

Power Relay F7 A

- Pin assignment similar to ISO 7588 part 1
- Customized versions on request
 - Integrated components (e.g. resistor, diode)
 - Customized marking

Typical applications

Cross carline up to 70A for example: ABS control, blower fans, car alarm, cooling fan, energy management, engine control, fuel pump, heated front screen, lamps: front, rear, fog light, main switch/supply relay, valves, wiper control.



136J_fw6

Contact Data	
Contact arrangement	1 form A, 1 NO
Rated voltage	12VDC
Limiting continuous current,	
23°C	70A
85°C	50A
Limiting making current ¹⁾ , form A	240A
Limiting breaking current, form A	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
Jump start test, ISO 16750-1	24VDC for 5min, conducting nominal current at 23°C
Contact material	silver based
Min. recommended contact load ³⁾	1A at 5VDC
Initial voltage drop at 10A, form A (NO) contact, typ./max.	15mV/200mV
Frequency of operation at nominal load	6 ops./min (0.1Hz)
Operate/release time typ ⁴⁾	7/4ms

Contact Data (continued)	
Electrical endurance	>1x10 ⁵ ops.
resistive load, form A (NO) contact	50A, 14VDC
Mechanical endurance	>1x10 ⁶ ops.

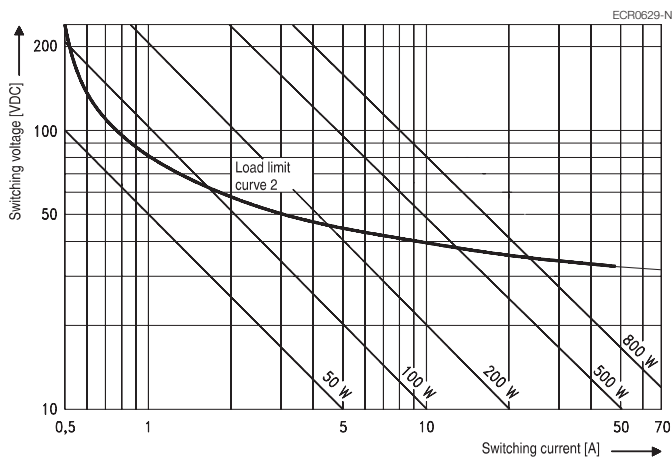
- 1) The values apply to a resistive or inductive load with suitable spark suppression and at maximum 14VDC load voltages. For a load current duration of maximum 3s for a make/break ratio of 1:10.
- 2) Current and time are compatible with circuit protection by a typical automotive fuse. Relay will make, carry and break the specified current.
- 3) See chapter Diagnostics of Relays in our Application Notes or consult the internet at <http://relays.te.com/appnotes/>
- 4) For unsuppressed relay coil. A low resistive suppression device in parallel to the relay coil increases the release time and reduces the lifetime caused by increased erosion and/or higher risk of contact tack welding.

Coil Data					
Rated coil voltage	12VDC				
Coil versions, DC coil					
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance ⁵⁾ Ω±10%	Rated power ⁵⁾ W
004	12	7.2	1.6	76	1.9

5) With resistor in parallel.

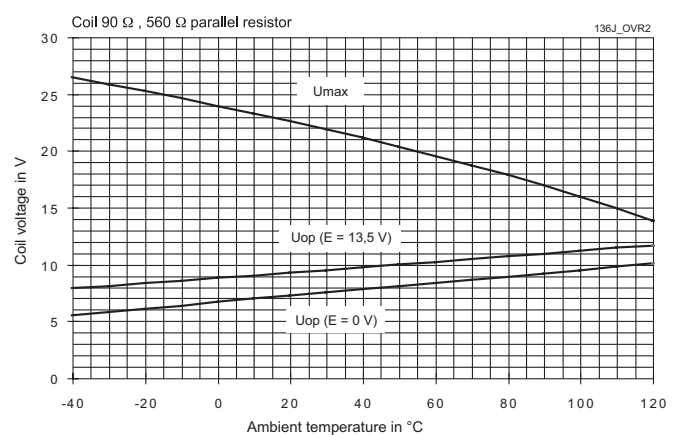
All figures are given for coil without pre-energization, at ambient temperature +23°C.

Max. DC load breaking capacity



Load limit curve 1: arc extinguishes during transit time (changeover contact).
 Load limit curve 2: safe shutdown, no stationary arc (make contact).
 Load limit curves measured with low inductive resistors verified for 1000 switching events.

Coil operating range



Does not take into account the temperature rise due to the contact current
 E = pre-energization.

