



# | MXC Smart-Factor™

## CAN-BUS CONTACTOR

### Introduction

Automatic trip function 350 amp and 600 amp versions CAN-BUS Communication



### SPECIFICATIONS

<b>EPIC Seal</b>	Ceramic to metal braze. Gas filled hermetic chamber protects key components. Exceeds IP69K standard
<b>Contacts / Form</b>	Silver / SPST / NO
<b>Coil</b>	Efficient two coil design with no PWM or EMI emissions.
<b>Suppression</b>	Coil suppression built in
<b>High Shock and Vibration</b>	For rugged environments, off-road and tracked vehicles
<b>Installation</b>	Not orientation sensitive
<b>Reference</b>	MIL-R-6106, RoHS

### Coil Ratings (25°C, Currents & Power At Nominal V)

Series	15 (350A)		16 (600A)		
	B	C	B	C	
<b>Coil P/N Designation</b>	B	C	B	C	
<b>Coil Voltage (Nominal)</b>	12	24	12	24	V
<b>Coil Voltage (max)</b>	16	32	16	32	V
<b>Coil Voltage (min)</b>	9	17	9	17	V
<b>Inrush Current (max)</b>	3.9	1.6	3.8	1.9	A
<b>Hold Current after inrush (max)</b>	0.23	0.097	0.64	0.32	A
<b>Coil Hold Power (max)</b>	2.8	2.3	7.7	7.8	W
<b>Coil Back EMF*</b>	0				V
<b>Transient on all pins</b>	+50V 13ms				
<b>Reverse polarity on all pins</b>	-80				V

\*Coils are switched internally with a FET, so no fly-back/suppression voltage is seen at the coil inputs.

## Contacts

<b>Series</b>	15 (350A)	16 (600A)
<b>Contact form</b>	SPST-NO	
<b>Contact Voltage Rating</b>	12-48V	
<b>Insulation resistance, A1-A2 and A1&amp;A2 to controls</b>	500V, 100M $\Omega$ (50M $\Omega$ after life)	
<b>Dielectric, A1-A2 and A1&amp;A2 to controls</b>	2200VAC, 60Hz, 1mA	
<b>Contact Resistance (max)</b>	1.5 m $\Omega$ (.4 avg)	
<b>Current (see chart for Temp. derating)</b>	350A 400MCM	600A 500MCM
<b>90s</b>	1000A	1500A
<b>10s</b>	2000A	3000A
<b>1s</b>	3000A	4000A

## Resistive Load Switching

<b>Series</b>	15 (350A)	16 (600A)
<b>Fault interrupt (1 cycle)</b>	3000A	5000A
<b>Resistive switching @ 28V</b>	100,000 cycles @ 350A	100,000 cycles @ 600A
<b>Please contact factory for more detailed resistive switching specifications.</b>		
<b>Mechanical life</b>	300,000 cycles	

## Environmental Specifications

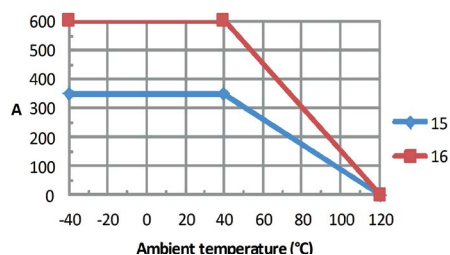
<b>Series</b>	15 (350A)	16 (600A)
<b>Weight (Max, with hardware)</b>	1.6lbs, 725g	2lbs, 910g
<b>Vibration (10 - 2000Hz)</b>	15G	
<b>Shock, 1/2 Sine, 11ms</b>	20G	
<b>Temperature Range (ambient)</b>	-40°C to 85°C	
<b>Max Terminal Temperature</b>	125°C	
<b>Water Resistance</b>	IP67 and IP69K	
<b>Seal: Hermetic Vacuum Braze, tested to E-9 std cc/sec</b>		
<b>Steam/Water-Jet/Boiling Water</b>	105psi Steam/2750psi Jet/ Submersion in BW	
<b>Chemicals, Corrosion, Fungal Growth</b>	Resistant	

## Timing (Max Values @ 25°C)

<b>Series</b>	15 (350A)	16 (600A)		
<b>Operate (including bounce)</b>	20ms			
<b>Inrush</b>	75ms			
<b>Release</b>	12ms	7ms		
<b>For details, contact factory for App. Note</b>	#8	#9	#12	#13



