

# XD Series Bi-Stable <u>Automatic Charging Relay</u>

500 Amp Continuous Capability / Extremely Compact Footprint

Available With or Without Intuitive Front Facing Manual Override Knob with Ability to Lock Device ON or OFF for Servicing

Fully Adjustable Open and Close Voltage Set Points Support All Battery Types

Supports Single/Multiple Engine Installations with Dual Start/Engine Isolation Inputs

Remote ON/OFF Input Allows Combining Batteries During Hard Start Events or Forcing Isolation of Batteries During Engine Starts.

Optional Priority Charging Delays Closure Until Charging Battery is More Charged

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











**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 DT/AT connector harness



**Additional Low Amp Output** can be used to report device status remotely or synchronize with external devices



**Bullet-proof Construction:** Sealed to IP67/IP6K9K, high temperature materials allow mounting anywhere.



**90% Less Off-State Current:** Compared to competition (13 mA) vs 8701 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.



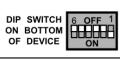
**Start Assist** input option helps ensure maximum cranking amps available.



4 Year Warranty

#### **Dip Switch Setting Options & Features**

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

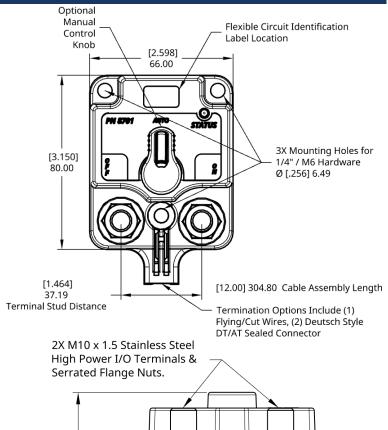


Voltage Settings								
3 2 1								
6 5 4	ON	OFF						
888	13.6/27.2	12.8/25.6						
	13.5/27.0	12.7/25.4						
	13.4/26.8	12.6/25.2						
	13.3/26/6	12.5/25.0						
888	13.2/26.4	12.4/24.8						
	13.1/26.2	12.3/24.6						
888	13.0/26.0	12.2/24/4						
888	12.9/25.8	12.1/24.2						
= Factory Default								

**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 reset to 0. Setting below 12.7 (25.4) Vdc allows accy loads partial use of start battery energy, while ensuring sufficient starting ability.

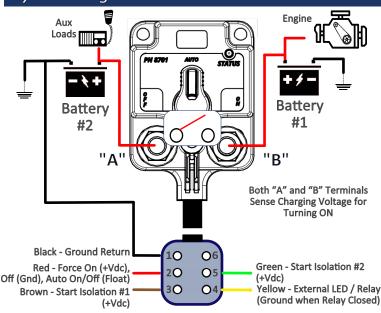
**DS4-DS6:** Determines 120 sec ON Trigger Voltage, 30 sec ON Voltage is 0.6 (1.2) Vdc higher. Once above this voltage, time delay to turning the relay ON is counting until ON event. If voltage is less than this setting, time delay is re-set to 0.

#### Dimensions



 Custom product configurations available including 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 support@egismobile.com

#### System Diagram



DTM 06-6S Connector End. Customer Supplies DTM04-6P or Cuts & Uses Individual Wire Terminations

Specifications		
Input Voltage Range (Vdc)	8.0 - 36.0 A	uto-Ranging
Nominal Voltage (Vdc)	12	24
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
State Change Current (20 msec)	5.0 A	3.0 A
Standby Current (mA)	1.3	1.3
Live Current Switching -50,000 cycles	12V/300A	24V/300A
Mechanical Switching Life	1,000,00	00 cycles
2/0 AWG - 30sec/5min/Continuous	1000 / 400	/ 225 Amps
4/0 AWG - 30sec/5min/Continuous	1100 / 400	/ 300 Amps
2x 4/0 AWG - 30sec/5min/Cont.	1600 / 700	/ 500 Amps
Hardware Material	Stainless Stee	l Self-Locking
Terminal Stud Torque	120 i	n-lbs
<b>LED/Aux Output Max Drive Current</b>	400 mil	li-Amps
Min Source Current for Inputs	10 micr	o-Amps

