



Advanced Automatic Charging Relay (Dual Battery)

Fully Adjustable Open and Close Voltages
Supports All Battery Chemistry Combinations

Supports Multiple Engine Installations with
Dual Start/Engine Isolation Inputs

Start Assist Option for Auto or Manual
Connection with Start / Aux Batteries

Optional Priority Charging Delays Closure Until
Charging Battery is More Charged

Optional Aux Battery Priority Shares Start
Battery Energy, Maintains Starting Ability

Optional Low Voltage Lockout Protects From
Connecting Into Shorted Cell Battery



Eliminates Dead Start Batteries by sharing charging on either of two batteries and isolating batteries when no charge sources are present.



Simple & Robust Installation: Integrated sealed plug eliminates corrosion, includes Deutsch/Amphenol DTM connector harness



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 to typical ACRs (7-10 mA) vs 7610 ACR @ 1.3 mA



Adjustable On and Off Voltage Settings allow sharing start battery energy for auxiliary battery while ensuring engine starting ability; or charging start battery before sharing with auxiliary



Dual Start/Engine Isolation input option for protecting sensitive electronics or isolating multiple charging sources to optimize overall system performance.



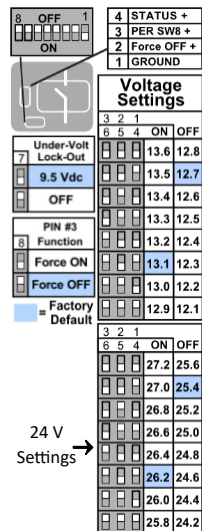
Start Assist input option to ensure maximum cranking amps available.



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**



DS1-DS3: Determines 30 sec OFF Trigger Voltage, 10 sec OFF Trigger Voltage is 0.4 (0.8) Vdc lower. Once below this voltage, time delay to OFF is counting. If voltage is greater than this setting, time delay is re-set to 0. Setting below 12.7 (25.4) Vdc allows accy loads partial use of start battery energy, while ensuring sufficient starting ability.

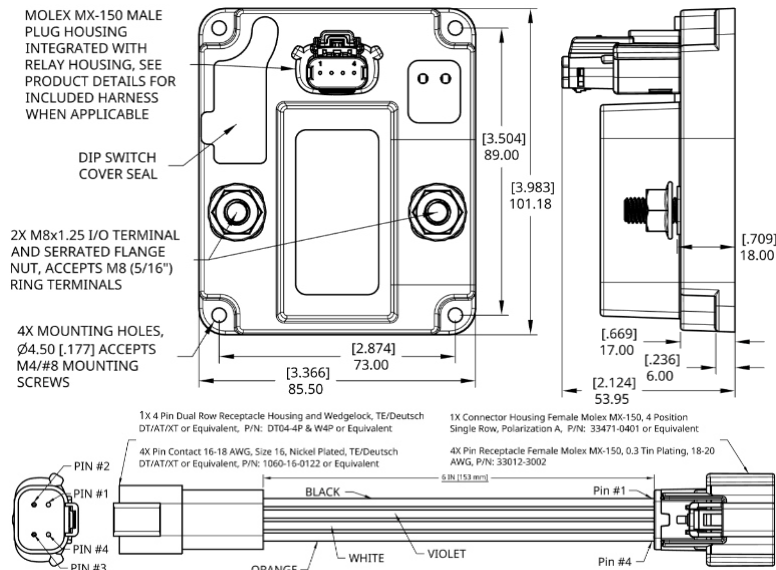
DS4-DS6: Determines 120 sec ON Trigger Voltage, 30 sec ON Voltage is 0.6 (1.2) Vdc higher. Once above this voltage, time delay to turning the relay ON is counting until ON event. If voltage is less than this setting, time delay is re-set to 0.

