

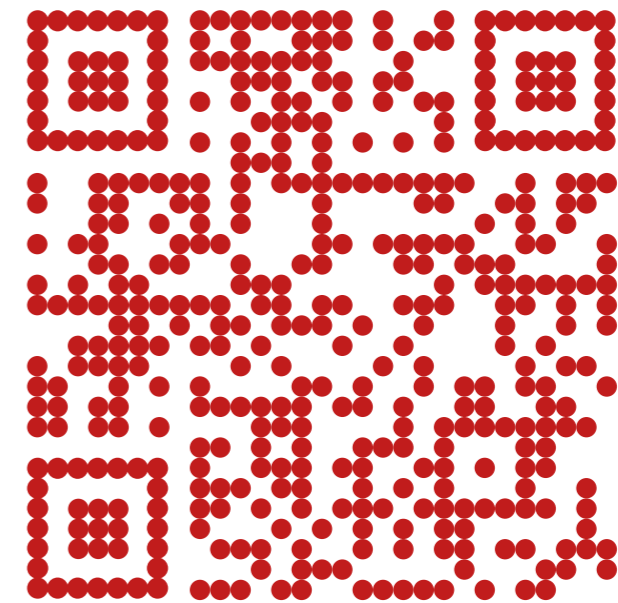
Flip dot display system

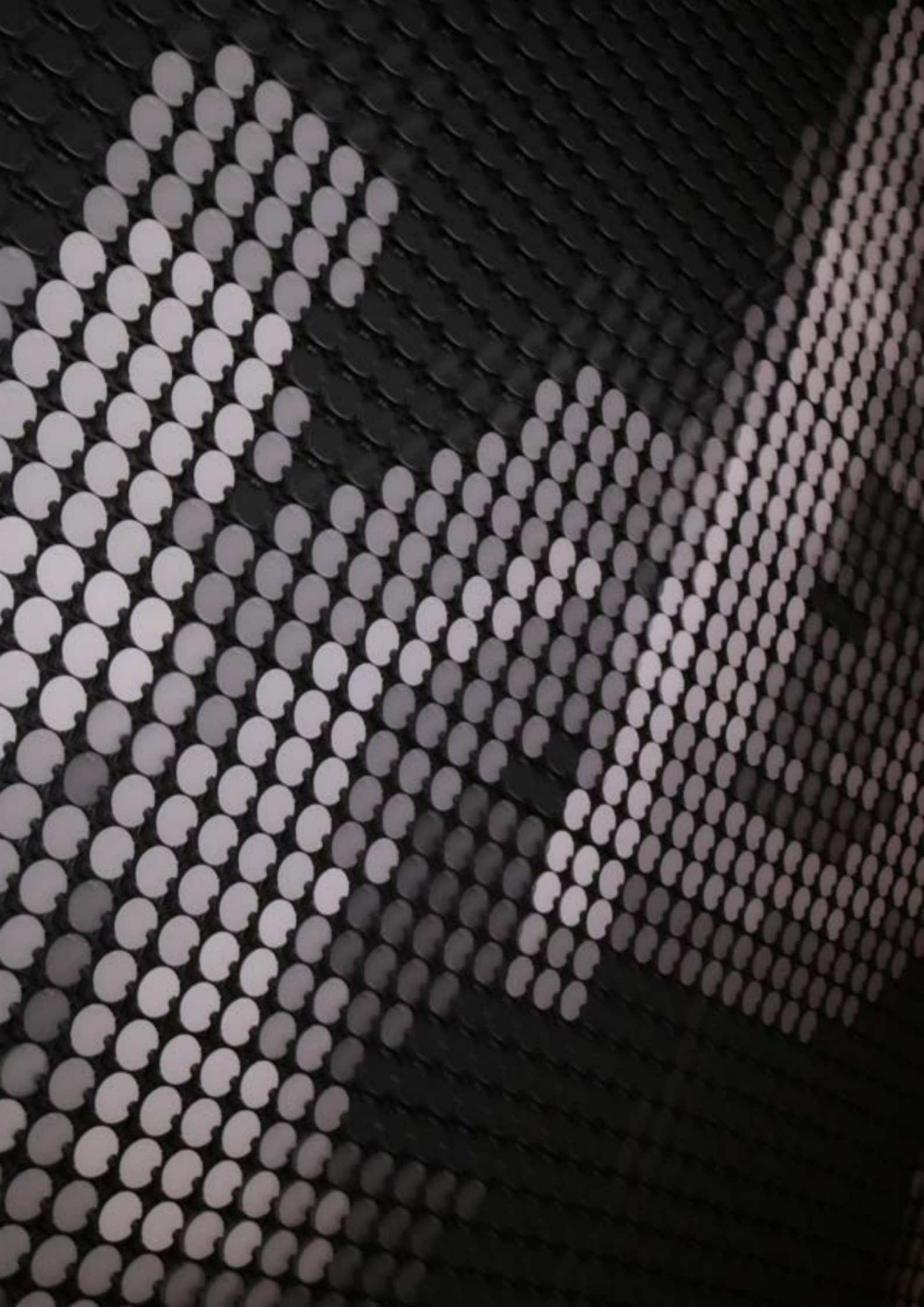
WÄVE

**KKDÖ**

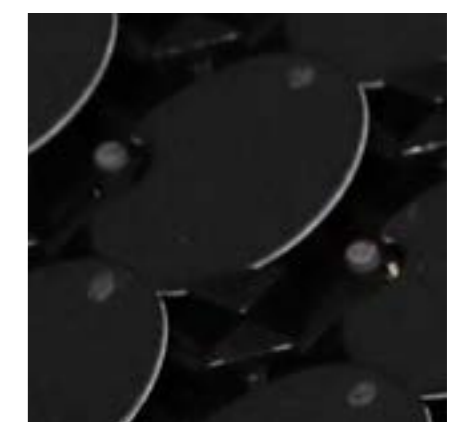
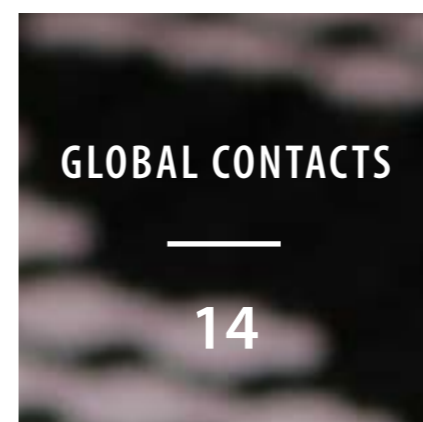
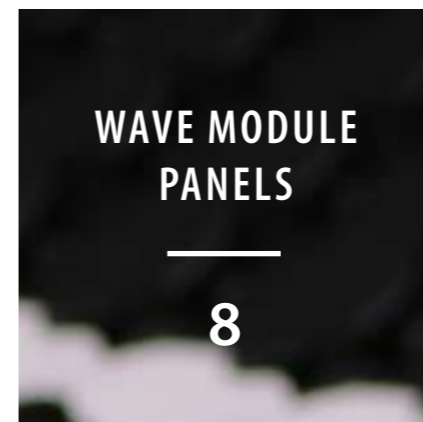
WAVE

Flip dot display system





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# MAKING WAVES

The WAVE flip dot panel modules use electromechanical dot matrix technology designed to create large display arrays and form fully customisable two tone display systems that can be linked with DALI lighting control systems.

Reminiscent of a bygone age of analog display technology, WAVE system provides a contemporary retro solution in our overly digitised world to create unique, audibly visceral and physically interactive installations within a space.

- Video art & graphical installations.
- Message boards.
- Information signs & displays.
- Lighting & DALI connections.
- Large, small module panels or even curved systems possible.

Many display applications are possible from large or small modular systems with even curved systems possible. We hope WAVE system will inspire light artists and designers from all disciplines to imagine new and creative applications for this technology.



