EGIS MOBILE ELECTRIC

Triple Battery Advanced Automatic Charging Relay

Two Independent ACRs in One Device reduce installation space and time. Significantly lowers off-state current draw

Adjustable Auxiliary Battery Priority provides variable voltage points for each relay to share engine battery energy without sacrificing ability to start

Start/Engine Isolation and Start Assist functions are optional for each relay; allowing protection of sensitive electronics from engine starting events or the option to boost cranking effectiveness .

Patent: 11,352,998

Eliminates Dead Start Batteries by sharing charge sources with all batteries and isolating batteries when no charge sources are present

Simple & Robust Installation: Integrated sealed plug eliminates corrosion, included DT04 harness. Single device reduces installation time, space, cost and points of potential failure

Additional Low Amp Output can be used to report device status remotely.

Bullet-proof Construction: Sealed unit, high temperature materials allow mounting anywhere. Integrated thermal overload shutdown protection

Ultra Low Off-State Current: Compare two typical ACRs (20 mA) vs Dual ACR @ 1.3 mA

Adjustable Off-Voltage for Auxiliary Battery Priority provides ability to share start battery energy for auxiliary without risking engine starting ability.

Start/Engine Isolation input option for ensuring sensitive electronics do not experience voltage sags and spikes from the cranking event.

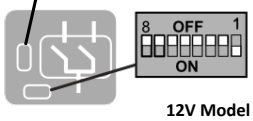
Start Assist input option to ensure maximum cranking amps available when necessary.

4 Year Industry Leading Warranty

Dip Switch Setting Options & Features

**** DISCONNECT BATTERY FROM POWER DISTRIBUTION SYSTEM BEFORE INSTALLING PRODUCT TO PREVENT ELECTRICAL SHOCK OR PRODUCT DAMAGE***

4	LED OUT +
3	EXT INP #2
2	EXT INP #1
1	GROUND



ACR #1 Dip Switch Options

Ext Input Function 4	3 UV Lock
Start Assist	ON
Start/Eng Isolation	OFF

ACR #2 Dip Switch Options

Ext Input Function 8	7 UV Lock
Start Assist	ON
Start/Eng Isolation	OFF

= Factory Default

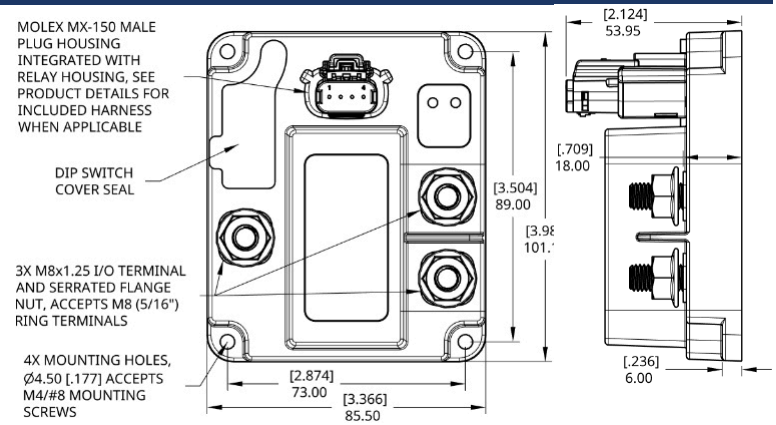
12V Model		24V Model	
2 1	OFF Voltage	2 1	OFF Voltage
	12.75		25.5
	12.5		25
	12.35		24.7
	12.2		24.4

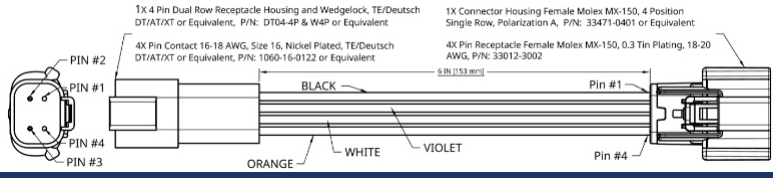
12V Model		24V Model	
6 5	OFF Voltage	6 5	OFF Voltage
	12.75		25.5
	12.5		25
	12.35		24.7
	12.2		24.4

DS1-DS2: ACR #1 OFF Voltage Trigger. Lower settings allow partial battery energy sharing yet ensuring minimum capacity for starting.
DS3: Under-voltage Lock-Out Enable. If DS3=ON, ACR #1 will NOT close if either terminal < 9.6 Vdc.
DS4: Determines Pin #2 Response Function. DS4=ON, triggers CLOSE if Pin #2 > 8.0 Vdc. DS4=OFF triggers OPEN if Pin #2 > 8.0 Vdc.
DS5-DS6: ACR #2 OFF Voltage Trigger. Lower settings allow partial battery energy sharing yet ensuring minimum capacity for starting.
DS7: Under-voltage Lock-Out Enable. If DS7=ON, ACR #2 will NOT close if either terminal < 9.6 (19.2) Vdc.
DS8: Determines Pin #3 Response Function. DS8=ON triggers CLOSE if Pin #3 > 8.0 Vdc. DS8=OFF triggers OPEN if Pin #3 > 8.0 Vdc.

