EKTA

CRYSTAL-CLEAR IMAGE

LED DISPLAY
PRODUCTS
CATALOGUE

2018

25th anniversary

EKTA Company, founded in 1992, is a leading European developer and manufacturer of high-end LED products, delivering excellence to more than 30 countries around the world.

EXPERIENCE

For more than 25 years, EKTA has established an unchallenged reputation for carrying out hundreds of top quality projects, aimed at installing LED equipment in the fields of advertising, show business, sports, shopping, entertainment, transport, and television.

With an automated manufacturing plant, based in Europe, and a team of Ukrainian, highly-experienced, professional engineers, EKTA steadily improves its innovative solutions in production and application of LED technologies, ensuring brilliant customization strategies and rendering steadfast service and support.

« We create visual technology in the atmosphere of fostering partnerships firmly based on self-fulfillment, thus opening a new perspective on the world
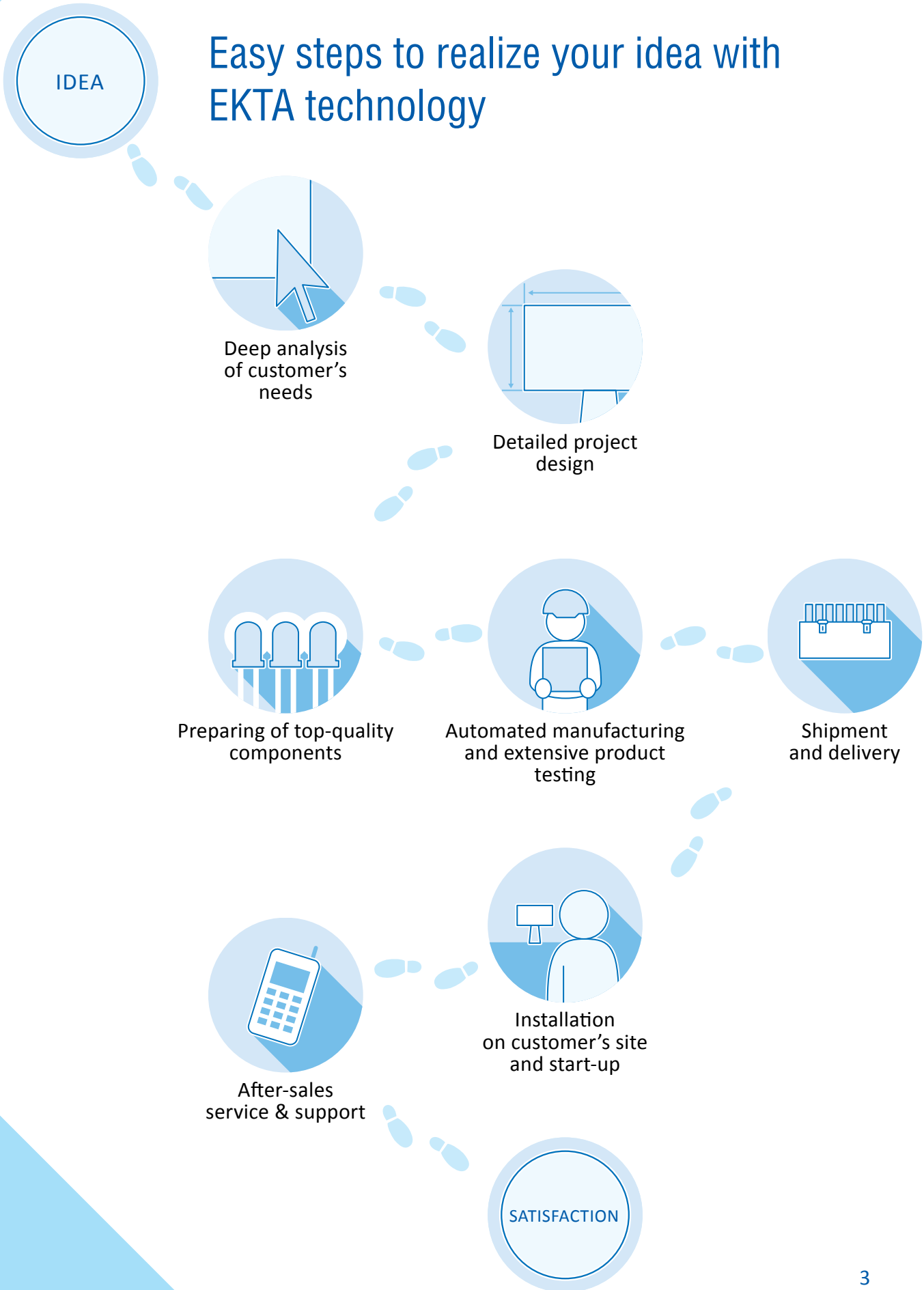
EVOLUTION

1992 EKTA Company foundation

1995 EKTA plasma panel display was first installed in Europe

2000 EKTA designed and developed its first large LED display

2002 EKTA LED screens became the lightest and the thinnest LED displays in the world

2004 EKTA introduced the Total Quality Management system

2009 EKTA developed breakthrough ERMAC integrated LED display control system

2011 EKTA 3D LED TV won a Guinness World Record

2013 EKTA received the ProIntegration Award for "Best Solution using Digital Signage Technology"

2016 EKTA launched ERMAC Ultra – multifunction control system family

2017 EKTA launched Industrial series displays

2018 EKTA launched Fine pixel pitch displays for TV studios

TOTAL SOLUTION *Provider*

Being a design engineer and manufacturer of the whole turn-key solution, including architecture, LED modules, control system, commutation and software, EKTA meets all customers' needs and takes full responsibility for solutions' performance.

What does the customer receive from EKTA?

