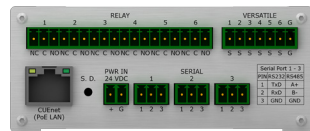


# smartCUE-relay

Lightweight Controller with Serial, Versatile and Low-voltage Relay Ports



## Main Features

- Wired 10/100 BaseT LAN for CUEnet<sup>2</sup> system communication
- IP device control and e-mails not supported
- 3x Bi-directional serial RS-232/485 port
- 6x Versatile port
- 6x Low-voltage relay
- ARM<sup>®</sup> processor platform
- Onboard real time clock
- IR code capture sensor
- Front panel indicators
- 24 VDC or Power over Ethernet power supply
- Compact aluminium enclosure for desktop and 19" rack
- Web server and Admin Web pages for setup

## Description

The smartCUE-relay is lightweight controller with three bi-directional RS-232/485 control ports, six versatile ports and six low-voltage relays. Fully compatible with CUE touch panels, this controller can work as standalone device. Depending on the application each versatile port can be used as an input or output.

Versatile port input modes are as follows

- Digital input for potential free contacts, pushbuttons, switches, digital inputs 24 V, S0 energy meter outputs, etc. In addition this mode can be used for pulse counting and digital signal frequency measurement.
- Resistance input for temperature sensors, resistors, potentiometers, etc. Standard temperature sensors Pt1000, Ni1000, NTC 12k, KTY 81-121 can be connected and allow temperature measurement with accuracy 0.5 °C.
- Voltage input for sensors equipped with voltage output.
- Current loop passive input for sensors equipped with current loop output 0 / 4 ÷ 20 mA. External resistor is needed for this mode.

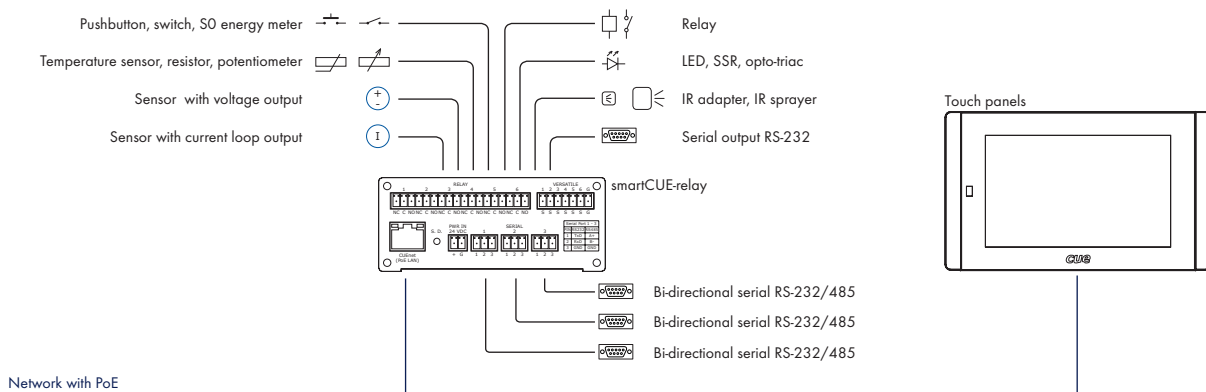
Versatile port output modes are as follows

- Digital open collector for driving a relay coils, LED indicators, LED strips, etc. External voltage max. 30 V, max. load is 200 mA.
- Current-source pull-up 12 V / 10 mA for LED, opto-triac, SSR, etc.
- Current-source pull-down -12 V / 10 mA for LED, opto-triac, SSR, etc.
- IR output for IR adapters and sprayers, max. carrier frequency 500 kHz.
- Serial RS-232 output for serial controlled devices, baud rate 300 Bd ÷ 115 200 Bd (bps).

The controller keeps date and time with its onboard real time clock (RTC) and thus allowing for a wide variety of distributed intelligence scheduling applications. Single cable Ethernet connection provides system communication with rest of Cue System. The controller is equipped with Power over Ethernet (PoE) technology enabling an Ethernet network cable to deliver both data and power. The controller installs easily on a table or into a 19" rack.

This controller comes with a web server and allows setup through a standard web browser. Unit programming is based on CUE's standard programming tool Cue Visual Composer.

## Application Diagrams



## Box Contents

- Controller smartCUE-relay
- 2x IR Adapter /i
- Connector set
- Ethernet cable
- Power supply 24 VDC / 24 W
- Data Sheet, Cue System Connector Wiring Sheet
- Declaration of Conformity

## Order Information

Product code CS0496

# smartCUE-relay



Lightweight Controller with Serial, Versatile and Low-voltage Relay Ports

## Specifications

### Control ports

- 3x Bi-directional serial, 3-pin 3.5 mm connector
  - RS-232/485 modes
- 6x Versatile, 7-pin 3.5 mm connector with common ground
  - Input protected to 30 VDC / -12 VDC
- Digital input
  - Adjustable threshold
    - High sensitivity: binary 0 < 1.45 V, binary 1 > 2.05 V
    - Low sensitivity: binary 0 < 5.8 V, binary 1 > 8.2 V
  - Input impedance >100 kΩ
  - Adjustable digital filter
- Digital pulse counter
  - Adjustable threshold and input impedance as above
  - Pulse length min. 1 ms, max. frequency 500 Hz
  - Max. number of pulses 2 147 483 647 (Long)
  - Adjustable digital filter

