player	YES	YES	YES	YES	YES


\*Time synchronization is used to synchronize the time of contents on multiple DOOH.  
 \*The mechanical and electronic specification options are available.


Front Access  



Lightweight  



Slim  



Temp Monitoring  



Smoke Monitoring  



Voltage Monitoring  



Remote Control  



Easy To Install  



Wide Angle  



High Refresh Rate  


Transparent  


Noiseless  


Calibration  


Pixel Detection  


Fanless  


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# FREEFORM



## ABOUT

Flexible Led video products for various applications

Tailor made project approach from design, mockup, production and implementation



## MARKETS

- » Digital Art wall
- » Digital sculpture
- » Museums
- » Retail
- » Architectural
- » Visitor attraction

## HIGHLIGHTS

- » Unique and non-standard shapes are possible
- » Under construction included
- » Solution based approach - turnkey design and planning

# FEATURES

## FEATURES



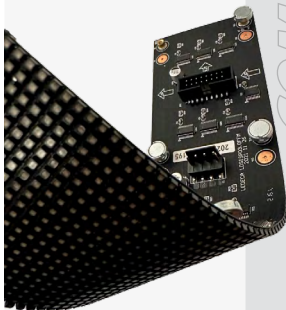
### SMART SERIES



- » Integration compatibility with LEDECA GALLERY SMART product family
- » Supports diameter down to 850 mm
- » Single-axis bendable form



### COMPACT SERIES



- » Biaxial (two axis) bendable form
- » Patented and unique electronic design
- » Extensive library with great variety of LED tile design
- » Lowest in industry, supports diameter down to 300 mm

# FREEFORM



FLEXIBLE INDOOR AND OUTDOOR  
LED SCREENS FOR CURVED AND  
IRREGULAR SHAPED PROJECTS



VODAFONE PARK  
İSTANBUL / TÜRKİYE



Suitable for any kind of convex or concave installations

Intelligent construction for ultra-thin frame depth

Lightweight for easy adaptation and low cost framework design

Improved mask structure that increases viewing angle

Special framework design and production available




BROADCASTING STUDIO  
İSTANBUL / TÜRKİYE

	SMART LDSISP01.9FF	SMART LDSISP02.6FF	SMART LDSISP03.9FF	SMART LDSOSP02.9FF	SMART LDSOSP03.9FF	SMART LDSOSP04.8FF
<b>General</b>						
Operating environment	indoor	indoor	indoor	outdoor	outdoor	outdoor
Pixel pitch	1.9mm	2.6mm	3.9mm	2.9mm	3.9mm	4.8mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	700nits	900nits	900nits	4.000nits	5.000nits	5.000nits
Lamp type	SMD	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>						
Module dimensions (mm)	250x250	250x250	250x250	250x250	250x250	250x250
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	128x128px	96x96px	64x64px	84x84px	64x64px	52x52px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic (el)	plastic (el)	plastic (el)	plastic (el)	plastic (el)	plastic (el)
Module type	freeform	freeform	freeform	freeform	freeform	freeform
PCB type	multilayer thin film	multilayer thin film	multilayer thin film	multilayer thin film	multilayer thin film	multilayer thin film
PCB surface coating	tape film	tape film	tape film	tape film	tape film	tape film
<b>Panel Specifications</b>						
Panel material	steel	steel	steel	steel	steel	steel
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	adjustable	adjustable	adjustable	adjustable	adjustable	adjustable
IP level	IP40 front IP20 rear	IP40 front IP20 rear	IP40 front IP20 rear	IP67 front IP65 rear	IP67 front IP65 rear	IP67 front IP65 rear
Minimum curving diameter (mm)	850	850	850	850	850	850
Panel resolution	adjustable	adjustable	adjustable	adjustable	adjustable	adjustable
Pixel density (pcs/sqm)	262.144	147.456	65.536	112.896	65.536	43.264
Viewing angle (horizontal x vertical)	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°	>160° x 140°
Minimum viewing distance	>2m	>2.6m	>4m	>3m	>4m	>5m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<150W	<150W	<150W
Max power per sqm	<600W	<600W	<600W	<650W	<650W	<650W
Active PFC	YES	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>						
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC