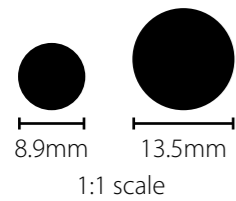


# WAVE MODULE PANELS

## Technical information

Designed for building into larger displays, each WAVE module is equipped with an on-board controller requiring just 24V DC power supply and media data source. The frameless, modular design with edge to edge dot matrix ensures seamless array configurations can be assembled and mounted within the robust aluminium frame. Panels can be driven with any RS-485 capable device (Recommended Arduino, Raspberry Pi, Mac/PC with USB/RS-485 converter).

See diagrams on opposite page showing the available WAVE modules.



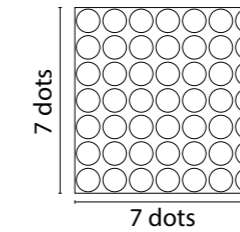
WAVE modules are available with two disk diameters 13.5mm (0.53") or 8.9mm (0.35").

## KEY FEATURES

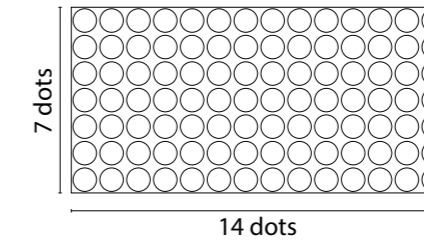
- Dot colour configuration: Black/White / Black/Red / Black/Green (Custom colours on request)
- Dot sizes: 8.9mm or 13.5mm Ø
- WAVE module dot resolutions: 7x7 / 7x14 / 7x28 / 14x28 14x28
- Power Supply: 24V DC
- Control interface: RS-485 / LAN
- Custom installation with DALI lighting integration
- Flat or curved installations possible

## Dimensions

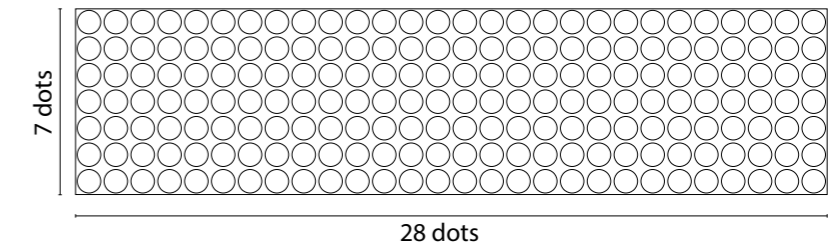
13.5mm Ø dot = 106.75 x 106.75mm  
8.9mm Ø dot = N/A



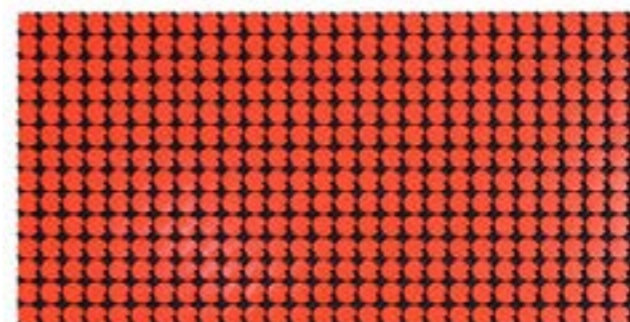
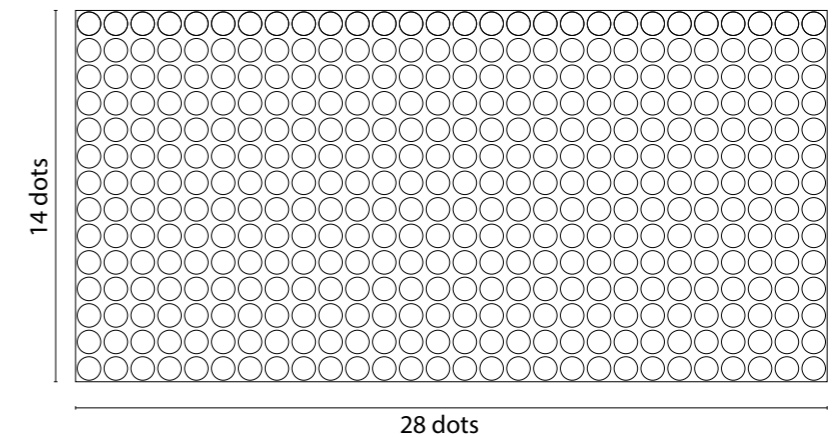
13.5mm Ø dot = 216.06 x 106.75mm  
8.9mm Ø dot = N/A