( ) = 24V Setting

Dimensions





Methods of Operation

ACRs #1 or #2 turn ON after 30 (or 120) seconds if:

1) If UV Lock = OFF: V-sense A or V-sense B/C > 13.1 Vdc, or
2) If UV Lock = ON: V-sense A and V-sense B/C > 9.6 Vdc and V-sense A or V-sense B/C > 13.1 Vdc (120 sec), 13.7 Vdc (30 sec)

ACRs #1 or #2 turn OFF after 30 (or 10) seconds if:

1) V-sense B or C < "Off Voltage" (30 sec) per DS1-DS2 or DS5-DS6, or 10 sec if V-sense B or C < "Off Voltage" minus 0.4 Vdc

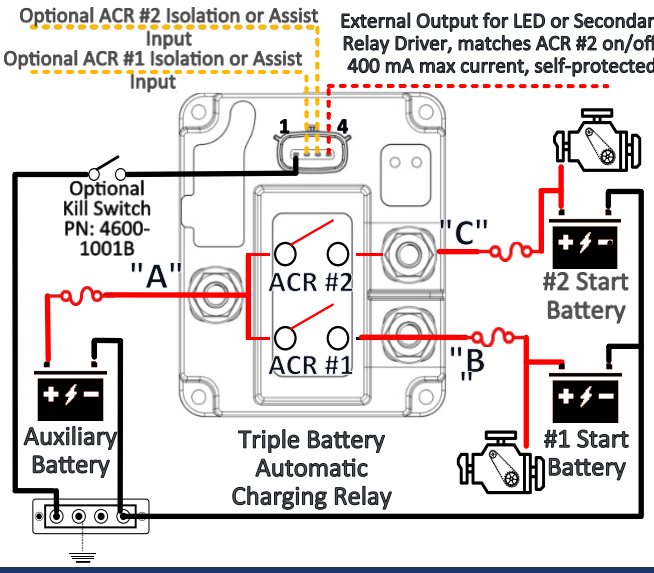
Start / Engine Isolation Opens ACR #1 or ACR #2 Immediately if:

1) If DS4 = OFF and Pin #2 > 8.0 Vdc (for ACR #1), or
2) If DS8 = OFF and Pin #3 > 8.0 Vdc, (for ACR #2)
3) Isolation can be connected to engine cranking signal or running signal depending on desired duration of isolation

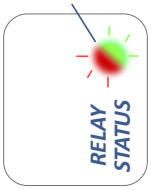
Start Assist Closes ACR #1 or ACR #2 Immediately if:

1) If DS4 = ON and Pin #2 > 8.0 Vdc (for ACR #1), or
2) If DS8 = ON and Pin #3 > 8.0 Vdc, (for ACR #2)
3) Start Assist closes ACR for 30 sec before returning ACR to auto operation, connect to Key Accy signal to ensure close before crank

System Diagram



Status LED Indicator Functions



Red Solid / Green Flash	Relay Off, Pending Voltage Based On
Red Flash / Green Solid	Relay On, Pending Voltage Based Off
Single Red Flash /No Green	Under-Volt Lockout or Start Isolation Engaged
Single Green Flash	Start Assist Applied
No LED	Unit OFF/Open, voltage below turn ON threshold
Red Rapid Flash	High Current / Temperature OFF/Open

Specifications

Nominal Voltage (Vdc)	12	24
Input Voltage Range (Vdc)	8.0-18.0	16.0-36.0
Continuous Current (Amps)	80A / 160A	
Max 5 Min Current (Per Circuit/Total)	120 A / 240A	
Operating Current (Per Circuit)	170 mA	85 mA
Operating Current, Relays Open	1.3 mA	1.3 mA
Over Voltage Protection (Vdc) (5 sec)	17.0	35.0
Under-Voltage Lockout (Vdc) (If ON)	9.6	19.2
Min Source Current (Ignition/Kill Inputs)	10 micro-Amps	
Max 5 Min Current (Amps)	240	
Operating Current (mA) Standby / Open	1.3	
ACR #1/#2 Close Delay	120 s (Long), 30 s (Short)	
ACR #1/#2 Close Voltage (Vdc)	12.8 - 13.35	25.6 - 26.7
ACR #1/#2 Open Delay	30 s (Long), 10 s (Short)	
ACR #1/#2 Open Voltage (Vdc)	12.2 - 12.75	24.4 - 25.5
Hardware Material	Stainless Steel Self-Locking	
Terminal Stud Torque	80 in-lbs	
Aux Output Max Drive Current	400 m-Amps	
Maximum Cable Size	2/0 AWG	
Cable Size to Meet Ratings	6 AWG/2 AWG	

Part Numbers

	Resell Pack	Bulk Pack
12V 2x80A Triple Battery ACR	7612	7612B
24V 2x80A Triple Battery ACR	7612-24	7612-24B
Kill Switch Kit for (-) Control	4600-1001	4600-1001B

* Custom product configurations available including stud sizes, control harness wires, time delays, voltage settings, dip switch functionality, and control input functionality. Low minimum quantities and short lead time for samples or production. Contact us at support@egismobile.com for more information

EGIS MOBILE ELECTRIC
www.egismobile.com
360.768.1211
Bellingham, WA U.S.A

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