\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option


Front Access




Lightweight




Slim




Temp Monitoring




Smoke Monitoring




Voltage Monitoring



Remote Control




Easy To Install



Wide Angle



High Refresh Rate



Transparent




Noiseless




Calibration



Pixel Detection



Fanless



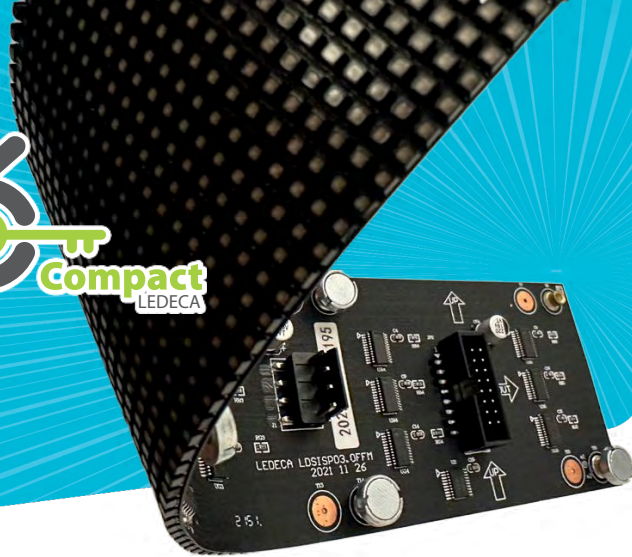
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LEDECA

# FREEFORM



FLEXIBLE INDOOR AND OUTDOOR  
LED SCREENS FOR CURVED AND  
IRREGULAR SHAPED PROJECTS



**PIAZZA MALL**  
İSTANBUL / TÜRKİYE



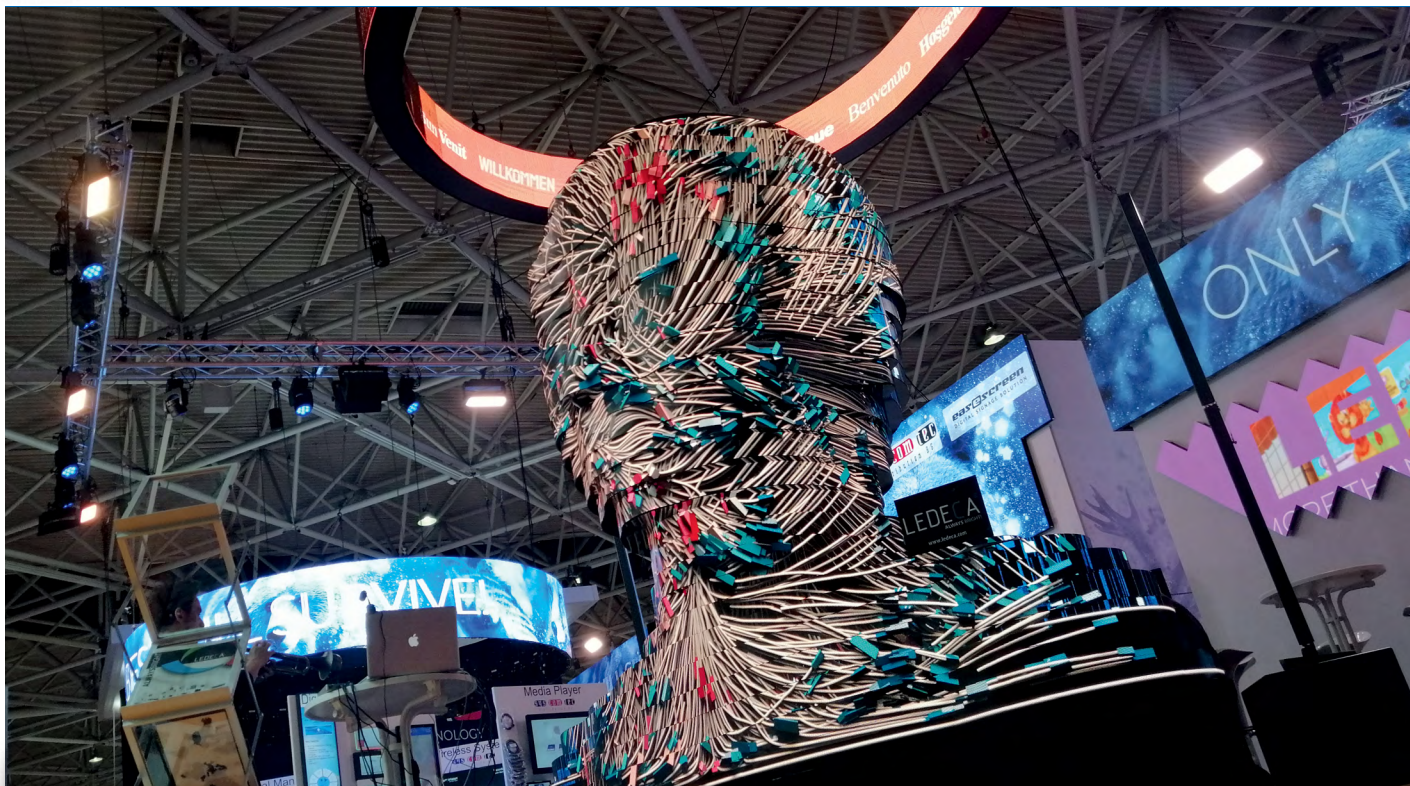
Suitable for any kind of convex or concave installations