13.5mm Ø dot = 432.12 x 106.75mm  
8.9mm Ø dot = 284.15 x 70.91mm



13.5mm Ø dot = 432.12 x 213.48mm  
8.9mm Ø dot = 284.15 x 141.82mm



Front view (Red dot colour)



Rear view



# INSTALLATION

Operative temperature: -40° C to 80° C

Relative Humidity: 5 to 95% non-condensing (at 40° C)

A typical panel assembly consists of:

- Construction frame
- Housing
- RS-485 data source (PC with RS-485 output)
- Supplied with protective bolt-on cover during transit

Installations should be carried out by a qualified professional.

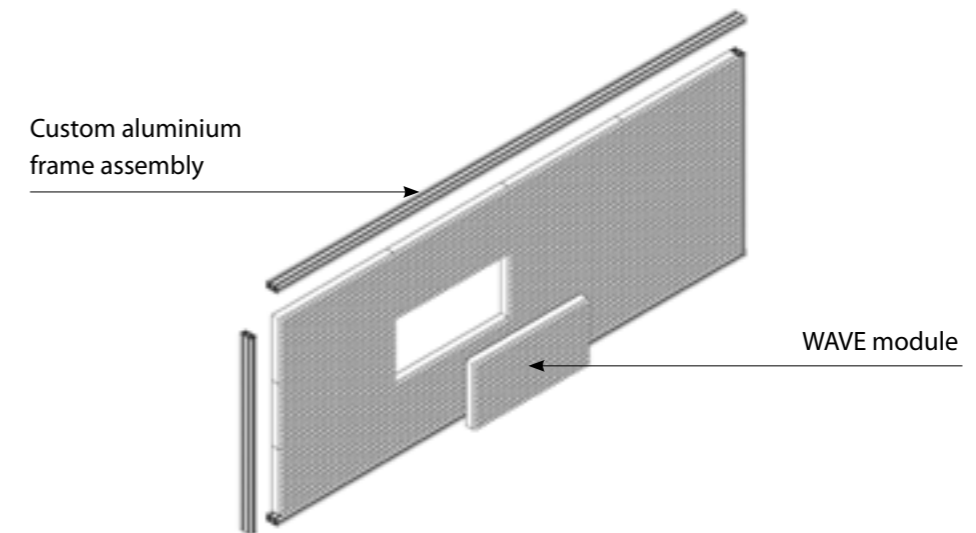
For most applications flip dot displays should be covered with a housing to protect against dust and humidity, and such housings must be ventilated in order to reduce temperature resulting from sun load.

Data transmission is realised with standard RJ11 cables and there are two types of connection methods as shown on the opposite page:

1. USB/RS485 converter with all modules connected to one RS485 channel.
2. Ethernet/RS485 converter where panels are driven from multiple channels.

