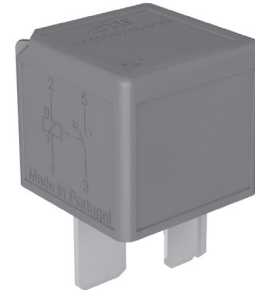


Power Relay F7 A Latching

- Magnetically latched, ISO plug-in relay
- One coil with set and reset function
- Pin assignment similar to ISO 7588 part 1
- Customized versions available (colour, parallel or serial components etc.)
- Mini version (40A with 6.3mm terminals) available on request

Typical applications

Cross carline, e.g. Power outlet switch off, start-stop, energy management



3D136L_fw2

Contact Data

Contact arrangement	1 form A, 1 NO
Rated voltage	12VDC
Limiting continuous current	
23°C	80A
85°C	60A
125°C	35A
Limiting making current ¹⁾	300A
Limiting breaking current	70A
Limiting short-time current overload current, ISO 8820-3 ²⁾	1.35 x 50A, 1800s 2.00 x 50A, 5s 3.50 x 50A, 0.5s 6.00 x 50A, 0.1s
Contact material	Silver based
Min. recommended contact load ³⁾	1A at 5VDC
Initial voltage drop, NO contact at 10A, typ./max.	15/300mV
Frequency of operation at nominal load	6 ops./min (0.1Hz)
Set/reset time typ.	2/1ms
Electrical endurance	
at cyclic temperature -40/+23/+85°C, 14VDC, 2s (on), 2s (off)	
capacitive load 300A (on)/ 30A (off)	>2x10 ⁵ ops
motor load L=0.2mH, 200A (on)/ 40A (off)	>1x10 ⁵ ops
Mechanical endurance	>1x10 ⁷ ops

Coil Data

Magnetic system	bistable (one coil system)								
Rated coil voltage	12VDC								
Min./Max. energization duration	10ms/100ms								
Polarity for set/reset energization	<table border="1"> <tr> <td>set</td><td>reset</td></tr> <tr> <td>-</td><td>-</td></tr> <tr> <td>+</td><td>+</td></tr> <tr> <td>pin 2</td><td>pin 1</td></tr> </table>	set	reset	-	-	+	+	pin 2	pin 1
set	reset								
-	-								
+	+								
pin 2	pin 1								
Max. coil temperature	155°C								

Coil versions, DC coil

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega \pm 10\%$	Impulse length ms
031	12	6	6	25	10-100

All figures are given for coil without pre-energization, at ambient temperature +23°C.

Insulation Data

Initial dielectric strength	
between open contacts	500V _{rms}
between contact and coil	500V _{rms}
between adjacent contacts	500V _{rms}

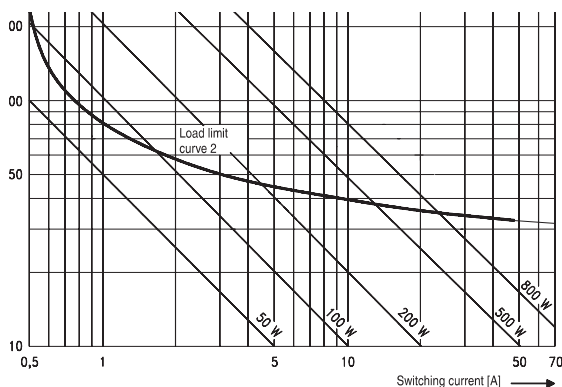
Load dump test

ISO 7637-1 (12VDC), test pulse 5	V _s =+86.5VDC
ISO 7637-2 (24VDC), test pulse 5	V _s =+200VDC

- The values apply to a resistive or inductive load with suitable spark suppression and at maximum 14VDC for 12VDC load voltages. For a load current duration of maximum 3 s for a make/break ratio of 1:10.
- Current and time are compatible with circuit protection by a typical 50A automotive fuse. Relay will make, carry and break the specified current.
- See chapter Diagnostics of Relays in our Application Notes or consult the internet at <http://relays.te.com/appnotes/>