Intelligent construction for ultra-thin frame depth

Lightweight for easy adaptation and low cost framework design

Improved mask structure that increases viewing angle

Special framework design and production available

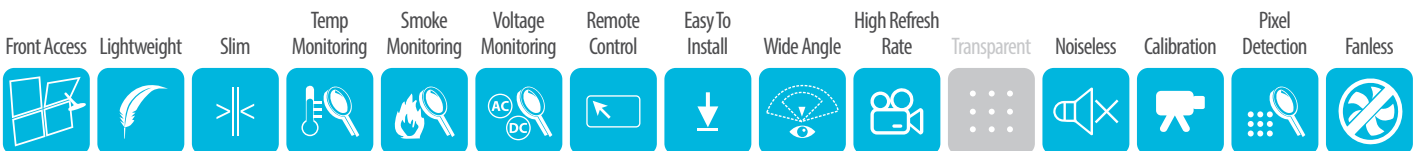


**LEDECA DIGITAL SCULPTURE**  
AMSTERDAM / NETHERLAND



	COMPACT	COMPACT	COMPACT	COMPACT	COMPACT
	LDCISP01.2FF	LDCISP01.5FF	LDCISP01.8FF	LDCISP02.5FF	LDCISP03.0FF
<b>General</b>					
Operating environment	indoor	indoor	indoor	indoor	indoor
Pixel pitch	1.2mm	1.5mm	1.8mm	2.5mm	3mm
Service type	front and rear access	front and rear access	front and rear access	front and rear access	front and rear access
Calibrated brightness (nits)	600nits	600nits	600nits	600nits	600nits
Lamp type	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>16bits	>16bits	>16bits	>16bits	>16bits
Brightness control	256 level	256 level	256 level	256 level	256 level
<b>Module Specifications</b>					
Module dimensions (mm)	240x120	240x120	240x120	240x120	240x120
Refresh frequency	3.840Hz	3.840Hz	3.840Hz	3.840Hz	3.840Hz
Module resolution	200x100px	160x80px	128x64px	96x48px	80x40px
LED drive method	dynamic	dynamic	dynamic	dynamic	dynamic
Module material	plastic (el.)	plastic (el.)	plastic (el.)	plastic (el.)	plastic (el.)
Module type	freeform	freeform	freeform	freeform	freeform
PCB type	multilayer thin film	multilayer thin film	multilayer thin film	multilayer thin film	multilayer thin film
PCB surface coating	tape film	tape film	tape film	tape film	tape film
<b>Panel Specifications</b>					
Panel material	steel	steel	steel	steel	steel
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm) <sup>1</sup>	adjustable	adjustable	adjustable	adjustable	adjustable
IP level	IP22 front and rear	IP22 front and rear	IP22 front and rear	IP40 front IP20 rear	IP40 front IP20 rear
Minimum curving diameter (mm)	300	300	300	300	300
Panel resolution	adjustable	adjustable	adjustable	adjustable	adjustable
Pixel density (pcs/sqm)	640.000	400.000	284.444	160.000	111.111
Viewing angle (horizontal x vertical)	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°	>120° x 120°
Minimum viewing distance	>1.2m	>1.5m	>1.8m	>2.5m	>3m
Operating temperature range	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C	0°C ~ +50°C
Storage temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<120W	<120W	<120W	<120W	<120W
Max power per sqm	<600W	<600W	<600W	<600W	<600W
Active PFC	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>					
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>3</sup>	All digital formats	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>					
*The mechanical and electronic specification options are available.					

