XD Series Flex 2 Single/Dual/Triple Bi-Stable Relays & VSRs

500 Amp Continuous Capability Per Relay / Extremely Compact Footprint

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

Flexible Functionality via Dip Switches, utilize each as a Relay/Battery Disconnect, Voltage Sensing Relay, or Low Voltage Disconnect

Improved Alternative Replacement to Legacy Remote Switching Solutions.

Remote ON/OFF/Auto Inputs Allows Forced Close or Open or Allowing Automatic Operation Based on Voltage Sensing

Local and Remote LED Indicators Per Relay

Mechanical Only Contactor Options

Quick Links:

Installation Instructions Product Specs

PATENT PENDING

Ultra-Low Power Draw: Lowest off-state current draw in industry (1.3 mA) combined.

Simple & Robust Installation: Sealed plugs/ harnesses included.

Flexible Application Options: Install as a Remote Battery Disconnect Switch, Voltage Sensing Relay, or Low Voltage Disconnect. On/Off trigger via external signal and/or alternator voltage sense.

Diagnostic Feedback via optional external LEDs control lines and on-board LEDs for each relay

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

Optional Kill Switch eliminates need for using thermal circuit breakers as service maintenance switches, reducing voltage drop to electrical loads.

Meets Stringent OEM Standards for electrical transient self-protection

4 Year Industry Leading Warranty

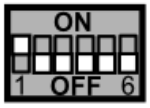
Rev 6.2 - January 16th, 2026

Install Guidelines & Dip Switch Settings

(1) DISCONNECT BATTERY FROM POWER DISTRIBUTION SYSTEM BEFORE INSTALLING PRODUCT TO PREVENT ELECTRICAL SHOCK OR PRODUCT DAMAGE

(2) INSTALL A 7.5 - 10.0 A FUSE ON THE BLACK GROUND RETURN WIRE

(3) DIP SWITCHES ARE SET FOR INDIVIDUAL RELAYS WITHIN AN XD RELAY WITH TWO OR MORE RELAY POSITIONS



DS1 determines the function of the device. If DS1 = OFF, relay will act as a simple Battery Disconnect SwitCh Remote Relay. If DS1 = ON, relay will operate as a Voltage Sensing Relay (VSR) and will utilize DS2-DS6 to determine VSR response per individual application requirements

VSR "ON" 2 3 Voltage	VSR "OFF" 4 5 6 Voltage
12.5 / 25.0	11.4/22.8
12.9 / 25.8	11.7/23.4
13.1 / 26.2	12.0/24.0
13.5 / 27.0	12.3/24.6
VSR or 1 Relay	12.4/24.8
VSR	12.5/25.0
Relay	12.6/25.2
	12.7/25.4
	= Default

DS2-DS3: 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.

DS4-DS6: Determines OFF Trigger Voltage. See methods of operation for device response to voltages below this setting. Setting below 12.7 (25.4) Vdc allows accessory loads partial use of start battery energy, while ensuring sufficient starting ability.

General Specifications (Each Relay)

Input Voltage Range (Vdc)	8.0 - 36.0 Auto-Ranging	
Nominal Voltage (Vdc)	12	24
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	1,000,000 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 Steel Self-Locking	
Terminal Stud Torque	120 in-lbs	
LED/Aux Output Max Drive Current	400 milli-Amps	
Typ Source Current for All Ctrl Lines	10 micro-Amps	
Operating Temperature Range	-40 to 105 C	
Ignition Protection	SAE J1171 / ISO 8846	

LED Indicators	Local LED	Rem LED
Relay OFF - Normal	Off	Off
Relay ON - Normal	On	On
Relay On - Pending Off	On w/3x Off Flashes	On
Relay Off - Pending On	Off w/3x On Flashes	Off
Relay Off - Start Isolation Mode	Off w/4x On Flashes	Off
Relay Off - Over-Voltage Mode	Off w/5x On Flashes	Off
Manual Override Engaged	Off w/2x On Flashes	Off w/2x On Flashes
Relay Off - Power Hibernation Mode	Off w/1x On Flash	Off
Power Up / Manual Mode Exited and Pending On or Off Event	Continuous Flashing	Off

Detailed Operational Modes & Responses

Relay Mode - Relay Closes (Turns ON) Immediately if:
1) Voltage on Either Input to Relay > 9 Vdc (minimum operating Voltage) and either any of the following two conditions exist:
2) Rem On/Off Ctrl (Red) wire is connected to +Vdc (maintain if desire is for device to stay Closed) or
3) Momentary ON Signal Wire (Brown) is Connected to +Vdc Until Device Closes, Up to 3 seconds. (+Vdc may then remain or be removed while device remains Closed either way)
4) DS1 = Off, Setting Device as an Simple Relay

Relay Mode - Relay Open (Turns OFF) Immediately if:
1) Voltage on Either Input to Relay > 9 Vdc (minimum operating Voltage) and either any of the following three conditions exist:
2) Rem On/Off Ctrl (Red) wire changes from +Vdc to Floating or
3) Rem On/Off Ctrl (Red) wire is connected to Ground (may be momentarily or permanently connected for device to stay Closed) or
4) Momentary OFF Signal Wire (Green) is Connected to +Vdc Until Device Opens, Up to 1 Second (+Vdc may then remain or be removed while device will remain Open either way)
5) Rem Ctrl (Red) wire and Momentary ON Signal Wire (Brown) must not have +Vdc applied, they will override Off Signal from Green Wire
6) DS1 = Off, Setting Device as an Simple Relay

VSR Mode - Relay Closes (Turns ON) after 120 sec if:
1) Voltage on Either Input > V_On as determined by DS2-DS3 and
2) Rem Ctrl (Red) wire is not connected to +Vdc or Gnd and
3) Start Isolation Input Wires SI#1 (Brown) and SI#2 (Green) Not Connected to +Vdc
4) DS1 = On, Setting Device as an Voltage Sensing Relay (VSR)

VSR Mode - Relay Closes (Turns ON) after 30 sec if:
1) Voltage on Either Input to Relay > V_on + 0.6 V (1.2V if on 24V System) as determined by DS4-DS6 and
2) Rem Ctrl (Red) wire is not connected to +Vdc or Gnd
3) Start Isolation Input Wires SI#1 (Brown) and SI#2 (Green) Not Connected to +Vdc
4) DS1 = On, Setting Device as an Voltage Sensing Relay (VSR)

VSR Mode - Relay Automatically Opens (Turns OFF) if:
1) Voltage on Either Input < V_Off as determined by DS4-DS6 and
2) Rem Ctrl (Red) wire is not connected to +Vdc or Gnd and
3) Start Isolation Input Wires SI#1 (Brown) and SI#2 (Green) are Not Connected to +Vdc and
4) DS1 = On, Setting Device as an Voltage Sensing Relay and
5) At least 120 sec has passed since the device was either forced Closed by the Red input wire or the device automatically Closed and
6) The advanced charge management algorithm has determined that any electrical charging, if operating, is not equal to or great than the electrical loads discharging the connected batteries.

VSR Mode - Relay Opens (Turns OFF) after 15 sec if:
1) Voltage on Either Input to Relay > Over-voltage set point for 15 continuous seconds and
2) Rem Ctrl (Red) wire is not connected to +Vdc or Gnd

VSR Mode - Relay Immediately Closes (Turns ON) Immediately if:
1) Voltage on Either Input > 9 Vdc (minimum operating Vdc) and
2) Rem Ctrl (Red) wire is connected to +Vdc

VSR Mode - Relay Immediately Opens (Turns OFF) immediately if:
1) Voltage on Either Input to Relay > 9 Vdc (minimum operating Voltage) and either any of the following three conditions exist:
2) Rem Ctrl (Red) wire is connected to Gnd
3) Start Isolation Input Wire SI#1 (Brown) is Connected to +Vdc
4) Start Isolation Input Wire SI#2 (Green) is Connected to +Vdc

VSR Mode - Start Isolation Prevents Voltage Based Automatic Closing:
1) For as long as one or more of the two Start Isolation Lines SI#1 and/or SI#2 have +Vdc applied on the wires
2) For 3 minutes after +Vdc is no longer applied to both Start Isolation Lines SI#1 and/or SI#2 have +Vdc applied on the wires

Manual Override Prevents Remote or Voltage Based Open or Closing:
1) For as long as the manual knob (if equipped) is not positioned in the "Auto/Rem" orientation

Upon Startup or Returning Device from Manual to Auto/Rem Mode:
1) The remote LED will remain OFF regardless of the physical status of the VSR until the VSR is remotely forced ON/OFF or automatically attempts to turn itself ON/OFF.
2) The local LED will rapid flash if the device has an input voltage that would dictate a pending ON or OFF is necessary.

