Plug-in Signal Conditioners K-UNIT

DC ALARM
(dial adjustment)

Functions & Features
- Providing SPDT relay outputs at preset DC input levels
- Single or Dual (Hi/Lo) trip
- Large dial setpoint adjustments

Typical Applications
- Various alarm applications

MODEL: KSE-[1][2]-[3][4]

ORDERING INFORMATION
- Code number: KSE-[1][2]-[3][4]
- Specify a code from below for each [1] through [4].
  (e.g. KSE-A2-K3/Q)
- Specify the specification for option code /Q
  (e.g. /C01/S01)

[1] INPUT
Current
A: 4 - 20 mA DC (Input resistance 250 Ω)
Voltage
6: 1 - 5 V DC (Input resistance 500 kΩ min.)

[2] OUTPUT
1: Single trip (Hi)
2: Dual trip (Hi/Lo)

[3] POWER INPUT
AC Power
K3: 100 – 120 V AC
(Operational voltage range 90 – 132 V, 47 – 66 Hz)
L3: 200 – 240 V AC
(Operational voltage range 180 – 264 V, 47 – 66 Hz)

[4] OPTIONS
blank: none
/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)
COATING (For the detail, refer to M-System’s 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
Setpoint adjustments: Dials (front), -15 – +120 % independently; Scales at the front are for approximate aim only. Simulate input signals, confirm relay operation and set.
Hysteresis (deadband): Approx. 1 %
Front LEDs: Red light turns on when the coil is energized.

INPUT SPECIFICATIONS
- DC Current:
  Shunt resistor attached to the input terminals (0.5 W)

OUTPUT SPECIFICATIONS
- Relay Contact: 120 V AC @1 A (cos ø = 1)
  (Limited within 0.5 A to conform with EU Directive)
240 V AC @0.5 A (cos ø = 1)
  (Limited within 0.5 A to conform with EU Directive)
30 V DC @1 A (resistive load)
  (Limited within 0.5 A to conform with EU Directive)
Maximum switching voltage: 380 V AC or 125 V DC
Maximum switching power: 100 VA or 30 W
Minimum load: 5 V DC @10 mA
Mechanical life: 5 × 10⁷ cycles
**Alarm Trip Operation**

Terminal No. in parentheses

- **Output Code : 1**

  - Hi Output
  - Lo Output

- **Output Code : 2**

  - Hi Output
  - Lo Output

**Trip Operation in Power Failure**

- **Output Code 1** : Terminals 5 – 6 turn ON
- **Output Code 2** : Terminals 1 – 2, 9 – 11 turn ON

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**INSTALLATION**

**Power consumption**

- **AC**: Approx. 3 VA

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

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

**Mounting**: Surface or DIN rail

**Weight**: 250 g (0.55 lb)

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**PERFORMANCE in percentage of span**

**Trip point repeatability**: ±0.3 %

**Temp. coefficient**: ±0.05 %/%C (±0.03 %/%F)

**Response time**: ≤ 0.5 sec. (0 - 100 % at 90 % setpoint)

**Line voltage effect**: ±0.1 % over voltage range

**Insulation resistance**: ≥ 100 MΩ with 500 V DC

**Dielectric strength**: 2000 V AC @1 minute

  (input to output to power)

  2000 V AC @1 minute

  (input or output or power to ground)

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**STANDARDS & APPROVALS**

**EU conformity**:

- **EMC Directive**
  - EMS EN 61000-6-4
  - EMS EN 61000-6-2

- **Low Voltage Directive**
  - EN 61010-1
  - Installation Category II
  - Pollution Degree 2

**Input to output to power**: Basic insulation (300 V)

**RoHS Directive**

- EN 50581
EXTERNAL VIEW

**KSE-x1**

Hi Monitor LED
Hi Setpoint Adj. Dial

**KSE-x2**

Hi Setpoint Adj. Dial
Hi Monitor LED
Lo Monitor LED
Lo Setpoint Adj. Dial

DIMENSIONS unit: mm (inch)

**KSE-x1**

- 80 (3.15)
- 50 (1.97)
- 116 (4.57)
- 136 (5.35)

- CLAMP (top & bottom)
- 7.8 (3.1)

- DIN RAIL 35mm wide
- 2-4.5 (.18) dia.
- MTG HOLE 15 (.59) deep

- 8-M3.5 SCREW

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

**KSE-x2**

- 80 (3.15)
- 50 (1.97)
- 116 (4.57)
- 145 (5.71)

- CLAMP (top & bottom)
- 7.8 (3.1)

- DIN RAIL 35mm wide
- 2-4.5 (.18) dia.
- MTG HOLE 25 (.98) deep

- 11-M3.5 SCREW

- When mounting, no extra space is needed between units.
TERMINAL ASSIGNMENTS unit: mm (inch)

**KSE-x1**

Input shunt resistor attached for current input.

**KSE-x2**

Input shunt resistor attached for current input.

INPUT RESISTOR (model: REM)
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

**KSE-x1**

*Input shunt resistor attached for current input.

**KSE-x2**

*Input shunt resistor attached for current input.

⚠️ Specifications are subject to change without notice.