PRODUCT MANUAL

DADISICK®

SAFETY RELAYS
Ter-A series

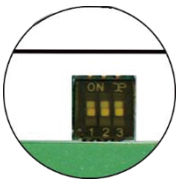
- The highest load is the PLe standard of EN-IS013849-1 and the SiL3 standard of IEC 62061.
- Proven dual-channel safety monitoring circuit design.
- Multi-function configuration DIP switch, applicable to a variety of safety sensors
- Input and output LED instructions.
- Automatic/manual reset lever, quick configuration system.
- The width is 22.5mm, reducing installation space.
- Optional screw terminal or spring terminal, the application range is wider.
- PLC signal output.

Suitable for monitoring.

- emergency button.
- Safety light curtain
- Safe touch
- Safety switch
- Security scanner
- Safety carpet
- Security door lock
- Safety sensor
- Two-hand switch

Forced safety output

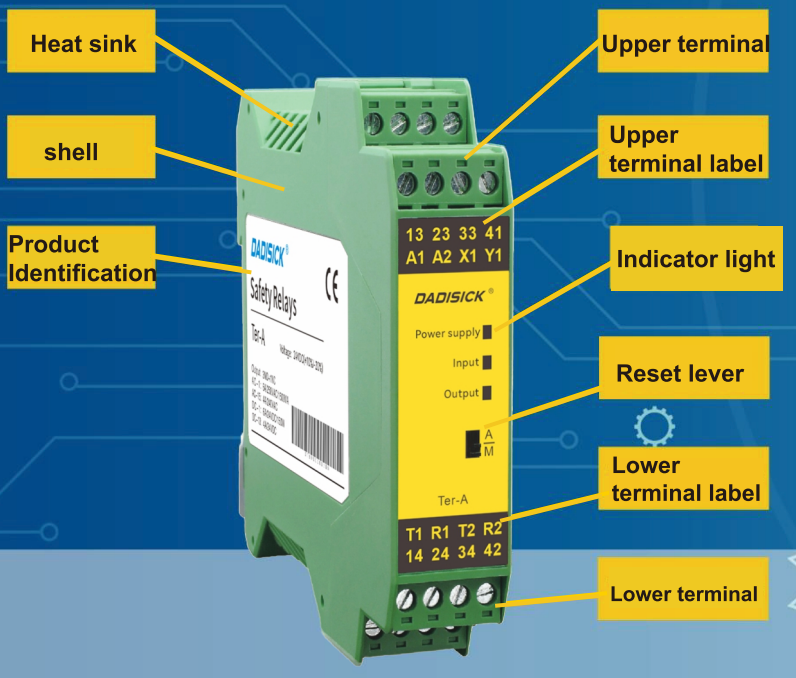
- 3NO / 1NC

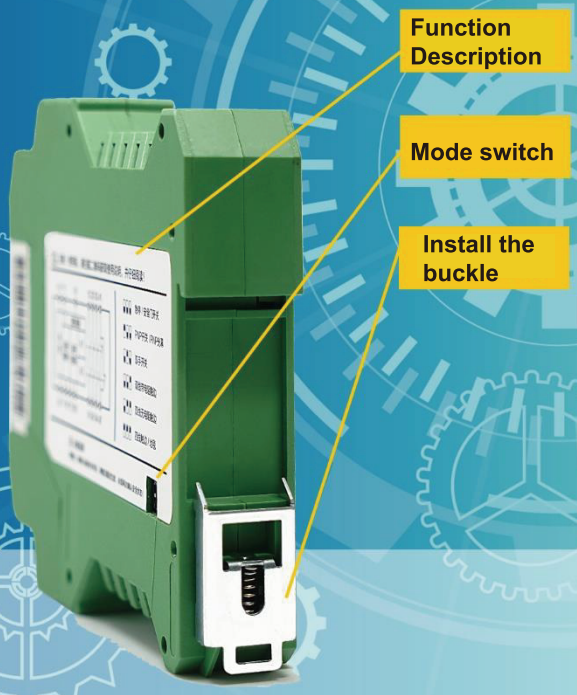


Multi-function dial switch

Applicable to industry

- Injection molding machine, CNC machine tool
- Press/hydraulic press, glass machinery, filling machinery, packaging machinery
- Sorting machinery, woodworking machinery, papermaking machinery
- Smart forklift, AGV, robot, elevator
- Wind power, SIS system, etc.