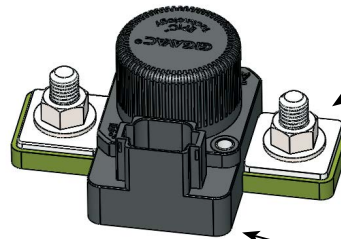
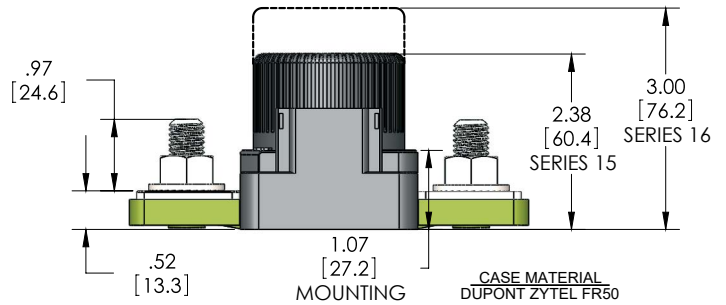
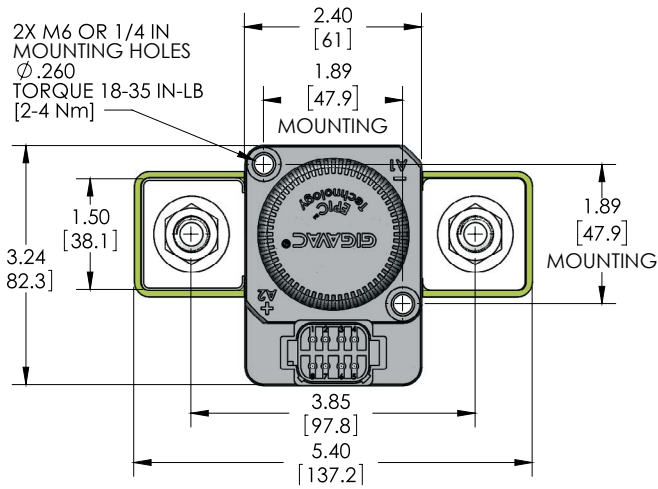
## CURRENT CARRY





## DIMENSIONS

Dimensions are in millimeters [inches]  
Coil terminal polarity is X1 (+) and X2 (-)



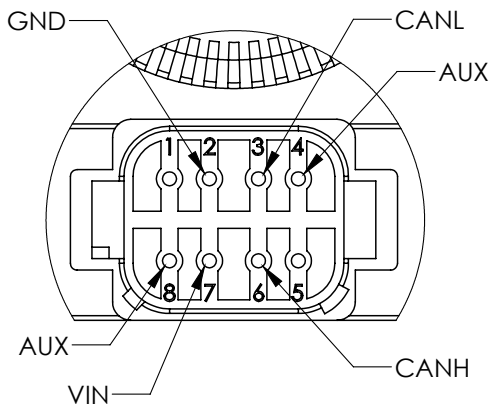
**POWER CONNECTION**  
ZINC PLATED, M12X1.75 BOLT  
STAINLESS M12X1.75 FLANGED NUT  
TORQUE 200-300 IN-LB [22-33 Nm]

MATING DEUTSCH CONNECTOR *	
PART NUMBER	DESCRIPTION
DT06-08SA	CONNECTOR HOUSING
0462-201-16141	SOCKET
114017	SEALING PLUG
HDT-48-00	RECOMMENDED CRIMPER
W8S	WEDGE

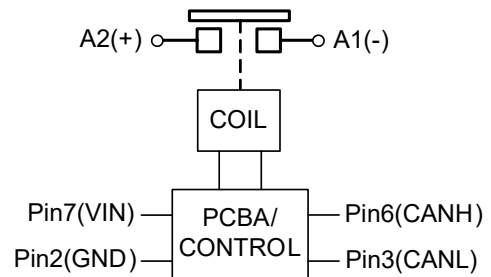
\* AVAILABLE AS AN ASSEMBLY [\(0857-9/10\)](#)



## POWER CIRCUIT AND INSTALLATION



To enable internal 120Ω CAN termination: Jumper Pin1 and Pin5.



