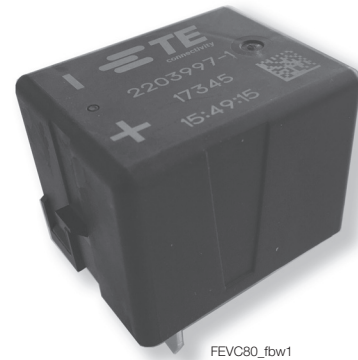


EVC 80 Main Contactor

- Limiting continuous current 80A at 85°C
- Hermetically sealed

Typical applications

- DC high voltage high current applications
- Main contactor for hybrid and electric vehicles
- Contactor for onboard chargers, auxiliary loads and precharge systems



FEVC80_fw1

Contact Data

Contact arrangement	1 Form X (SPST NO DM)
Rated operating voltage	450 (600VDC) ¹⁾
Continuous carry current	80A
85°C, load cable 13.3mm ²	
Limiting short-time current	150A / 6min
85°C, load cable 13.3mm ²	
Make/break current at various voltages	see graph on page 3
Limiting break current, forward direction	1000 x 150A estimated
resistive load, 23°C, 400VDC	
Load life	see graph on page 3
Initial contact resistance	<0.8 mΩ
Operate / release time max.	
close (includes bounce)	25 ²⁾
bounce (after close only)	5
release (includes arcing) at 2000A	10
Mechanical life	>500,000 cycles

1) Suitable for voltages up to 450VDC with limited capability to 600VDC.

2) 25ms at nominal operating voltage. Consult TE Connectivity for operating time not done at rated voltage.

Coil Data³⁾
Un-economized coil for external economization⁴⁾

Coil code	Rated voltage VDC	Pull-in voltage max. VDC	Min. hold current ⁵⁾ mA	Min. Drop-out voltage VDC	Coil resistance Ω -5%/+10%
4	12	8.0	250.0	0.50	21.4

3) All data valid at 23°C coil temperature.

4) 21.4Ω can operate either economized or non-economized.

5) Must operate at 560mA for 100ms before reducing to minimum hold current.

Insulation Data

Initial dielectric strength ⁶⁾	
between open contacts	2920VDC / leakage <1mA
between contact and coil	2920VDC / leakage <1mA
max. altitude	5000m
Insulation resistance at 500VDC ⁶⁾	
between open contacts	>1 GΩ
between contact and coil	>1 GΩ

6) Meets dielectric strength and IR requirements according to ISO 6469-3, conformity to IEC60664-1 in preparation.

