

# DADISICK<sup>®</sup>

## DK-LS-A series safety relay

Maximum compliance with ISO13849-1 PLe standard and IEC 62061 SiL3 standard

Proven two-channel security monitoring circuit design

I/O LED indication

Width 22.5mm to reduce installation space

Screw or spring terminals are available for a wider range of applications

PLC signal output

### Suitable for monitoring

Scram button	Safety light curtain	Two-handed switch
Safety switch	Security scanner	Safety sensor
Safety lock		

### Forced safety output

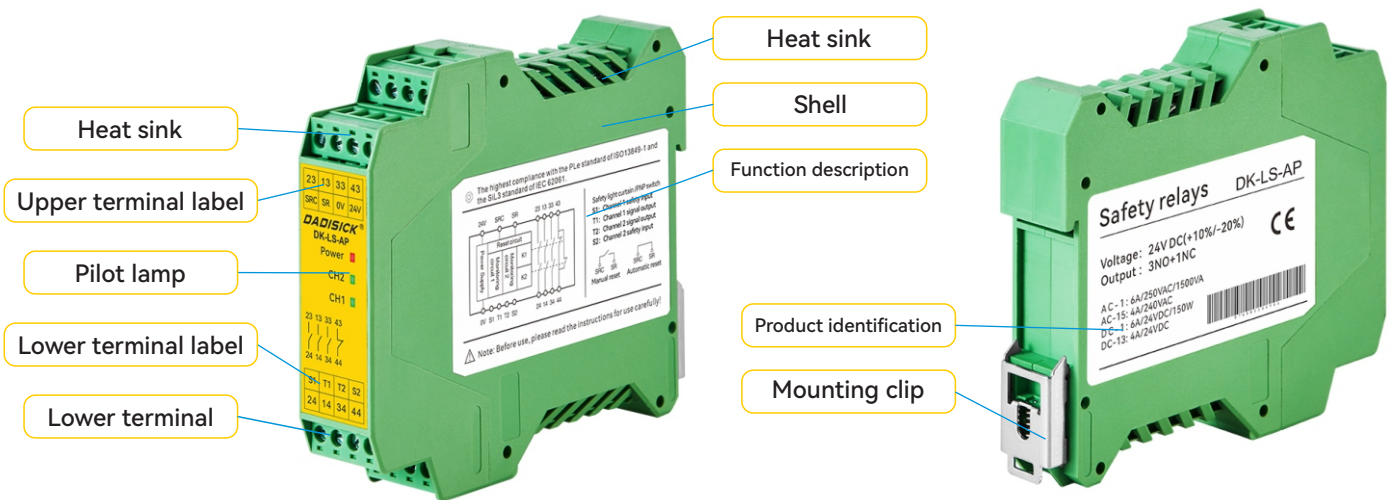
3NO / 1NC

### Applicable to the industry

Injection molding machine	CNC machine press/
Hydraulic press	Glass machinery
Filling machinery	Woodworking machinery
Packaging machinery	sorting machinery
Paper machinery	intelligent
Forklift	AGV
Robot	Elevator wind power
SIS system	



## Board description



100%

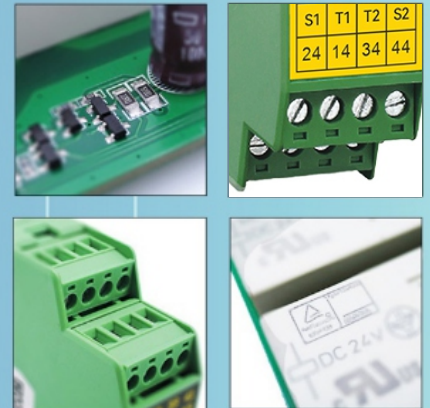
Strictly select first tier brand components and conduct 100% process testing

3 aspects

The core mandatory relay adopts well-known products certified by third-party authoritative organizations to ensure high reliability

comprehensive

Fully functional for easy control of various applications



Extreme speed

Adopting high-speed mutual verification technology to ensure safe and efficient response time

Dual path

Using a dual channel classic design, it fully meets the functional safety requirements of ISO 13849 and GB 16855

