

KISSLING BI-STABLE RELAYS WITH INTERNAL CONTROL ELECTRONICS

Series 31 / SAFETY - from TE Connectivity (TE)

Our series 31 bi-stable power relay with internal control electronics is based on the Series 30 industrial relay and has all of the same quality mechanical and electrical switching characteristics - but also features additional electronic functions.

This relay is particularly well suited for battery management and power distribution applications on commercial vehicles, buses, construction & agricultural vehicles, ground support equipment and lift trucks.

The robust design of our bi-stable relays provides a sealing rate of IP67 and IP6K9K (steam pressure cleaning) in accordance with IEC 60529 and DIN 40050-9. The series 31 includes power relays in nominal voltages of 12 & 24 V and nominal continuous amperages of 300 Amps. Contact voltages up to 250VDC with magentical blowout (>40VDC).

Features

- Sealed housing conforms to IP6K9K
- Robust design
- Variety of configuration options
- 6G shock and 4G vibration resistant

Applications

- Commercial vehicles
- Bus
- Lift truck
- Ground support equipment
- Construction and agricultural vehicles

Elektronic Safety-Control

The technical principle of this relay is a reliability proven two coil device with a Pull In and Drop Out coil with a powerless permanent magnetic holding.

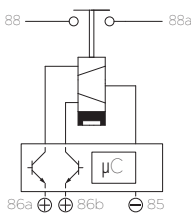
An impulse into the respective coil switches the relay into an “On” or “Off” position. The electronic function protects against incorrect actuation which therefore prevents overheating or damage to any component parts.

The minimum pick up impulse time is approximately 250ms and continuous signals will not cause any damage.

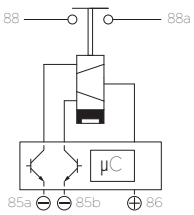
The electronic board integrates under voltage function that eliminates critical mechanic actuation, a suppression diodes, short circuit and polarity protection.

Circuits

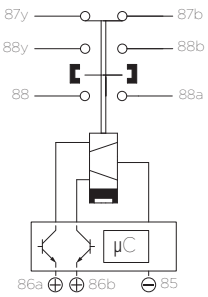
NO-Contact (S)
Standard type



NO-Contact (S-P)
Special type



NO-Contact
Auxiliary contact /
Magnetic blowout



Specification

Technical Data

Temperature range	-40°C to +85°C
Protection	IEC 60529 / DIN 40050-9 / IP67 (0,2bar; 1min) and IP6K9K
Shock	6g / 11msec
Vibration	4g / 50 - 2000Hz
Thread sizes / Torque	M4 = 2.0 - 2.2Nm | M10 = 15 - 20Nm

Electrical Characteristics

Min. Insulation resistance	100MΩ
After live or environment	50MΩ
Dielectric withstanding voltage	1050VAC / 1min at 50Hz
Max. Contact drop, initial	150mV
Contact drop after life test	175mV
Continuous current	300A
Overload	2400A - 1sec / 600A - 20sec
Quiescent current	approx. 2mA

Rated contact load	12 and 24 / 28VDC
Resistive load	50.000 cycles 300A
Mechanical life	100.000 cycles

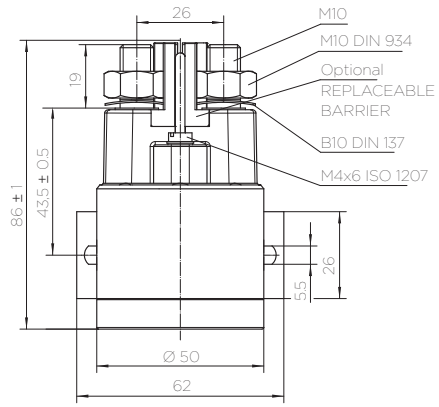
Coil Data	12VDC	24 / 28VDC
Voltage range	9-16VDC	18-32VDC
Nominal voltage	12VDC	28VDC
Pick up voltage	9VDC	18VDC
Pull in current	5.7A, 50ms	3.3A, 50ms
Drop out current	6.0A, 50ms	3.5A, 50ms

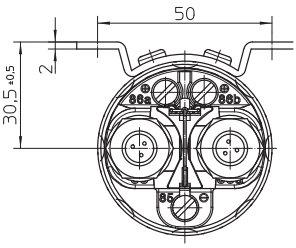
Operating times

Pick up incl. bounce and running time µC	approx. 250msec
Drop out incl. running time µC	approx. 250msec
Wire Section	min. 95mm² / 0.147 sq.inch / AWG 4-0
Mounting position	optional