1- Panel dimensions can change upon customer request  
 2- That value is the remain capacity of PSU's at 100% brightness and white color content  
 3- Different types of video input available as option

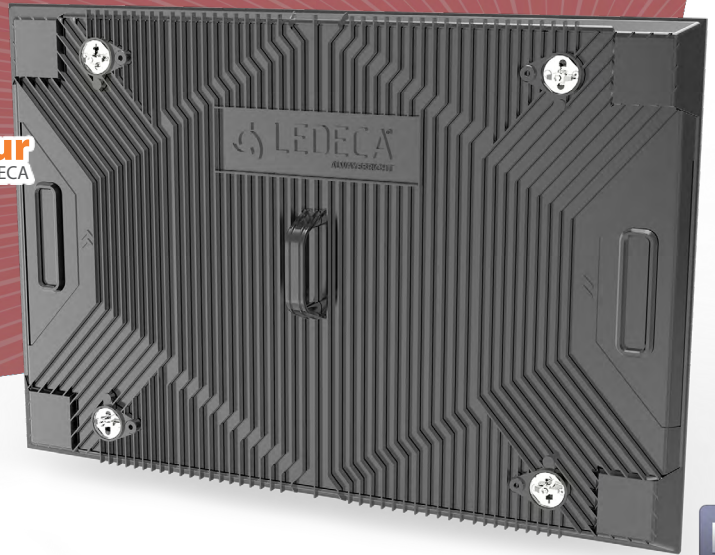


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# TRAFFIC



DIGITAL VARIABLE MESSAGE  
AND TRAFFIC SIGNS FOR TRAFFIC  
INDUSTRY



**VARIABLE MESSAGE SIGN**  
KONYA / TÜRKİYE



**EN**  
EN12966  
COMPLIANT

- EN 12966 compliance
- Intelligent structure for remote monitoring
- SMD LED with Optical Lens design
- Supports LED failure detection
- Real-Time monitoring system and feedback system support
- Power supply redundant support
- Optical lens made of anti-UV PC material, avoiding yellowing on the lens
- No louver design, preventing snow from piling up in bad weather



**VARIABLE MESSAGE SIGN**  
BURSA / TÜRKİYE

	ARMOUR	ARMOUR	ARMOUR	ARMOUR	ARMOUR
	LDAOTP10.OXT	LDAOTP12.OXT	LDAOTP15.OCL	LDAOTP20.OXT	LDAOTP30.OXT
<b>General</b>					
Operating environment	outdoor	outdoor	outdoor	outdoor	outdoor
Pixel pitch	10mm	12mm	15mm	20mm	30mm
Service type	rear access	rear access	rear access	front and rear access	rear access
Calibrated brightness (nits)	L3	L3	L3	L3	L3
Lamp type	SMD	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours	>100.000hours
Color coordinates	C2	C2	C2	C2	C2
Contrast ratio	R3	R3	R3	R3	R3
Beam Width	B6	B6	B6	B6	B6
Brightness control	100 level	100 level	100 level	100 level	100 level
<b>Module Specifications</b>					
Module dimensions (mm)	240x120	240x180	120x240	160x320	240x240
Refresh frequency	adjustable	adjustable	adjustable	adjustable	adjustable
Module resolution	24x12px	20x15px	8x16px	8x16px	8x8px
LED drive method	static	static	static	static	static
Module material	PC&Fiberglass	PC&Fiberglass	PC&Fiberglass	PC&Fiberglass	PC&Fiberglass
Module type	sealed	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>					
Panel material	aluminum	aluminum	aluminum	aluminum	aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions 'mm'*	adjustable	adjustable	adjustable	adjustable	adjustable
IP level	P3	P3	P3	P3	P3
Panel weight	adjustable	adjustable	adjustable	adjustable	adjustable
Panel resolution	adjustable	adjustable	adjustable	adjustable	adjustable
Pixel density (pcs/sqm)	10.000	6.889	4.356	2.500	1089
Communication way	RS485,RS232,RJ45,Profibus	RS485,RS232,RJ45,Profibus	RS485,RS232,RJ45,Profibus	RS485,RS232,RJ45,Profibus	RS485,RS232,RJ45,Profibus
Communication protocol	NTCIP	NTCIP	NTCIP	NTCIP	NTCIP
Operating temperature range	T3	T3	T3	T3	T3
Storage temperature range	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C
Operating humidity	10% ~ 95% non-condensing	10% ~ 95% non-condensing	10% ~ 95% non-condensing	10% ~ 95% non-condensing	10% ~ 95% non-condensing
Power input voltage	100~260 VAC	100~260 VAC	100~260 VAC	100~260 VAC	100~260 VAC
Power input frequency	50~60 Hz	50~60 Hz	50~60 Hz	50~60 Hz	50~60 Hz
Average power per sqm	<350W	<350W	<350W	<350W	<350W
Max power per sqm	<650W	<650W	<650W	<650W	<650W
Active PFC	YES	YES	YES	YES	YES
Load tolerance <sup>2</sup>	25% min.	25% min.	25% min.	25% min.	25% min.
Cooling	passive cooling	passive cooling	passive cooling	passive cooling	passive cooling
Compliance	EN12966	EN12966	EN12966	EN12966	EN12966
<b>Other</b>					
Max input resolution	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable
Standard video sources <sup>3</sup>	N/A	N/A	N/A	N/A	N/A
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	YES	YES	YES	YES	YES
Module monitoring	YES	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES	YES
Power redundancy	YES	YES	YES	YES	YES
Signal path backup	YES	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES	YES
Power on/off scheduling	YES	YES	YES	YES	YES
Power saving mode	YES	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, TUV, EN12966, FCC	CE-EMC, CE-LVD, RoHS, TUV, EN12966, FCC	CE-EMC, CE-LVD, RoHS, TUV, EN12966, FCC	CE-EMC, CE-LVD, RoHS, TUV, EN12966, FCC	CE-EMC, CE-LVD, RoHS, TUV, EN12966, FCC