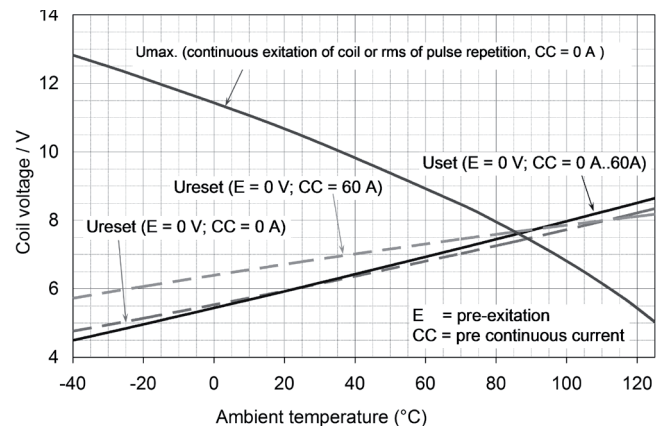
Max. DC load breaking capacity

ECR0629N_b



Coil operating range

Operating voltage range V23136-L



Power Relay F7 A Latching (Continued)

Other Data

EU RoHS/ELV compliance	compliant
Protection to heat and fire according UL94	HB or better ⁴⁾
Climatic cycling with condensation	
EN ISO 6988	6 cycles, storage 8/16h
Temperature cycling	
IEC 60068-2-14, Nb	10 cycles, -40/+85°C (5°C/min)
Damp heat cyclic	
IEC 60068-2-30, Db, Variant 1	6 cycles, upper air temp. 55°C
Damp heat constant, IEC 60068-2-3, Ca	56 days
Category of environmental protection, IEC 61810	RT I – dustproof
Degree of protection, IEC 60529	IP54 – dustproof
Vibration resistance (functional)	
IEC 60068-2-6 (sine sweep)	10 to 500Hz, min. 10g ⁵⁾
Shock resistance (functional)	
IEC 60068-2-27 (half sine)	6ms, min. 30g ⁵⁾
Drop test, free fall, IEC 60068-2-32	1m onto concrete ⁶⁾

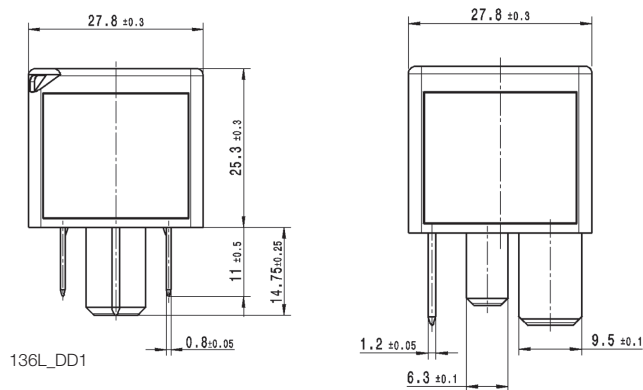
Other Data (continued)

Terminal type	Plug-in, QC
Cover retention	
axial force	150N
pull force	200N
push force	200N
Terminal retention ⁸⁾	
pull force	100N
push force	100N
Weight	approx. 35g (1.2oz)
4) Refers to used materials	
5) No change in the switching state >10µs. Valid for NC contacts, NO contact values significantly higher.	
6) Contact status can change due to drop	
8) Values apply 2mm from the end of the terminal. When the force is removed, the terminal must not have moved by more than 0.3mm.	

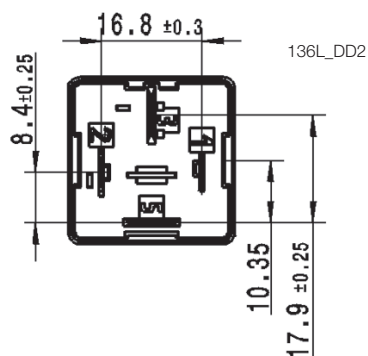
Accessories

For details see datasheet	Connector for Maxi ISO Relays
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Dimensions

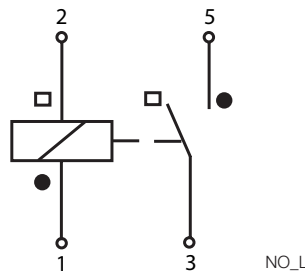


View of the terminals (bottom view)



Terminal Assignment

1 form A, NO latching



Power Relay F7 A Latching (Continued)

Product code structure		Typical product code					
Type	V23136 Power Relay F7 A	V23136	-L	0	031	-D642	
Feature	L Latching						
Cover	0 Standard						
Coil	031 12VDC						
Terminal/arrangement	D642 Standard version Xnnn Customized version						

Other types on request.

Product code	Arrangement	Feature	Cover	Circuit	Coil	Contact material	Terminals	Part number
V23136-L0031-D642	1 form A, 1 NO	Latching	Standard	NOL	12VDC	Silver based	Plug-in, QC	4-1904060-6

Other types on request.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[V23136L0031D642-EV-CBOX](#)