SETPOINT CONTROLLER
UCM-420A

DESCRIPTION

The **Kele Model UCM-420A** is a low cost microprocessor-based Proportional plus Integral (PI) controller that may be used for a wide variety of control applications. All setup and programming is done by DIP switches and bottle plug jumpers on the **Model UCM-420A**. Set points may be local and/or remote. The output may be direct- or reverse-acting.

FEATURES

- ***PI control***
- ***DIP switch/jumper programming***
- ***Selectable throttling range***
- ***Selectable integral reset rate***
- ***Direct or reverse-acting***
- ***Setpoint potentiometer on unit***
- ***Optional DIN rail mounting***
- ***Optional setpoint potentiometer with stainless steel wall plate (UCM-SPA)***

UCM-420A

UCM-SPA-50-90F

MODES OF OPERATION

Setpoint Controller

The **UCM-420A** input monitors the process being controlled. This input may be a 4-20 mA or 1-5 VDC signal from a pressure sensor, flow transmitter, temperature sensor, etc., or an input from a Precon Type III temperature thermistor. Then, the **UCM-420A** provides a 4-20 mA PI output signal to control a valve, VFD, damper, etc., based on a setpoint as described below.

1. **Local setpoint controller-** The potentiometer mounted on the unit may be used to control the setpoint. The local setpoint may also be a UCM-SPA setpoint potentiometer, the setpoint option of a Precon Model ST-S3EXA temperature sensor, a 4-20 mA signal, or a 1-5 VDC signal.
2. **Remote setpoint controller-** In this mode, the setpoint signal may be a 4-20 mA, 1-5 VDC, or time-based pulse-width signal from a BAS controller.
3. **Remote setpoint controller with local adjustment-** The **UCM-420A** accepts a remote setpoint signal as described above in #2. Then, a local setpoint signal, as described in #1, may be used to adjust the setpoint. The local setpoint will have authority to adjust the setpoint ±12.5% of the input range. If the local setpoint is from a Precon ST-S3E-XA, it will have authority to adjust the setpoint ±9.4% of the input range.

Sample and Hold

The **UCM-420A** may be used to monitor a 4-20 mA or 1-5V control signal. If the signal being monitored is lost, the **UCM-420A** will hold the last valid value for the signal until the signal returns.

Pulse Width to 4-20 mA Converter

The **UCM-420A** may be used to convert a time-based pulse-width AC or DC signal to a 4-20 mA output.

4-20 mA Signal Generator

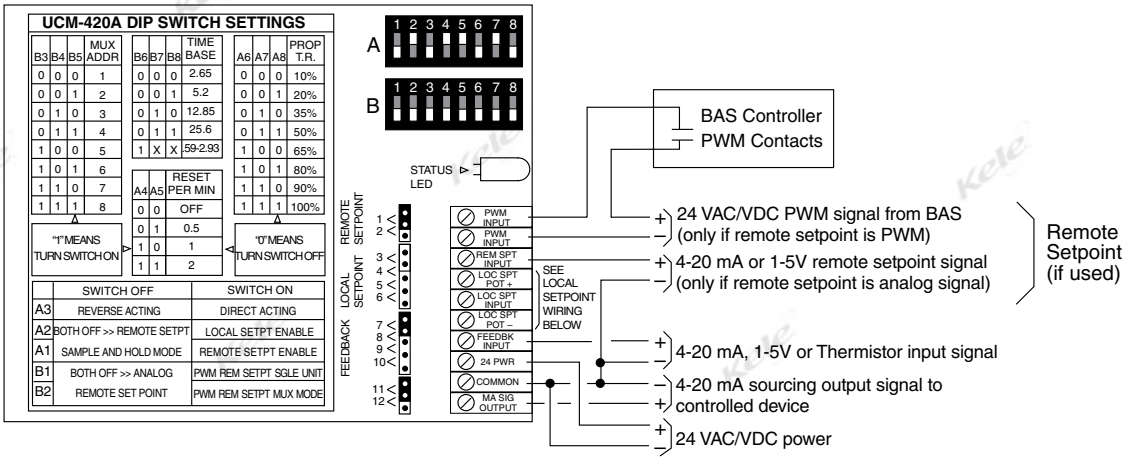
If the device to be controlled by the **UCM-420A** needs to be calibrated before the system is started up, the **UCM-420A** may be used to generate a 4-20 mA output in one mA increments.