Power Relay F7 A (Continued)

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	Vs=+86.5VDC
ISO 7637-2 (24VDC), test pulse 5	Vs=+200VDC

Other Data

EU RoHS/ELV compliance	compliant
Protection to heat and fire according UL94	UL94-HB or better
Ambient temperature	-40 to 125°C
Protection to heat and fire according UL94	HB or better ⁶⁾
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),

Other Data (continued)

Corrosive gas	
IEC 60068-2-42	10±2cm ³ /m ³ SO ₂ , 10 days
IEC 60068-2-43	1±0.3cm ³ /m ³ H ₂ S, 10 days
Vibration resistance (functional)	
IEC 60068-2-6 (sine sweep)	10 to 500Hz, min. 5g ⁷⁾
Shock resistance (functional)	
IEC 60068-2-27 (half sine)	11ms, min. 20g ⁷⁾
Drop test, free fall, IEC 60068-2-32	
1m onto concrete	
Terminal type	
plug-in, QC	
Cover retention	
pull force	150N
push force	200N
Terminal retention	
pull force	150N
push force	150N
resistance to bending	10N ⁸⁾
force applied to side	10N ⁸⁾
torque	0.3Nm
Weight	approx. 37.5g (1.3oz)
Packaging unit	273 pcs.

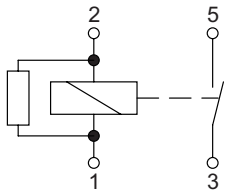
- 6) Refers to used materials.
- 7) No change in the switching state >10µs. Valid for NC contacts, NO contact values significantly higher.
- 8) Values apply 2mm from the end of the terminal. When the force is removed, the terminal must not have moved by more than 0.3mm.

Accessories

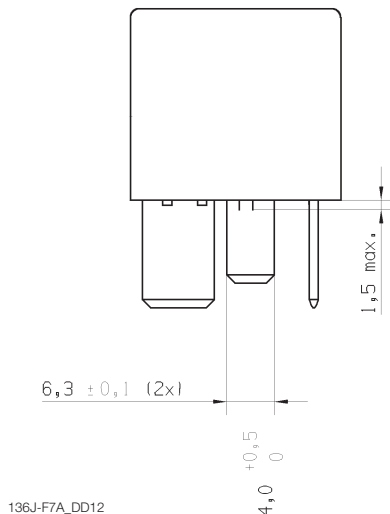
For details see datasheet Connectors for Maxi ISO Relays

Terminal Assignment

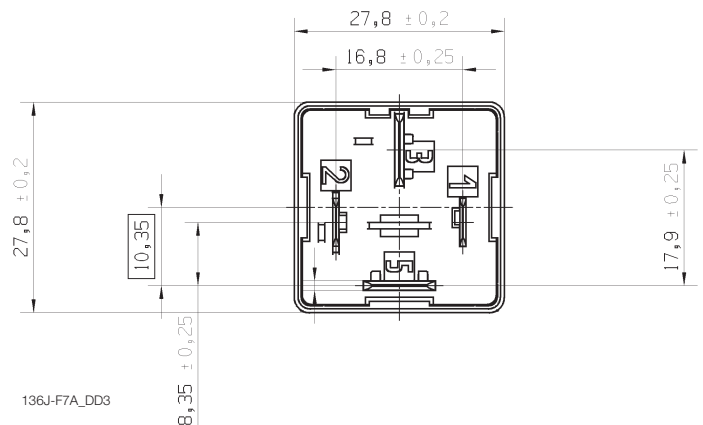
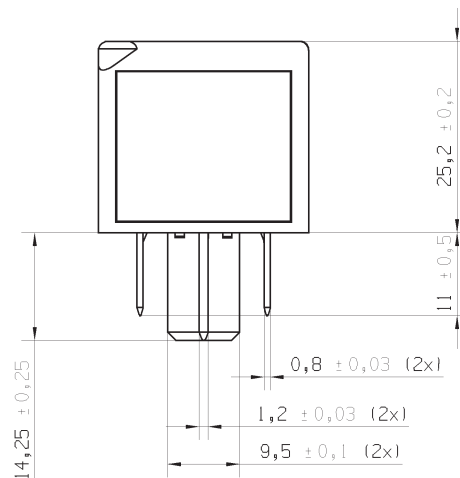
NO
1 form A, 1 NOR



Dimensions



136J-F7A_DD2



Power Relay F7 A (Continued)

Product code structure	Typical product code	V23136	-J	0	004	-X103
Type	V23136 Power Relay F7 A					
Contact arrangement	J 1 form A, 1 NO					
Cover	0 Standard					
Coil	004 12VDC					
Terminal/arrangement	Xnnn Customized (nnn: version number)					

Production in Asia (only)

Product code	Arrangement	Coil suppr.	Circuit ¹⁾	Coil	Contact material	Terminals	Part number
V23136-J0004-X103	1 form A, 1 NO	Resistor 560Ω	NOR	12VDC	Silver based	plug-in, QC	6-1904116-9

1) See terminal assignment diagrams.