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Fig 1 - Relay Mode - Control Wiring Options

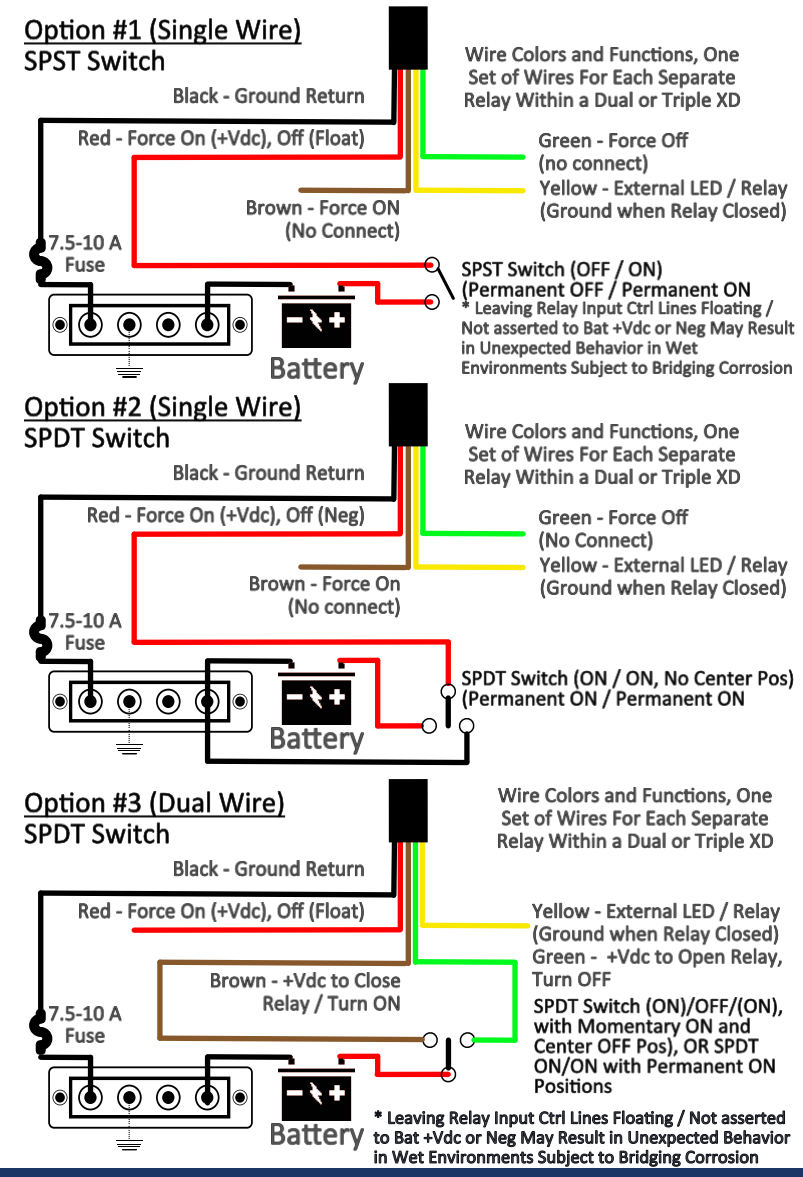
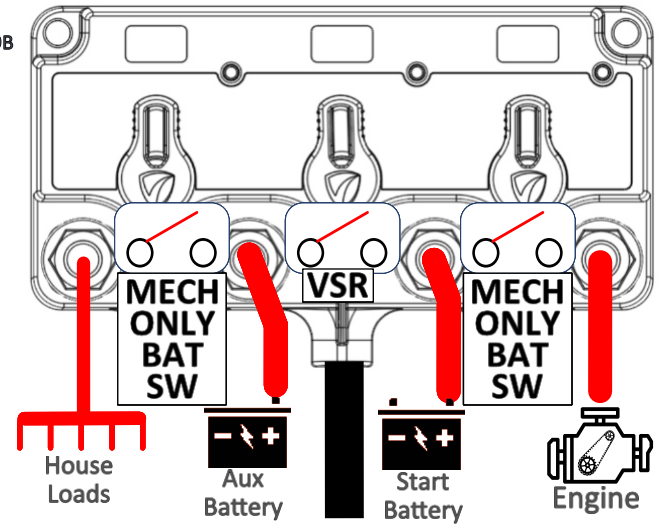


Fig 2 - Mechanical Only Contactor Option

XD Series Single, Dual, and Triple XD Relays are available with one or more positions constructed as a mechanical only battery switch / mechanical contactor. This offers the option for certain application a more cost effective solution to variations with all relay positions that are remote relays. See examples below

Example:
8730-1939B



Example:
8720-1930B

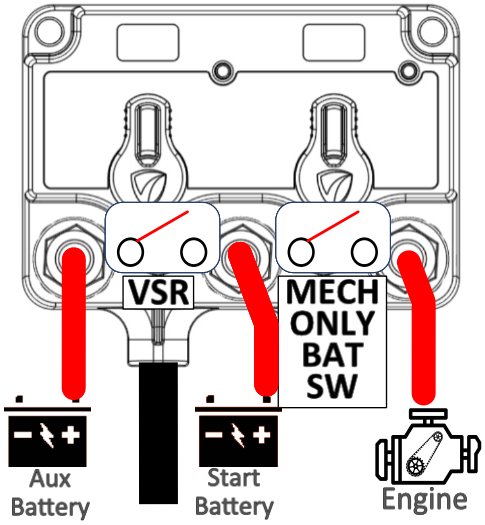
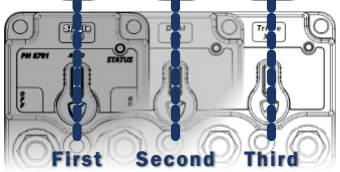


Fig 3 - XD Series Part Number Guide

8 7 1 0 - 1 5 3 5 B

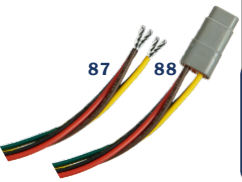
1 = Single Circuit XD Relay
2 = Dual Circuit XD Relay
3 = Triple Circuit XD Relay

1 = Standard Configuration
2-9 = Special Connector Solution



Protective Terminal Cover Included!

B = Bulk Packed
(Blank) = Retail Shelf Pack



87= XD Series
w/Tinned Control Wires
88 = XD Series
w/DTM Control Connector

0 = Not Applicable (no relay in position)
3 = Flex 2 Set as VSR w/Knob
4 = Flex 2 Set as VSR No Knob
5 = Flex 2 Set as Battery Switch w/Knob
6 = Flex 2 Set as Battery Switc No Knob
9 = Mechanical Only Switch w/Knob

* Custom product configurations available including control harness wires, time delays, voltage settings, dip switch functionality, and control input functionality. Contact support@egismobile.com

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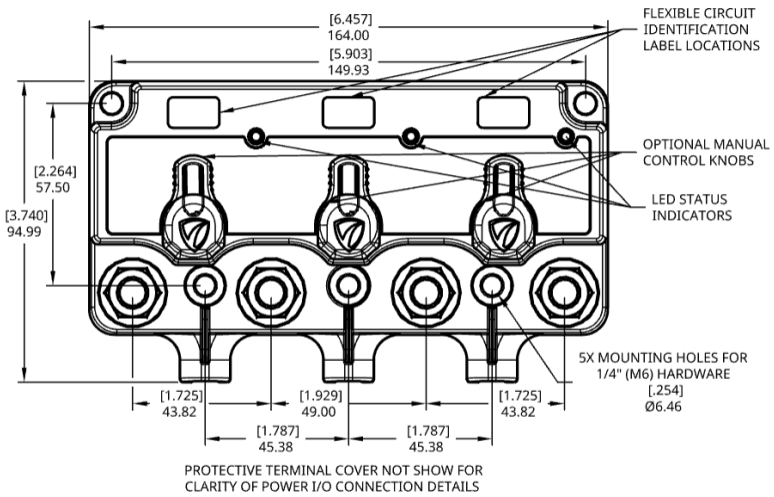
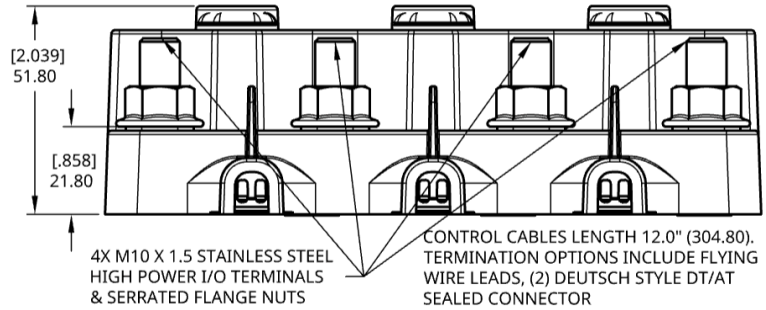
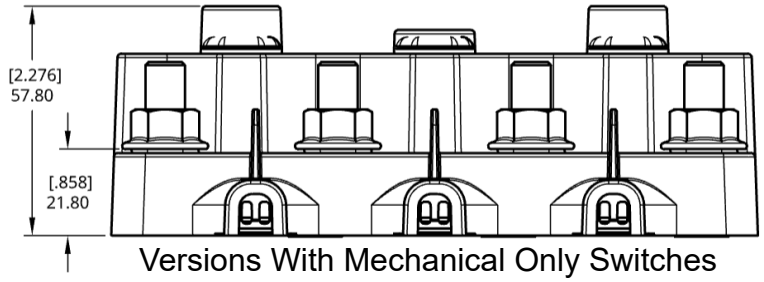
Fig 4 - Triple XD Series - Dimensions

