Touch Panel Controller

The Pharos TPC (Touch Panel Controller) is an elegant lighting controller with a customisable, 4.3" capacitive touchscreen, 512 channels of eDMX output and vast interfacing potential, all over a single Power-over-Ethernet (PoE) network connection. TPCs are available in a range of different coloured bezels and overlays.
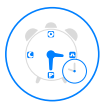
TPC Features

Touch Interface

A 4.3" vivid colour capacitive touchscreen makes navigating your project's controls appealing and intuitive. It's quick and easy to activate presets, manual overrides, or use a custom colour picker to personalise your lighting. The TPC puts control of your Pharos Designer system at your fingertips.

Designer Engine

The intelligent Designer Engine gives you complete control of your installation. Based on individually controllable and independently running timelines and scenes, it lets you build dynamic, precise, fully customisable pre-programmed lighting displays, all while giving you the freedom of real-time manual overrides, flexible multi-zone control, prioritisation and more.

Designer Trigger

Timing is everything. Whatever the stimulus, Designer Trigger can handle it. You can control your lighting with responsive, reactive programming.Designer Trigger is a rules engine that uses conditional logic and a broad range of interfaces and protocols. Send and receive any command, to and from any system. Conditional logic is supported, along with a powerful built-in scripting language for unlimited flexibility.

Scalable

The right fit for every installation. Multiple Pharos Designer Controllers can be seamlessly linked together to work as one via a standard Ethernet network giving impressive scalability. For additional integration options simply add Remote Devices to further extend the network. Whether one Controller or many, it's all easily programmed using our Designer software.

Remote Management

Future-proof your lighting projects by connecting your Designer controllers to Pharos Cloud. This allows direct control of your Controllers from anywhere in the world, letting you check all of your Controllers' statuses, inputs and outputs, firing triggers, scheduling events, uploading new projects and much more. All Designer Controllers also have their own Web Interface that can be accessed on a local area network that provides real-time statuses, access to the full log and the ability to fire triggers on the controller.

Flexible

Be limited by your design brief, not your control system. Our products support a vast range of different fixture types and can output multiple DMX-over-Ethernet (eDMX) lighting protocols at the same time. No other system gives you this level of flexibility and control over your project.

Pharos Designer

Programmed and configured using the free Pharos Designer software – available for Windows or macOS – with upload over Ethernet.
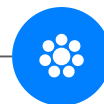
Reliable

Hardware and firmware are self-sufficient, so no PC needs to be left on site. Rugged, compact unit designed for 24/7 operation and reliability.

EXT

DIN rail mounting companion product provides PoE power, DMX and DALI outputs, RS232 serial and 8 digital/analog inputs for triggering and integration.

Supported Fixtures

LEDs	Any colour configuration e.g. RGB, RGBW, 8-bit, 16-bit, tuneable white
Generic	Downlights, spotlights, uplights, etc. via controllable dimmers, relays or ballasts
Intelligent	Moving and multi-parameter fixtures
Fountain Jets	Fountain jets for fountain animation or other animatronics
Fixture Library	Pharos offers a cloud library with over 30,000 fixture profiles, for easy download of your luminaires

Output

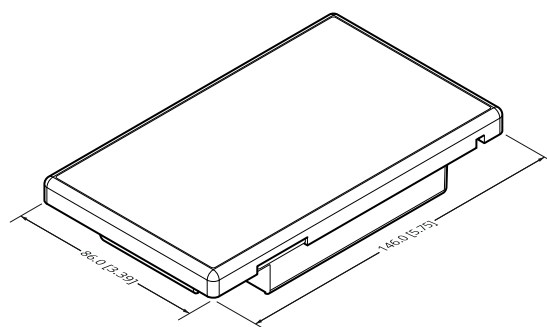|	
sACN	ANSI E1.31 (with per fixture priority) standard
Art-Net	Art-Net I, Art-Net II and Art-Net 3. Configurable broadcast override
KiNET	KiNET V1, V2, V3; PDS/Data Enabler discovery
Pathport	Pathway Connectivity protocol
DMX512	Via EXT or second port on LPC 1
RDM	Via Art-Net, EXT or EDN: supports discovery and addressing via Designer 2 software
EDN	Via EDN: natively integrate, and output DMX, with the EDN
SPI	Via EDN+SDI: synchronous and asynchronous serial data output
DALI	Via EXT or RIO D4. Interface limits apply. DALI ballasts do not count towards used channels.
Simultaneous	Multiple protocols can be in operation simultaneously. Limited by patched channels, not universes used
Scalable	Synchronises with up to 40 Pharos Designer Controllers over network

