

## KISSLING BI-STABLE RELAYS WITH INTERNAL CONTROL ELECTRONICS

### Series 31 / INIT - 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, aircraft, ground support equipment and lift trucks.

Our 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 magential 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

#### Electronic INIT-Control

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

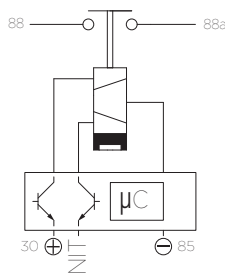
At the clamp 30(+) and 85(-) applied the permanent-supply. The selection ensured powerless from INIT-input.

A HIGH-level activate the relay, a LOW-level disconnect it. If the monostable activation keep use, the INIT- activation is an advantage.

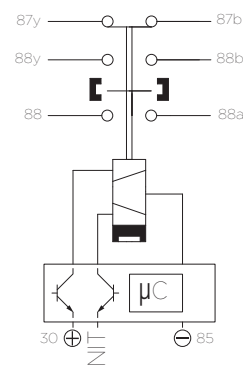
The electronics are short-circuit protected and feature safety coil selection, reverse polarity protection and coil cancellation. The integrated undervoltage protector secures the relay against undefined operating conditions.

#### Circuits

NO-Contact  
Standard 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

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

<b>Coil Data</b>	<b>12VDC</b>	<b>24 / 28VDC</b>
Voltage range	9-16VDC	18-32VDC
Nominal voltage	12VDC	28VDC
Pull in current	5.7A, 50ms	2.9A, 50ms
Drop out current	6.0A, 50ms	3.0A, 50ms

### Control input INIT

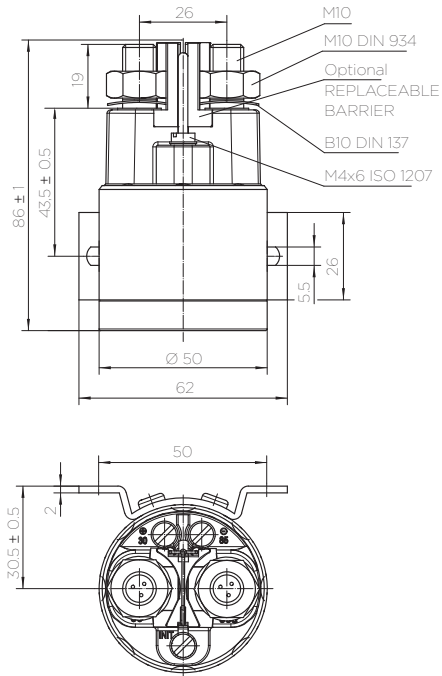
Control signal	active high
Drop out current	LOW < 0,5VDC / HIGH > 5VDC   LOW < 5VDC / HIGH > 9VDC

### Operating times

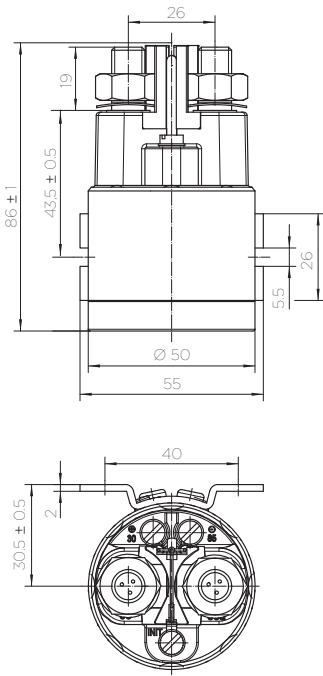
Pick up incl. bounce and running time $\mu$ C	approx. 150msec
Drop out incl. running time $\mu$ C	approx. 150msec
Wire Section	min. 95mm <sup>2</sup> / 0.147 sq.inch / AWG 4-0
Mounting position	optional

