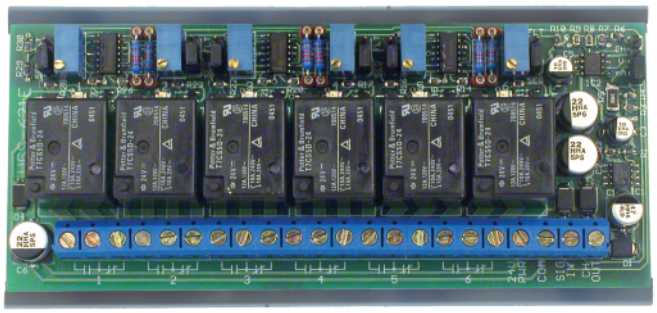
TRANSDUCERS

SEQUENCER CONTROL MODULE - SIX STAGE

MODEL UCS-621E

DESCRIPTION

The **Model UCS-621E** is a solid-state device used for multistage control in HVAC systems, sequencing boilers or chillers. The **Model UCS-621E** can be used to obtain a digital output from a voltage or current producing sensor. Units may be daisy chained to provide additional stages of control, and a mounting track is supplied for easy installation.



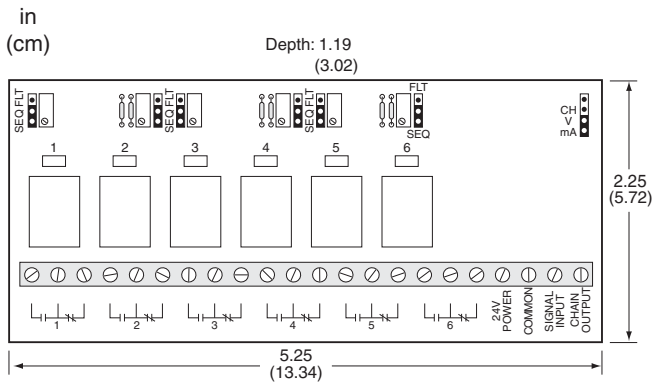
FEATURES

- ***Six stages of relay control***
- ***Voltage or current input***
- ***24 VAC/VDC power***
- ***LED indication of relay status***
- ***Adjustable relay setpoints***
- ***Adjustable relay differentials***
- ***Snap-track mounted***

OPERATION

The **Model UCS-621E** accepts a 0-20 mA or 0-15V input signal to produce a six-stage relay output. Each relay has a multi-turn potentiometer adjustment to set the pull-in point. Each of the six relays is jumper-selectable to pull in on either a rise or fall in signal. Individual relay differential is easily adjusted by using different value plug-in differential resistors. Multiple UCS models can be daisy chained to operate additional stages from one input signal. A maximum of eight slave units can be daisy chained.

DIMENSIONS



SPECIFICATIONS

Supply voltage	24 VAC ±10% @ 220 mA (half-wave) 24 VDC ±10% @ 110 mA
Input signal	0-20 mA or 0-15 VDC jumper selectable
Output	Six SPDT relays
Relay rating	10A @ 120 VAC
Accuracy/Repeatability	±1%
Setpoint adjustment	25-turn potentiometers
Input impedance	250Ω (mA input), 49.7 kΩ (V input)
Operating temp range	32° to 158°F (0° to 70°C)
Humidity limit	5% to 95% RH non-condensing
Dimensions	2.25"H x 5.25"W x 1.19"D (5.72 x 13.34 x 3.02 cm)
Weight	0.7 lb (0.32 kg)
Relay differential	0.5 mA or 0.375V (adjustable by plug-in differential resistors - see wiring on next page)
Warranty	1 year