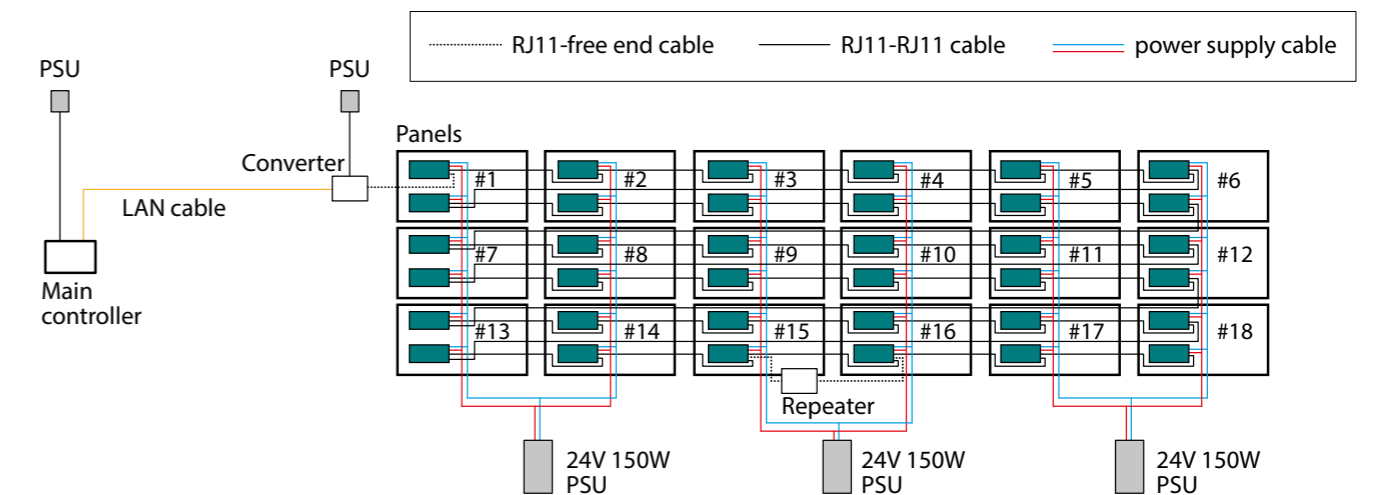
One 150W 24V Meanwell power supply is recommended per six WAVE modules.

# CONSTRUCTION & ASSEMBLY



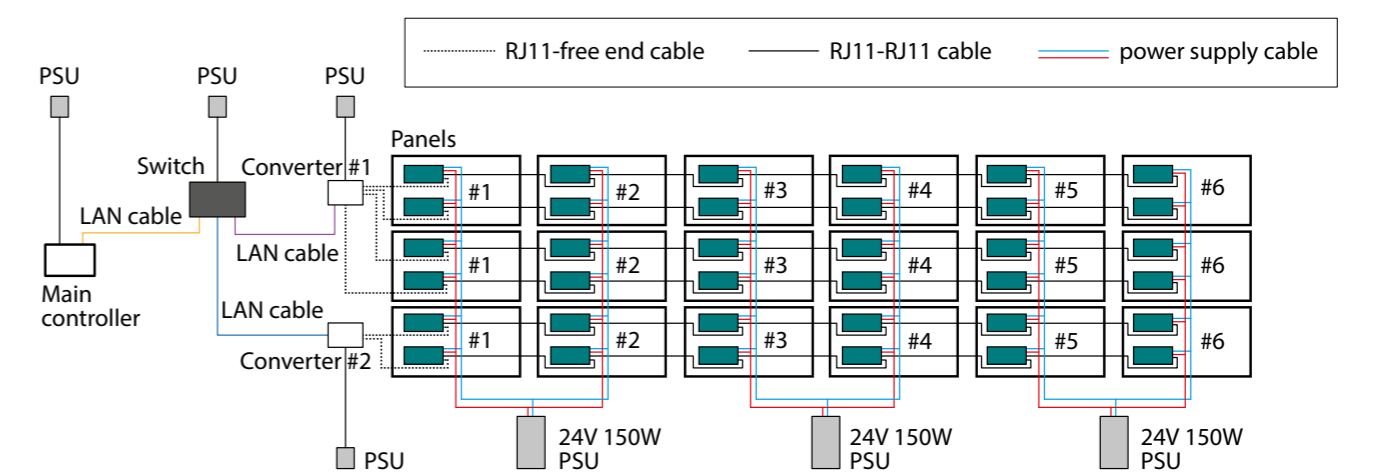
## Connections – single RS485 channel layout

(Ethernet to RS485 converters with 1 output OR USB/RS485 converter)



## Connections – multi RS485 channel layout

(Ethernet to RS485 converters with 1+ outputs)



For larger installations it is recommended to use Ethernet (LAN) to RS-485 converters with multiple outputs. Super fast speed of 15 frame per second is achieved by keeping a low number of controllers on a single data line.