#### Part Numbers Knob Connection Resell Pack Bulk Pack **XD Series ACR** Yes **Tinned Wire** 8710-1300 8710-1300B **XD Series ACR Tinned Wire** 8710-1400 8710-1400B No **XD Series ACR** Deutsch DTM 8810-1300 8810-1300B Yes **XD Series ACR** No Deutsch DTM 8810-1400 8810-1400B

Related Products	Knob	Term	Resell Pack	Bulk Pack
XD Battery Disconnect	Yes	DTM	8810-1500	8810-1500B
XD Battery Disconnect	No	DTM	8810-1600	8810-1600B
XD Flex - Relay / ACR / LVD	Yes	DTM	8810-1100	8810-1100B
XD Flex - Relay / ACR / LVD	No	DTM	8810-1200	8810-1200B



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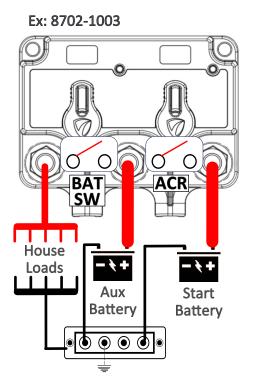
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#### 8702 - Dual XD Relay



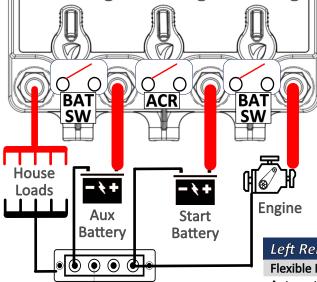




Left Relay Function	Right Relay Function	Part #
Flexible Relay/ACR/LVD	Flexible Relay/ACR/LVD	8720-1110B
<b>Automatic Charge Relay</b>	<b>Battery Switch Relay</b>	8720-1350B
Battery Switch Relay	Automatic Charge Relay	8720-1530B
Automatic Charge Relay	Automatic Charge Relay	8720-1330B

