

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.



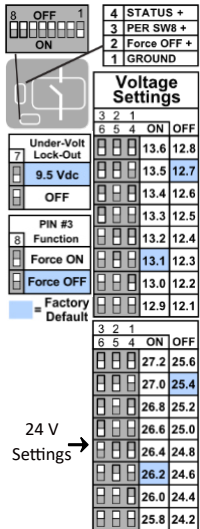
Start Assist input option to ensure maximum cranking amps available.

4

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**



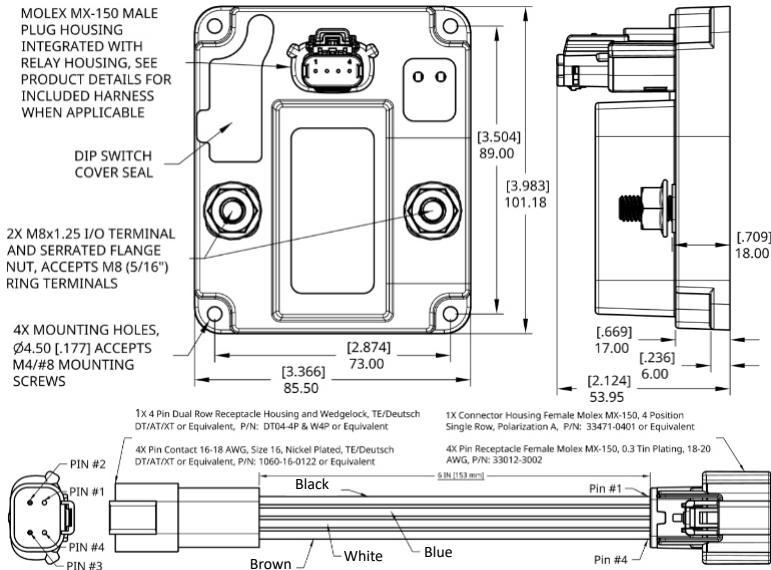
DS4-DS6: Determines 120 sec ON Trigger Voltage, 30 sec ON Voltage is 0.6 (1.2) Vdc higher. Once above this voltage, time delay to turning the relay ON is counting until ON event. If voltage is less than this setting, time delay is re-set to 0.

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

MOLEX MX-150 MALE
PLUG HOUSING
INTEGRATED WITH
RELAY HOUSING, SEE
PRODUCT DETAILS FOR
INCLUDED HARNESS
WHEN APPLICABLE



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) OR (Pin #2 > 8.0 Vdc)
- 2) 3 min lock-out after enabling before AUTO on/off enabled.

3) Isolation can be connected to engine 'starting' signal or 'running' signal. Use 'start' to isolate Aux loads from cranking event. Use 'running' for multiple engine/charge sources if continuous isolation is desired.

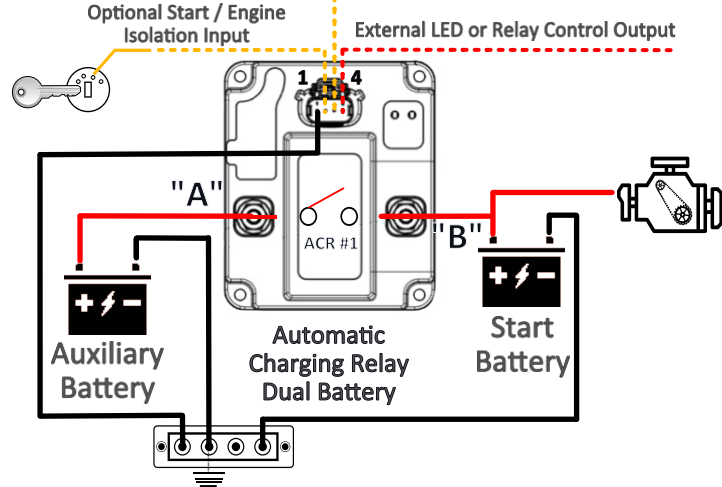
Force ON (Start Assist) Closes ACR Immediately if:

- 1) If DS8 = ON and Pin #3 > 8.0 Vdc, * ACR returns to normal operation after 10 sec delay and Pin #3 voltage removed. ** Overrides Engine Isolation if both are applied simultaneously.**

ACR Opens in < 5 sec if Voltage > 17.0 Vdc

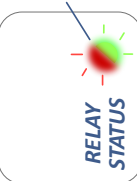
System Diagram

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



Status LED Indicator Functions

Bicolor LED



| | |
|----------------------------|--|
| 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) | 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 | |
| IP Rating (IEC 60529) | IP65 | |
| Operational Temperature | -40 to 105 C | |
| Storage Temperature | -50 to 125 C | |

Part Numbers

Resell Pack

Bulk Pack

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

*** Contact us about custom product configurations**



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