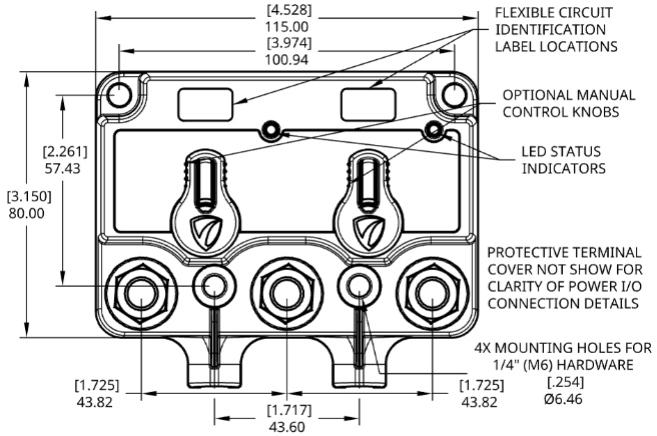






Versions With Mechanical Only Switches

Fig 5 - Dual XD Series - Dimensions



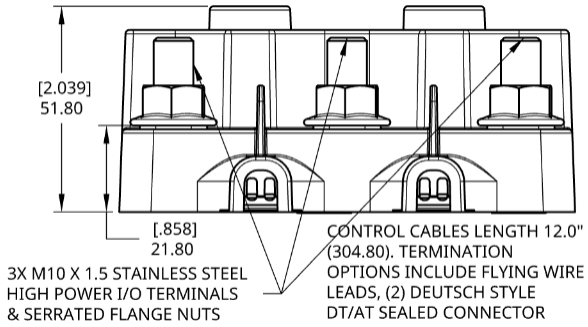
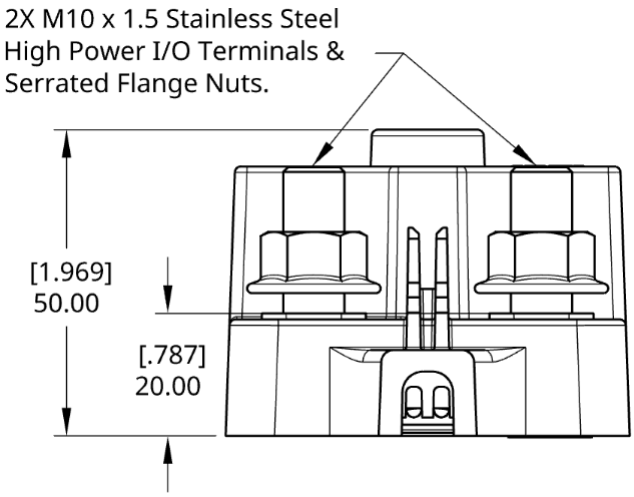


Fig 6 - Single XD Series - Dimensions



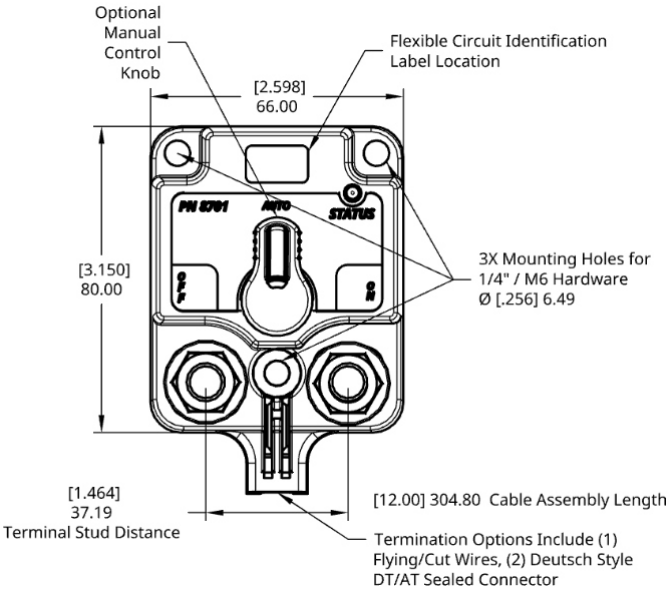


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Fig 7 - Triple XD - 88 Series (DTM Connectors) Diagram (Matches Legacy Remote Relay Solutions)

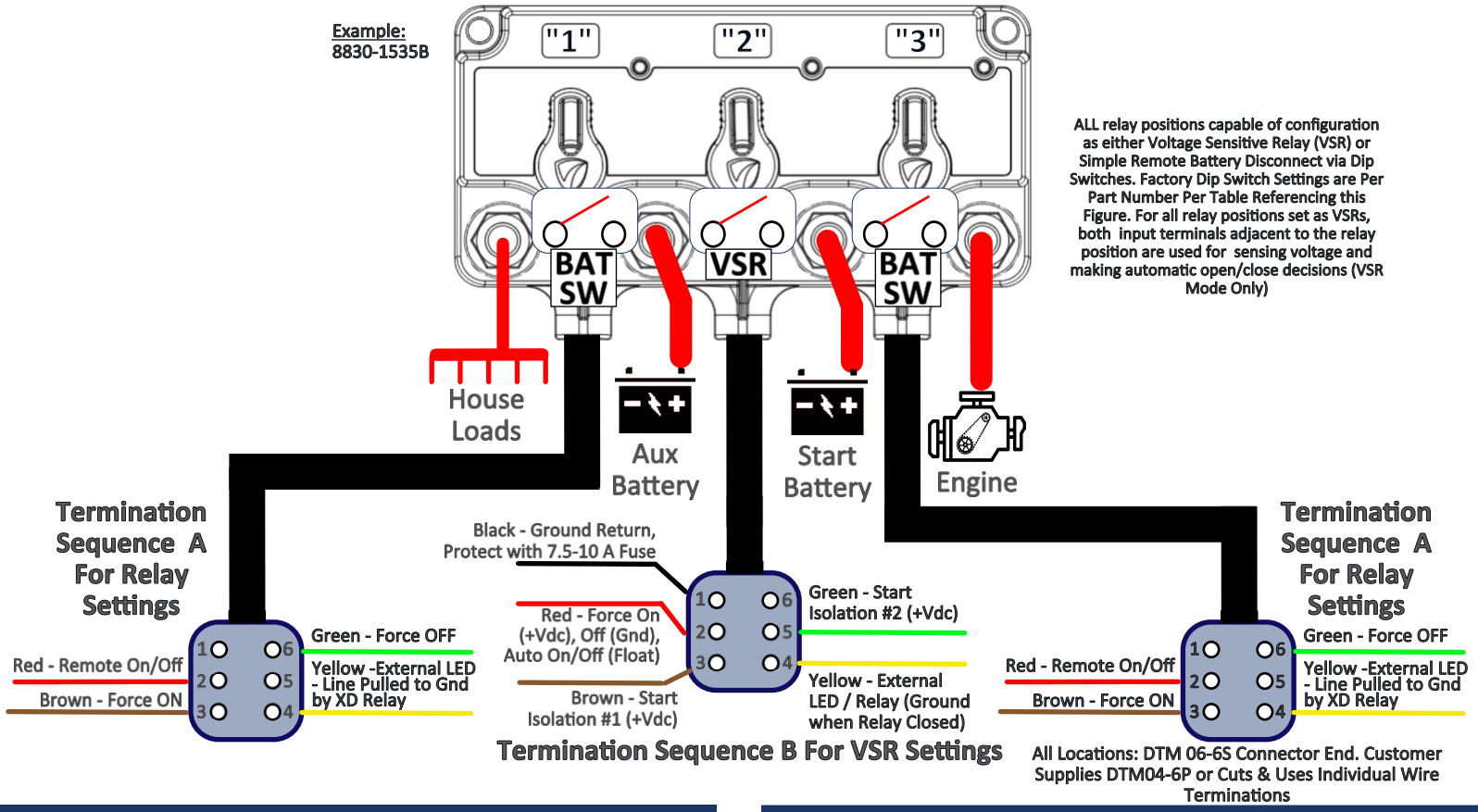
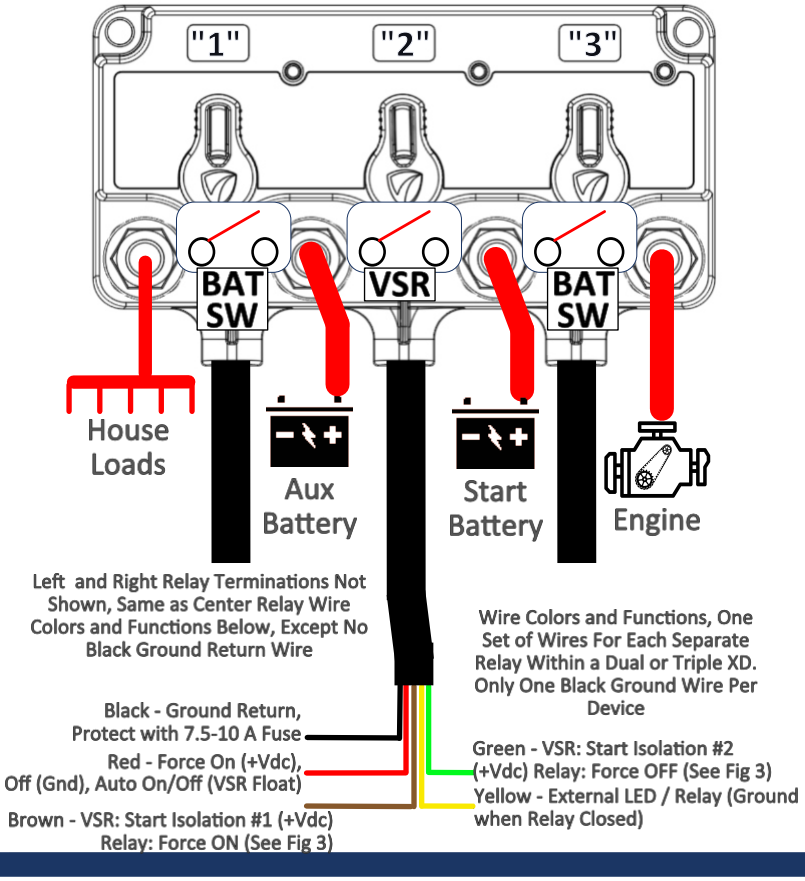