- Screen complex design
- Full integration with related systems
- Custom software development
- Deployment and assembly
- After-sales service

Easy steps to realize your idea with EKTA technology

IDEA

Deep analysis of customer's needs

Detailed project design

Preparing of top-quality components

Automated manufacturing and extensive product testing

Shipment and delivery

After-sales service & support

Installation on customer's site and start-up

SATISFACTION

COMMITTED *to Challenge*

Carrying rental DNA, based on own long-time rental business experience, EKTA performs rental and fixed installation projects of top complexity for most demanding customers around Europe. Come and challenge us with your most creative ideas. Make your dreams real with EKTA!
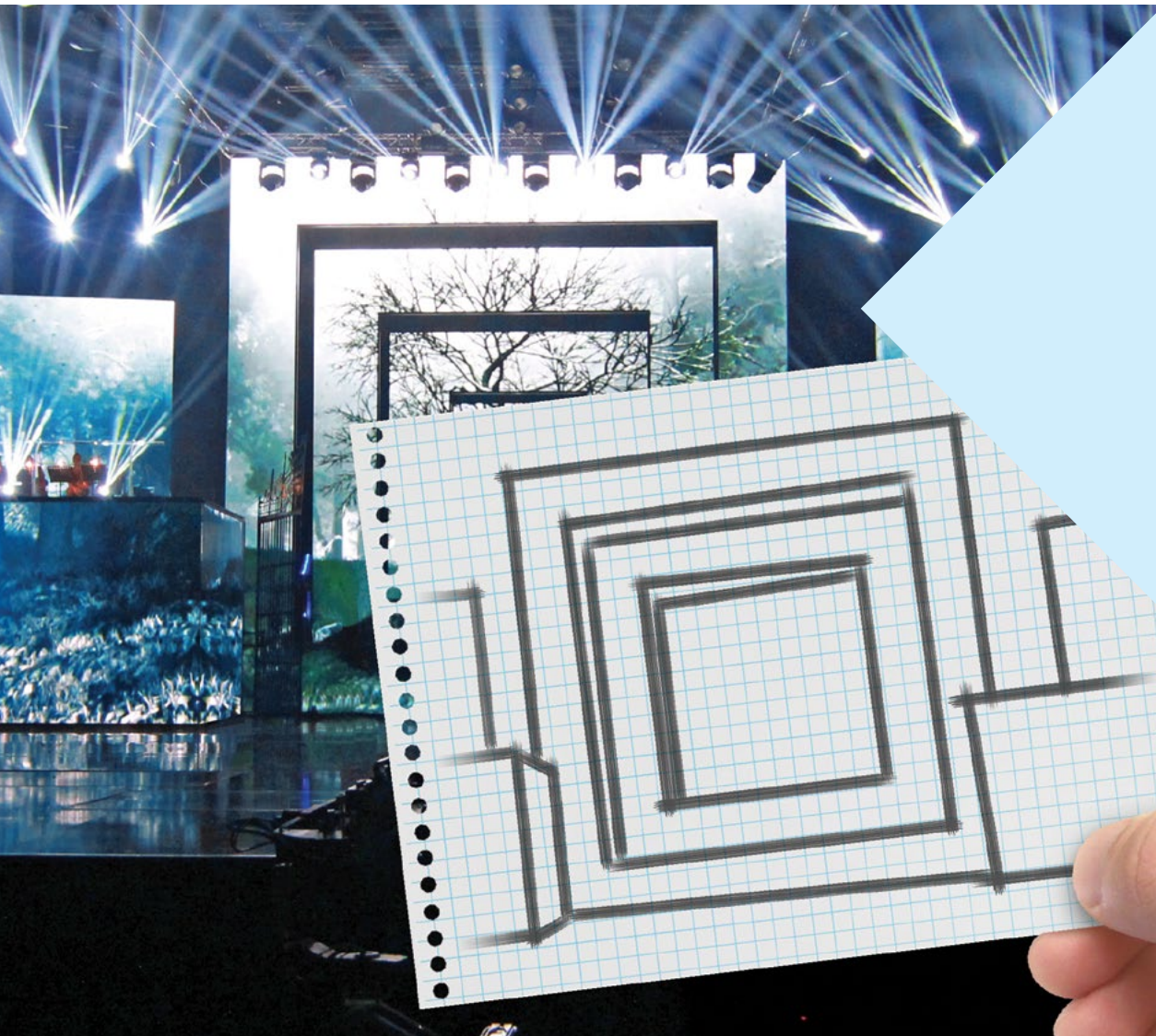
UEFA Draws

20 sqm of iLVM 6C-Q and 106 sqm of LVM 9C-S, Monaco, 2014

Ultimate live visual performance at low brightness thanks to EKTA cutting-edge video processing and delicate color adjustment of EKTA LED screens on the backdrop to the projecting screens on the front.

Adidas

200 sqm of WOWFloor in Paris, France, 2016

A luxurious and durable LED WOWFloor mounted on an uneven roof surface and turned it into a giant interactive sports ground proved its resilient and tough design, resisting dynamic vibration loads.