#### 8703 - Triple XD Relay







**Battery Switch Relay** 

Center Relay Function

Flexible Relay/ACR/LVD **Automatic Charge Relay Automatic Charge Relay** 

**Right Relay Function** Flexible Relay/ACR/LVD **Automatic Charge Relay** 

**Battery Switch Relay** 

8730-1111B 8730-1333B 8730-1535B

Part #

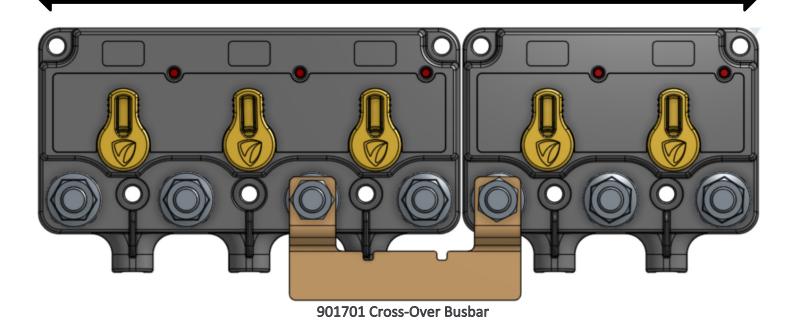






### **Triple Battery Relay / ACR Cluster**

# 11" (280 mm)



Ex: 8703-1002

Ex: 8702-1002

BAT
ACR
BAT
SW

House
Loads
Aux
Battery

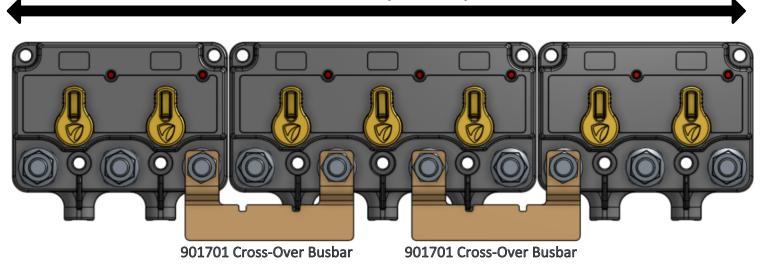




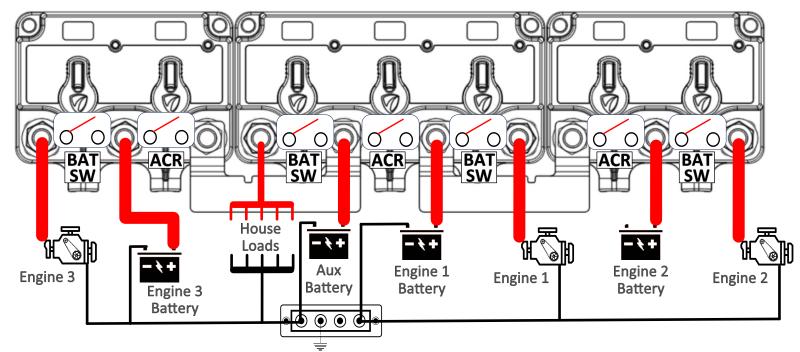


#### **Quad Battery Bank Relay / ACR Cluster**

## 15.75" (400 mm)



Ex: 8702-1003 Ex: 8703-1003 Ex: 8702-1002









# XD Relay/ACR - Competitor Part Number Cross Reference & Comparison



Product Comparison Summary							
Feature/Specification	<b>XD Series ACR</b>	ML-ACR					
Universal 12/24 Control Voltage	Yes	No: 12 or 24 Vdo					
Cover for Power Terminals	Included	None					
Function & Cable Label Sheet	Included	Not Included					
Local Status Led Indicator	Yes	No					
Standby Current Draw	1.2 mA	13.0 mA <sup>(1)</sup>					
Adjustable Turn On Voltage (ACR)	Yes	No					
Adjustable Turn Off Voltage (ACR)	Yes	No					
Ability to Manually Lock On	Yes	No					
Intuitive Manual Override	Yes	No					
Terminal Stud Material	Stainless	Copper (2)					
Simple Bottom Cable Entry	Yes	No <sup>(3)</sup>					
Product Assemblies for 2-7 Relays	Yes (5)	No					
Dust & Water IP Rating	IP67 / IP6K9K	IP66 <sup>(4)</sup>					
Pressure Regulated Enclosure	Yes	No					
Marine Grade Control Wiring	Yes	No					
Mounting Footprint Width	66 <sup>(6)</sup>	95					
Mounting Footprint Length	80 <sup>(6)</sup>	140					
Mounting Depth	50	51.5					
Max Current	500 A	500 A					
Power Input Stud Size	M10 (3/8")	3/8" (M10)					

- (1) XD Series ACR Standby current is 90% lower. Excessive standby current drains batteries as no charge source is present potentially permanently damaging batteries and voiding battery warranties
- (2) Copper terminal studs in general are susceptible to thread damage if excessive assembly torque on the attachment nut is applied. The result is stripping of the threads and spinning of the nut; and a reduction or loss of clamping force between the cable terminal and device terminal. This can result in increased resistance and possibly overheating of the device and power cables.
- (3) Studs parallel to the mounting surface require right angle cable terminal lugs to achieve bottom cable entry
- (4) IP67 and IP6K9K are standard marine / harsh environment ingress performance levels to ensure effective long-term performance
- (5) XD Series products are also available in single housing double and triple relay versions which provide significant cost, space, and standby current draw benefits versus existing industry options.
- (6) XD Series mounting footprint is 60% smaller and much lighter, critical in today's systems with very limited space allocated for power management and where the affect of total system weight on vessel / vehicle performance has received greater attention.