Triggering & Integration

Startup	Commences programmed playback automatically on receiving power
Touchscreen	Buttons, sliders, colour picker, etc.
Clock	Battery-backed real-time clock for calendar and time-based triggers
Astronomical	Sunrise/Sunset/Twilight and Lunar phases
Temperature	Trigger on changes or entering a range
Ethernet	UDP, TCP, Multicast; send/receive any Ethernet message
eDMX	sACN or Art-Net
DALI	Via EXT or RIO D4: transmit and receive DALI commands
Serial Data	Via EXT: RS232; via RIO: RS232 or RS485; configurable ports; send/receive free syntax in ASCII, HEX or decimal
MIDI	MIDI Notes, SysEx or MIDI Time Code
Timecode	Via RIO A: Linear Timecode (SMPTE, Film, EBU, NTSC)
Audio Level	Via RIO A: stereo 30-band spectrum analysis
Inputs	Via EXT or RIO: contact closure, active low, active high or 0-24V analog level
Outputs	Via RIO: isolated relay outputs (48V, 250mA)
Web Interface	Built-in or custom designed
Wall Stations	Integrate with BPS, TPS or TPC
Conditions	Full conditional logic support
Scripting	Lua scripting for total flexibility
IO Modules	Supports our extensive IO Module library for easy integration
Scalable	Supports Pharos Designer Remote Devices

Interfaces

Ethernet	RJ45 socket for 10/100Base-TX Ethernet with Link/Data LEDs; Static IP or DHCP; Dual IP address for eDMX
Touchscreen	4.3" capacitive touch, 480×272 24bpp; 340 cd/m2; magnetic overlay
IR Sensor	Learning IR sensor for remote control
Temperature	Built-in ambient temperature sensor

Specifications

Power	PoE (IEEE802.3af, Class 2), 4W typical
Configuration	Pharos Designer 2
Data Storage	Removable SD Card (supplied)
Temperature	0°C to 50°C (32°F to 122°F)
Humidity	10-50% relative, non-condensing
Ingress	IP40
Physical	Wall mounted, partly recessed in UK 2-gang 35mm or custom US 2.5" backbox (supplied separately) 14.6 x 8.6 x 3.2 cm (5.8 x 3.4 x 1.3 in) 0.25 kg (0.55 lbs)
Shipping	20 x 15 x 12 cm (8 x 6 x 5 in) 0.6 kg (1.3 lbs)
Recovery	Hardware watchdog and recessed reset button

Order Code & Variants

TPC BB	Designer Touch Panel Controller Black-on-Black (512 channels eDMX)
TPC WW	Designer Touch Panel Controller White-on-White (512 channels eDMX)
TPC FBB	Flush back box
TPC SBB	Surface back box
EXT	Extension for TPC connectivity (DMX, DALI, IO, serial, mains-powered)

If no colour is specified, TPC BB will be shipped by default

Colour Information

Jet Black	Bayblend T45 (UL94 HB) RAL 9005 jet black
Signal White	Bayblend T45 (UL94 HB) RAL 9003 signal white

Warranty & Certifications

Warranty	5 years
Certifications	CE compliant, UKCA compliant, ETL/cETL listed, may be used as part of a Title 24 compliant lighting control system.

TPC24001

TPC Extension

The Pharos EXT is an extension for the Pharos TPC and together they form a standalone, mains-powered lighting controller with versatile output and show control options. The TPC is a powerful lighting controller with Ethernet-based output and integration options. However, many DMX and DALI installations don't need the added complexity of network infrastructure. The EXT provides local DMX and DALI output for the TPC, as well as power and other hardware interfaces.

EXT Features

Extend

The EXT is an optional extension for a single Pharos TPC. Together they can function as a standalone control system, or scale with other Designer devices over a network. The EXT supplies power and data to the TPC via a single cable, and provides physical interfaces including both DMX and DALI.

Designer Trigger

Timing is everything. Whatever the stimulus, Designer Trigger can handle it. You can control your lighting with responsive, reactive programming. Designer Trigger is a rules engine that uses conditional logic and a broad range of interfaces and protocols. Send and receive any command, to and from any system. Conditional logic is supported, along with a powerful built-in scripting language for unlimited flexibility.