CORE *Know-hows*

Uniformity^2 calibration and screen alignment

- Up to 99% color and brightness uniformity
- Pixel-by-pixel brightness and color high-precision calibration
- Real-time alignment after cluster replacement
- No external equipment needed for alignment
- Alignment of screens with different pixel pitch and LED batch

Combined screen with different LED batches

Notable non-uniform dots

Visible cluster structure of the image

Smooth calibrated image

Seamless image rendering

Typical LED display   EKTA LED display

Intelligent Cluster architecture

- Perfect image quality at low brightness
- High performance and no artifacts while shooting on camera thanks to superior refresh rate
- Hot-swap cluster replacement
- Remote cluster and module diagnostics with instant screen monitoring

Low brightness viewed by naked eye or camera

Visible scan lines at low refresh rates

Gradients reproduced as steps

Most dark shades come black

Steady image

Smooth color gradients

Detailed dark colors reproduction

Typical LED display   EKTA LED display

ERMAC video processing

- 4K resolution support
- Multilayer video mixing, scaling, cropping and lots of other integrated functions
- Real-time image properties control with easy-to-use software
- Smooth processing of high-definition video
- Low latency
- Full range of frame rates support, from 30 Hz to 120 Hz

Dynamic content with high frame rate

Lagged video

Several devices to do the same as one ERMAC
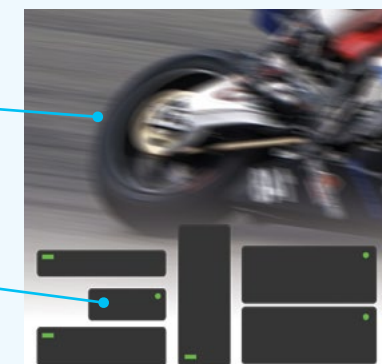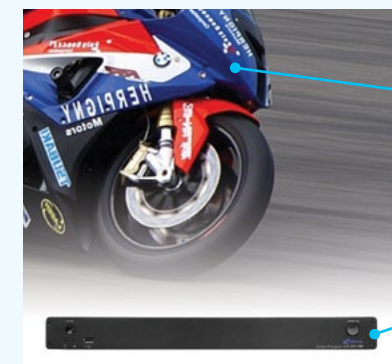
Stable and clear dynamic image with low latency

Just one slim controller needed

Typical LED display   EKTA LED display

FrameLED

Ultimate image quality for rental and fixed applications

FrameLED product family to take any top professional challenge

iLVM 1.7P   Fine pixel pitch for TV studios

iLVM 2P   Versatile mainstream solution for indoor rentals and fixed projects

LVM 3P   Multi-function rental product for outdoor and indoor cases
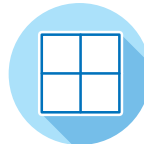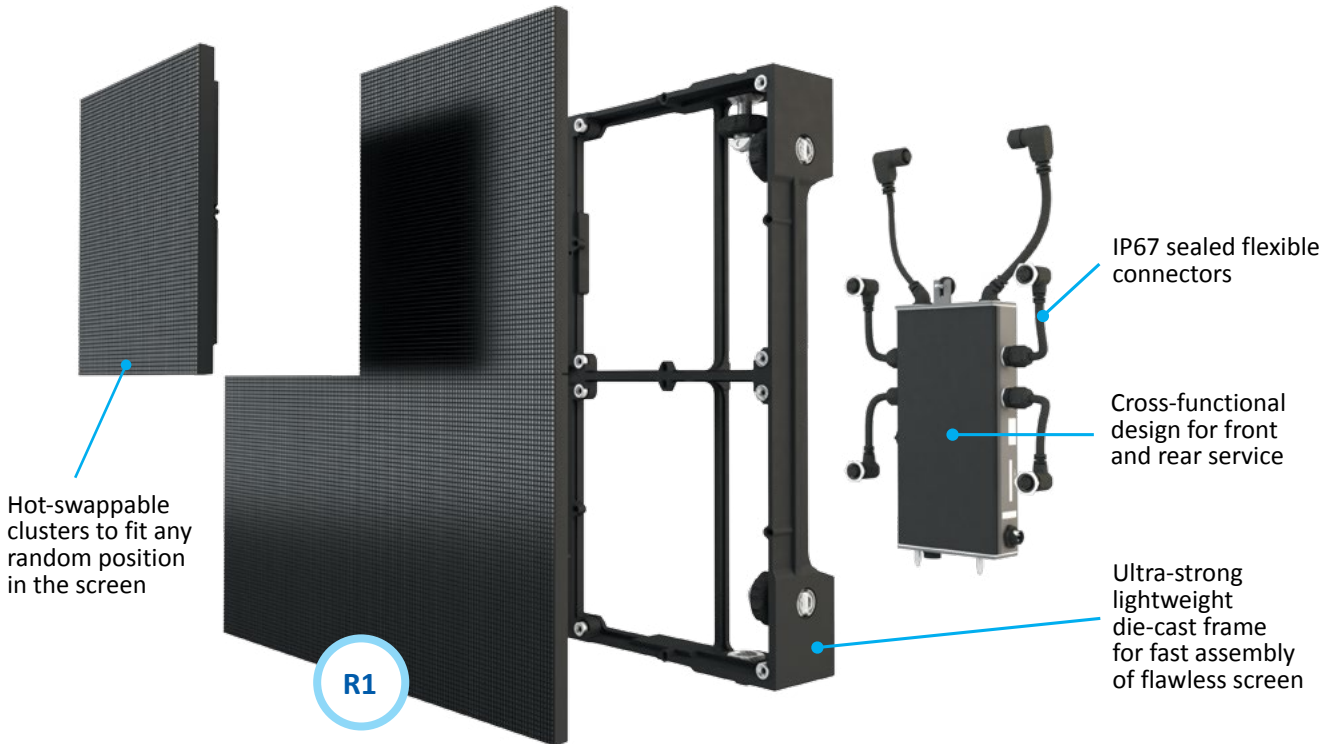
ONE FRAME – ALL PIXEL PITCHES

High contrast   Lightweight   Precise frame   Unique FrameLED form factor 386.4 x 386.4 x 86 mm

IP67 sealed flexible connectors

Cross-functional design for front and rear service

Hot-swappable clusters to fit any random position in the screen

Ultra-strong lightweight die-cast frame for fast assembly of flawless screen

R1

	INDOOR		OUTDOOR
Model	iLVM 1.7C-P	iLVM 2C-P	LVM 3C-P
Pixel pitch, mm	1.7	2.68	3.86
Brightness, nit	1000	1800	3800
Viewing angles, H/V	160⁰/160⁰	160⁰/160⁰	140⁰/140⁰
Grey scale, bit	15	15	15
Refresh Rate, Hz	1920	3840	3840
Maximum power consumption, W/m²	800	800	800
Module weight, kg	4.2	4.2	5
Screen weight, kg/m²	28	28	33

