



KISSLING BI-STABLE RELAYS WITH INTERNAL CONTROL ELECTRONICS

Series 31 / ENERGY - 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 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 provide 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 (>40 VDC).

Features

- Sealed housing conforms to IP6K9K
- Robust design
- Variety of configuration options
- 6G shock and 4G vibration resistant
- “Energy” function for automatic shutoff in case of loss of power improves safety levels and reaction times in critical situations.

Applications

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

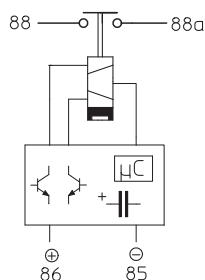
Electronic energy storage-control

The relay has only two control connections which make it possible to replace a standard monostable relay with a bi-stable relay providing the advantage of powerless holding.

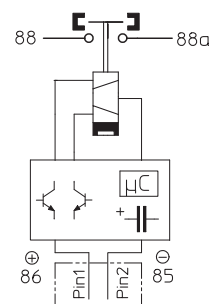
The internal capacitor is charged during the switch-on process. When the power supply is removed, the capacitor discharges the power into the drop out coil, which therefore switches off the relay. The characteristics of a standard bi-stable relay requires resupply of energy to drop out the coil. The electronics are short-circuit protected and feature safety coil selection, reverse polarity protection and coil cancellation.

Circuits

NO-Contact
Standard type



NO-Contact
Plug-in connection /
Magnetic blowout



SERIES 31

300A - ENERGY

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

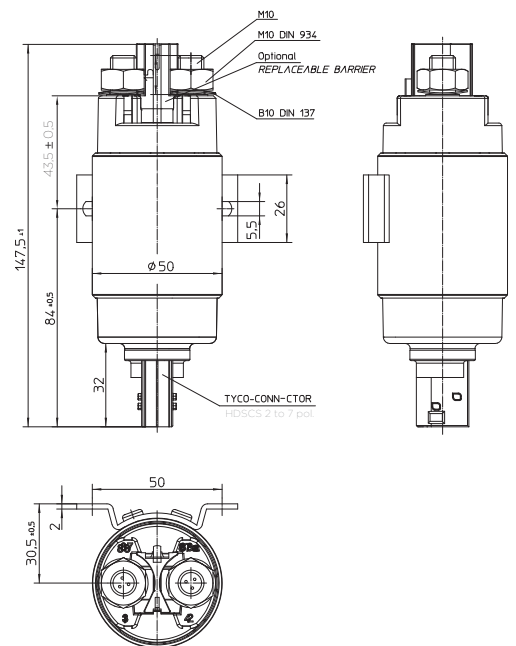
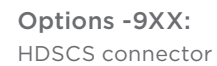
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|-----------------|--------------------|
| Resistive load | 50.000 cycles 300A |
| Mechanical life | 100.000 cycles |

| Coil Data | 12VDC | 24 / 28VDC |
|--------------------------|------------|------------|
| Voltage range | 9-16VDC | 18-32VDC |
| Nominal voltage | 12VDC | 28VDC |
| Pick up coil resistance | 2.1Ω ± 20% | 7.8Ω ± 20% |
| Drop out coil resistance | 2.6Ω ± 20% | 8.4Ω ± 20% |

Operating times

| | |
|-------------------|--|
| Min. pick up time | approx. 500msec |
| Bounce time | max. 5msec |
| Min. drop time | approx. 100msec |
| Wire Section | min. 95mm ² / 0.147 sq.inch / AWG 4-0 |
| Mounting position | optional |

Standard side mounting



Ordering Information

Part Number

example: 31.311.12.E

31.3___.1_.E._

Current

| | |
|---|--------------|
| 3 | Current 300A |
|---|--------------|

Contacts

| | |
|---|-----------------|
| 1 | Make contact NO |
|---|-----------------|

Mounting

| | |
|---|------------------------|
| 1 | Standard side mounting |
| 2 | Short form side |
| 4 | Long form side |

Suppression

| | |
|---|--------------------------|
| 1 | Suppression (integrated) |
|---|--------------------------|

Options

| | |
|-----|---|
| B | Magnetic blowout <small>(required over 40VDC)</small> |
| 9xx | DIN Bayonet Connector |
| 9xx | HDSCS Connector |

* Not possible for bottom mounting

Switching function INIT

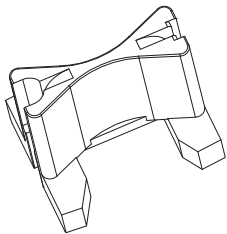
| | |
|---|--------|
| E | ENERGY |
|---|--------|

Coil voltage

| | |
|---|----------|
| 1 | 12V |
| 2 | 24 / 28V |

Accessories

Replaceable barrier
29-200-55



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