**Technical drawings**

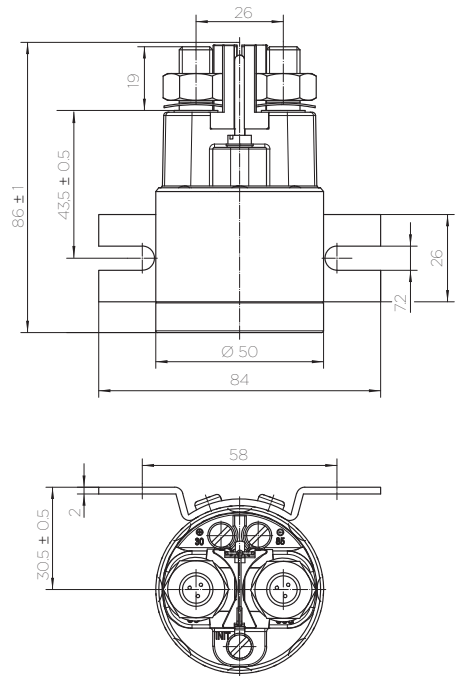
**Standard side mounting**



**Short form side mounting**



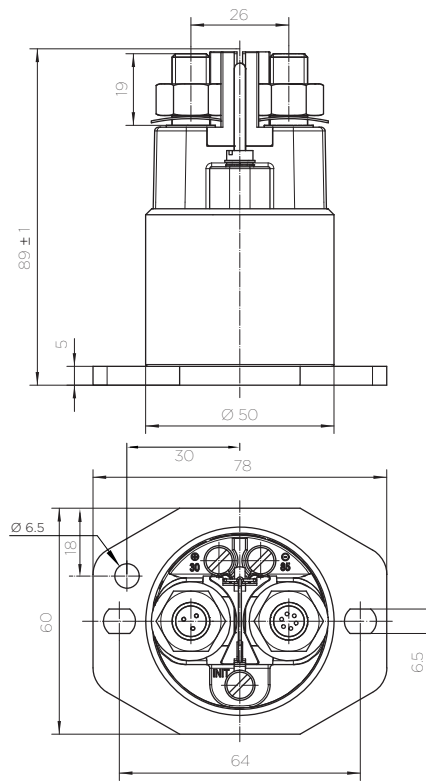
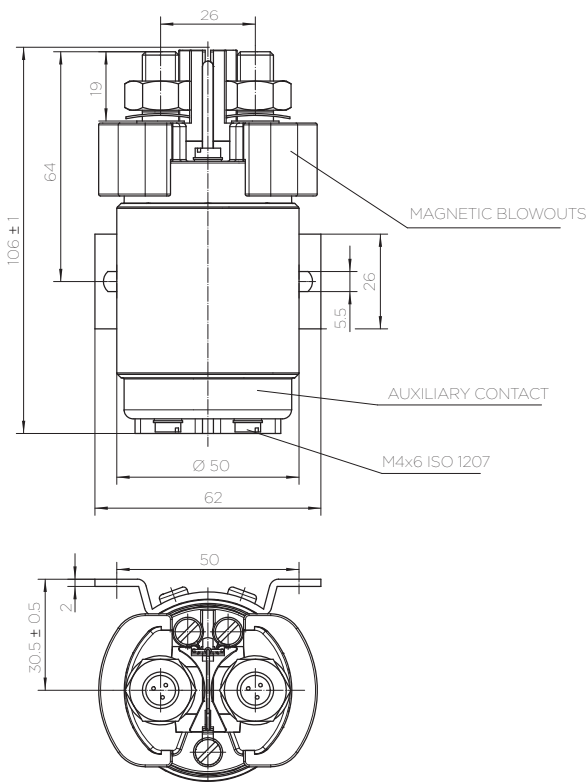
**Long form side mounting**



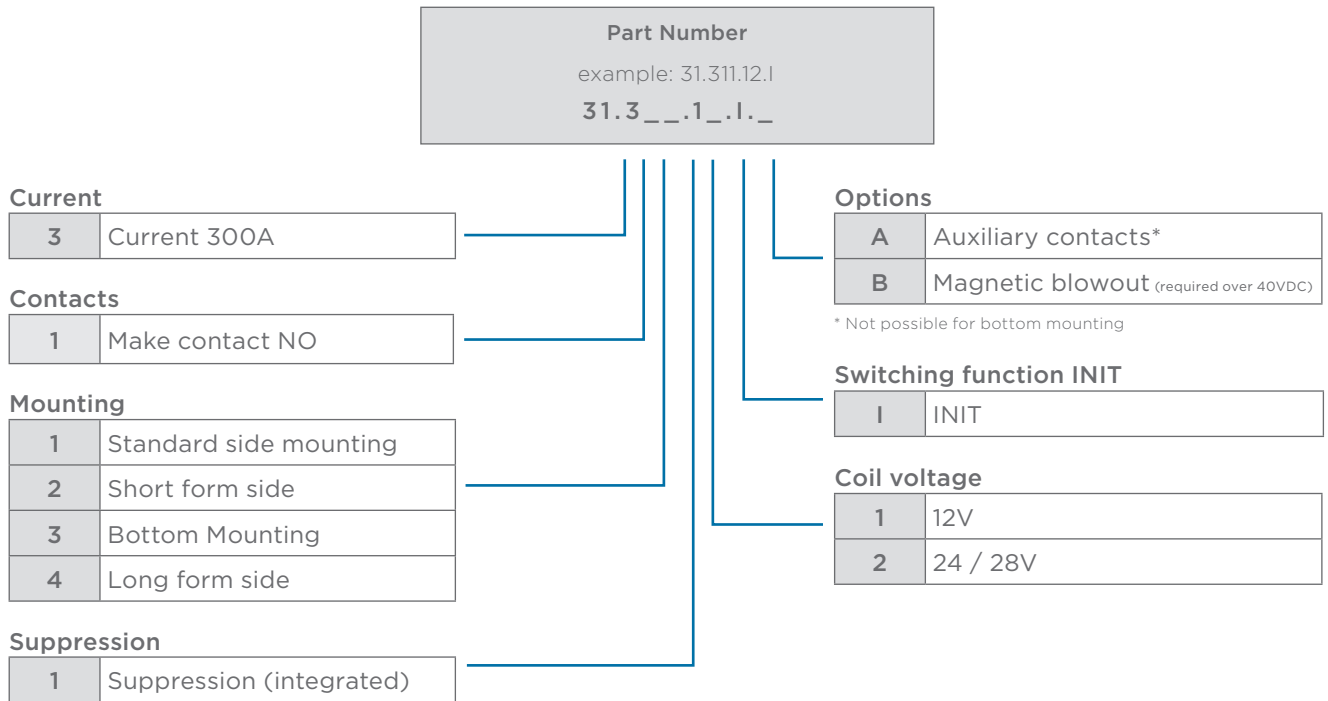
**Options:**

Auxiliary contacts, magnetic blowouts

**Bottom mounting**

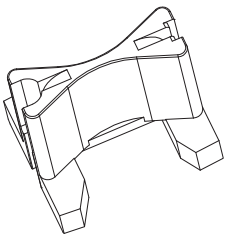


**Ordering Information**



**Accessories**

**Replaceable barrier**  
29-200-55



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