Fig 8 - Triple XD - 87 Series (Connection Diagram)



Triple XD Relay Part Numbers and Dip Switch Settings (Fig 7)

Left Relay		Center Relay		Right Relay		
Knob	Setting	Knob	Setting	Knob	Setting	Bulk PNs
Yes	VSR	Yes	VSR	Yes	VSR	8830-1333B
No	VSR	No	VSR	No	VSR	8830-1444B
Yes	Relay	Yes	VSR	Yes	Relay	8830-1535B
Yes	Relay	No	VSR	Yes	Relay	8830-1545B
Yes	Relay	Yes	Relay	Yes	Relay	8830-1555B
No	Relay	Yes	VSR	No	Relay	8830-1636B
No	Relay	No	VSR	No	Relay	8830-1646B
No	Relay	No	Relay	No	Relay	8830-1666B

Triple XD Relay Part Numbers and Dip Switch Settings (Fig 8)

Left Relay		Center Relay		Right Relay		
Knob	Setting	Knob	Setting	Knob	Setting	Bulk PNs
Yes	VSR	Yes	VSR	Yes	VSR	8730-1333B
No	VSR	No	VSR	No	VSR	8730-1444B
Yes	Relay	Yes	VSR	Yes	Relay	8730-1535B
Yes	Relay	No	VSR	Yes	Relay	8730-1545B
Yes	Relay	Yes	Relay	Yes	Relay	8730-1555B
No	Relay	Yes	VSR	No	Relay	8730-1636B
No	Relay	No	VSR	No	Relay	8730-1646B
No	Relay	No	Relay	No	Relay	8730-1666B

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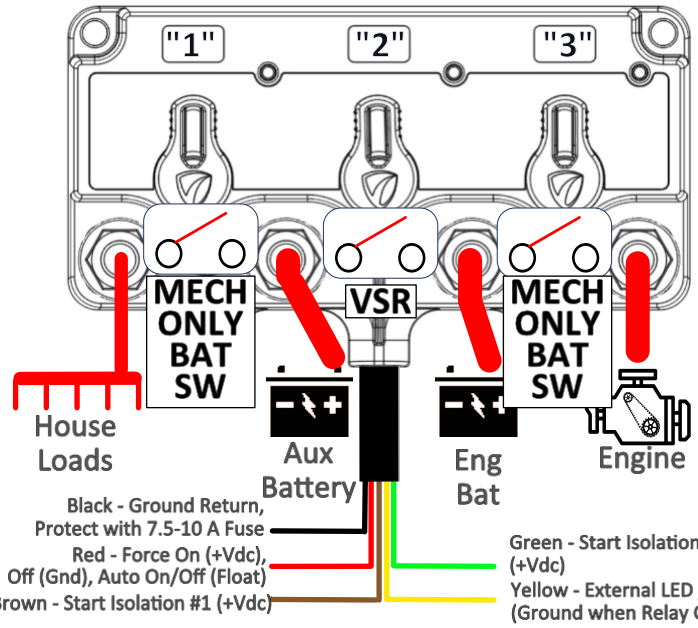
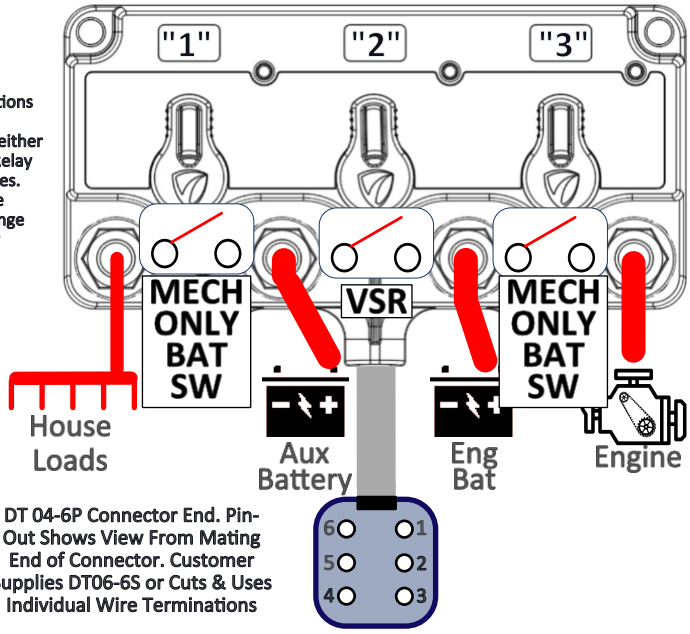
Fig 9 - Triple XD - 87 Series (Mech Only Bat Sw)



ALL switch positions capable of configuration as either VSR or Simple Relay via Dip Switches. Control wire responses change accordingly

Fig 10 - Triple XD - 88 Series (Mech Only Versions)

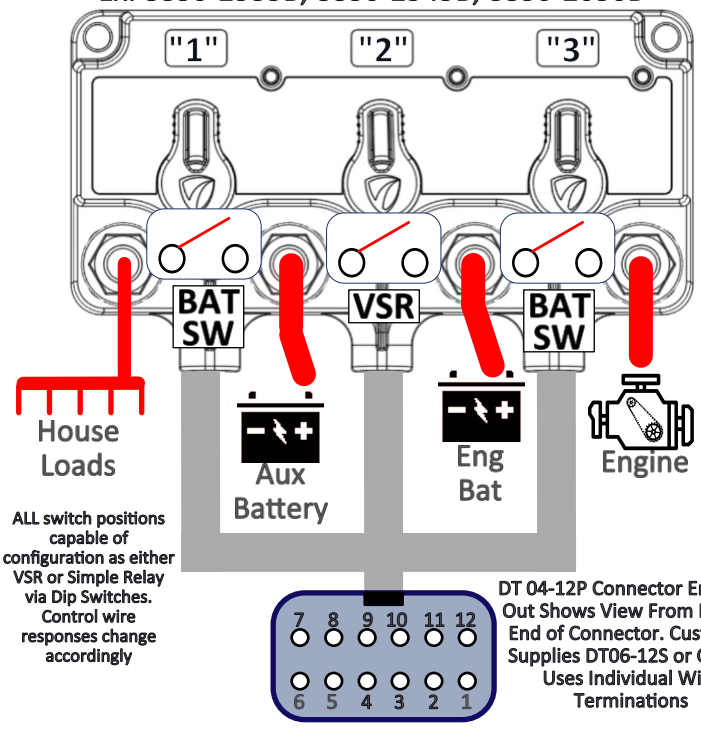


DT 04-6P Connector End. Pin-Out Shows View From Mating End of Connector. Customer Supplies DT06-6S or Cuts & Uses Individual Wire Terminations

