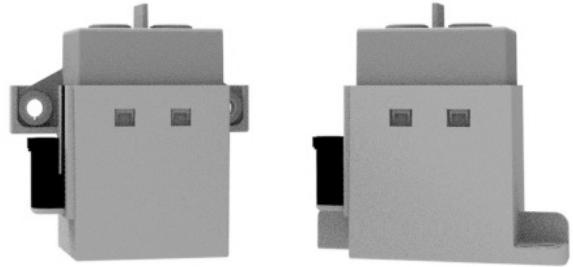


EVC 250-800 Main Contactor

- Limiting continuous current 250A at 85°C
- Suitable for voltage levels up to 900VDC
- High peak current carrying capability up to 6000A¹⁾

Typical applications

- DC high voltage high current applications
- Main contactors for hybrid, full battery electric vehicles and fuel-cell cars
- Battery charging systems



Contact Data	
Contact arrangement	1 form X (SPST NO DM)
Rated voltage	800VDC
Maximum switching voltage	900VDC, dep. on load characteristics ¹⁾
Rated current	load cable 50mm ²
Forward load current direction	250A
Limiting continuous current	load cable 50mm ²
85°C	250A
Limiting short time current	load cable 50mm ²
85°C	400A 5min 600A 1min 6000A 20ms
Limiting make current	5x10 ⁴ x250A at 50VDC

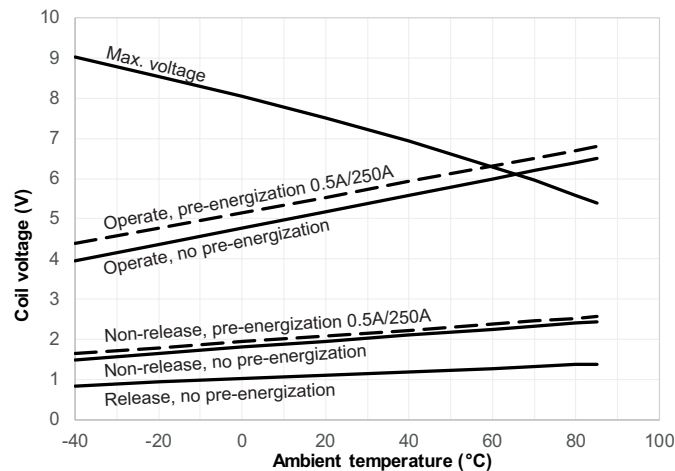
Contact Data (continued)	
Limiting break current	1x650A at 800VDC
Forward load current direction	5000x100A at 800VDC
altitude max 5500m	5x10 ⁴ x50A at 800VDC
Limiting break current	1x415A at 300VDC
Reverse load current direction	20x50A at 800VDC
altitude max 5500m	1x10 ⁴ x20A at 800VDC
Voltage drop (initial) at 100A	max. 40mV after 60s
Voltage drop (over lifetime) at 250A	typ. 50mV after 60s
Operate time	max. 25ms ²⁾
Release time	max. 25ms ²⁾
Mechanical endurance	>2x10 ⁵ ops.

1) Please contact TE Connectivity for details.

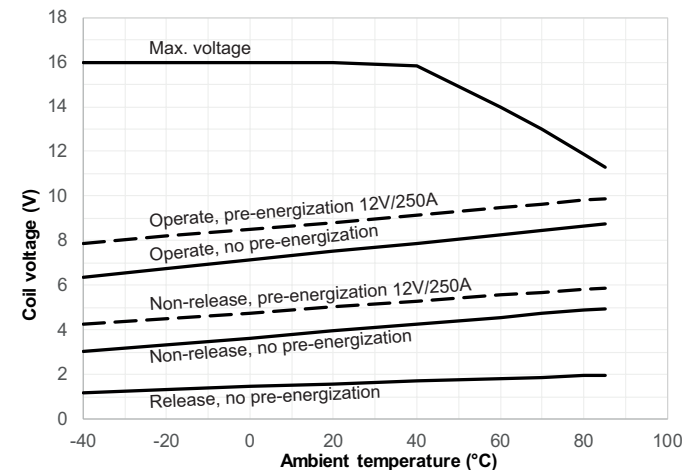
2) At rated voltage.

