

# relayCUE-8

Eight Power Relays Controlled by Serial Channel

**cue**



## Description

The relayCUE-8 is an eight-channel relay switching unit for loads up to 10 A per channel. The unit can be controlled by serial channel RS-485 and by potential free contact inputs. These contact inputs are intended to be used mainly as "wall switches" for direct control of dedicated relay circuits. To fulfil various tasks, the input operation can be assigned to different functions by setting their functional parameters in the project configuration. The programmable parameters are response on the input, delayed on / off, pulse, and drapes and motor control sequence. Basic parameters can be set using buttons on front panel, other parameters are set by serial channel. Front panel includes LED indicators for power supply, serial channel activity and status of all power relays. The unit can be combined with all Power Express units. The enclosure allows simple installation on a DIN rail.

## Box Contents

relayCUE-8  
Connector set  
Cable RS-485 5-pin to RJ-11  
PEbus cable adapter  
Data Sheet  
Cue System Connector Wiring Sheet  
Warranty Conditions, Declaration of Conformity

## Order Information

Product codes  
CS0335-1 version 110 VAC  
CS0335-2 version 230 VAC

## Applications

- Complete residential automation
- High-tech homes
- Commercial single-room applications
- Meeting rooms, conference rooms, boardrooms
- Huge multi-room and multi-floor distributed systems

## Main Features

- Power relay unit up to 10 A per channel for resistive loads
- Eight independent potential free switching outputs
- Eight inputs for external switches (wall buttons, etc.)
- Controlled by serial channel RS-485
- Test buttons on front panel
- Indication of power and serial channel activity
- Indication of power relay status
- Unified enclosure designed for DIN rail installation
- Easy installation

## Specifications

Control ports  
8x Digital contact closure input, 2x 8-pin connector

Power ports  
4x Potential free relay C-NO, up to 230 V  
Max. 10 A for resistive loads  
Max. 400 W per relay for inductive or capacitive loads  
4x Potential free relay NC-C-NO, 230 V  
Max. 10 A for resistive loads  
Max. 400 W per relay for inductive or capacitive loads  
Terminals 1.5 mm<sup>2</sup>

LED indicators  
Power, serial channel activity, all power ports

Buttons  
8x Test button for power relay control  
1x ACT button for address and bank settings

Insulation strength  
2.5 kV between power and control circuits

Serial communication  
RS-485, 5-pin connector

Insulation strength  
2.5 kV between power and control circuits

Power supply  
110 or 230 VAC, 50 / 60 Hz, 6 W  
Terminals 1.5 mm<sup>2</sup>

Physical  
Plastic DIN rail compatible enclosure  
Dimensions  
159 x 90 x 58 mm / 6.2" x 3.5" x 2.3"  
9 DIN modules 17.5 mm  
Weight 0.5 kg / 1.1 lb

Operating environment  
Temperature 0° to 60° C  
Humidity 10% to 90% non-condensing

### Application Note

The relay contacts are constructed for resistive load up to 230 V / 10 A. If these relays are used for the switching of inductive or capacitive loads, voltage or power peaks can occur, which may exceed these parameters even if the load has the stated take-off lower than 230 V / 10 A. We therefore do not recommend using relayCUE-8 for switching inductive or capacitive loads with take-off higher than 400 W. If you need to switch higher inductive or capacitive loads, use contactors. Unlike relays, contactors are designed with features to control and suppress the arc produced when interrupting inductive load currents. You can then use the relay of the unit to control the coil of this contactor.

### Utilization Categories

Utilization categories for contactors according to IEC 947-4-1

Alternating current	
AC-1	Non-inductive or slightly inductive loads, resistance furnaces. Power factor 0.7 - 0.8 (slightly inductive).
AC-2	Slip-ring motors: starting, switching-off.
AC-3	Squirrel-cage motors: starting, switching-off motors during running. Power factor 0.4 - 0.5 (AC-3).
AC-4	Squirrel-cage motors: starting, plugging, inching.
AC-5a	Switching of electric discharge lamp controls.
AC-5b	Switching of incandescent lamps.
AC-6a	Switching of transformers.
AC-6b	Switching of capacitor banks
AC-8a	Hermetic refrigerant compressor motor control with manual resetting of overload releases
AC-8b	Hermetic refrigerant compressor motor control with automatic resetting of overload releases.
Direct current	
DC-1	Non-inductive or slightly inductive loads, resistance furnaces.
DC-3	Shunt motors: starting, plugging, inching. Dynamic breaking of d.c. motors.
DC-5	Series motors: starting, plugging, inching. Dynamic breaking of d.c. motors.
DC-6	Switching of incandescent lamps

Utilization categories for contactor relays according to IEC 947-5-1

Alternating current	
AC-12	Control of resistive loads and solid state loads with isolation by opto couplers.
AC-13	Control of solid state loads with transformer isolation.
AC-14	Control of small electromagnetic loads ( $\leq 72$ VA).
AC-15	Control of electromagnetic loads ( $> 72$ VA).
Direct current	
DC-12	Control of resistive loads and solid state loads with isolation by opto couplers.
DC-13	Control of electromagnets.
DC-14	Control of electromagnetic loads having economy resistors in circuit.

### Contactor Applications

A contactor duty is characterized by the utilization category plus indication of the rated operating voltage and the rated operating current, or the motor characteristics.

In fact some contactor applications and the specific criteria characterizing the types of load controlled can modify the recommended utilization characteristics. These major applications are, for example:

- **Switching of capacitor banks**  
This application is characterized by high current peaks when switching-on the contactor and presence of harmonic currents on uninterrupted duty. For this application, IEC 947-4-1 has defined an utilization category AC-6b. Practical ratings have to be defined according to tests or, in absence of tests, by a calculation indicated in IEC 947-4-1.
- **Switching of transformers**  
This application is characterized by high current peaks on contactor closing due to magnetization phenomena. The corresponding utilization category according to IEC 947-4-1 is AC-6a. Ratings are derived from test-values for AC-3 or AC-4 according to formula given in IEC 947-4-1.
- **Switching of lighting circuits**  
The current peaks on contactor closing and power factor vary depending on the type of lamps, the switching method used and if compensation systems are fitted or not. IEC 947-4-1 contains two standard utilization categories  
- AC-5a for switching of the electric discharge lamps.  
- AC-5b for switching of incandescent lamp.