6 Pin DT Connector Functions (Fig 10)	Pin #	Wire Color
Ground (Required), Protect w/ 7.5 - 10.0 A Fuse	1	Black
Relay 2 Rem Ctrl Signal (Optional / Recommended)	2	Red
Relay 2 Start Isolation #1 / Relay Mode OFF (+Vdc)	3	Brown
Relay 2 Rem Indicator (Active Low), (Optional)	4	Yellow
Relay 2 Start Isolation #2 / Relay Mode ON (+Vdc)	5	Green

Fig 11 - Triple XD - 88 Series (Single DT Conn)

Ex: 8830-2535B, 8830-2545B, 8830-2636B



ALL switch positions capable of configuration as either VSR or Simple Relay via Dip Switches. Control wire responses change accordingly

DT 04-12P Connector End. Pin-Out Shows View From Mating End of Connector. Customer Supplies DT06-12S or Cuts & Uses Individual Wire Terminations

12 Pin Connector Functions (Fig 11)	Pin #	Wire Color
Ground (Required), Protect w/ 7.5 - 10.0 A Fuse	1	Black
Relay 1 Rem Ctrl Signal (Optional / Recommended)	2	Red
Relay 1 Rem Indicator (Active Low), (Optional)	3	Yellow
Relay 2 Rem Ctrl Signal (+Vdc/Float/Gnd)	4	Red
Relay 2 Rem Indicator (Optional / Recommended)	5	Yellow
Relay 2 Start Isolation #1 Input (Optional)	6	Brown
Relay 2 Start Isolation #2 Input (Optional)	7	Green
Relay 3 Rem Ctrl Signal (Optional / Recommended)	8	Red
Relay 3 Rem Indicator (Active Low), (Optional)	9	Yellow

Triple XD Relay Part Numbers and Dip Switch Settings (Fig 9 & 10)

Left Relay		Center Relay		Right Relay		
Knob	Setting	Knob	Setting	Knob	Setting	Bulk PNs
Yes	None (1)	Yes	VSR	Yes	None (1)	8730-1939B
Yes	None (1)	No	VSR	Yes	None (1)	8730-1949B
Yes	None (1)	Yes	VSR	Yes	None (1)	8830-1939B
Yes	None (1)	No	VSR	Yes	None (1)	8830-1949B

Triple XD Relay Part Numbers and Dip Switch Settings (Fig 10)

Left Relay		Center Relay		Right Relay		
Knob	Setting	Knob	Setting	Knob	Setting	Bulk PNs
Yes	Relay	Yes	VSR	Yes	Relay	8830-2535B
Yes	Relay	No	VSR	Yes	Relay	8830-2545B
Yes	Relay	Yes	Relay	Yes	Relay	8830-2555B
No	Relay	Yes	VSR	No	Relay	8830-2636B
No	Relay	No	VSR	No	Relay	8830-2646B
No	Relay	No	Relay	No	Relay	8830-2666B

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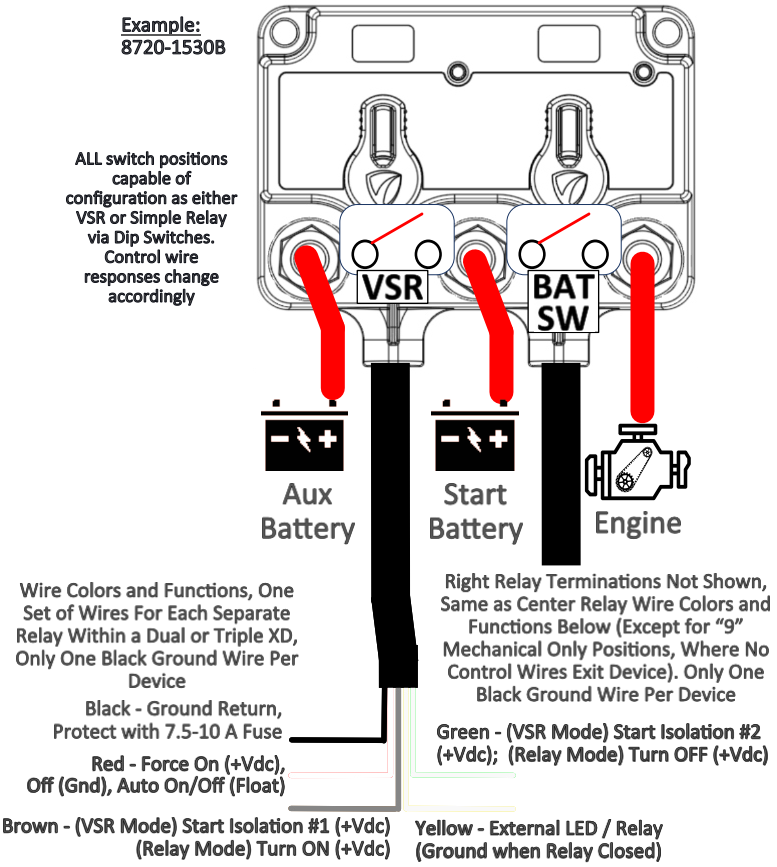
Fig 12 - Dual XD - 87 Series (Flying Wires)

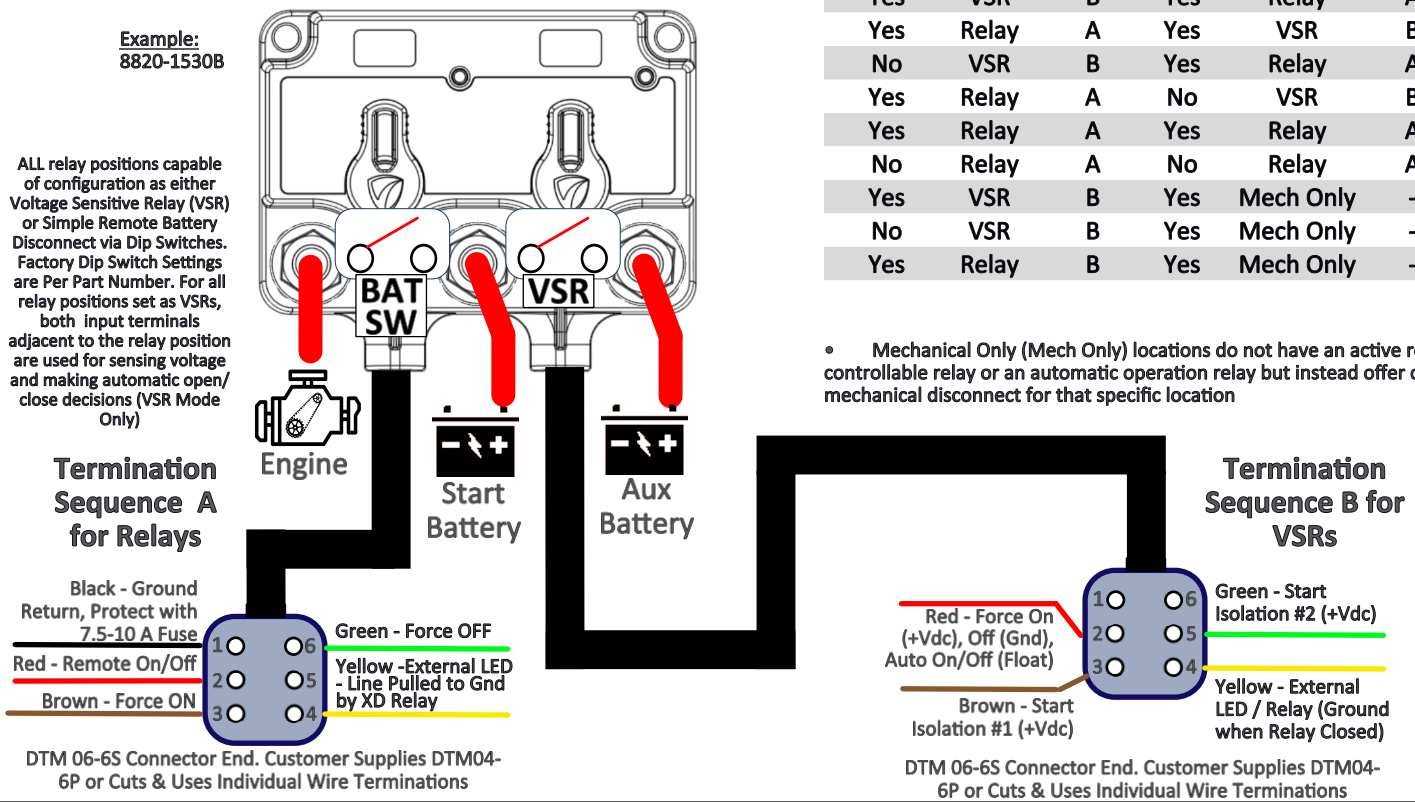


Dual XD Relay Part Numbers and Dip Switch Settings (Fig 12)