40%

Save you 40% of costs



## Technical Parameters

Safety Relay Product model		
Safety relay series	DK-LS-A	
Model	DK-LS-AN	DK-LS-AP
Output method	NPN	PNP
Power source		
Power supply	24V DC	
Voltage tolerance	+10%/-20%	
Power dissipation	2.9 W	
Output		
Relay safety output	3NO+1NC	
Transistor signal output	<500mA 24VDC	
Relay contact capacity		
AC-1	6A/250VAC/1500VA	
AC-15	4A/240VAC	
DC-1	6A/24VDC /150W	
DC-13	4A/24VDC	
Maximum switching capacity	12A (Distributed on all safety output contacts)	
Contact resistance	<100mΩ	
Minimum load	10mA/5V	
Contact material	AgSnO <sub>2</sub> + 0.2μmAu	
Conventional parameter		
Output fuse (external connection)	5A gL/gG	
Release response time	<30ms (From input to output)	
Input component tail detection resistance (Edge/Carpet)	1kΩ ~ 10kΩ	
Electrical life	80000 times	
Pollution degree	2	
operation temperature	-25°C ~ 85°C	
Working humidity	35%-85% (No ice or condensation)	
Impulse withstand voltage	2.5kV	
Protection grade	Housing IP30, terminal IP20, recommended for installation in cabinet or housing Ip54	
Storage temperature	-40°C ~ 105°C	
Shell material	Flame retardant PA66	
Installation method	Standard 35mm DIN rail/spring clip	
Size	112mm×99.5mm×22.6mm	
Weight	172g	
Connection parameters		
Available cross-sectional range of rigid wires	0.5~2.5mm <sup>2</sup>	
Available cross-sectional range of flexible wires	0.5~2.5mm <sup>2</sup>	
Minimum conductor cross-section	AWG 24	
Maximum conductor cross-section	AWG 12	
Strip length	8mm	
Minimum tightening torque	0.5 Nm	
Maximum tightening torque	0.6 Nm	

# DK-LS-A

## Safety force disconnect type relay output

3 normally open transient safety contacts (3NO)

1 normally closed transient safety contact (1NC)

## LED indicator

Power supply indication

Input status indication

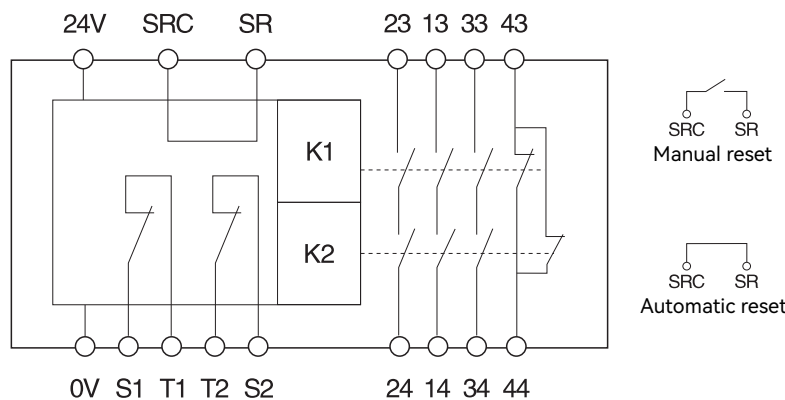
Output status indication

## Automatic reset switch

Automatic/manual reset switch can be configured

Can be configured for emergency stops, light curtains, door locks, two-hand switches and many other functional safety features

In the event of component failure, the safety function remains in effect



## Description of terminal functions

Power supply	Power supply positive (24VDC)	
	Power supply negative (0V)	
S1	Channel 1 safety input	Accept type I signal input, open circuit detection and channel 2 mutual detection
T1	Channel 1 signal output	Type I signal source
T2	Channel 2 signal output	Type II signal source
S2	Channel 2 safety input	Type II signal input is accepted, open circuit detection and channel 1 mutual detection
SR SRC	Reset input (configurable manual reset or automatic reset)	Short-circuited SRS and SRC reset automatically, and disconnected SRS and SRC reset manually
13/14	Normally open transient safety contact	To increase the number of contacts
23/24		
33/34		
43/44	Normally closed transient safety contact	Can be used as external signal light or control other devices

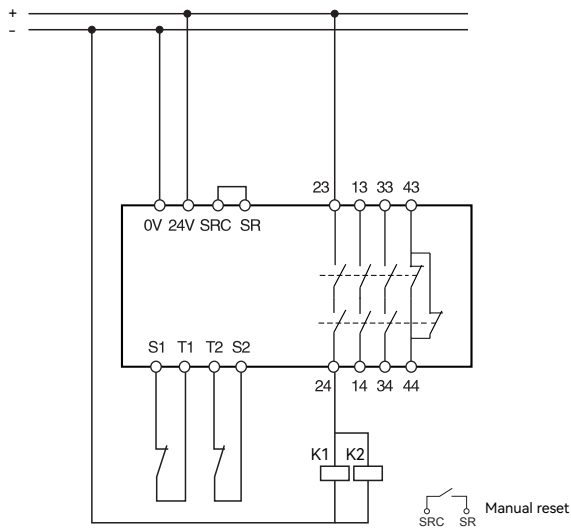
## LED and reset lever operation instructions