EVC 250-800 Main Contactor (Continued)

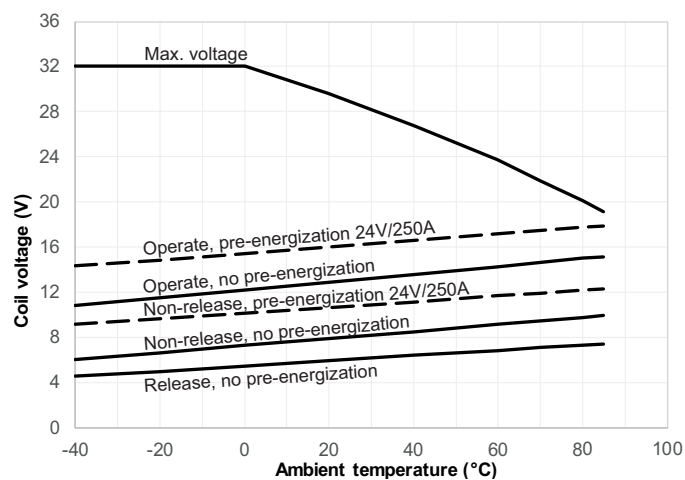
Coil operating range (12V single coil version)



Coil operating range (12V dual coil version)



Coil operating range (24V dual coil version)



Coil Data³⁾

Un-economized: single coil version for external economization ⁴⁾					
Coil code	Rated voltage [VDC]	Operate voltage [VDC]	Max. cont. voltage [VDC]	Non-release voltage [VDC]	Coil resistance [Ω] ±10%
0101	12	5.3	6.7	2.0	3.9

Recommended parameters for external economization with PWM⁴⁾

Min. frequency [kHz]	Controlled current Max. current [A]	PWM Min. current [A]	Controlled voltage Max. voltage [V]	equivalent Min. voltage [V]
15	1.0	0.5	5.9	2.6

Economized: dual coil version with internal switch⁵⁾⁶⁾

Coil code	Rated voltage [VDC]	Operate voltage ⁷⁾ [VDC]	Nominal inrush current [ADC]	Non-release voltage [VDC]	Max. voltage [VDC]	Coil resistance [Ω] ±10%
0102	12	7.6	4.7	4.0	16.0	2.6/26 ⁸⁾
0112	24	13.0	4.8	8.0	29.2	5.0/79 ⁸⁾

Insulation Data

Initial dielectric strength	
between open contacts	4000VDC / 3mA
between contact and coil	4000VDC / 3mA
Insulation resistance after abuse test	
between open contacts	>200MΩ
between contact and coil	>200MΩ
Clearance/creepage	
acc. IEC 60664-1 (2007) for	over voltage category I, pollution degree 2
Max. altitude	5500m

Other Data

Ambient temperature	-40°C to +85°C
Degree of protection	IEC 60529 (2000-09) IP54 ⁹⁾
Vibration resistance (functional)	
IEC 60068-2-6 (2007-12) sine sweep	10 to 500Hz, min. 10g No change of switching state >10μs.
Shock resistance (functional)	
IEC 60068-2-27(2008-02) half sine	closed: 11ms, min. 40g open: 11ms, min. 20g No change of switching state >10μs.
Terminal type	connector (coil) and screw (load)
Weight	approx. 525 / 580g (18.5 / 20.5oz), depending on version
Packaging unit	20 pcs.

3) All values valid for 23°C ambient temperature with no pre-energization if not noted otherwise. Refer to diagram for values at other temperatures.

4) Requires external coil economization that must start 100-300ms after coil activation. Avoid repetitive switching. Minimum clamp voltage 60V (see circuit recommendation).

5) Demagnetization voltage is clamped at 50V (coil 0102) / 70V (coil 0112). External coil suppression is not necessary and could reduce switching capability. Contact TE Connectivity for details.

6) Max. duty cycle 0.5Hz.

7) Max. rise time 100ms.

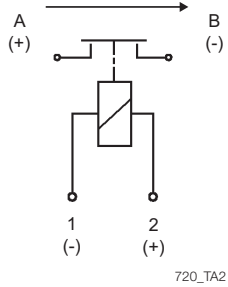
8) 2.6Ω coil / 5.0Ω coil is switched off internally min. 120ms after pull-in

9) Protection class applicable for all mounting orientations except load terminals upwards.