BLACK FACE – HIGH CONTRAST

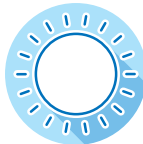## CONTROLLED BY ERMAC

FrameLED

Ultimate component selection for the best performance and reliability
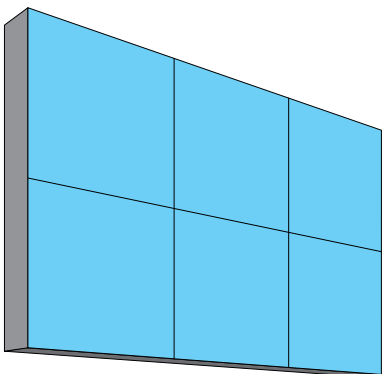
World-renowned Nichia LEDs

Designed for top-demand projects

Unbeatable brightness up to 15,000 nit

Model	INDOOR			OUTDOOR				
	iLVM 4C-Qs	iLVM 4C-Q	iLVM 6C-Q	LVM 6C-Q	LVM 9C	LVM 8C-vpR	LVM 10C-vpG	LVM 12C-vpG
Pixel pitch, mm virtual / physical	- / 4.03	- / 4.83	- / 6.04	- / 6.90	- / 9.66	8.05 / 16.10	9.66 / 19.32	12.1 / 24.15
Brightness, nit	3000	3500	3500	9000	9000	15000	11500	9500
Viewing angles, H/V	160°/160°	160°/125°	160°/130°	150°/85°	150°/90°	110°/60°	110°/60°	110°/60°
Grey scale, bit	18	18	18	18	16	16	16	16
Refresh Rate, Hz	7200	7200	7200	7200	600 – 32,000	600 – 32,000	600 – 32,000	600 – 32,000
Maximum power consumption, W/m²	1000	900	900	950	1000	1000	1000	1000
Module weight, kg/m²	4.2	4.2	4.2	5	5	5.2	5.2	5.2
Screen weight, kg/m²	28	28	28	33	33	33	33	33

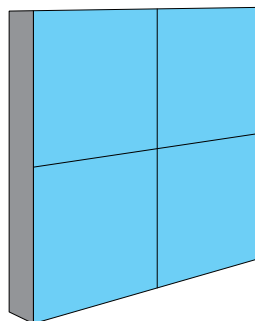## Classic EKTA solution for rental and hi-end fixed installations

EKTA Selected LED

Widely used rental solutions

Camera-friendly

Model	INDOOR		OUTDOOR			
	iLVM 4C-Qsc	iLVM 4C-Qc	LVM 4C-Qc	LVM 4C-Qcb	LVM 6C-Qc	LVM 9C-c
Pixel pitch, mm	4.03	4.83	4.83	4.83	6.9	9.66
Brightness, nit	2500	2500	8500	3300	8000	7000
Viewing angles, H/V	145°/130°	145°/125°	140°/120°	140°/120°	140°/120°	140°/90°
Grey scale, bit	18	18	18	18	16	16
Refresh Rate, Hz	4800	7200	7200	7200	7200	600-32,000
Maximum power consumption, W/m²	1000	1000	1000	1000	1000	960
Module weight, kg/m²	4.2	4.2	5	5	5	5
Screen weight, kg/m²	28	28	33	33	33	33

BLACK FACE – HIGH CONTRAST

FrameLED product family

RT – the best solution for touring events, several modules (3xR2 and more) assembled and transported together
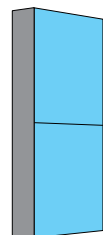
R2 – cost-effective solution for rental business taking over all the benefits from single module R1 FrameLED by EKTA

R4 – especial 2xR2 design for large-scale led screen rental projects
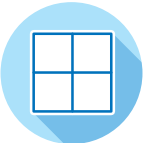
EKTA Industrial

Flexibly customized family of products to meet specific demands of diverse industries

EKTA Industrial Indoor

TV-class image

Die-cast or profile frame

EKTA Industrial Outdoor

Reliable mechanical locks

Calibrated and alignable
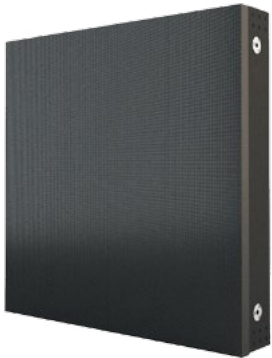
INDOOR				
Model	iLVM 1.9C-L	iLVM 2C-L	iLVM 3C-L	iLVM 4C-L
Pixel pitch, mm	1.9	2.6	3.9	4.6
Brightness, nit	1000	1200	1200	1200
Dimensions, mm	250x250	250x250	250x250	250x250
Viewing angles, H/V	140°/140°	140°/140°	140°/140°	140°/140°
Grey scale, bit	15	15	15	15
Refresh Rate, Hz	3840	3840	3840	3840
Maximum power consumption, W/m^2	600	600	600	600
Screen weight, kg/m^2	34	34	34	34
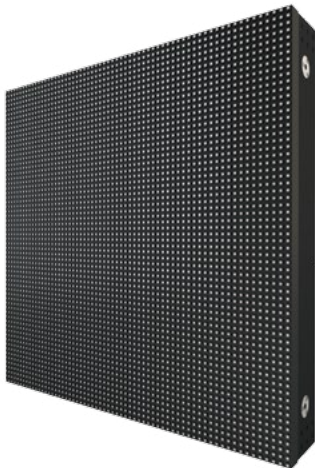
OUTDOOR		
Model	LVM 6C-B	LVM 10C-B
Pixel pitch, mm	6.67	10
Brightness, nit	6000	6000
Dimensions, mm	320x320	320x320
Viewing angles, H/V	140°/120°	140°/120°
Gray scale, bit	16	16
Refresh Rate, Hz	3840	3840
Maximum power consumption, W/m^2	730	730
Screen weight, kg/m^2	38	37

CONTROLLED BY ERMAC

True Performance

TRUE performance is a company that transformed from high level LED display manufacturer EKTA. TRUE performance was founded by a highly experienced team from LED display industry, considering R&D, engineers, technical sales and technical support.

