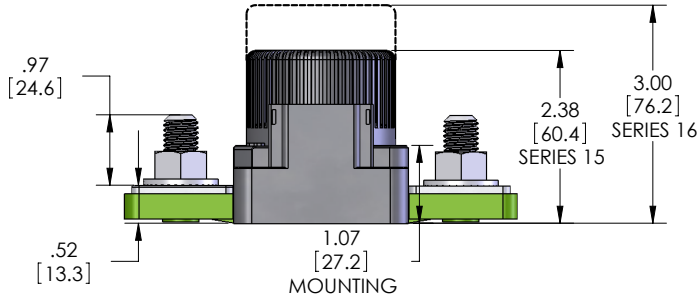
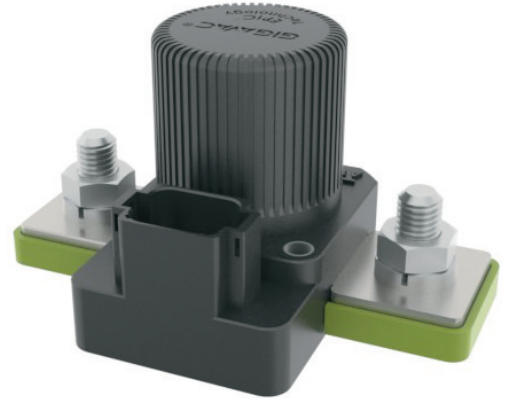
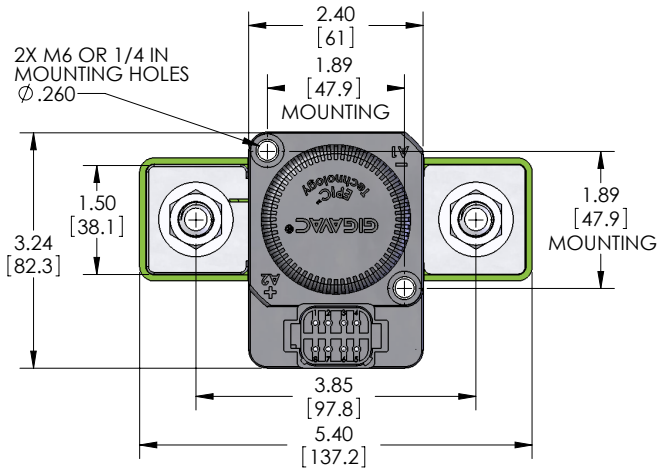


Over Current Contactor

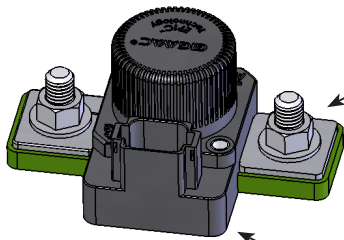
Automatic trip function
350 amp and 600 amp versions

MXSA
Smart-Factor™



CASE MATERIAL
DUPONT ZYTEL FR50

3D MODEL AVAILABLE
UPON REQUEST



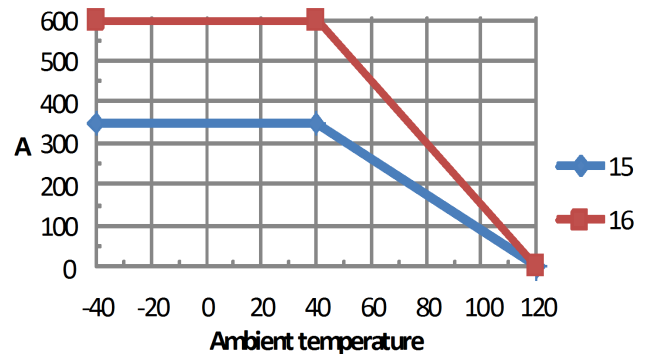
POWER CONNECTION

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 (0857-3/4)

Current Carry



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

Series	15		16		
	B	C	B	C	
Coil P/N Designation	B	C	B	C	
Coil Voltage (Nominal)	12	24	12	24	V
Maximum Safe Voltage	16	32	16	32	V
Inrush Current (max, includes both coils)	3.9	1.6	3.8	1.9	A
Hold Current after inrush (max)	0.23	0.097	0.64	0.32	A
Coil Hold Power (max)	2.8	2.3	7.7	7.8	W
Coil Back EMF ¹	0				V
Transient on all pins	+50V 13ms				
Reverse polarity on all pins	-80				V

¹ Coils are switched internally with a FET, so no fly-back/suppression voltage is seen at the coil inputs.