**Options**

\*The mechanical and electronic specification options are available.

- 1- Panel dimensions can change upon customer request
- 2- That value is the remain capacity of PSU's at 100% brightness and white color content
- 3- Different types of video input available as option

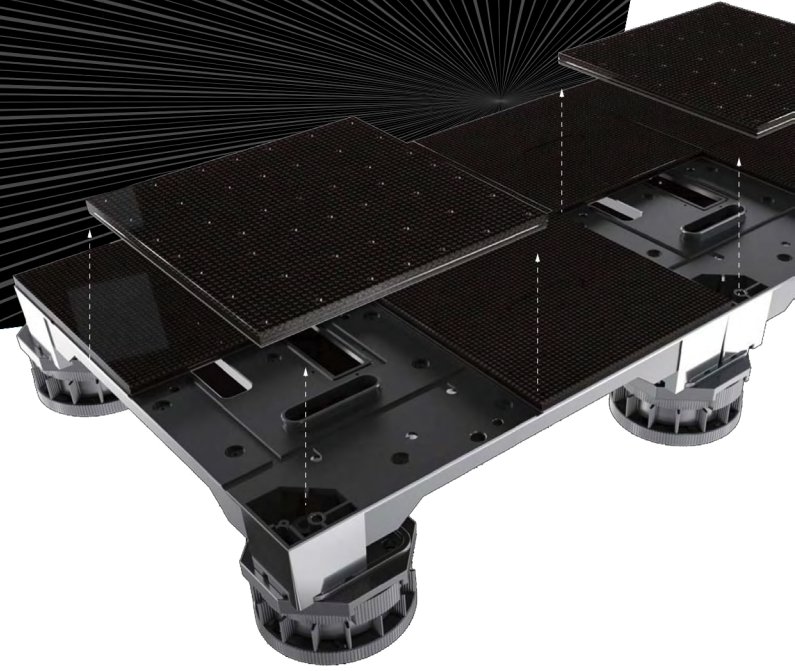


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# TERRA



**RESPONSIVE INTERACTIVE EFFECT  
ENABLES TERRA SERIES TO DELIVER  
STRONG VISUAL IMPACT AND TRULY  
AMAZING EXPERIENCE**