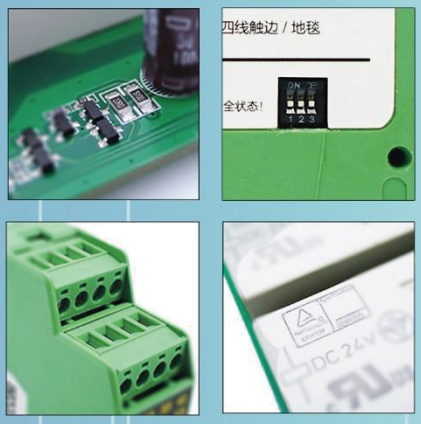


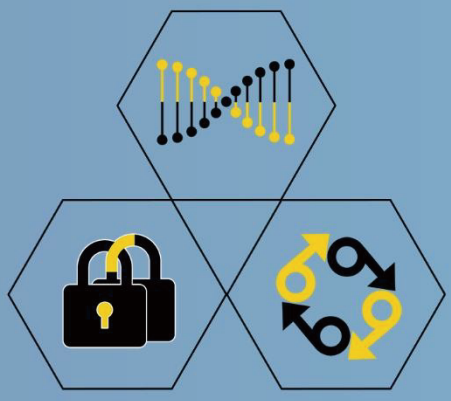


100% Strictly select first-line brand components and 100% process testing.

3 party The core compulsory relay adopts well-known products that have been certified by a third party to ensure reliability.

compre -hensive Full-featured DIP switches can be configured to easily control various applications.





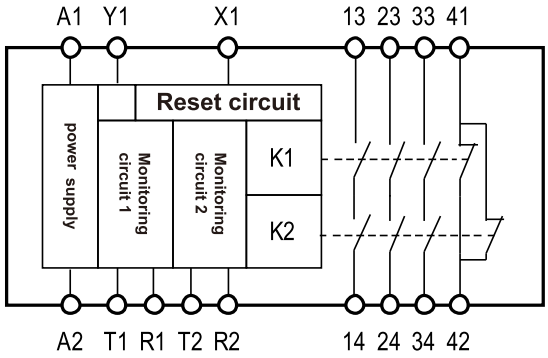
Speed Using extremely fast mutual verification technology to ensure safe and efficient response time.

2 way It adopts dual-channel electrostatic design, which fully meets the functional safety requirements of ISO 13849 and GB 16855.

40% Save you 40% of the cost.

Ter-A

- Safety forced-off relay output.
  - 3 normally open instantaneous safety contacts (3No)
  - 1 normally closed instantaneous safety contact (1Nc)
- LED indicator
  - Power indicator
  - Input status indication
  - Output status indication
- Automatic reset switch
  - Configurable automatic/manual reset switch
- Multi-function configuration dial switch
  - It can be configured for emergency stop, light curtain, door lock, edge contact, carpet, two-hand switch and other functions.
- Safety features
  - Redundant circuit with self-monitoring function
  - When the component fails, the safety function is still effective.
  - In each open-close cycle, it will automatically test whether the safety contacts are properly opened and closed.
- System module diagram



- Terminal function description

A1	Positive power supply (24VDC)	A1.A2 as power supply
A2	Power negative pole (0V)	
T1	Channel 1 signal output	With square wave type I signal source
R1	Channel 1 safety input	Receive type I signal input, with open circuit, short circuit detection and channel 1 mutual detection.
T2	Channel 2 signal output	With square wave type II signal source.
R2	Channel 2 safety input	Receive type II signal input, with open circuit, short circuit detection and channel 1 mutual detection.
X1	Reset input (manual reset or automatic reset can be configured)	Automatic reset: the input condition is met, the unit is activated immediately. Manual reset: the input conditions are met, and the reset circuit is then manually closed. After release, the unit is activated.
Y1	Transistor signal output.	Output status signal indication, PLC signal input or link to external indicator light last night.
13/14	Normally open momentary safety contacts	The unit can be connected to the external Tner-TS31 unit to increase the number of contacts.
23/24		
33/34		
41/42	Normally closed instantaneous safety contacts.	Can be used as an external signal lamp or control other devices.

Technical parameter.

Product model		
Output method	NPN	PNP
Model	Ter-AN	Ter-AP
Power Supply		
Power Supply	24V DC	
Voltage Tolerance	+10%/-20%	
Power Consumption	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	AgSnO2 + 0.2μmAu	
General parameters		
Output fuse (external)	5A gL/gG	
Release response time	<30ms (from input to output)	
Input component end-of-line detection resistor (edge / mat)	1kΩ ~ 10kΩ	
Electrical life	80000 times	
Pollution level	2	
Operating temperature	-25℃ ~ 85℃	
Operating humidity	35%-85% (no ice or condensation)	
Impact withstand voltage	2.5kV	
Protection level	Housing IP30, terminals IP20, recommended installation in cabinet or housing IP54 .	
Storage temperature	-40℃ ~ 105℃	
Casing material	Flame retardant PA66	
Mounting method	Standard 35mm DIN rail/spring clip	
Dimensions	112mm×99.5mm×22.6mm	
Weight	172g	
Connection parameters		
Available cross-sections for rigid conductors	0.5~2.5mm²	
Available cross-sections for flexible conductors	0.5~2.5mm²	
Minimum conductor cross-section	AWG 24	
Maximum conductor cross-section	AWG 12	
Stripping length	8mm	
Minimum tightening torque	0.5 Nm	
Maximum tightening torque	0.6 Nm	

