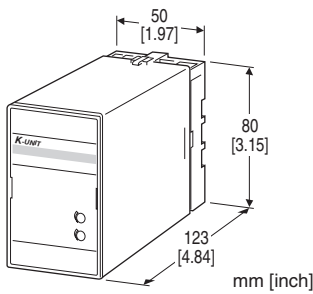


**Plug-in Signal Conditioners K-UNIT**

**ANALOG MULTIPLIER**

**Functions & Features**

- Provides a DC output proportional to the product of two input signals
- Non-isolated two inputs
- High-density mounting
- 2000 V AC isolation



**MODEL: KMM-6[1]-[2][3]**

**ORDERING INFORMATION**

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

**INPUT**

Voltage

**6:** 1 - 5 V DC (Input resistance 1 MΩ min.)

**[1] 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)

**[2] 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

**[3] 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 to output to power
- Overrange output:** 0 to 120 % at 1 - 5 V
- Zero adjustment:** -5 to +5 % (front)
- Span adjustment:** 95 to 105 % (front)
- Equation:**  $Y_0 = X_1 \times X_2$   
where  $Y_0$  : output (0 - 100 %)  
 $X_1, X_2$  : input (0 - 100 %)
- Note) Be aware that a input signal less than 0 % is calculated as a minus signal.

**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  $\geq 0.5$  V

## INSTALLATION

### Power input

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

• **DC:** Operational voltage range: rating  $\pm 10$  %, ripple 10 %p-p max., approx. 2 W (80 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:** 350 g (0.77 lb)

## PERFORMANCE in percentage of span

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

**Temp. coefficient:**  $\pm 0.03$  %/°C ( $\pm 0.02$  %/°F)

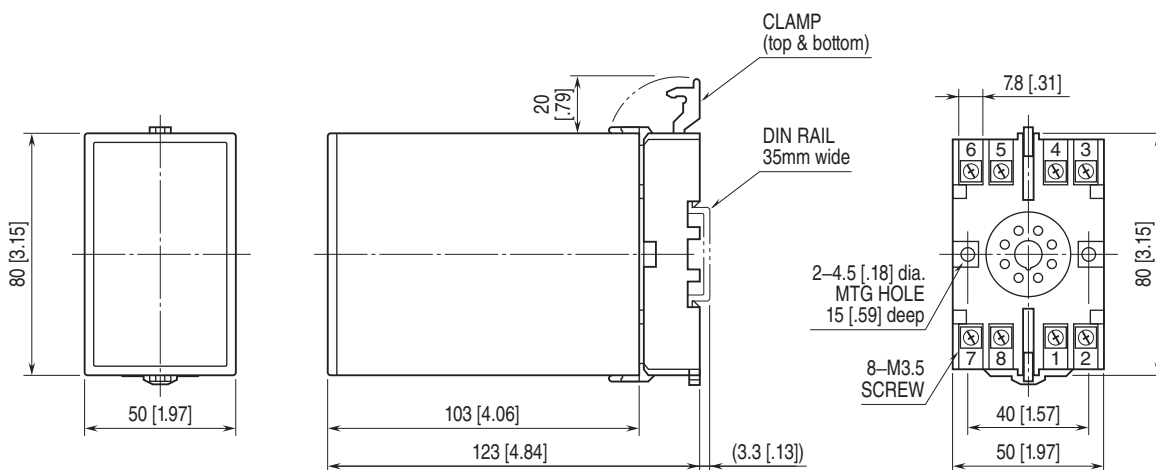
**Response time:**  $\leq 0.5$  sec. (0 - 90 %)

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

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

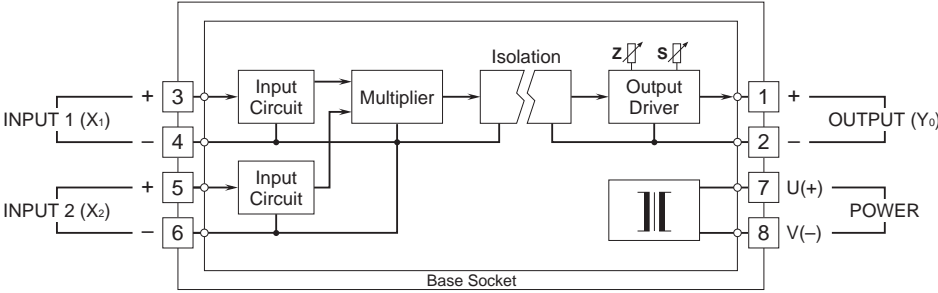
**Dielectric strength:** 2000 V AC @1 minute (input to output to power to ground)

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



Specifications are subject to change without notice.