MODEL: ALSP

Limit Alarms (rotary switch adj.) AL-UNIT

FREQUENCY ALARM

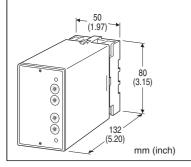
(50 Hz minimum)

Functions & Features

- Providing SPDT relay outputs at preset frequency levels
- Dual (Hi/Lo) trip
- · Low-end cutout
- Energized or de-energized coil at a tripped condition selectable
- Rotary switch setpoint adjustments
- Enclosed relays
- Relays can be powered 110 V DC
- High-density mounting

Typical Applications

- Annunciator
- · Various alarm applications



MODEL: ALSP-[1][2][3]-[4][5]

ORDERING INFORMATION

• Code number: ALSP-[1][2][3]-[4][5]

Specify a code from below for each of [1] through [5]. (e.g. ALSP-111-B/Q)

- Frequency range (e.g. 0 500 Hz)
- Specify the specification for option code /Q (e.g. /C01/S01)

[1] INPUT

- 1: Dry contact
- 2: Voltage pulse

[2] SETPOINT 1 OUTPUT

- 1: Hi (coil energized at alarm)
- 2: Hi (coil de-energized at alarm)
- 3: Lo (coil energized at alarm)
- 4: Lo (coil de-energized at alarm)

[3] SETPOINT 2 OUTPUT

- 1: Hi (coil energized at alarm)
- 2: Hi (coil de-energized at alarm)
- **3**: Lo (coil energized at alarm)
- 4: Lo (coil de-energized at alarm)

[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
- I: 240 V AC

DC Power

- S: 12 V DC
- R: 24 V DC
- **V**: 48 V DC
- P: 110 V DC

[5] 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 1 to output 2 to power

Setpoint adjustments: 10-position rotary switches (front); 0

- 99 % independently; 1 % increments

Remark: The ALSP has low-end cutout function below 2 - 5

% input. A setpoint below this equals 0 %. **Hysteresis (deadband):** 0.7 - 2.5 %

Front LEDs: Red LED turns on when the coil is energized.

Power ON timer: Relays de-energized for approx. 2 seconds

after power is turned on. **Low-end cutout**: 2 to 5 %

MODEL: ALSP

INPUT SPECIFICATIONS

Frequency range: 0 - 50 Hz through 10 kHz

Pulse width (time) requirement: Duty ratio 20 – 80 % at 100

% input

■ Dry Contact: Mechanical contact or open collector

Sensing: Approx. 7.5 V DC @1 mA

ON/OFF level: \leq 200 Ω / 0.6 V for ON, \geq 100 k Ω / 2 V for OFF

■ Voltage Pulse: Square or sine waveforms

Input pulse sensing: Capacitor coupled; detecting pulse rise

Input amplitude: 2 – 50 Vp-p Input impedance: 100 k Ω min.

OUTPUT SPECIFICATIONS

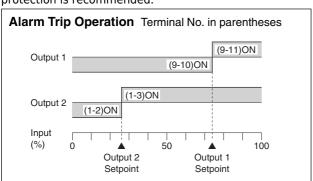
Relay Contact: $100 \text{ V AC} @ 1 \text{ A } (\cos \emptyset = 1)$

120 V AC @ 1 A (cos \emptyset = 1) 240 V AC @ 0.5 A (cos \emptyset = 1) 30 V DC @ 1 A (resistive load)

Maximum switching voltage: 380 V AC or 125 V DC Maximum switching power: 120 VA or 30 W

Minimum load: 5 V DC @ 10 mA Mechanical life: 5 x 10⁷ cycles

For maximum relay life with inductive loads, external protection is recommended.



Trip Operation in Power Failure

• Output Code: 1 & 4: Terminals 1 - 2, 9 - 10 turn ON

• Output Code: 2 & 3: Terminals 1 - 3, 9 - 11 turn ON

INSTALLATION

Power input

• AC: Operational voltage range: rating ±10 %,

50/60 ±2 Hz, approx. 2 VA

• DC: Operational voltage range: rating ± 10 %, or 85 – 150

V for 110 V rating (ripple 10 % p-p max.)

approx. 2 W (80 mA at 24 V)

Operating temperature: -5 to +60°C (23 to 140°F)
Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Surface or DIN rail **Weight**: 370 g (0.82 lb)

PERFORMANCE in percentage of span

Setpoint accuracy: ±0.7 %

Trip point repeatability: ±0.05 %

Temp. coefficient: ± 0.015 %/°C (± 0.008 %/°F) Response time: (0 - 100 % at 90 % setpoint)

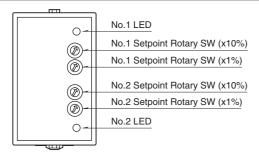
approx. 2 seconds for 0 – 50 Hz approx. 1 second for 0 – 100 Hz approx. 0.5 seconds for 0 – 500 Hz approx. 0.5 seconds for 0 – 10 kHz

Line voltage effect: ± 0.1 % over voltage range Insulation resistance: ≥ 100 M Ω with 500 V DC

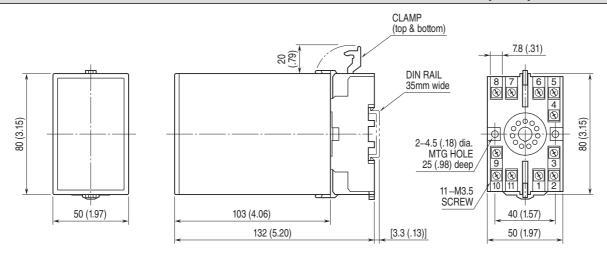
Dielectric strength: 2000 V AC @1 minute (input to output 1

to output 2 to power to ground)

EXTERNAL VIEW

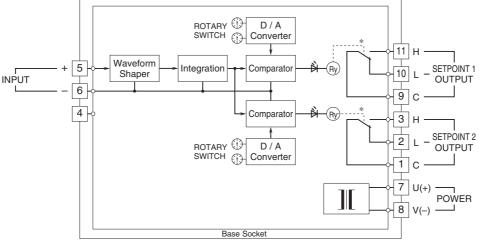


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

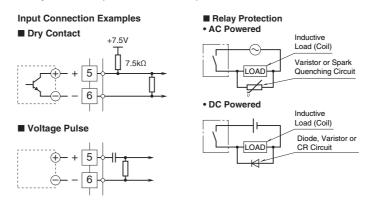


• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Relay status for output codes "1" & "4", at power OFF.





Specifications are subject to change without notice.