➢ LED and reset lever operation instructions

• LED indicator status

■Always on ★☆Flashing □Go out

Features	status	Power LED	Input LED	Output LED
Emergency stop/door lock	Disconnection/abnormal connection	■	★☆	□
	Emergency stop press/door lock open	■	★☆	□
	Correct input/not reset	■	■	□
	Input is correct/reset	■	■	■
	system error	★☆	□	□
Light curtain/PNP switch	Disconnection/abnormal connection	■	★☆	□
	The light curtain is interrupted/switched	■	★☆	□
	Correct input/not reset	■	■	□
	Input is correct/reset	■	■	■
	system error	★☆	□	□
Two-hand switch (Only automatic reset is valid)	Disconnection/abnormal connection	■	★☆	□
	Two-hand switch press	■	■	■
	Two-hand switch release	■	★☆	□
	system error	★☆	□	□
2-wire edge/carpet with resistance	Disconnection/abnormal connection	■	★☆	□
	Edge/carpet is kept pressed	■	■	★☆
	Edge/carpet connection is correct/not reset	■	■	□
	Edge/carpet connection is correct/reset	■	■	■
	system error	★☆	□	□
Non-resistance 2-wire edge/carpet	Disconnect	Detection not supported		
	Abnormal connection	■	★☆	□
	Edge/carpet is kept pressed	■	■	★☆
	Edge/carpet connection is correct/not reset	■	★☆	□
	Edge/carpet connection is correct/reset	■	■	■
	system error	★☆	□	□
4-wire edge/carpet	Disconnection/abnormal connection	■	★☆	□
	Edge/carpet is kept pressed	■	★☆	□
	Edge/carpet connection is correct/not reset	■	■	□
	Edge/carpet connection is correct/reset	■	■	■
	system error	★☆	□	□

• Reset lever operation

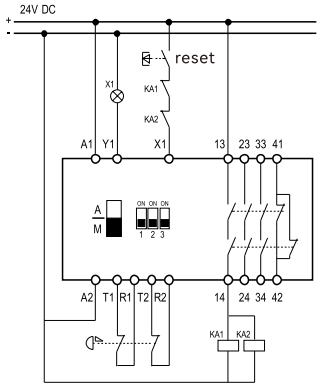
	status	Description
Reset lever	A	Can be configured as an automatic reset function (X1 must be shorted to the positive pole of the power supply)
	M	Can only be configured as a manual reset function (X1 is connected to the positive power supply through the reset button,refer to the connection diagram)

➢ Mode switch operation instructions

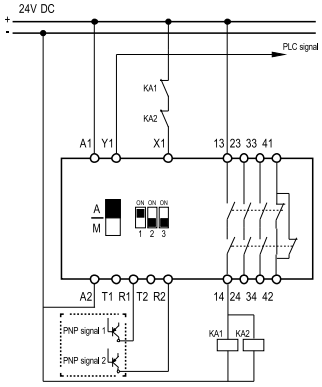
Features	Dialing status
Emergency stop/door lock	
Light curtain/PNP switch	
Two-hand switch	

Features	Dialing status
2-wire edge/carpet with resistance	
Non-resistance 2-wire edge/carpet	
4-wire edge/carpet	

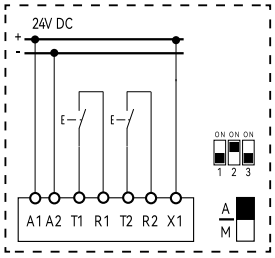
➢ Connection example



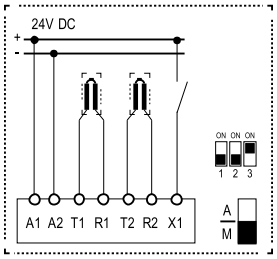
1.Dual-channel emergency stop safety input with manual reset



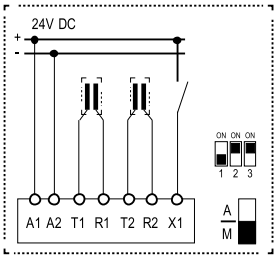
2.Dual-channel light curtain /PNP switch safety input with manual reset



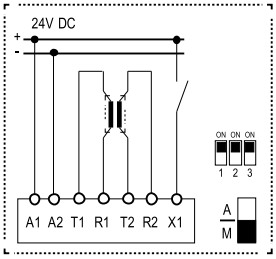
3.Two-hand switch safety input,automatic reset, dualchannel time difference 0.5s



4.Dual-channel 2-wire edge/mat (with resistance) safety input, with manual reset



5.Dual-channel 2-wire edge/mat (no resistance) safety input, with manual reset



6.Dual-channel 4-wire edge/mat safety input with manual reset

➢ Dimensions