DS7: Under-voltage Lock-Out Enable. If DS7=ON, ACR will NOT close if either terminal < UV Lockout Voltage to prevent an extremely high inrush current from damaging the ACR

DS8: Determines Pin #3 Response Function. DS8=ON triggers CLOSE if Pin #3 > 8.0 Vdc. (Start Assist) DS8=OFF triggers OPEN if Pin #3 > 8.0 Vdc. (Isolate)

** Voltages in () represent 24V version settings

Dimensions



Methods of Operation

ACR turns ON after 30 (or 120) seconds if:

- 1) If UV Lock = OFF: V-sense A or V-sense B > "ON Voltage", or
- 2) If UV Lock = ON: V-sense A and V-sense B > V-Lock and V-sense A or V-sense B > "ON Voltage"

ACR turns OFF after 30 (or 10) seconds if:

- 1) V-sense A or B < "OFF Voltage" per DS1-DS3

Force OFF (Start / Engine Isolation) Opens ACR Immediately if:

- 1) If DS8 = OFF and Pin #3 > 8.0 Vdc
- 2) Pin #2 > 8.0 Vdc
- 3) Isolation can be connected to engine 'starting' signal or 'running' signal depending on desired functionality. Use 'start' to isolate Aux loads from cranking event. Connect 'running' for multiple engine/charge sources if continuous isolation is desired.

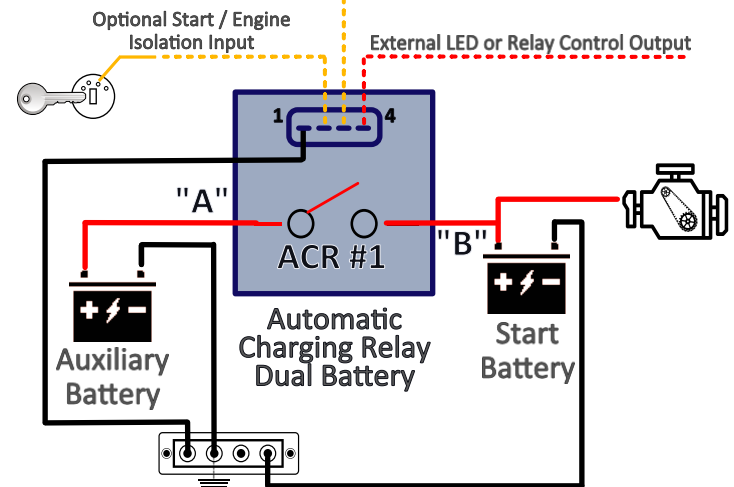
Force ON (Start Assist) Closes ACR Immediately if:

- 1) If DS8 = ON and Pin #3 > 8.0 Vdc, * ACR remains closed for 30 sec after voltage is removed from Pin #3, and then returns to AUTO operation.

ACR Opens in < 5 sec if Voltage > 17.0 Vdc

System Diagram

Optional Secondary Start / Engine Isolation or Momentary Start Assist Input, Dip Switch Selectable



Specifications

| Nominal Voltage (Vdc) | 12 | 24 |
|---|------------------------------|-----------|
| Input Voltage Range (Vdc) | 8.0-18.0 | 16.0-36.0 |
| Continuous Current (Amps) | 160 | |
| 120 sec Close Voltage Range (Vdc) | 12.9-13.6 | 25.8-27.2 |
| 30 sec Close Voltage Range (Vdc) | 13.5-14.2 | 27.0-28.4 |
| 30 sec Open Voltage Range (Vdc) | 12.1-12.8 | 24.2-25.6 |
| 10 sec Open Voltage Range (Vdc) | 11.7-12.4 | 23.4-24.8 |
| Over Voltage Protection (Vdc) (5 sec) | 17.0 | 34.0 |
| Under-Voltage Lockout (Vdc) (If ON) | 9.5 | 19.0 |
| Operating Current (Amps) | 0.340 | 0.170 |
| Max 5 Min Current (Amps) | 240 | |
| Operating Current (mA) Standby / Open | 1.3 | |
| Cable Size to Meet Ratings | 1/0 AWG | |
| Maximum Cable Size | 2/0 AWG | |
| Hardware Material | Stainless Steel Self-Locking | |
| Terminal Stud Torque | 80 in-lbs | |
| Aux Output Pin #4 Max Drive Current | 400 milli-Amps | |
| Min Source Current (Pin #2 & #3 Inputs) | 10 micro-Amps | |

Part Numbers

| | Resell Pack | Bulk Pack |
|---------------------------------|-------------|-----------|
| 12V ACR, 160A w/Deutsch Harness | 7610 | 7610B |
| 24V ACR, 160A w/Deutsch Harness | 7610-24 | 7610-24B |

* 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



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Additional System Diagram Examples



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