

## Plug-in Signal Conditioners K-UNIT

### PEAK HOLD

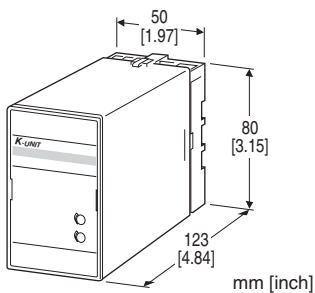
(non-isolated)

#### Functions & Features

- Track mode: the output follows proportionally to the input
- Peak-hold mode: responds only to an increasing signal, holding the maximum value until a higher signal or a command to reset is received
- Minimum value (valley) hold selectable
- Highdensity mounting

#### Typical Applications

- Monitoring peak power consumption



## MODEL: KH[1]-[2][3]-[4][5]

### ORDERING INFORMATION

- Code number: KH[1]-[2][3]-[4][5]
- Specify a code from below for each of [1] through [5].  
(e.g. KHH-6A-B/Q)
- Special input and output ranges (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

### [1] HOLD FUNCTION

- H: Peak hold  
L: Valley hold

### [2] INPUT

Current

- A: 4 - 20 mA DC (Input resistance 250 Ω)  
**A1**: 4 - 20 mA DC (Input resistance 50 Ω)  
 B: 2 - 10 mA DC (Input resistance 500 Ω)  
 C: 1 - 5 mA DC (Input resistance 1000 Ω)  
 D: 0 - 20 mA DC (Input resistance 50 Ω)  
 E: 0 - 16 mA DC (Input resistance 62.5 Ω)  
 F: 0 - 10 mA DC (Input resistance 100 Ω)  
 G: 0 - 1 mA DC (Input resistance 1000 Ω)  
 H: 10 - 50 mA DC (Input resistance 100 Ω)

- J: 0 - 10 μA DC (Input resistance 1000 Ω)  
 K: 0 - 100 μA DC (Input resistance 1000 Ω)  
**GW**: -1 - +1 mA DC (Input resistance 1000 Ω)  
**FW**: -10 - +10 mA DC (Input resistance 100 Ω)  
 Z: Specify current (See INPUT SPECIFICATIONS)  
 Voltage  
 1: 0 - 10 mV DC (Input resistance 10 kΩ min.)  
**15**: 0 - 50 mV DC (Input resistance 10 kΩ min.)  
**16**: 0 - 60 mV DC (Input resistance 10 kΩ min.)  
 2: 0 - 100 mV DC (Input resistance 100 kΩ min.)  
 3: 0 - 1 V DC (Input resistance 1 MΩ min.)  
 4: 0 - 10 V DC (Input resistance 1 MΩ min.)  
 5: 0 - 5 V DC (Input resistance 1 MΩ min.)  
 6: 1 - 5 V DC (Input resistance 1 MΩ min.)  
**4W**: -10 - +10 V DC (Input resistance 1 MΩ min.)  
**5W**: -5 - +5 V DC (Input resistance 1 MΩ min.)  
 0: Specify voltage (See INPUT SPECIFICATIONS)

### [3] OUTPUT

Current

- A: 4 - 20 mA DC (Load resistance 750 Ω max.)  
 B: 2 - 10 mA DC (Load resistance 1500 Ω max.)  
 C: 1 - 5 mA DC (Load resistance 3000 Ω max.)  
 D: 0 - 20 mA DC (Load resistance 750 Ω max.)  
 E: 0 - 16 mA DC (Load resistance 900 Ω max.)  
 F: 0 - 10 mA DC (Load resistance 1500 Ω max.)  
 G: 0 - 1 mA DC (Load resistance 15 kΩ max.)  
 Z: Specify current (See OUTPUT SPECIFICATIONS)  
 Voltage  
 1: 0 - 10 mV DC (Load resistance 10 kΩ min.)  
 2: 0 - 100 mV DC (Load resistance 100 kΩ min.)  
 3: 0 - 1 V DC (Load resistance 100 Ω min.)  
 4: 0 - 10 V DC (Load resistance 1000 Ω min.)  
 5: 0 - 5 V DC (Load resistance 500 Ω min.)  
 6: 1 - 5 V DC (Load resistance 500 Ω min.)  
**4W**: -10 - +10 V DC (Load resistance 2000 Ω min.)  
**5W**: -5 - +5 V DC (Load resistance 1000 Ω min.)  
 0: Specify voltage (See OUTPUT SPECIFICATIONS)