001-901-382-6084 International | 888-397-5353 USA | kele.com

SEQUENCER CONTROL MODULE - SIX STAGE

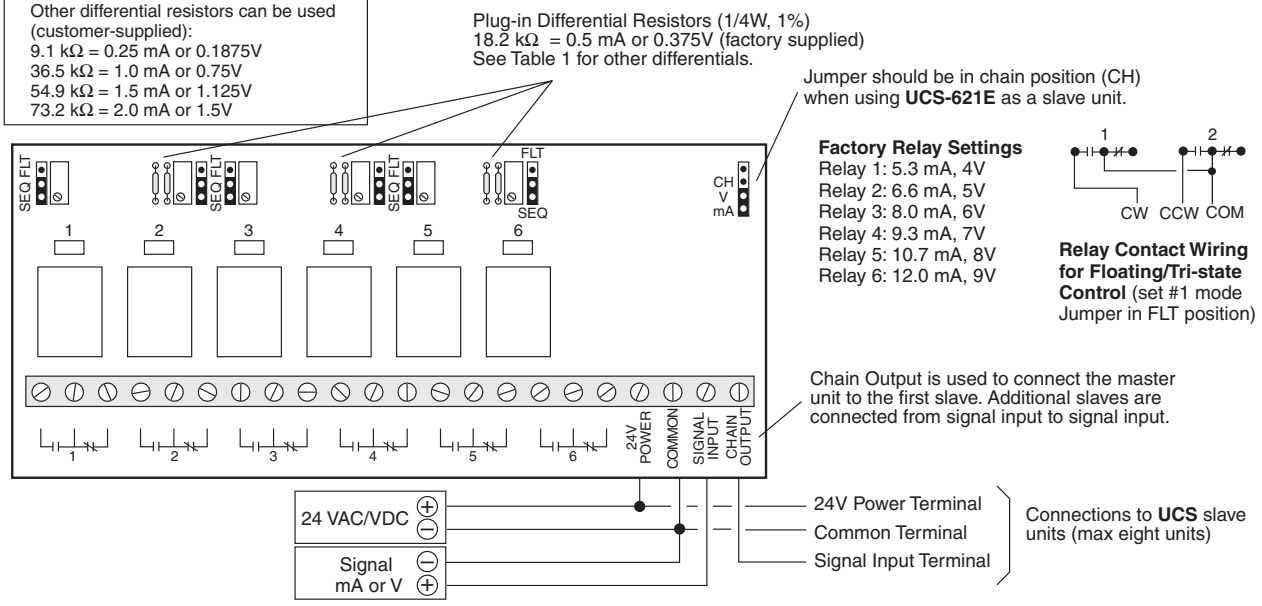
MODEL UCS-621E

WIRING

Make all connections according to the diagram below or as shown on the job diagrams and in compliance with national and local codes. Make all connections with power removed. Failure to do so could result in circuit board damage. Use shielded #18-gauge cable for connections from the **UCS-621E** to the controller, shield grounded at the controller.

TABLE 1. OTHER DIFFERENTIALS

Other differential resistors can be used (customer-supplied):
9.1 kΩ = 0.25 mA or 0.1875V
36.5 kΩ = 1.0 mA or 0.75V
54.9 kΩ = 1.5 mA or 1.125V
73.2 kΩ = 2.0 mA or 1.5V



SETUP / CALIBRATION

1. Set jumpers to desired position as follows:
   Mode jumpers - In FLT position, the relays energize on a decrease in signal. In the SEQ position, the relays energize on an increase in signal.
   Input jumpers - Select mA position for a 0-20 mA input or V position for a 0-15 VDC input. If the **UCS-621E** is used as a slave unit, place the bottle plug jumper in the chain position.
2. Connect a meter in series with the SIGNAL INPUT terminal and the 0-20 mA (+) signal to read a current signal. To read a voltage input, connect across the COMMON (-) and SIGNAL INPUT(+) terminals.
3. Adjust the input signal to the desired pull-in current or voltage for relay 1.
4. If Relay 1's LED is on, turn its setpoint adjustment clockwise (counterclockwise if Relay 1 has mode jumper in FLT position) until it de-energizes; otherwise, proceed to step 5.
5. Adjust Relay 1's pull-in point by turning its setpoint adjustment counterclockwise (clockwise if Relay 1 has mode jumper in FLT position) until the relay energizes. (The potentiometers are 25-turn potentiometers.)
6. Repeat steps 3, 4, and 5 for relays 2 through 6 using setpoint adjustments.
7. When using a 0-20 mA input, the CHAIN OUTPUT produces a 0-12 VDC signal, which is proportional to the input signal. Connections should be made between CHAIN OUTPUT and COMMON. If a voltage input is used, the CHAIN OUTPUT is directly proportional to the input.

ORDERING INFORMATION

MODEL	DESCRIPTION
UCS-621E	**Sequencer control module - six relay outputs, field calibrated**
UCS-621E-C	**Sequencer control module - factory-set custom relay settings** (Specify settings when ordering.)