### Voltage input

- Range 0 ÷ 2.5 VDC, 0 ÷ 10 VDC, auto
- Input impedance >100 kΩ
- Resolution 12-bit, adjustable digital filter
- Accuracy ±0.1 % of reading, ±0.1 % of range (0.1 ÷ 10 V, digital filter applied)

### Resistance input

- Range 2 kΩ, 20 kΩ, 200 kΩ, auto
- Resolution 12-bit, adjustable digital filter
- Accuracy (digital filter applied)
  - 100 Ω ÷ 800 Ω: ±3 % of reading, ±0.1 % of range
  - 800 Ω ÷ 20 kΩ: ±0.3 % of reading, ±0.1 % of range
  - 20 kΩ ÷ 200 kΩ: ±1 % of reading, ±0.1 % of range

### Digital output

- Open collector
- Max. sink current 200 mA / max. 30 VDC
- Catch diodes for use with real load

### Current pullup

- Current-source pull-up 12 V / 10 mA

### Current pulldown

- Current-source pull-down -12 V / 10 mA

### IR output

- Maximum IR carrier frequency 500 kHz
- Up to 3 original IR Adapter / i in parallel

### Serial output

- RS-232, serial data baud rate 300 Bd ÷ 115 200 Bd (bps)

### Control ports

- 6x Relay
  - Normal close (NC), common (C) and normal open (NO) contacts
  - Max. 24 V / 0.5 A
- 6x 3-pin connector

### Network

- 10/100 BaseT Ethernet, RJ-45 connector
- System communication based on CUEnet<sup>2</sup> only
- IP device control not supported
- Emails not supported

### Internal IR sensor

- IR code capture

### LED indicators

- Blue Power - indicates power is presented and unit is ready.
- Green Link - indicates network link and activity.
- Yellow CPU - confirms the system default function is performed.
- Green Versatile - indicates output is closed.
- Yellow Versatile - indicates IR or serial data is being transmitted.
- Green Serial - indicates serial data is being transmitted.
- Red Serial - indicates serial data is being received.

### Button

- System Default sets default IP address and password.

### Real time and date

- RTC with battery backup

### Software technologies

- Admin Web
- XPL<sup>2</sup> inside

### Power supply

- 24 VDC (+/-20%), 3 W, 2-pin 3.5 mm connector
- Power over Ethernet, 802.3af compatible

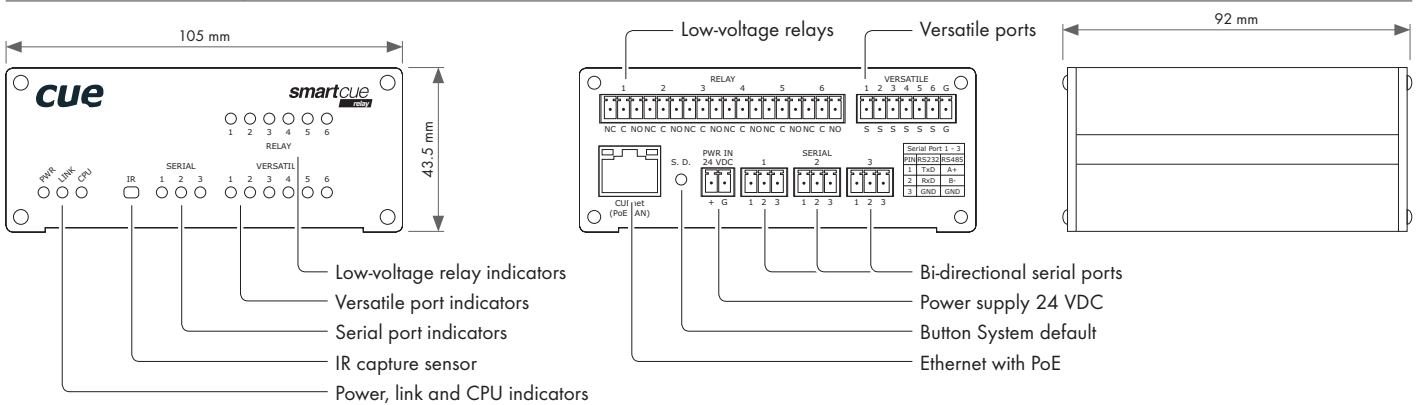
### Physical

- Compact aluminium enclosure
- Dimensions 105 x 43.5 x 92 mm / 4.14" x 1.7" x 3.6"
- 1/4 rack space, 1 U
- Weight 0.3 kg / 0.7 lb

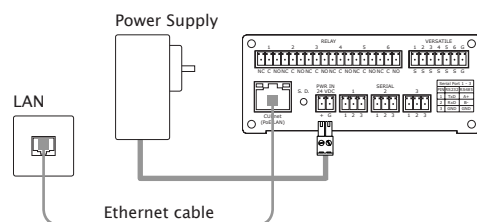
### Environment conditions

- Operating temperature 10° to 40° C
- Storage temperature 0° to 60° C
- Relative humidity 10% to 90% non-condensing

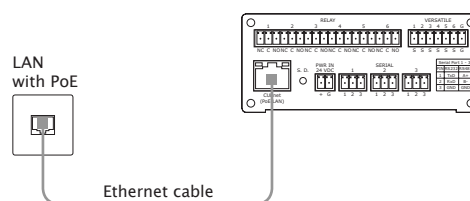
## Mechanical Description



## Power Supply



Delivered power supply 24 VDC can be used for areas without PoE infrastructure.



The integrated IEEE 802.3af PoE support allows installation in areas where PoE network infrastructure is installed.