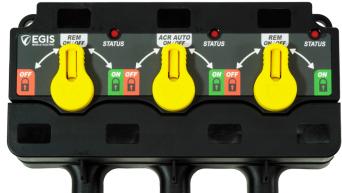
High Ampere Remote Battery Switches									
Blue Sea Sys P/N	Vdc		Egis Mobile Electric P/N	Vdc		Manual Control	Control Leads	Control Method <sup>(1)</sup>	
7700	12		8710-1500B	12/24		Yes	Wires	Bi-Stable	
7700100	12		8810-1500B	12/24		Yes	DTM	Bi-Stable	
7702	24		8710-1500B	12/24		Yes	Wires	Bi-Stable	
7702100	24	Ш١	8810-1500B	12/24		Yes	DTM	Bi-Stable	
7713	12		8710-1500B	12/24		Yes	Wires	Auto-Release	
7713100	12		8810-1500B	12/24		Yes	DTM	Auto-Release	
7717	24		8710-1500B	12/24		Yes	Wires	Auto-Release	
7717100	24		8810-1500B	12/24		Yes	DTM	Auto-Release	

(1) Control Method Determined by Dip Switch Selection on Device

High Ampere Solenoids									
Blue Sea Sys P/N	Vdc		Egis Mobile Electric P/N	Vdc		Manual Control	Control Leads	Control Method <sup>(2)</sup>	
7701	12		8710-1600B			No	Wires	Bi-Stable	
7701100	12		8810-1600B	12/24		No	DTM	Bi-Stable	
7703	24		8710-1600B	12/24		No	Wires	Bi-Stable	
7703100	24	ш \	8810-1600B	12/24		No	DTM	Bi-Stable	
7718	12		8710-1600B	12/24		No	Wires	Auto-Release	
7718100	12		8810-1600B	12/24		No	DTM	Auto-Release	
7719	24		8710-1600B	12/24		No	Wires	Auto-Release	
7719100	24		8810-1600B	12/24		No	DTM	Auto-Release	

(2) Control Method Determined by Dip Switch Selection on Device

Blue Sea Sys P/N         Vdc         Egis Mobile Electric P/N         Vdc         Manual Control         Control Leads           7620         12         8710-1400B         12/24         No         Wires           7620100         12         8810-1400B         12/24         No         DTM           7621         24         8710-1400B         12/24         No         Wires           7621100         24         8810-1400B         12/24         No         DTM           8710-1300B         12/24         Yes         Wires           7622100         12         8810-1300B         12/24         Yes         DTM           7623         24         8710-1300B         12/24         Yes         Wires	High Amp Automatic Charging Relays (ACRs)								
7620         12         8710-1400B         12/24         No         Wires           7620100         12         8810-1400B         12/24         No         DTM           7621         24         8710-1400B         12/24         No         Wires           7621100         24         8810-1400B         12/24         No         DTM           7622         12         8710-1300B         12/24         Yes         Wires           7622100         12         8810-1300B         12/24         Yes         DTM           7623         24         8710-1300B         12/24         Yes         Wires	Blue Sea Sys P/N	Vdc			Vdc			Control Leads	
7621       24       8710-1400B       12/24       No       Wires         7621100       24       8810-1400B       12/24       No       DTM         7622       12       8710-1300B       12/24       Yes       Wires         7622100       12       8810-1300B       12/24       Yes       DTM         7623       24       8710-1300B       12/24       Yes       Wires				8710-1400B	12/24		No	Wires	
7621100 24 8810-1400B 12/24 No DTM 7622 12 8710-1300B 12/24 Yes Wires 7622100 12 8810-1300B 12/24 Yes DTM 7623 24 8710-1300B 12/24 Yes Wires	7620100	12		8810-1400B	12/24		No	DTM	
7622 12 8710-1300B 12/24 Yes Wires 7622100 12 8810-1300B 12/24 Yes DTM 7623 24 8710-1300B 12/24 Yes Wires	7621	24		8710-1400B	12/24		No	Wires	
7622100 12	7621100	24	⊔ \	8810-1400B	12/24		No	DTM	
7623 24 8710-1300B 12/24 Yes Wires	7622	12	$\Box$ /	8710-1300B	12/24		Yes	Wires	
	7622100	12		8810-1300B	12/24		Yes	DTM	
	7623	24		8710-1300B	12/24		Yes	Wires	
7623100 24   8810-1300B   12/24   Yes DTM	7623100	24		8810-1300B	12/24		Yes	DTM	



\* XD Series Dual and Triple Relays can be configured to have each individual internal relay replicate legacy competitor product functionality and connect with external controls with the same DTM connector and pin-out locations, similifying product transition.