Left Relay		Right Relay		
Knob	Setting	Knob	Setting	Bulk PNs
Yes	VSR	Yes	VSR	8720-1330B
No	VSR	No	VSR	8720-1440B
Yes	VSR	Yes	Relay	8720-1350B
Yes	Relay	Yes	VSR	8720-1530B
No	VSR	Yes	Relay	8720-1450B
Yes	Relay	No	VSR	8720-1540B
Yes	Relay	Yes	Relay	8720-1550B
No	Relay	No	Relay	8720-1660B
Yes	VSR	Yes	Mech Only	8720-1390B
No	VSR	Yes	Mech Only	8720-1490B
Yes	Relay	Yes	Mech Only	8720-1590B

- Mechanical Only (Mech Only) locations do not have an active remotely controllable relay or an automatic operation relay but instead offer only an "on-device" mechanical disconnect for that specific location

Fig 13 - Dual XD - 88 Series (DTM Connectors) (Matches Legacy Remote Relay Solutions)



Dual XD Relay Part Numbers and Dip Switch Settings (Fig 13)

Left Relay			Right Relay			
Knob	Setting	Term Seq	Knob	Setting	Term Seq	Bulk PNs
Yes	VSR	B	Yes	VSR	B	8820-1330B
No	VSR	B	No	VSR	B	8820-1440B
Yes	VSR	B	Yes	Relay	A	8820-1350B
Yes	Relay	A	Yes	VSR	B	8820-1530B
No	VSR	B	Yes	Relay	A	8820-1450B
Yes	Relay	A	No	VSR	B	8820-1540B
Yes	Relay	A	Yes	Relay	A	8820-1550B
No	Relay	A	No	Relay	A	8820-1660B
Yes	VSR	B	Yes	Mech Only	-	8820-1390B
No	VSR	B	Yes	Mech Only	-	8820-1490B
Yes	Relay	B	Yes	Mech Only	-	8820-1590B

- Mechanical Only (Mech Only) locations do not have an active remotely controllable relay or an automatic operation relay but instead offer only an "on-device" mechanical disconnect for that specific location

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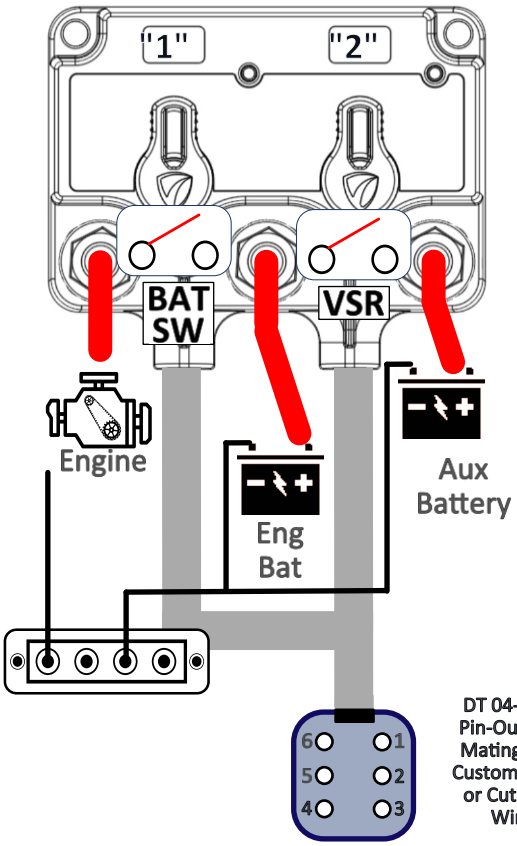
Fig 14 - Dual XD - 88 Series (Mounts Left of Triple)



Depicted with manual override knobs in all locations. Availability of manual override knob for either relay position determined by the part number. See part number guide for further details.

Relay locations set to either VSR or Battery Switch functionality per designations on this diagram. Builders, installers, and end users can change via dip switches on back of device.

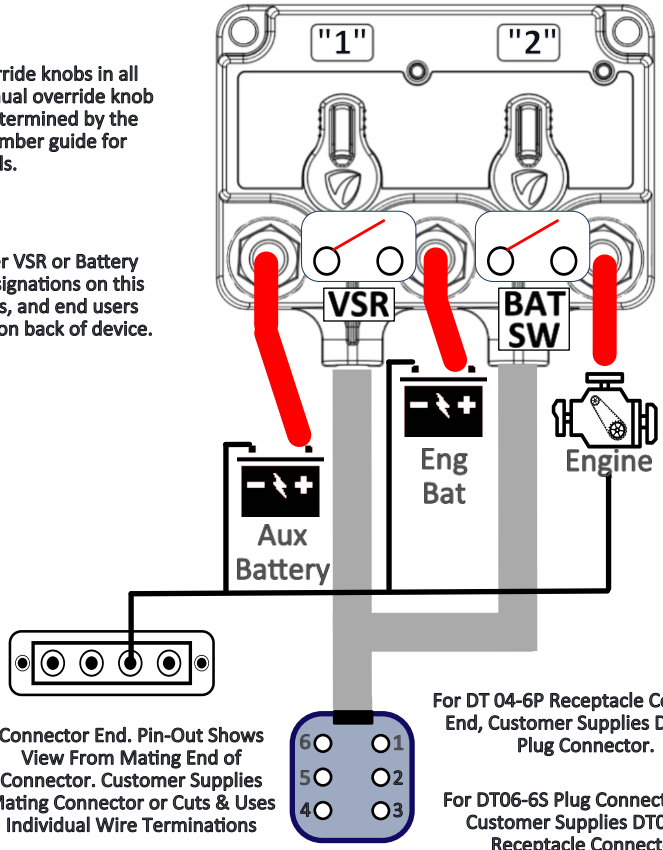
DT 04-6P Connector End. Pin-Out Shows View From Mating End of Connector. Customer Supplies DT06-6S or Cuts & Uses Individual Wire Terminations

6 Pin Connector Functions (Fig 14)	Pin #	Wire Color
Ground (Required), Protect w/ 7.5 - 10.0 A Fuse	1	Black
Relay 1 Rem Ctrl Signal (+Vdc/Float/Gnd)	2	Red
Relay 1 Rem Indicator (Active Low), (Optional)	3	Yellow
Relay 2 Rem Ctrl Signal (Optional / Recommended)	4	Red
Relay 2 Rem Indicator (Optional / Recommended)	5	Yellow
Relay 2 Start Isolation #1 Input (Optional)	6	Brown

Dual XD Part Numbers Dip Switch Settings (Fig 14)

Left Relay		Right Relay		
Knob	Setting	Knob	Setting	Bulk PNs
Yes	Relay	Yes	VSR	8820-6530B
Yes	Relay	No	VSR	8820-6540B
No	Relay	Yes	VSR	8820-6630B
No	Relay	No	VSR	8820-6640B
Yes	Relay	Yes	Relay	8820-6550B

Fig 15 - Dual XD - 88 Series (Mounts Right of Triple)



Connector End. Pin-Out Shows View From Mating End of Connector. Customer Supplies Mating Connector or Cuts & Uses Individual Wire Terminations

For DT 04-6P Receptacle Connector End, Customer Supplies DT06-6S Plug Connector.