TRUE performance is different from other standard LED screens manufacturers because of the TRUE performance screens architecture, design and processing powered by EKTA ERMAC.

The processing True performance provides is on the market for 25 years.

True performance's R&D and manufacturing facilities are in Europe.

The main advantage of True performance products is unrivalled reliability. The company's quality control system works under the principle of Total Quality Management, providing fault-free equipment operation throughout the entire lifetime due to the high IP protection level, robust, reliable module frame, and unique pre-sale testing system.

Another essential feature of True performance product range is technological superiority. Due to the company's know-hows – Uniformity^2 calibration and screen alignment as well as to the intelligent cluster architecture, True performance's LED displays ensure brilliant picture at any brightness level.

The next advantage of True performance is reasonable price. Even when you are on a budget, you can get technological superiority for a sensible price. The professional team provides well suited LED solution, considering customers' current needs, overall requirements and performance priorities.

For True Performance products, special Receiving Cards with especial technical characteristics have been developed that make possible to provide in the True Performance products the most unique advantages of EKTA control systems.

POWERED BY ERMAC
TRUE PERFORMANCE

	RC 037-03	RC 038-03	RC 038	RC G24	RC G32	RC G40
Input Interface	LVDS	LVDS	LVDS	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet
Bit Per Pixel (Input)	30	30	30	30	30	30
Output (Module) Interface	LVCMOS	LVCMOS	LVDS	LVCMOS	LVCMOS	LVCMOS
RGB Group (Output)	24	32	24	24	32	40
Bit Processing (Max.)	18	18	18	18	18	18
Max. Size X (Pixel)	512	512	512	512	512	512
Max. Size Y (Pixel)	512	512	512	512	512	512
Max. Total Pixel	174 698	174 698	65 536	174 698	174 698	174 698
Bandwidth	16 MPixel/s	16 MPixel/s	16 MPixel/s	31.25 Mpixel/s	31.25 Mpixel/s	31.25 Mpixel/s
Flash Management Interface	SPI	SPI	SPI	SPI	SPI	SPI
Configuration Storage	Yes	Yes	Yes	Yes	Yes	Yes
Fame VS Jitter	125 ns	125 ns	125 ns	125 ns	125 ns	125 ns
EMC Suppression	Yes	Yes	Yes	Yes	Yes	Yes
Monitoring	All Parameter	All Parameter	All Parameter	All Parameter	All Parameter	All Parameter

CREATIVE FREEDOM

XF series
- indoor
- fix installation
- front maintenance
- PP 1.2 – 2.5
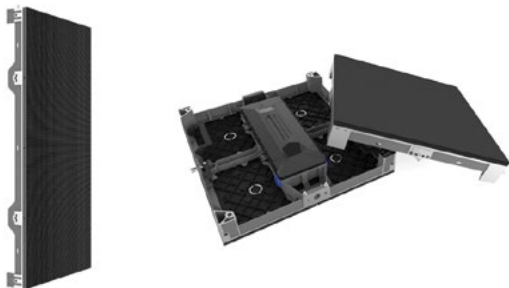
XG series
- indoor
- fix/rental installation
- front maintenance
- PP 2.6 – 4.8

XL series
- outdoor
- fix installation
- front/rear maintenance
- PP 5 – 16.7

XS series
- outdoor
- fix/rental installation
- front/rear maintenance
- PP 6.25 – 16

XM series
- outdoor
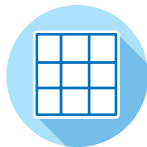- fix installation
- front/rear maintenance,
- PP 13 – 50

CONTROLLED BY ERMAC

WOWFloor

Tempered glass interactive LED Floor for brilliant real-time visual experience

Luxury look

Hard heel-proof surface

Ultrastrong to support load capacity up to 1000 kg/m²

PERFECT SOLUTION FOR:

- Stages
- Night clubs
- TV studios
- Children's activity rooms
- Shopping centers
- Casinos, bars and restaurants
- Advertising projects for automotive, fashion etc

INTERACTIVE

NON-INTERACTIVE

Glass covering is compatible with any FrameLED module
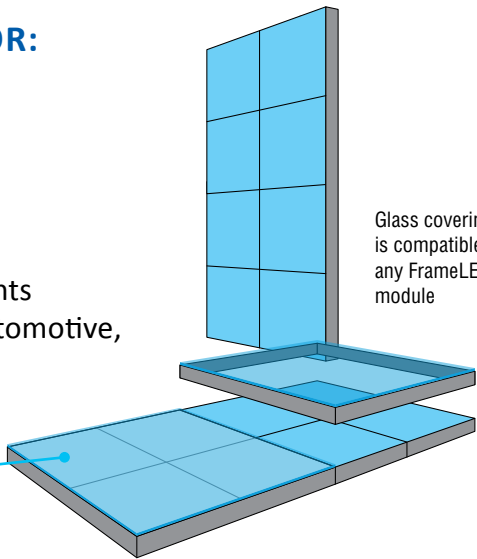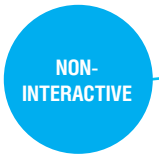
	INDOOR	
Model	iLVF 24C	iLVF 32C
Pixel pitch, mm	24.15	32.20
Brightness, nit	650	500
Dimensions, mm	773 x 773	773 x 773
Levelling	adjustable jack, up to 15 mm	
Viewing angles, H/V	60° (180°)/60°(180°)	60° (180°)/60°(180°)
Grey scale, bit	16	16
Refresh Rate, Hz	600 – 32,000	600 – 32,000
Power consumption, W/m²	350	270
Weight, kg/m²	32	32
Protective coating	Impact resistant laminate safety glass	