## LED indicator status

■ Steady on ★ ☆ Flicker □ Extinguish				
Feature	Status	Power LED	Input LED	Output LED
Emergency stop/door lock	The input connection is disconnected or abnormal	■	★ ☆	□
	The input single channel is abnormal	■	■	★ ☆
	Emergency stop press/Door lock opens	■	★ ☆	□
	Input is correct/not reset	■	■	□
	Input is correct/reset	■	■	■
	System failure	★ ☆	□	□
Light curtain /PNP switch	The input connection is disconnected or abnormal	■	★ ☆	□
	The input single channel is abnormal	■	■	★ ☆
	Light curtain interrupted/switch action	■	★ ☆	□
	Input is correct/not reset	■	■	□
	Input is correct/reset	■	■	■
	System failure	★ ☆	□	□
Two-handed switch (Valid for automatic reset only)	The input connection is disconnected or abnormal	■	★ ☆	□
	Press the two-handed switch	■	■	■
	Two-handed switch release	■	★ ☆	□
	System failure	★ ☆	□	□

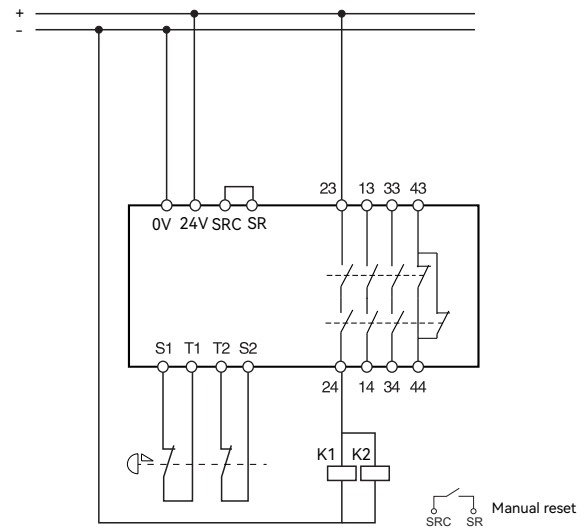
## Connection sample

### 1. Emergency Stop

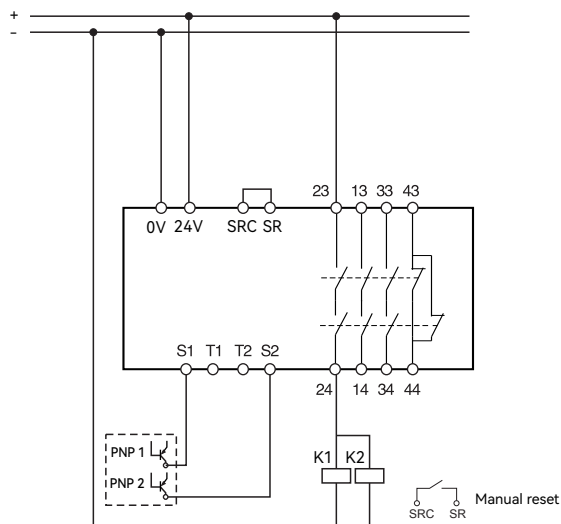


Dual-channel scram safety input with manual reset

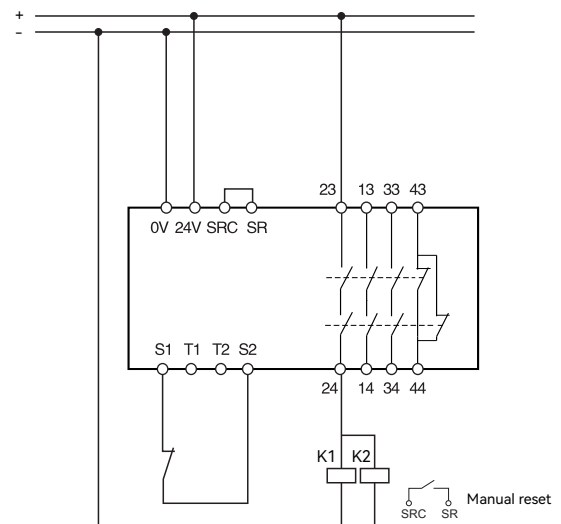
### 2. Safety Interlock Switch



### 3. Connect the safety light curtain



Dual channel light curtain /PNP switch safety input, with automatic reset, PLC signal output



Single channel light curtain/PNP switch safety input, With automatic reset and PLC signal output

## Overall dimensions