For DT06-6S Plug Connector End, Customer Supplies DT04-6P Receptacle Connector

6 Pin Connector Functions (Fig 15)	Pin #	Wire Color
Ground (Required), Protect w/ 7.5 - 10.0 A Fuse	1	Black
Relay 1 Rem Ctrl Signal (Optional / Recommended)	2	Red
Relay 1 Rem Indicator (Optional / Recommended)	3	Yellow
Relay 2 Rem Ctrl Signal (+Vdc/Float/Gnd)	4	Red
Relay 2 Rem Indicator (Active Low), (Optional)	5	Yellow
Relay 1 Start Isolation #1 Input (Optional)	6	Brown

Dual XD Part Numbers Dip Switch Settings (Fig 15)

Left Relay		Right Relay			Housing Connector	
Knob	Setting	Knob	Setting	Bulk PNs	Color	Gender
Yes	VSR	Yes	Relay	8820-6350B	Gray	Receptacle
No	VSR	Yes	Relay	8820-6450B	Gray	Receptacle
Yes	VSR	No	Relay	8820-6360B	Gray	Receptacle
No	VSR	No	Relay	8820-6460B	Gray	Receptacle
Yes	VSR	Yes	Relay	8825-6350B	Black	Plug

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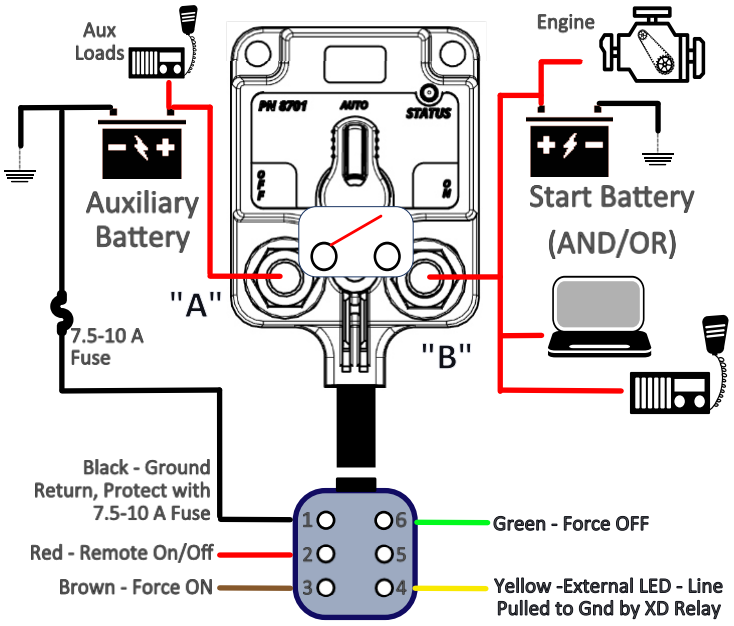
Fig 16 - Single XD - 87/88 Remote Relay/Battery Switch (DTM Version Matches Legacy Blue Sea Systems Relays)

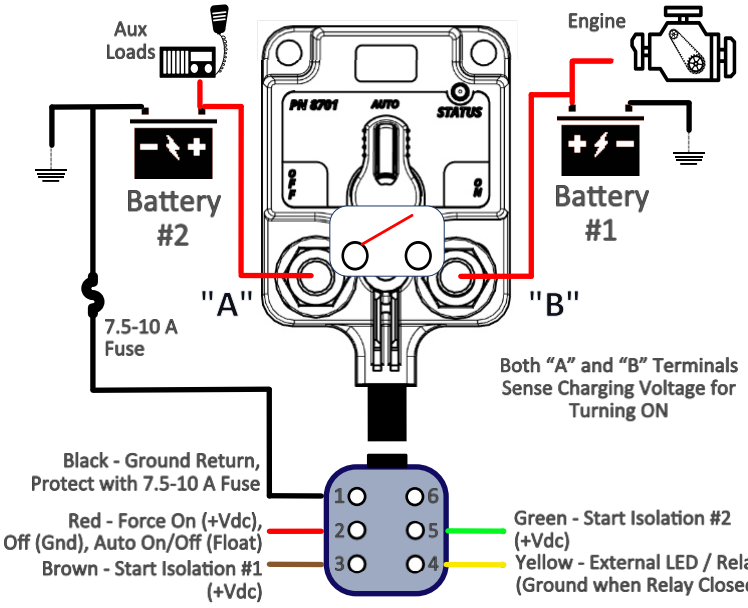


A) 8710-1xxx Part Numbers Provide Flying Wires With Colors Matching the Same Functions Outlined on the Connector End Diagram, But Without the Connector.

B) 8810-1xxx Part Numbers Use a DTM 06-6S Connector End. Customer Supplies DTM04-6P or Cuts & Uses Individual Wire Terminations.

C) 8810-6xxx Part Numbers Use an AT04-6P or DT04-6P Connector End. Customer Supplies AT06-6S or DT06-6S or Cuts & Uses Individual Wire Terminations.

Fig 17 - Single XD - 87/88 Voltage Sensitive Relay (VSR) (DTM Version Matches Legacy Blue Sea System ACRs)



A) 8710-1xxx Part Numbers Provide Flying Wires With Colors Matching the Same Functions Outlined on the Connector End Diagram, But Without the Connector.

B) 8810-1xxx Part Numbers Use a DTM 06-6S Connector End. Customer Supplies DTM04-6P or Cuts & Uses Individual Wire Terminations.

C) 8810-6xxx Part Numbers Use an AT04-6P or DT04-6P Connector End. Customer Supplies AT06-6S or DT06-6S or Cuts & Uses Individual Wire Terminations.

6 Pin Connector Pin-Out Functions	Pin #	Wire Color
Ground Reference (Required)	1	Black
Single Wire Close/Open (See Pg 3, Relay Mode)	2	Red
Relay Close (See Pg 3 it Relay Mode, If Changed to VSR then Start Isolation #1 Function)	3	Brown
Remote Indicator	4	Yellow
Relay Open (See Pg 3 it Relay Mode, If Changed to VSR then Start Isolation #2 Function)	6	Green

Single XD Part Numbers

Knob	Default Setting	Termination	Bulk PNs
Yes	Relay	Flying Wires	8710-1500B
Yes	Relay	6P ATM/DTM Conn	8810-1500B
Yes	Relay	6P AT/DT Conn	8810-6500B
No	Relay	Flying Wires	8710-1600B
No	Relay	6P ATM/DTM Conn	8810-1600B
No	Relay	6P AT/DT Conn	8810-6600B
Yes	Mechanical Only	None	8710-1900B

- Mechanical Only (Mech Only) locations do not have an active remotely controllable relay or an automatic operation relay but instead offer only an "on-device" mechanical disconnect for that specific location. No control wire terminations are present

6 Pin Connector Pin-Out Functions	Pin #	Wire Color
Ground Reference (Required)	1	Black
VSR ON/Auto/Off (If Changed to Relay Mode then Single Wire Close/Open (See Pg 3)	2	Red
Start Isolation #1 Function (If Changed to Relay then Relay Close (See Pg 3)	3	Brown
Remote Indicator	4	Yellow
Start Isolation #2 Function (If Changed to Relay then Relay Open (See Pg 3)	5	Green

Single XD Part Numbers

Knob	Default Setting	Termination	Bulk PNs
Yes	VSR	Flying Wires	8710-1300B
Yes	VSR	6P ATM/DTM Conn	8810-1300B
Yes	VSR	6P AT/DT Conn	8810-6300B
No	VSR	Flying Wires	8710-1400B
No	VSR	6P ATM/DTM Conn	8810-1400B
No	VSR	6P AT/DT Conn	8810-6400B

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XD Battery Disconnet - Competitor Comparison / Cross Reference

Product Comparison Summary

Feature/Specification	XD Series VSR	ML-ACR
Universal 12/24 Control Voltage	Yes	No, 12 or 24 Vdc
Cover for Power Terminals	Included	No
Function & Cable Label Sheet	Included	Not Included
Local Status Led Indicator	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 (3)
Product Assemblies for 2-7 Relays	Yes (5)	No
Dust & Water IP Rating	IP67 / IP6K9K	IP66 (4)
Pressure Regulated Enclosure	Yes	No
Marine Grade Control Wiring	Yes	No
Mounting Footprint Width	66 (6)	95
Mounting Footprint Length	80 (6)	140
Mounting Depth	50	51.5
Standby Current Draw	1.2 mA	0 - 8 mA (1)
Max Continuous Current	500 A	500 A
Power Input Stud Size	M10 (3/8")	3/8" (M10)

(1) Excessive standby current drains batteries as no charge source is present potentially permanently damaging batteries and voiding battery warranties. The XD Series Standby current is 70% lower than the competitor's auto-release version, and so low (1.2 mA) that on its own would take 9 years to drain a Group 31 battery.

(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. Customers are encouraged to independantly evaluate legacy product to water entry susceptibility.

(5) XD Series products are also available in single housing dual 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 (1)
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	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

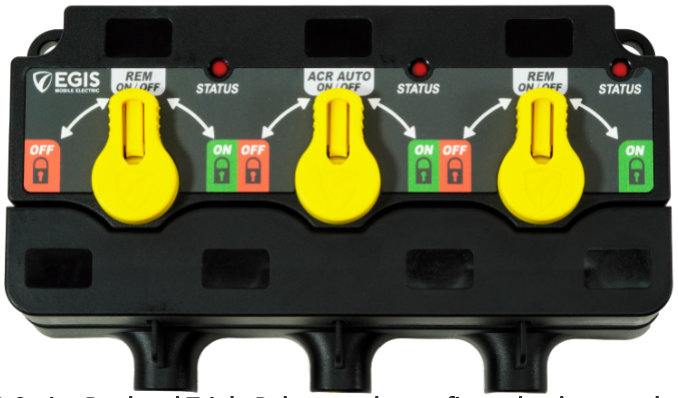
High Ampere Solenoids

Blue Sea Sys P/N	Vdc	Egis Mobile Electric P/N	Vdc	Manual Control	Control Leads	Control Method (2)
7701	12	8710-1600B	12/24	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	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

High Amp Automatic Charging Relays (ACRs)

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
7622	12	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



* 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, simplifying product transition.