# APPLICATIONS AND INTEGRATION

Typically WAVE modules are assembled to your size specification within a black anodised aluminium frame that can be surface mounted or flush mounted according to architectural design detail. A tough bolted-on cover then remains in place during installation to protect the dot matrix.

It is also possible to arrange in curved formations as shown in the image below.



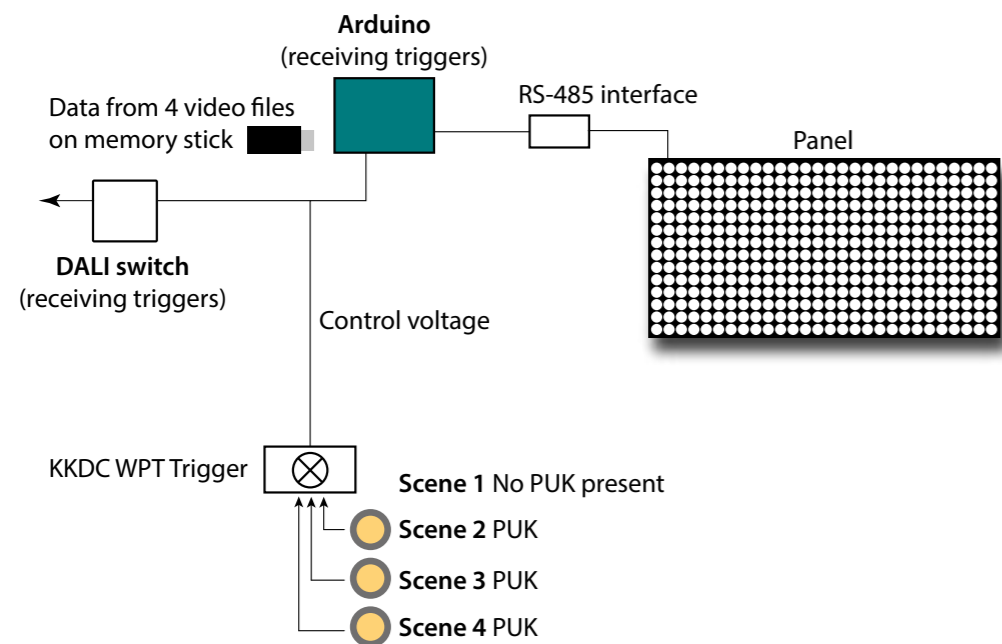
ORBITAL circular kinetic sculpture VW Autostad.  
Design by Polyphon & Christopher Bauder from WhiteVOID

## Media Types & Functionality

- Flat or curved systems
- Playing video (BMP, MP4, GIF, AVI)
- Scrolling text
- Streaming live camera or video
- HDMI inputs

# DALI LIGHTING SYSTEM CONTROLS

DALI lighting scenes and video or input switching for the WAVE modules can be triggered simultaneously with integration of KKDC WPT (wireless power transfer) technology. Speak to your local KKDC representative to discuss all custom possibilities of WAVE modules.

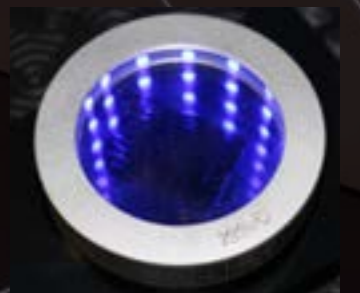


## CASE STUDY KKDC LIGHT + BUILDING 2022

Featured as the focal point on our lighting exhibition stand at Light + Building 2022, a 680 x 1760mm WAVE panel was integrated into the wall design and configured to work with the DALI lighting control system from HELVAR.

Physical scene interaction was achieved via 3 custom PUK disc 'switches' which functioned by wireless power transfer technology (WPT).

Each PUK switch activator would then initiate the WAVE animation with a synchronised lighting effect across the wall to create the 3 scenes of 'fire', 'water' and 'lightning'.