CONTROLLED BY
ERMAC

ERMAC *Control System Family*

Unique design of ERMAC three-level architecture has revolutionized LED video processing technology for LED displays, regardless of the model and configuration

ONE BOX

To replace a full stack of equipment

- LED control system
- Multilayer image processor and scaler
- Color uniformity system
- Embedded PC
- Automated control features
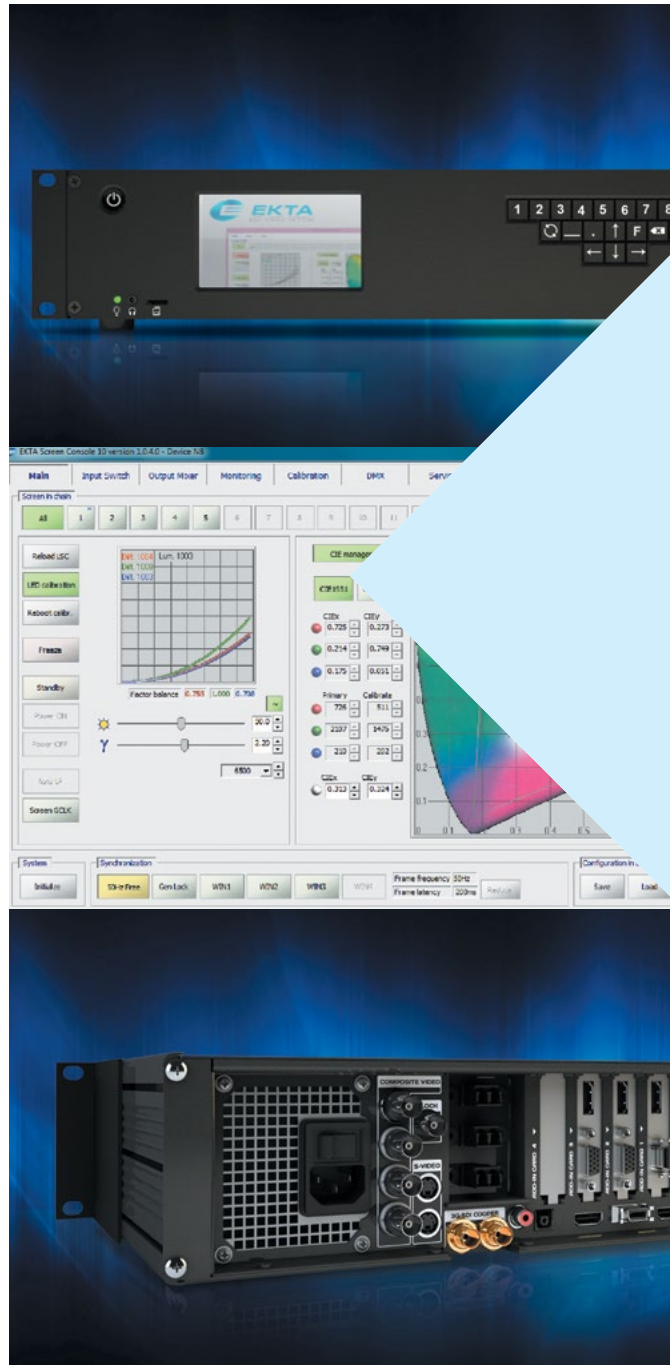- Advanced screen technical monitoring

ONE TOUCH

Real-time adjustment

- Color temperature from 3000K to 10000K
- Brightness from 0.1% to 100%, 1024 gradations of each color
- Gamma curve
- Output mixer, picture in picture
- Image cropping and scaling
- Screen and stage designer

ONE POWER

Outstanding performance for top-demand solutions

- 10/12-bit internal signal processing
- 18-bit LED control
- 30/50/60/75/100/120 Hz frame rates
- 4K resolution
- Up to 32 displays controlled by one SPU
- 3D ready

ERMAC SPU

VIDEO SOURCE
DP, 3G-SDI, HDMI, RGB YPBPR, Analog Audio inputs

CONTROL PC
Ethernet/Internet DMX, USB, System Console

Fibre Link

Electrical link

LSC

VIRTUAL PIXEL SCREEN

Signal Distributor Box, redundant design, responsible for a unified screen part up to 3 Mpix size