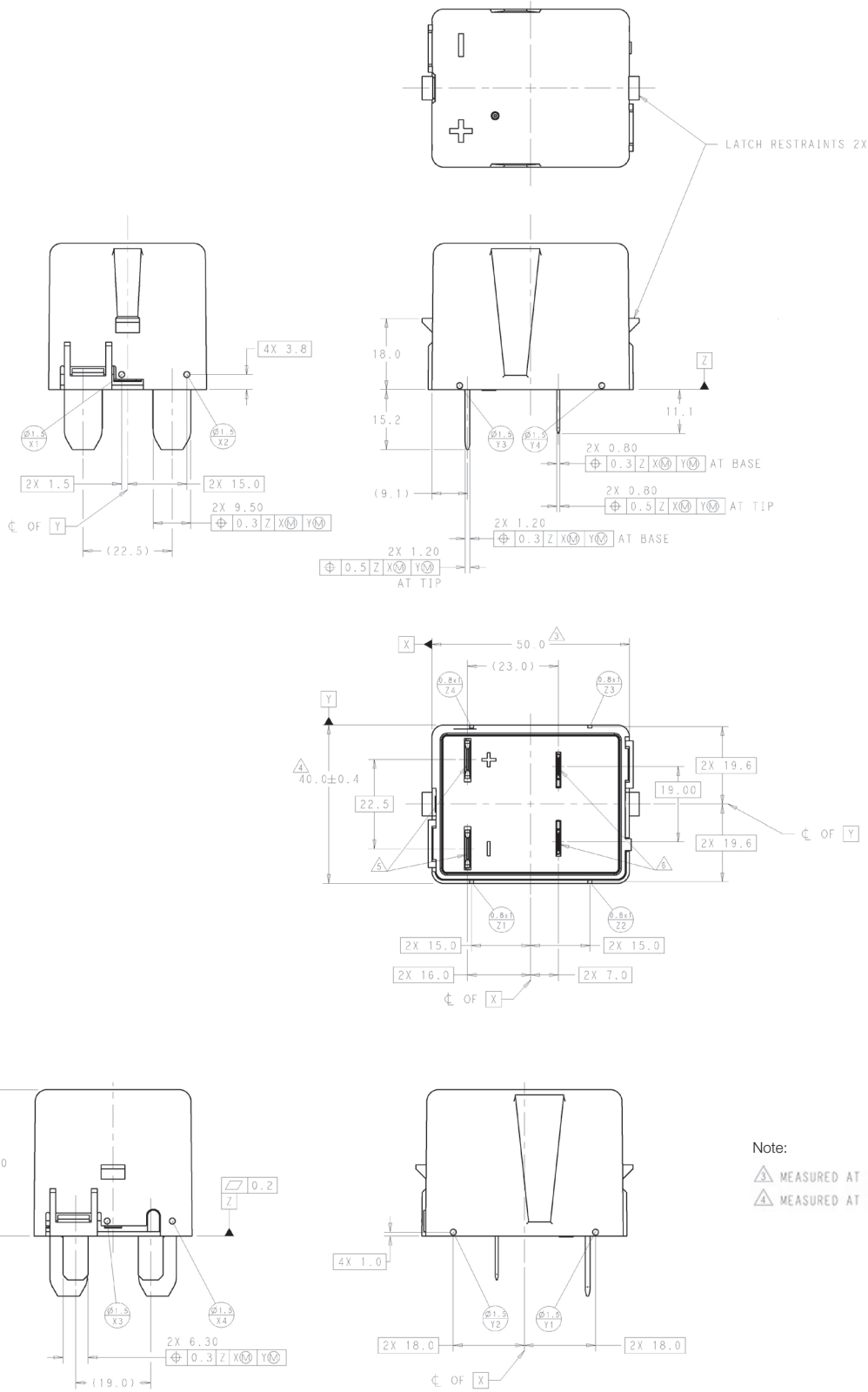
Other Data

Material data	
EU RoHS/ELV compliant	
Ambient temperature	-40°C to +85°C
Vibration resistance (functional)	
sine, 10-500Hz, peak	10g
Shock resistance (functional)	
coil energized, peak	50g
Terminal type	6.3mm blade (coil); recommended terminal: 6-160526-1 and 9.5mm blade (load) recommended terminal: 1-967589-2
Weight	approx. 150g (0.33lb)

EVC 80 Main Contactor (Continued)

Dimensions

EVC 80 Main Contactor



Note:

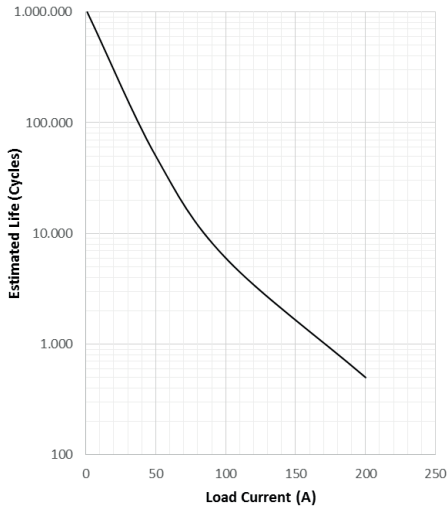
- ▲ MEASURED AT DATUM TARGETS X1 THROUGH X4.
- ▲ MEASURED AT DATUM TARGETS Y1 THROUGH Y4.

EVC 80 Main Contactor (Continued)

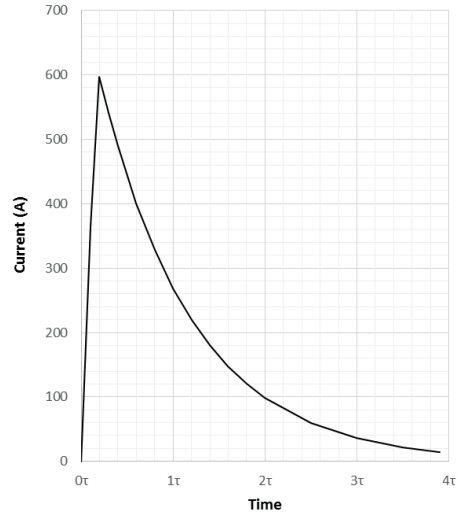
Contact performance

Life cycle vs. resistive load at 400VDC

(Chart is for engineering guideline, verification at 2,920VRMS for dielectric withstand)



Contacts closed capacitor precharge



Notes:

- 1) The maximum make current is 600A to avoid contact welding.
- 2) For reverse current, the performance will roughly be reduced by 50% of the cycle life in forward direction.

Notes:

- 1) Because higher current causes more damage to contact surface, at least 95% precharge is recommended.
- 2) Inrush current dependent upon RC time constant and precharge timing sequence.

Product code structure

Typical product code

EVC 80

-4

A

N

G

Type

EVC 80 EVC 80 Main Contactor

Coil

4 12VDC (21.4Ω coil)

Coil terminal

A 6.3mm blade

Power terminal

N 9.5mm blade

Arc magnet

power terminals

G Grade 8 (standard)

Product code	Coil resistance	Coil voltage	Economization or voltage reduction	Coil leads	Mounting	Part number
EVC 80-4ANG	21.4Ω	12VDC	Optional	Blade	Plug-in	2203997-1