SPECIFICATIONS

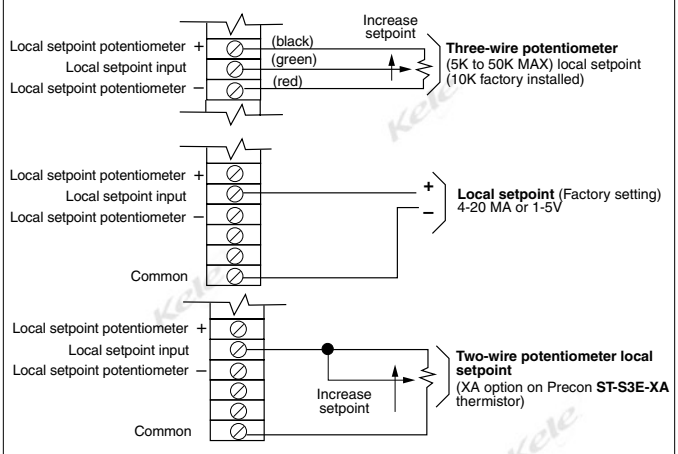
Supply Voltage	24 VAC/VDC ±10%
Supply Current	130 mA maximum @ 24 VAC, 65 mA maximum @ 24 VDC
Remote Setpoint Input	4-20 mA, 1-5 VDC, PWM
Local Setpoint Input	4-20 mA, 1-5 VDC, three-wire potentiometer or PreCon two-wire potentiometer (ST-S3E-XA)
PWM Time Base	0.1-2.65, 5.2, 12.85, 25.6, or 0.59-2.93 sec
Analog Output	4-20 mA sourcing
Output Resolution	255 steps
Output Burden	650Ω maximum
Input	4-20 mA, 1-5 VDC or PreCon Type III thermistor (thermistor range 50° to 90°F)
Input Impedance	250Ω (mA signal), 10 k (voltage signal)
LED Status	
Green	Power
Red	PWM output
Accuracy	±1%
Remote Setpoint Potentiometer	UCM-SPA 0-10kΩ
Enclosure	UL94V-0
Operating Temperature	32° to 158°F (0° to 70°C)
Operating Humidity	5 to 95% (non-condensing)
Weight	
UCM-420A	1.3 lb (0.61 Kg)
UCM-SPA	0.75 lb (0.34 Kg)
RoHS Statement	Yes
Warranty	18 months

SETPOINT CONTROLLER
UCM-420A

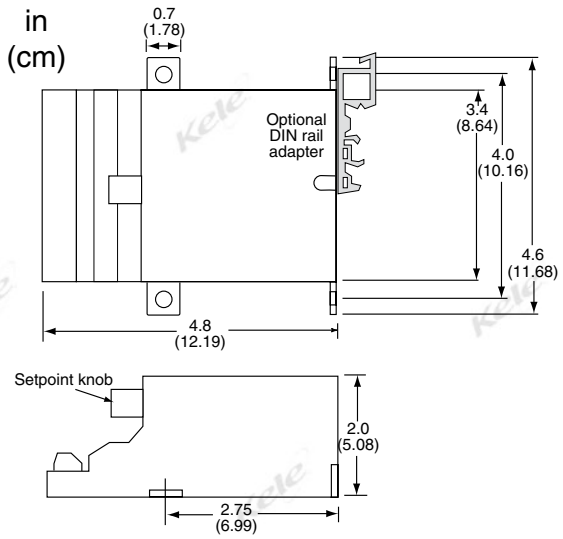
WIRING



LOCAL SET POINT WIRING OPTIONS



DIMENSIONS



ORDERING INFORMATION

MODEL	DESCRIPTION
UCM-420A	Setpoint controller with local setpoint potentiometer
	OPTIONS
	47 DIN rail mount (must be factory installed)

UCM-420A – **47**

Example: **UCM-420A-47** Setpoint controller with DIN rail mounting

RELATED PRODUCTS

UCM-SPA	Setpoint potentiometer, 0-10 kΩ, three-wire potentiometer on stainless steel plate for remote mounting, 0-100% setpoint
UCM-SPA-50-90F	Setpoint potentiometer for 50° to 90°F
UCM-SPA-C	Custom range setpoint potentiometer (specify at time of order, must match range of device wired to feedback input)