ALIGNED SCREEN SEGMENTS

FINE PIXEL PITCH SCREEN

LSC

LED FLOOR

LSC

CREATIVE INSTALLATIONS
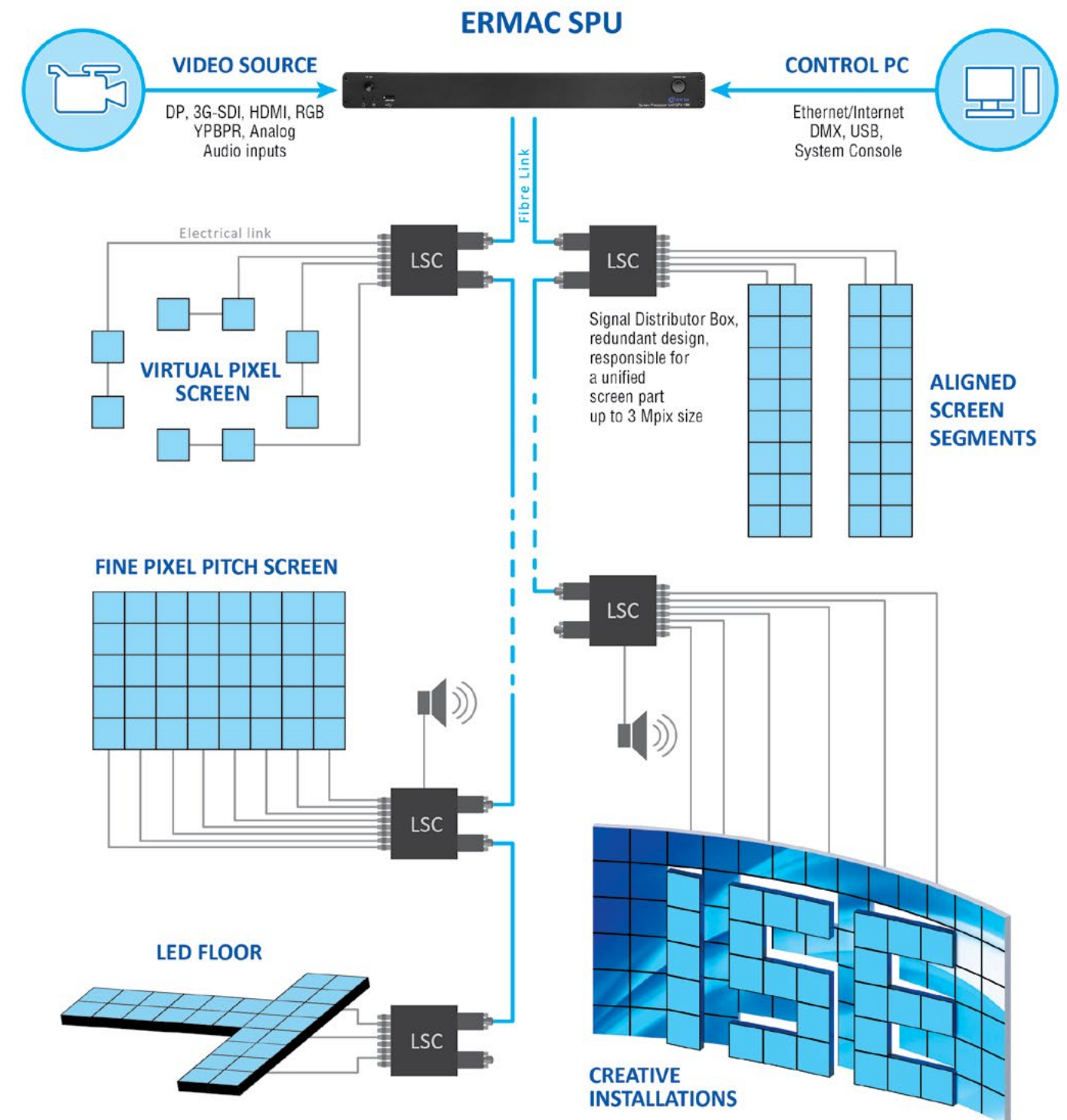
One SPU allows controlling
up to 32 LED screens of different size and shape

ERMAC *Ultra*

ERMAC Ultra with SPU-10 series

World's leading LED screen control and video processing power in a thin blade

| Model	SPU-10E	SPU-10B (base)	SPU-10M (medium)	SPU-10F (full)
SYSTEM FEATURE				
Embedded PC	None	None	Qseven standard	Qseven standard
Embedded OS	None	None	Windows 8 Embedded Standard	Windows 8 Embedded Standard
Image Channel (simultaneous)	1	2	3	4
CONTROL				
Control Interface (simultaneous)	USB 2.0, DMX	USB 2.0, DMX	System, USB 2.0, Ethernet, DMX	System, USB 2.0, Ethernet, DMX
Configurable and Control Software	ESConsole, Screen Builder (Desktop/laptop PC Location)	ESConsole, Screen Builder (Desktop/laptop PC Location)	ESConsole, Screen Builder (Embedded PC Location)	ESConsole, Screen Builder (Embedded PC Location)
INPUT				
Display Port	2560 x 1600 x 60 Hz	1920 x 1200 x 60 Hz	2560 x 1600 x 60 Hz	3840 x 2160 x 60 Hz
HDMI	2560 x 1600 x 60 Hz	1920 x 1200 x 60 Hz	2560 x 1600 x 60 Hz	3840 x 2160 x 30 Hz
DVI-D	2560 x 1600 x 60 Hz	No	No	No
CVBS	No	Yes	Yes	Yes
3G SDI (Copper)	No	1	1	2
3G SDI (Fiber)	No	No	No	Yes, 2
Audio Input	DP, HDMI, DVI-D	3G SDI, DP, HDMI	3G SDI, DP, HDMI	3G SDI, DP, HDMI
Genlock	No	Yes	Yes	Yes
OUTPUT				
Fiber optic display link	No	1 x 2.3 Mpx	2 x 2.3 Mpx	4 x 2.3 Mpx
Gigabit Ethernet	4 x 0.57 Mpx	No	No	No
HDMI	No	No	1 (2560 x 1600 x 60 Hz)	1 (2560 x 1600 x 60 Hz)
3G SDI LOOP	No	No	1	2
Audio Output	S/PDIF Audio packet transfer over FO	AES/EBU Audio packet transfer over FO	AES/EBU HDMI Output Audio packet transfer over FO	AES/EBU HDMI Output Audio packet transfer over FO
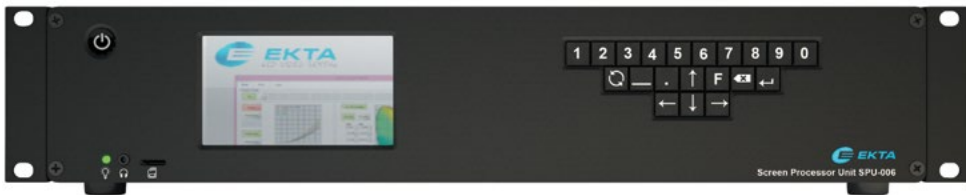
ERMAC *Plus*

ERMAC Plus with SPU-006 series

Extendable integrated control unit to customize input/output set with extension cards

- Allows adding up to 4 Add-In-Cards (AiC) into 19" rack mounting case
- 5 image channels (1 motherboard & 4 AiC with flexible configurations of new HDMI)

EKTA introduces the family of all-in-one controllers to bring outstanding image quality and high performance to advertisement, digital signage, industrial TV and other special purpose screens.