**TRT STUDIO**  
İSTANBUL / TÜRKİYE



Real time interactive effect provides amazing experience

64 pcs touch sensors on each panel

33 milliseconds response time for each sensor

180 degree wide viewing angle from any direction

15 mm vertical adjustment

2 ton/sqm super strong load-bearing performance




**İSTİNYE PARK INSTREET**  
İSTANBUL / TÜRKİYE

	SMART LDSOSP02.6TE	SMART LDSOSP03.9TE	SMART LDSOSP04.4TE	SMART LDSOSP05.2TE
<b>General</b>				
Operating environment	indoor	indoor	indoor	indoor
Pixel pitch	2.6mm	3.9mm	4.4mm	5.2mm
Smart front service	YES	YES	YES	YES
Calibrated brightness (nits)	1.200nits	3.000nits	3.000nits	3.000nits
Lamp type	SMD	SMD	SMD	SMD
Lifespan (hours at %50 brightness)	>100.000hours	>100.000hours	>100.000hours	>100.000hours
White color calibration (adj.)	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K	3.500K~8.500K
Gray scale	>13bits	>14bits	>14bits	>14bits
Brightness control	256 level	256 level	256 level	256 level
<b>Module Specifications</b>				
Module dimensions (mm)	250x250	250x250	250x250	250x250
Refresh frequency	adjustable	adjustable	adjustable	adjustable
Module resolution	96x96px	64x64px	56x56px	48x48px
LED drive method	dynamic	dynamic	dynamic	dynamic
Module material	aluminum	aluminum	aluminum	aluminum
Module type	sealed	sealed	sealed	sealed
PCB type	multilayer	multilayer	multilayer	multilayer
PCB surface coating	humiseal	humiseal	humiseal	humiseal
<b>Panel Specifications</b>				
Panel material	aluminum	aluminum	aluminum	aluminum
Panel paint	ES powder coated	ES powder coated	ES powder coated	ES powder coated
Panel dimensions (mm)	500x500	500x500	500x500	500x500
IP level	IP65 front, IP65 rear	IP65 front, IP65 rear	IP65 front, IP65 rear	IP65 front, IP65 rear
Panel weight	14kg	14kg	14kg	14kg
Panel resolution	192x192px	128x128px	112x112px	96x96px
Pixel density (pcs/sqm)	44.944	21.904	14.400	8.836
Viewing angle (horizontal x vertical)	>140° x 140°	>140° x 140°	>140° x 140°	>140° x 140°
Minimum viewing distance	>2m	>3m	>4m	>5m
Operating temperature range	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C	-20°C ~ +60°C
Storage temperature range	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C
Operating humidity	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing	10% ~ 90% non-condensing
Power input voltage	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC	110 ~ 240 VAC
Power input frequency	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz	50 ~ 60 Hz
Average power per sqm	<160W	<160W	<160W	<160W
Max power per sqm	<640W	<640W	<640W	<640W
Active PFC	YES	YES	YES	YES
Load tolerance <sup>1</sup>	25% min.	25% min.	25% min.	25% min.
Panel installation type	Fixed installation	Fixed installation	Fixed installation	Fixed installation
Cooling	Passive cooling	Passive cooling	Passive cooling	Passive cooling
<b>Other</b>				
Max input resolution	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K	FHD, UHD, 4K, 8K
Standard video sources <sup>2</sup>	All digital formats	All digital formats	All digital formats	All digital formats
Brightness adjustment	Automatic & manual	Automatic & manual	Automatic & manual	Automatic & manual
Death pixel monitoring	Optional	Optional	Optional	Optional
Module monitoring	YES	YES	YES	YES
Temperature monitoring	YES	YES	YES	YES
Smoke monitoring	Optional	Optional	Optional	Optional
Voltage monitoring	YES	YES	YES	YES
Power redundancy	N/A	N/A	N/A	N/A
Signal path backup	YES	YES	YES	YES
Signal transmission	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic	CAT or Fiber Optic
Standby scheduling	YES	YES	YES	YES
Power on/off scheduling	Optional	Optional	Optional	Optional
Power saving mode	YES	YES	YES	YES
Certification	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC	CE-EMC, CE-LVD, RoHS, FCC
<b>Options</b>				

\*The mechanical and electronic specification options are available.

- 1- That value is the remain capacity of PSU's at 100% brightness and white color content
- 2- Different types of video input available as option

Front Access Lightweight Slim Temp Monitoring Smoke Monitoring Voltage Monitoring Remote Control Easy To Install Wide Angle High Refresh Rate Transparent Noiseless Calibration Pixel Detection Fanless



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**global brands  
trust us for years;**

while we trust in our quality,  
power and ability...

**10  
YEARS**

**50  
COUNTRIES**

## WE ANALYSE

We understand your requirements

## WE DESIGN

Create the most suitable and cost effective solution with engineering and industrial

## WE PROVIDE SOLUTION

We deliver and execute the turnkey solution for our solution partners and distributors



over 50 countries  
and over 50.000 screens;  
**all turnkey solutions...**

LEDECA®  
ALWAYS BRIGHT

 **APRON**  
TEKNOLOJİ A.Ş.

**LEDECA**  
GmbH

**ALTUM**  
ALTUM BİLGİ VE İLETİŞİM TEKNOLOJİLERİ A.Ş.

 **ORKU**  
METAL A.Ş.



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