Plug-in Signal Conditioners K-UNIT

DC ALARM
(thumbwheel switch adjustment)

Functions & Features
• Providing SPDT relay outputs at preset DC input levels
• Dual (Hi/Lo) trip
• Thumbwheel switch setpoint adjustments
• Enclosed relays
• High-density mounting

Typical Applications
• Annunciator
• Various alarm applications

[2] 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) (UL not available)

[3] OPTIONS (multiple selections)
Standards & Approvals
blank: CE marking
/UL: UL approval, CE marking
Other Options
blank: none
/Q: Option other than the above (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 (UL not available)

TERMINAL SCREW MATERIAL
/S01: Stainless steel (UL not available)

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: Thumbwheel switches (front); 0 – 99 % independently; 1 % increments
Hysteresis (deadband): Approx. 1 %
Front LEDs: Red light turns on when the coil for Hi output is energized.
Green light turns on when the coil for Lo output is energized.
Power ON timer: Relays de-energized for approx. 2 seconds after power is turned on.

ORDERING INFORMATION
• Code number: KSED-[1][2][3]
Specify a code from below for each [1] through [3].
 (e.g. KSED-61-K3/UL/Q)
• Specify the specification for option code /Q
 (e.g. /C01)

[1] INPUT
Current
A: 4 – 20 mA DC (Input resistance 250 Ω)
Voltage
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.)

OUTPUT
Relay; SPDT or transfer contact

SETPOINT ADJUSTMENTS
1: Thumbwheel switch

[3] OPTIONS (multiple selections)
Standards & Approvals
blank: CE marking
/UL: UL approval, CE marking
Other Options
blank: none
/Q: Option other than the above (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 (UL not available)

TERMINAL SCREW MATERIAL
/S01: Stainless steel (UL not available)

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: Thumbwheel switches (front); 0 – 99 % independently; 1 % increments
Hysteresis (deadband): Approx. 1 %
Front LEDs: Red light turns on when the coil for Hi output is energized.
Green light turns on when the coil for Lo output is energized.
Power ON timer: Relays de-energized for approx. 2 seconds after power is turned on.

ORDERING INFORMATION
• Code number: KSED-[1][2][3]
Specify a code from below for each [1] through [3].
 (e.g. KSED-61-K3/UL/Q)
• Specify the specification for option code /Q
 (e.g. /C01)

[1] INPUT
Current
A: 4 – 20 mA DC (Input resistance 250 Ω)
Voltage
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.)

OUTPUT
Relay; SPDT or transfer contact

SETPOINT ADJUSTMENTS
1: Thumbwheel switch

[2] 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) (UL not available)

[3] OPTIONS (multiple selections)
Standards & Approvals
blank: CE marking
/UL: UL approval, CE marking
Other Options
blank: none
/Q: Option other than the above (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 (UL not available)

TERMINAL SCREW MATERIAL
/S01: Stainless steel (UL not available)

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: Thumbwheel switches (front); 0 – 99 % independently; 1 % increments
Hysteresis (deadband): Approx. 1 %
Front LEDs: Red light turns on when the coil for Hi output is energized.
Green light turns on when the coil for Lo output is energized.
Power ON timer: Relays de-energized for approx. 2 seconds after power is turned on.

ORDERING INFORMATION
• Code number: KSED-[1][2][3]
Specify a code from below for each [1] through [3].
 (e.g. KSED-61-K3/UL/Q)
• Specify the specification for option code /Q
 (e.g. /C01)
**Maximum switching voltage:** 250 V AC or 30 V DC  
**Maximum switching power:** 600 VA or 150 W  
**Minimum load:** 5 V DC @10 mA  
**Mechanical life:** $1 \times 10^7$ cycles  

**Alarm Trip Operation** Terminal No. in parentheses

- Hi Output: (9–10)ON  
- Lo Output: (1–3)ON  
- Input (%): Lo Setpoint to Hi Setpoint

**Trip Operation in Power Failure**: Terminals 1 – 3, 9 – 11 turn ON.

---

**INSTALLATION**

**Power Consumption**
- AC: Approx. 2 VA

**Operating temperature**: -5 to +55°C (23 to 131°F)  
**Operating humidity**: 30 to 85 %RH (non-condensing)  
**Mounting**: Surface or DIN rail  
**Weight**: 300 g (0.66 lb)

---

**PERFORMANCE in percentage of span**

- Setpoint accuracy: ±0.5 %  
- Trip point repeatability: ±0.05 %  
- Temp. coefficient: ±0.02 °C (±0.01 °F)  
- Response time: ≤ 0.7 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 or output to power to ground)  
- 1500 V AC @1 minute (input to output)

---

**STANDARDS & APPROVALS**

**EU conformity:**
- EMC Directive  
- EMI 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

**Approval:**
- UL/C-UL general safety requirements  
  (UL 3111-1, CAN/CSA-C22.2 No.1010-1)
**EXTERNAL VIEW**

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

**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.