Model name		SPU-006
System feature	Chassis	MBE-024 Motherboard + up to 4 2RU AiC, depth 220 mm
	Embedded PC	With Intel Atom based CPU
	Image Channel (simultaneous)	1 (motherboard) + 4 (AiC)
Control	Control Interface	System Console , USB, DMX, Ethernet, WEB-Interface
	Control Software	ESConsole, ESPanel, WEB interface
Inputs	Display Port	1 DP 1.1 up to 3840 x 2160 (WUXGA) at 50/60 Hz, 36 bit/px color depth
	HDMI	2 HDMI 1.4, up to 3840 x 2160 (WUXGA) at 25/30 Hz, 36 bit/px color depth
	3G SDI	1 x BNC 3G/HD/SD-SDI
	Optical input	3 x LC-LC fiber optic connector for SDI (standard SFP)
	Audio Input	1 S/PDIF, 4 XLR, 4 RCA + 1 RCA, HDMI embedded audio, DP embedded audio
Outputs	Optical	2 x LC-LC 6,25 Gigabit multimode screen links, 8,86 MPx max frame out, 30 bit/px color depth
	3G HDMI	1 HDMI 1.4 up to 1920 x 1200 x 50/60 Hz, 10 bit color depth
	Audio Output	1 RCA S/PDIF, 1 x TOSLINK S/PDIF

Extension cards		
hsPCS-094	Video input	1 HDMI 1.3 up to 1920 x 1200 at 50/60 Hz 1 BNC 3G/HD/SD-SDI, standard support SMPTE-424M, SMPTE 292M, SMPTE 344M, SMPTE-259M 1 DFP, YPbPr up to 1080i 8, 10 bit/px color depth (optional connector)
	Video output (LOOP)	1 BNC 3G/HD/SD-SDI, standard support SMPTE-424M, SMPTE 292M, SMPTE 344M, SMPTE-259M
hPCS-093	Video input	1 HDMI 1.4 up to 1920 x 1200 at 50/60 Hz, 36 bit 1 HDMI 1.4 resolution up to 3840 x 2160 at 50/60 Hz, 36 bit (using two boards)
	Video output	1 HDMI 1.4 up to 1920 x 1200 at 50/60 Hz, 36 bit

ceLSC-085

	Embedded PC	Q7-BT system, Intel® HD 4000 1.91 GHz CPU, RAM DDR3L 4GB, SSD 32GB
	Operating system	Windows Embedded
Input	USB	3 x USB 2.0 (1 channel configurable as client)
	Ethernet	1Gbit LAN
	Memory card	micro SD slot
Output	Screen Interface	8 LVDS output ports
	Output resolution	Up to 1024 x 768 pixel
	Audio Output	S/PDIF, Line
Control	Control Interface	Ethernet, system console
Diagnostics	Feedback values	LED cluster temperature; module power supply values; LED module current; outside temperature; outside luminance
General design	Dimensions	170 x 170 x 25 mm
	Power	12 VDC, 10 Watt
	Operating temperature	-25° to 60° C

ceLSC-099

	Embedded PC	Q7-BT system, Intel® HD 4000 1.91 GHz CPU, RAM DDR3L 4GB, SSD 32GB
	Operating system	Windows Embedded
Input	USB	2 x USB 2.0 (1 channel configurable as client), 1 x USB 3.0
	Ethernet	100 Mbit LAN
	Memory card	micro SD slot
	Video	DisplayPort 1.1
Output	Screen Interface	8 LVDS HSI output ports
	Output resolution	Up to 1920 x 1080 pixel
	Audio Output	S/PDIF, Line
	Video Output	DisplayPort 1.1
Control	Control Interface	Ethernet, system console
Diagnostics	Feedback values	LED cluster temperature; module power supply values; LED module current; outside temperature; outside luminance
General design	Dimensions	170 x 170 x 25 mm
	Power	12 VDC, 10 Watt
	Operating temperature	-25° to 60° C

aeLSC-101

	Embedded PC	ARM-based
	Operating system	Linux
Input	Video	DisplayPort, 1920 x 1080 pixel
	Ethernet	100 Mbit LAN
	Wireless	WiFi (optional)
Output	Screen Interface	12 LVDS HSI output ports
	Output resolution	Up to 1920 x 1080 pixel
	Audio Output	S/PDIF, Line
	Video Output	DisplayPort , 1920 x 1080 pixel (optional)
Control	Control Interface	Ethernet, system console
Diagnostics	Feedback values	LED cluster temperature; module power supply values; LED module current; outside temperature; outside luminance
General design	Dimensions	170 x 170 x 25 mm
	Power	12 VDC, 7 Watt
	Operating temperature	-25° to 60° C

5 KEY FACTS about EKTA

1 Reliable partner – 25 years of flawless reputation

2 Skilled developers and manufacturers

3 Creator of LED display total solution

4 Expert in LED panel mechanical and electronic engineering

5 World's leader in LED control and video processing

TAKE MORE PROJECTS
WITH EKTA

KEY REPRESENTATIVE OFFICES

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POWERED BY ERMAC

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