Key Features

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

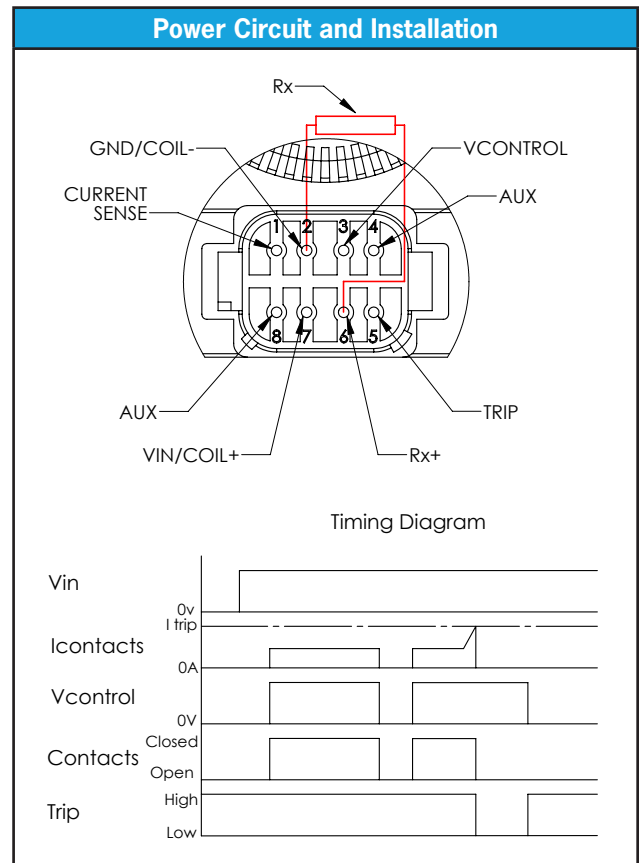
Environmental And Switching Specification				
Series	15	16		
Contacts				
Contact form	SPST-NO			
Contact Voltage Rating	12-48V			
Insulation resistance, A1-A2 and A1&A2 to controls	500V, 100MΩ (50MΩ after life)			
Dielectric, A1-A2 and A1&A2 to controls	2200VAC, 60Hz, 1mA			
Contact Resistance (max)	1.5 mΩ (.4 avg)			
Current (see chart for Temp. derating)	350A 400MCM	600A 500MCM		
90s	1000A	1500A		
10s	2000A	3000A		
1s	3000A	4000A		
Optional Aux, SPST, NO or NC	2A @ 28V			
Resistive Load Switching				
Fault interrupt	3000A	5000A		
Resistive switching @ 28V	100,000 cycles @ 350A	100,000 cycles @ 600A		
Please contact factory for more detailed resistive switching specifications.				
Mechanical life	300,000 cycles			
Environmental Specifications				
Weight (Max, with hardware)	1.6lbs, 725g	2lbs, 910g		
Vibration (10 - 2000Hz)	15G			
Shock, 1/2 Sine, 11ms	20G			
Temperature Range (ambient)	-40°C to 85°C			
Max Terminal Temperature	125°C			
Water Resistance	IP67 and IP69K			
Seal: Hermetic Vacuum Braze, tested to E-9 std cc/cc				
Steam/Water-Jet/ Boiling Water	105psi Steam/2750psi Jet/ Submersion in BW			
Chemicals, Corrosion, Fungal Growth	Resistant			
Timing (Max Values @ 25°C)				
Operate (including bounce)	20			ms
Inrush	75			ms
Release	12	7		ms
For details, contact factory for App. Note	8	9	12	13 #

NOTES:

- With power applied to Vin, the contacts will close when Vcontrol is greater than Vcontrol_Close and open when Vcontrol is less than Vcontrol_Open (see Settings Parameters for values). Connect Vcontrol to Vin to disable logic level control.
- When the trip limit is exceeded the contacts will open and the Trip indicator line will go low. The TRIP pin is an open drain. After a trip, Vcontrol needs to be brought low to reset the contactor.
- Connect resistor Rx as shown in red to set the current trip level. Choose Rx using the equation in Settings Parameters.
- Contactors have 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.
- Current Sense: Indicates the current through the main contacts (A2 and A1). The current sense range is from -600 to +600 amps.

Pin 1: 0V to 5V, $V_{out} = (I/240) + 2.5$

Ordering Key	
MXSA	EX: MXSA16CEB
SERIES 15=350A 16=600A	AUXILIARY B=SPST, NO C=SPST, NC BLANK=NONE
COIL VOLTAGE B=12VDC C=24VDC	CONNECTOR E=DEUTSCH DT08 CONNECTOR



Settings Parameters			
Coil Voltage	B	C	
Vin Input Voltage Range	10-16	20-30	V
Vcontrol Pin (10kΩ input resistance)	32V max		V
Vcontrol_Close	2.5		V
Vcontrol_Open	1.5		V
Current Trip Setting Range	±(20-600)		A
Rx Value (I_Trip is the trip level in Amps)	$R_x = 100k\Omega * I_{Trip} / 600A$		A
Current Sense Accuracy	±7%		
Over Current Response Time	2ms + release time		ms
Max Sink Current on Trip Pin	10		mA

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