EVC 250-800 Main Contactor (Continued)

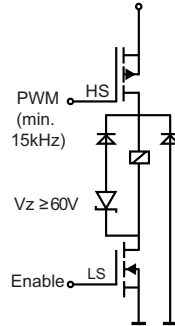
Terminal Assignment

Forward load current direction



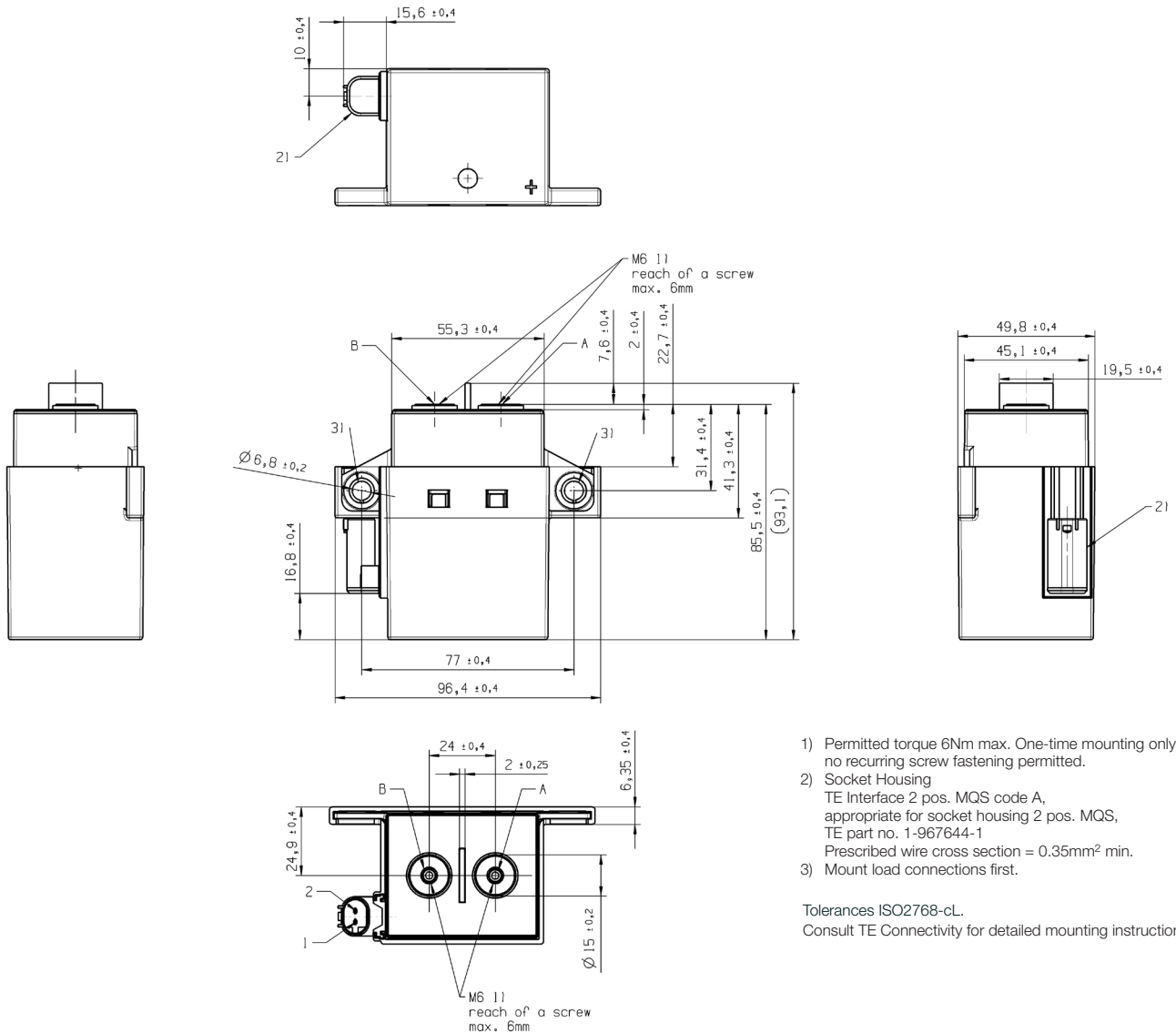
Circuit recommendation for coil 0101

Always use low-side switch "Enable" for switch off



Dimensions

Side Mount Version



- 1) Permitted torque 6Nm max. One-time mounting only, no recurring screw fastening permitted.
- 2) Socket Housing
TE Interface 2 pos. MQS code A, appropriate for socket housing 2 pos. MQS, TE part no. 1-967644-1
Prescribed wire cross section = 0.35mm² min.
- 3) Mount load connections first.

Tolerances ISO2768-cL.
Consult TE Connectivity for detailed mounting instructions.