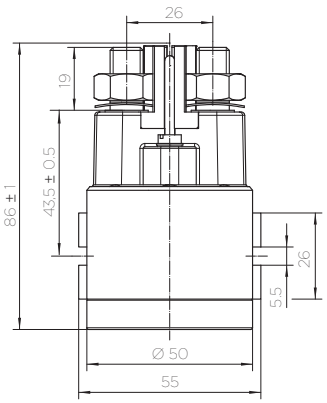
Technical drawings

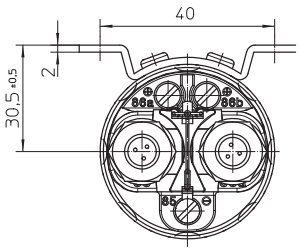
Standard side mounting



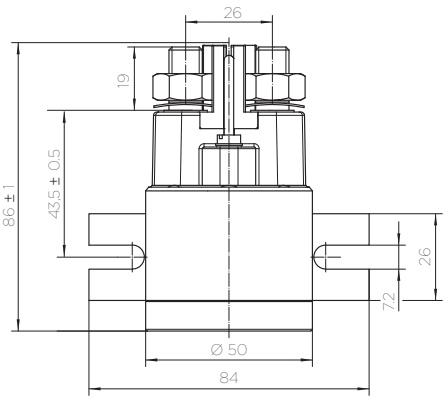


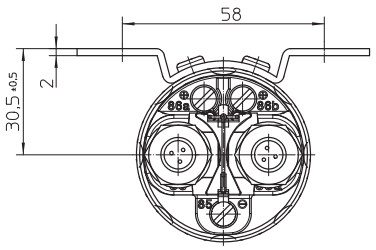
Short form side mounting





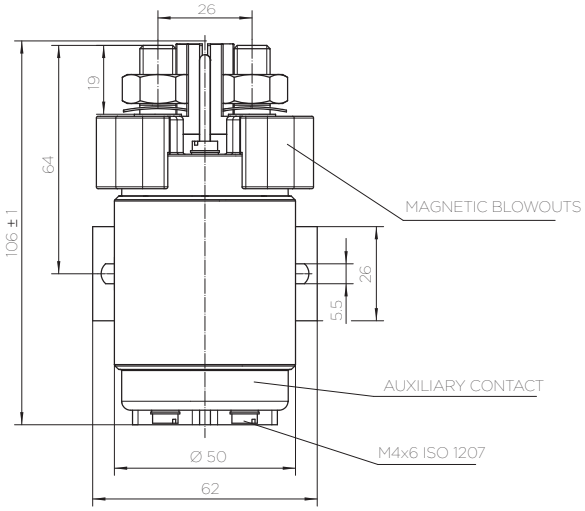
Long form side mounting

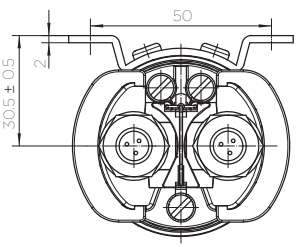




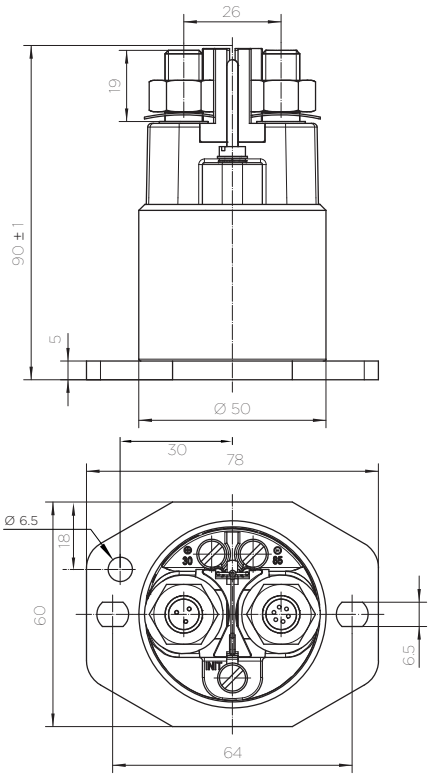
Options:

Auxiliary contacts, magnetic blowouts





Bottom mounting



Ordering Information

Part Number
example: 31.311.12.S
31.3__.1_.S._

Current

3	Current 300A

Contacts

1	Make contact NO

Mounting

1	Standard side mounting
2	Short form side
3	Bottom mounting
4	Long form side

Suppression

1	Suppression (integrated)

Options

A	Auxiliary contacts*
B	Magnetic blowout (required over 40VDC)

* Not possible for bottom mounting

Switching function SAFETY

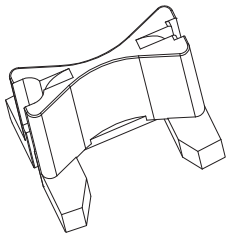
S	Standard type com-
S-P	Special type com+

Coil voltage

1	12V
2	24 / 28V

Accessories

Replaceable barrier
29-200-55



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