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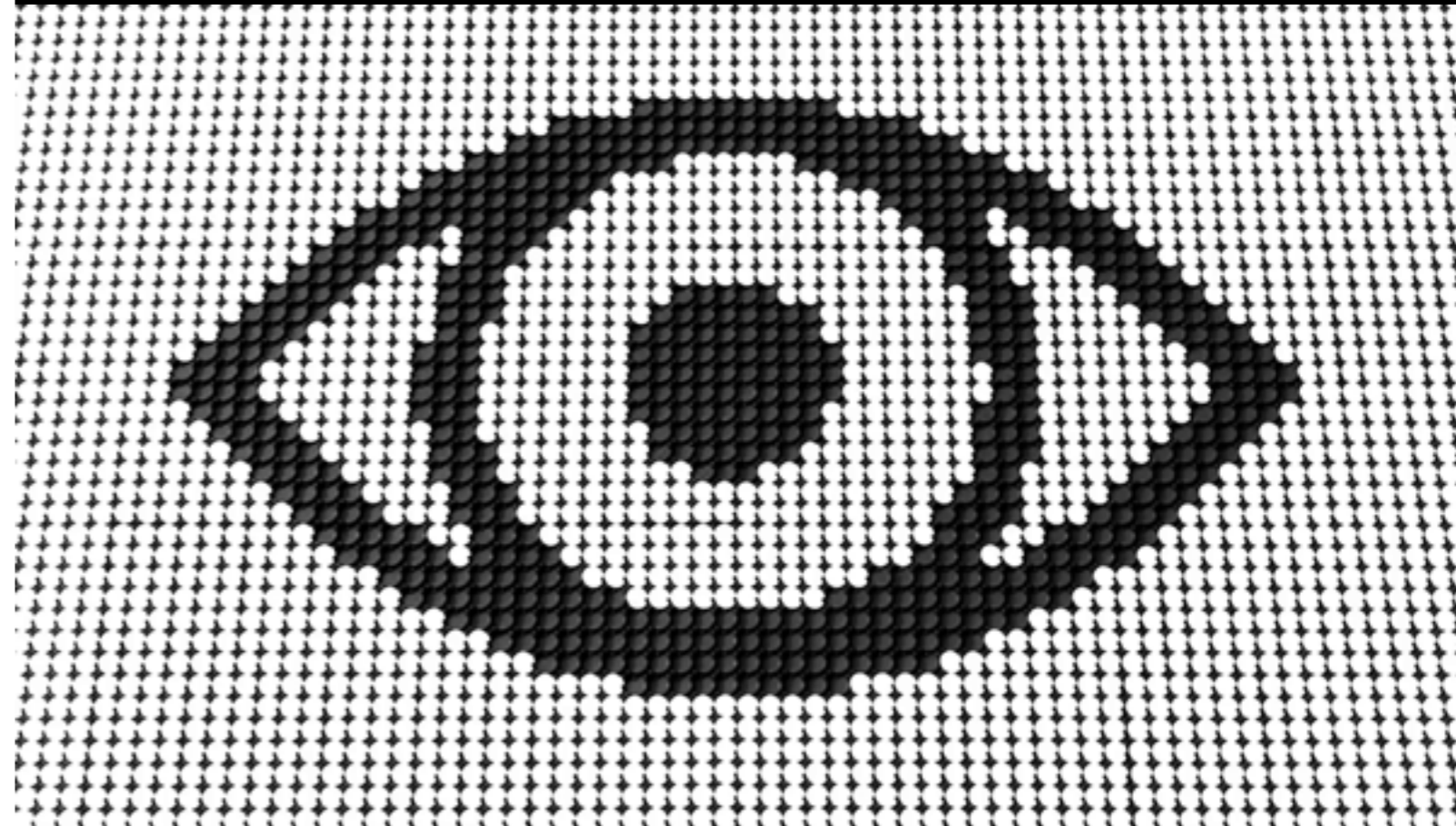
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Play AR ▶





WAVE