### [4] POWER INPUT

AC Power

- B: 100 V AC  
 C: 110 V AC  
 D: 115 V AC  
 F: 120 V AC  
 G: 200 V AC  
 H: 220 V AC  
 J: 240 V AC  
 DC Power  
 S: 12 V DC  
 R: 24 V DC

**[5] OPTIONS**

**blank:** none

**/Q:** With options (specify the specification)

**SPECIFICATIONS OF OPTION: Q (multiple selections)**

**COATING** (For the detail, refer to our web site.)

**/C01:** Silicone coating

**/C02:** Polyurethane coating

**/C03:** Rubber coating

**TERMINAL SCREW MATERIAL**

**/S01:** Stainless steel

**GENERAL SPECIFICATIONS**

**Construction:** Plug-in

**Connection:** M3.5 screw terminals

**Screw terminal:** Chromated steel (standard) or stainless steel

**Housing material:** Flame-resistant resin (black)

**Isolation:** Input or output to power

**Overrange output:** Approx. -10 to +120 % at 1 - 5 V

**Zero adjustment:** -5 to +5 % (front)

**Span adjustment:** 95 to 105 % (front)

**Hold control:** Holds when opening the terminals 5 - 6; tracks when closing them

**INPUT SPECIFICATIONS****■ DC Current:**

Shunt resistor attached to the input terminals (0.5 W)

Specify input resistance value for code Z.

**■ DC Voltage:** -300 - +300 V DC

**Minimum span:** 3 mV

**Offset:** Max. 1.5 times span

**Input resistance**

Span 3 - 10 mV :  $\geq 10 \text{ k}\Omega$

Span 10 - 100 mV :  $\geq 10 \text{ k}\Omega$

Span 0.1 - 1 V :  $\geq 100 \text{ k}\Omega$

Span  $\geq 1 \text{ V}$  :  $\geq 1 \text{ M}\Omega$

**■ HOLD CONTROL**

Contact rating: 5 V @1 mA

Detection levels:  $\leq 1.25 \text{ k}\Omega / 1 \text{ V}$  at Track

$\geq 20 \text{ k}\Omega / 4 \text{ V}$  at Hold

**OUTPUT SPECIFICATIONS****■ DC Current:** 0 - 20 mA DC

**Minimum span:** 1 mA

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 15 V max.

**■ DC Voltage:** -10 - +12 V DC

**Minimum span:** 5 mV

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 10 mA max.; 5 mA for negative voltage output; at  $\geq 0.5 \text{ V}$

**INSTALLATION****Power input**

• **AC:** Operational voltage range: rating  $\pm 10 \%$ , 50/60  $\pm 2 \text{ Hz}$ , approx. 2 VA

• **DC:** Operational voltage range: rating  $\pm 10 \%$ , ripple 10 %p-p max., approx. 2 W (90 mA at 24 V)