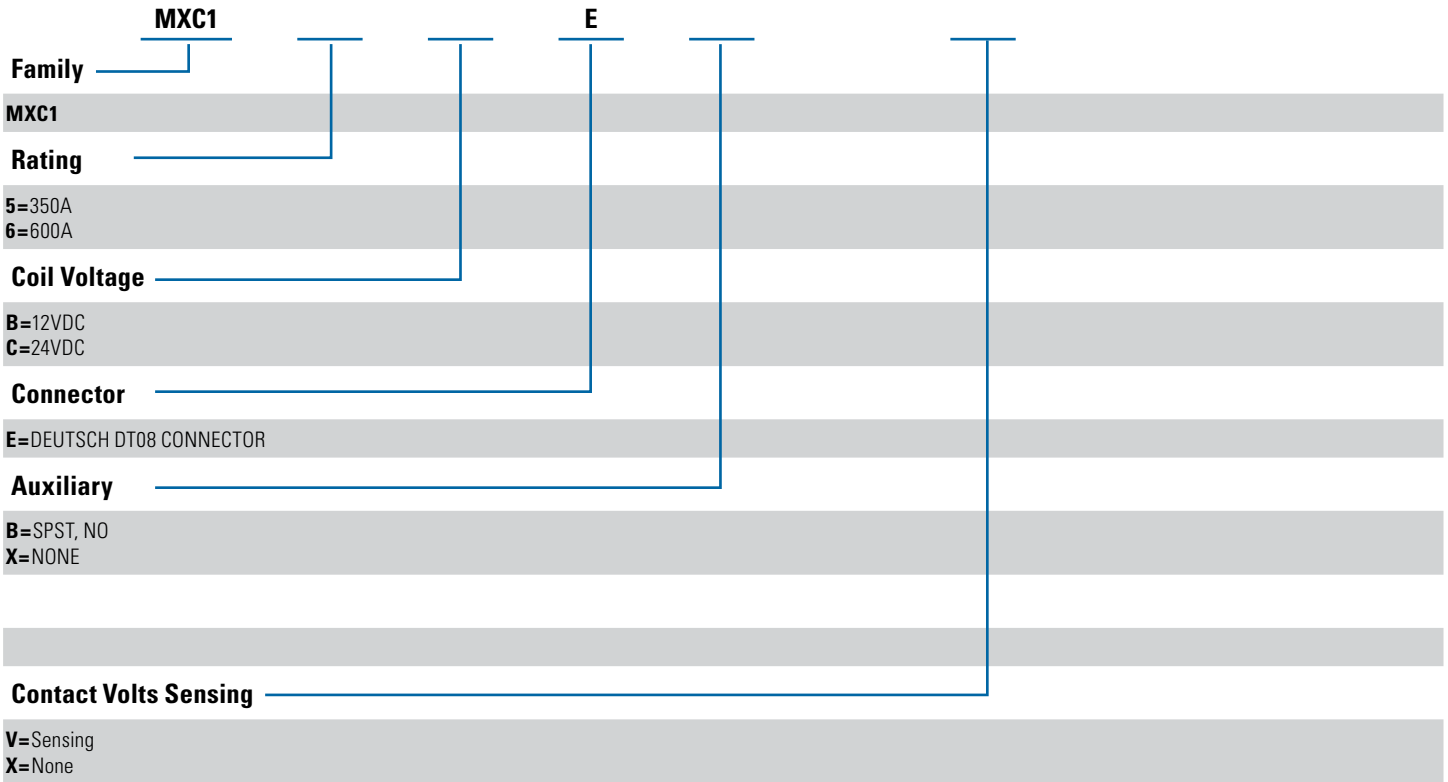
### Settings Parameters

<b>Current Sense Accuracy</b>	±7%
<b>Over Current Response Time</b>	2ms + release time 20ms



## ORDERING OPTIONS

Example : MXC16CEBV



## GENERAL NOTES

1. Contactor has two coils. Both are used for pull-in. After approximately 75 milliseconds, one coil is electronically removed from the coil drive circuit. The remaining coil supplies low continuous hold power sufficient for the contactor to meet all of its specified performance specifications. This provides the lowest coil power possible without the use of PWM electronics that have been known to cause EMI emissions and/or crosstalk on system control power.
2. Control and Communication Protocol: J1939 (Link to DBC file to be added)
3. Features:
4. Read: device ID, firmware version, current, temperature, contactor cycle-log and optional nonisolated contact-volts sensing.
5. Read/Write: power supply under-voltage-shutoff, contactor (open/close), trip points, trip delays, power up default (open/close).
6. Visit [www.gigavac.com](http://www.gigavac.com) for the latest CAN-BUS protocol information.

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Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

### Americas

Sensata GIGAVAC  
Contactor Center of Excellence  
6382 Rose Lane  
Carpinteria, CA 93013  
USA

Tel: +1 (805) 684 8401  
Email: [gigavac@sensata.com](mailto:gigavac@sensata.com)  
Sensata Global Headquarters  
Sensata Technologies  
529 Pleasant Street  
Attleboro, MA 02703  
USA

### Europe, Middle East & Africa

Sensata Technologies Holland B.V.  
Jan Tinbergenstraat 80  
7559 SP Hengelo  
The Netherlands  
Tel: +31743578000  
Email: [gigavac-info-eu@list.sensata.com](mailto:gigavac-info-eu@list.sensata.com)

## CONTACT US

### Asia Pacific

China  
Sensata Technologies China Co., Ltd.  
BM Intercontinental Business Center  
30th Floor  
100 Yu Tong Road  
Shanghai 200070  
People's Republic of China  
Tel: +8621 2306 1500  
Email: [contactorasia@list.sensata.com](mailto:contactorasia@list.sensata.com)  
Japan  
Sensata Technologies Japan Ltd.  
Shin Yokohama Square Bldg. 7F  
2-3-12 Shin-yokohama  
Kohoku-ku, Yokohama-shi,  
Kanagawa 222-0033  
Tel: +81 45 277 7001  
Email: [contactorasia@list.sensata.com](mailto:contactorasia@list.sensata.com)