DALI Control

Control up to 64 DALI devices from the EXT, with support for commissioning with DALI discovery and configuration commands. Pharos Designer includes a convenient drag-and-drop interface for DALI patching and timeline programming. DALI emergency ballasts are also supported with the ability to schedule automatic Function and Duration tests, automatic querying for battery level and lamp hours, and a full test result and error reporting web page.

DALI Triggering

Pharos Designer can also integrate with an existing DALI installation by listening in to DALI control messages sent by another control system or a DALI wall panel and using these as triggers for actions within the Pharos Designer system.

Serial Data

The EXT has an RS232 serial port, whose data rate and format settings (baud, parity, stop bits, etc.) are configurable in software.

Pharos Designer

The EXT requires no additional configuration in the Pharos Designer 2 software – everything is programmed via the TPC in the Designer project file, as if the TPC supported all the additional hardware interfaces directly.
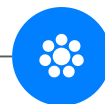
Flexible Inputs

Each input is individually configurable in one of three modes. As a Contact Closure an external volt-free switch may be connected across the input. As a Digital Input an external voltage source (up to 24V) can be connected across the input and thresholds for 'high' and 'low' triggering can be set. As an Analog Input a variable external voltage can be measured within a configurable range.

Installer Friendly

Made for permanent installation, with installer-friendly 0.200" (5.08mm) plug-in rising clamp terminals, a rugged, compact enclosure, and easy DIN rail mounting.
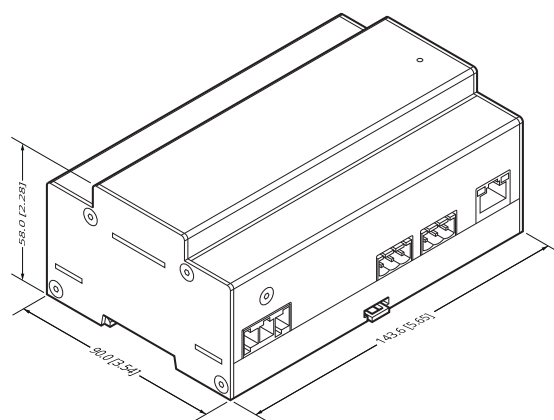
Capabilities

Contact Closure Connect an external volt-free switch between input and ground (internal 2.2k pull-up to 5V)

Digital In Connect an external voltage source between input and ground (24V maximum; internal 2MOhm pull-down to 0V); software configurable low/high threshold

Analog In Connect an external voltage source between input and ground (24V maximum); software-configurable range

Serial Data RS232; configurable port; send/receive free syntax in ASCII, HEX or decimal

DALI Control Control for up to 64 DALI devices including device discovery and configuration

DALI Receive Receive DALI messages from other controllers such as wall panels or occupancy sensors

Emergency Lighting Schedule automatic Function and Duration tests; automatic querying for battery level and lamp hours; test result and error reporting web page

Bus Power Detection Detect and report bus power status, a separate DALI bus power supply is required

Interfaces

TPC PoE RJ45 socket with Link/Data LEDs for direct connection to TPC only (100m max distance)

Ethernet RJ45 socket for 10/100Base-TX Ethernet with Link/Data LEDs; Fixed IP or DHCP

DMX512 Isolated DMX port, RDM compatible *

DALI Port can transmit and receive DALI commands *

Supports DALI standards: EN 62386-101:2009, EN 62386-102:2009, EN 62386-202:2009, EN 62386-209:2011

Serial RS232 *

Inputs Individually selectable operating mode for contact closure, digital or analog input (24V maximum) *

Specifications

Power 100-240V AC *, 50-60Hz, 0.1A, 10W typical

Required Pharos TPC

Configuration Pharos Designer 2

Temperature 0°C to 50°C (32°F to 122°F)

Humidity 10-50% relative, non-condensing

Ingress IP40

Physical 8 unit wide DIN rail mounting enclosure (DIN43880 / EN60715 (35/7.5 rail))
14.4 x 9 x 5.8 cm (5.7 x 3.5 x 2.3 in)
0.5 kg (1.1 lbs)

Shipping 20 x 15 x 12 cm (8 x 6 x 5 in)
0.7 kg (1.6 lbs)

Recovery Hardware watchdog and recessed reset button

Order Code & Variants

EXT Designer Extension for TPC connectivity (DMX, DALI, IO, serial, mains-powered)

Pharos Designer TPC required

Warranty & Certifications

Warranty 5 years

Certifications CE compliant, UKCA compliant, ETL/cETL listed.

* Install-friendly 0.200" (5.08mm) plug in rising clamp connectors (included)