**Operating temperature:** -5 to +55°C (23 to 131°F)

**Operating humidity:** 30 to 90 %RH (non-condensing)

**Mounting:** Surface or DIN rail

**Weight:** 400 g (0.88 lb)

**PERFORMANCE in percentage of span**

**Accuracy:**  $\pm 0.2 \%$

**Temp. coefficient:**  $\pm 0.02 \text{ \%}/^\circ\text{C}$  ( $\pm 0.01 \text{ \%}/^\circ\text{F}$ )

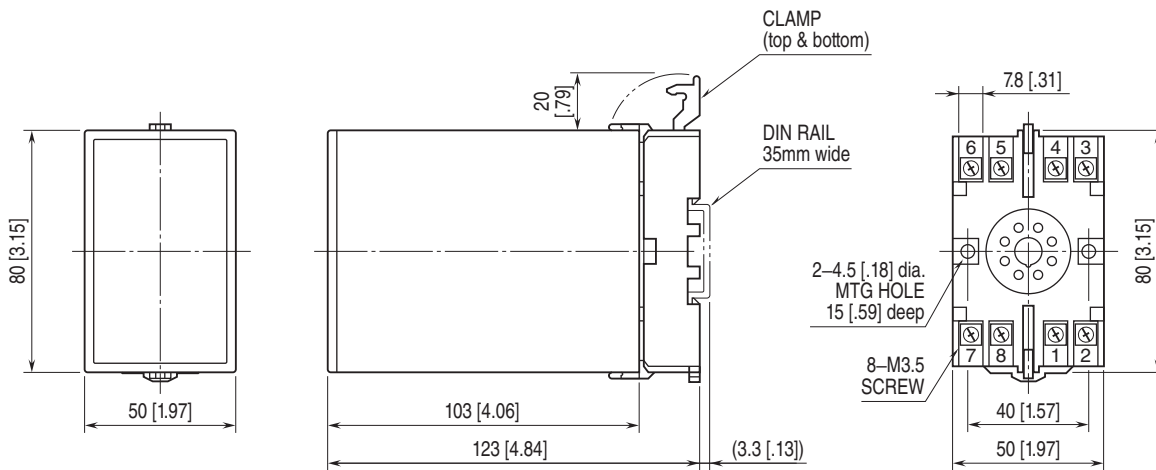
**Response time:**  $\leq 0.5 \text{ sec.}$  (0 - 90 %)

**Line voltage effect:**  $\pm 0.1 \%$  over voltage range

**Insulation resistance:**  $\geq 100 \text{ M}\Omega$  with 500 V DC

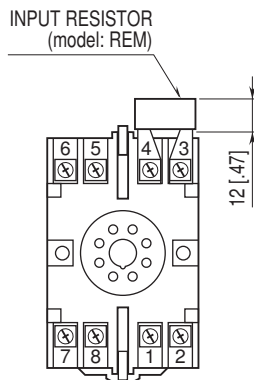
**Dielectric strength:** 2000 V AC @1 minute (input or output to power to ground)

## EXTERNAL DIMENSIONS unit: mm [inch]



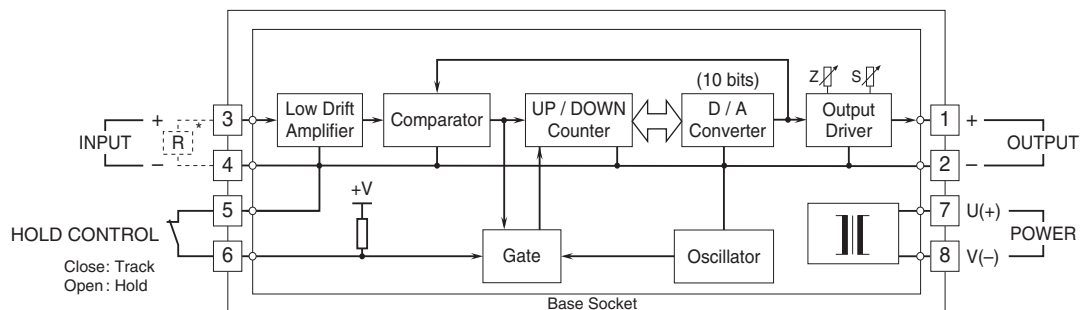
• When mounting, no extra space is needed between units.

## TERMINAL ASSIGNMENTS unit: mm [inch]



Input shunt resistor attached for current input.

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\*Input shunt resistor attached for current input.



Specifications are subject to change without notice.