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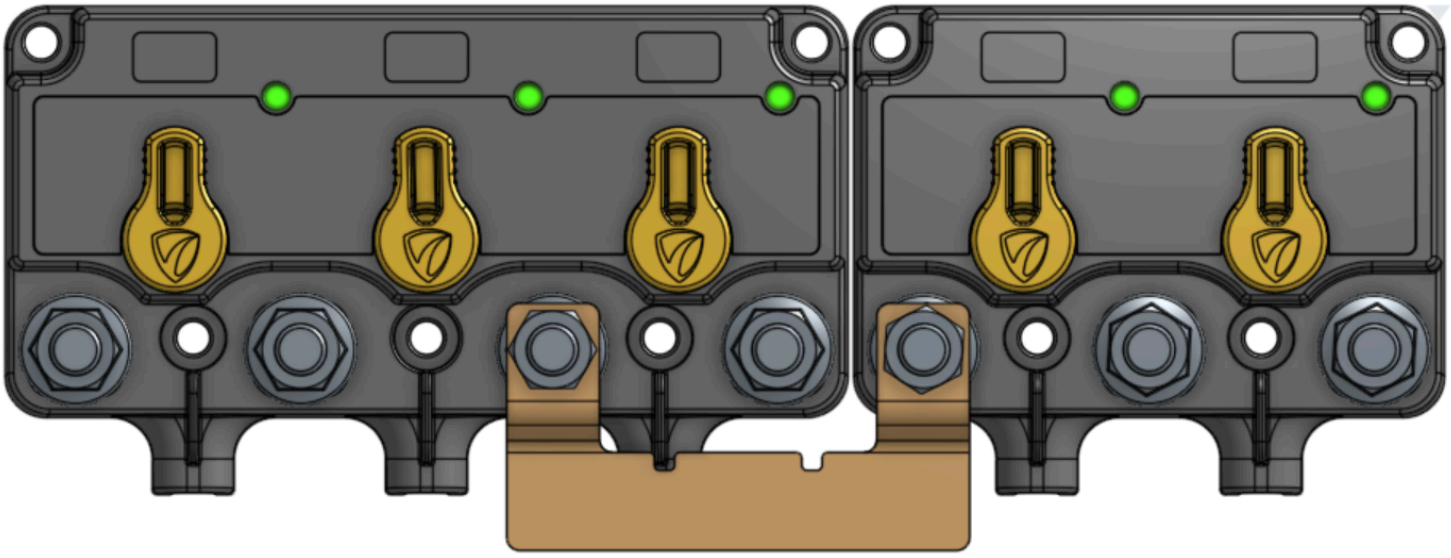
Triple Battery Relay / VSR Cluster

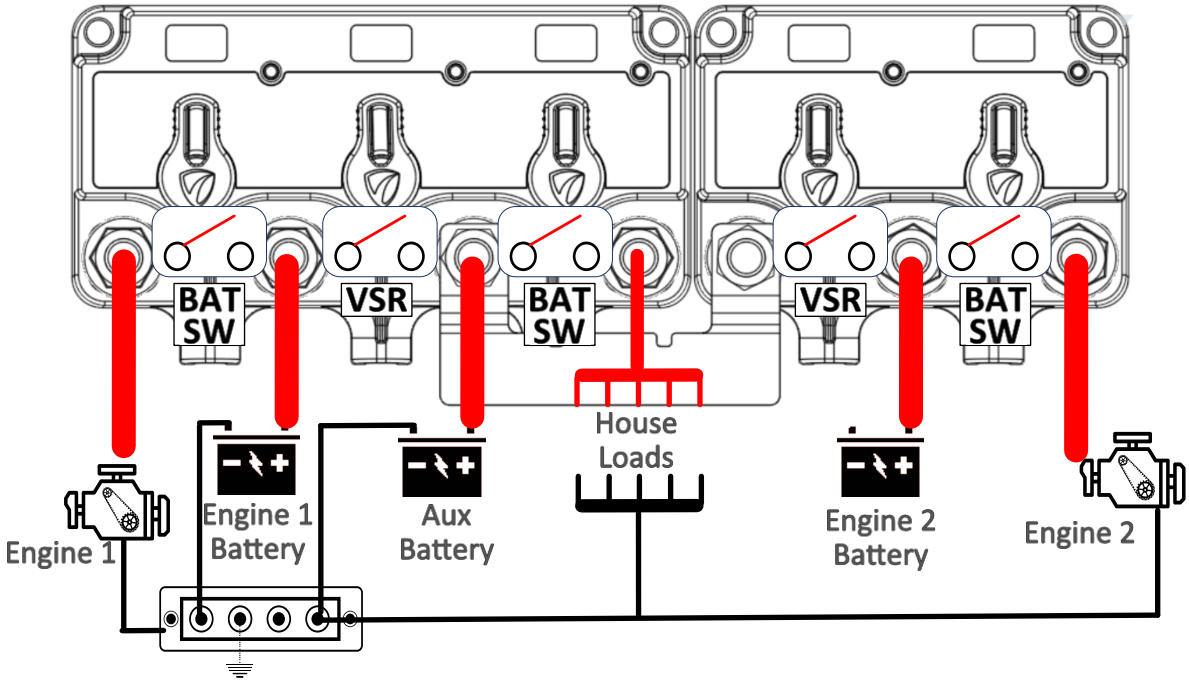
11” (280 mm)



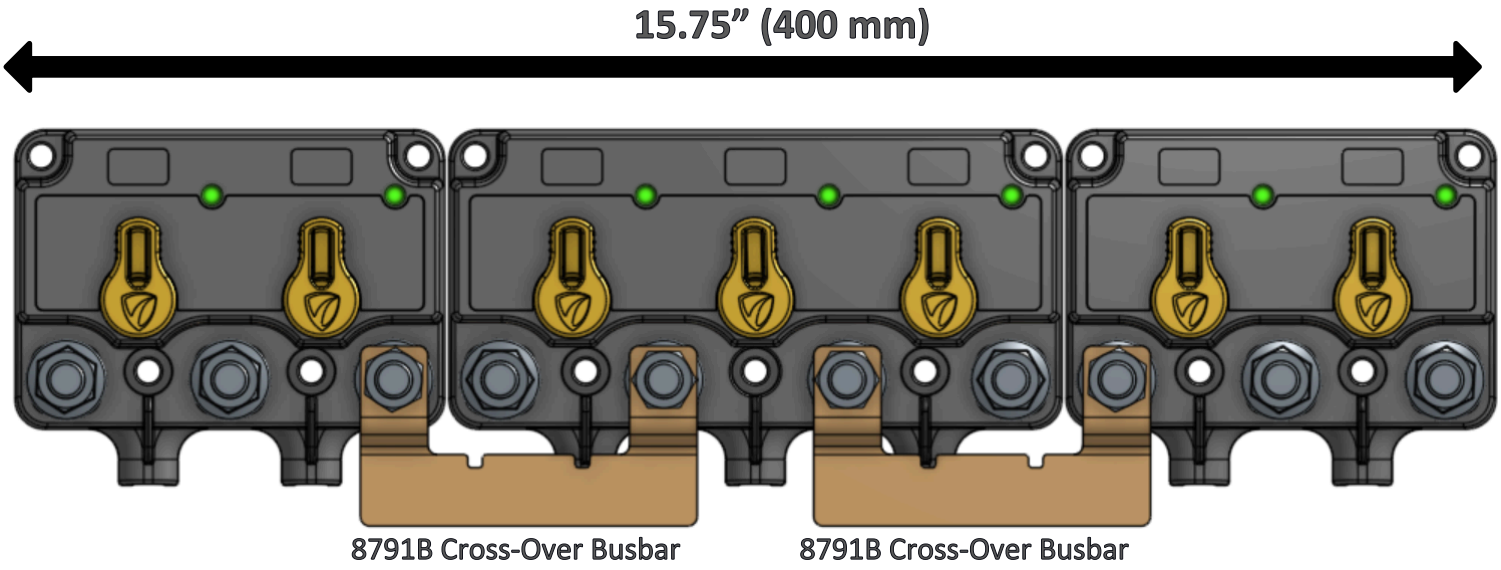
8791B Cross-Over Busbar

Ex: 8730-1535B

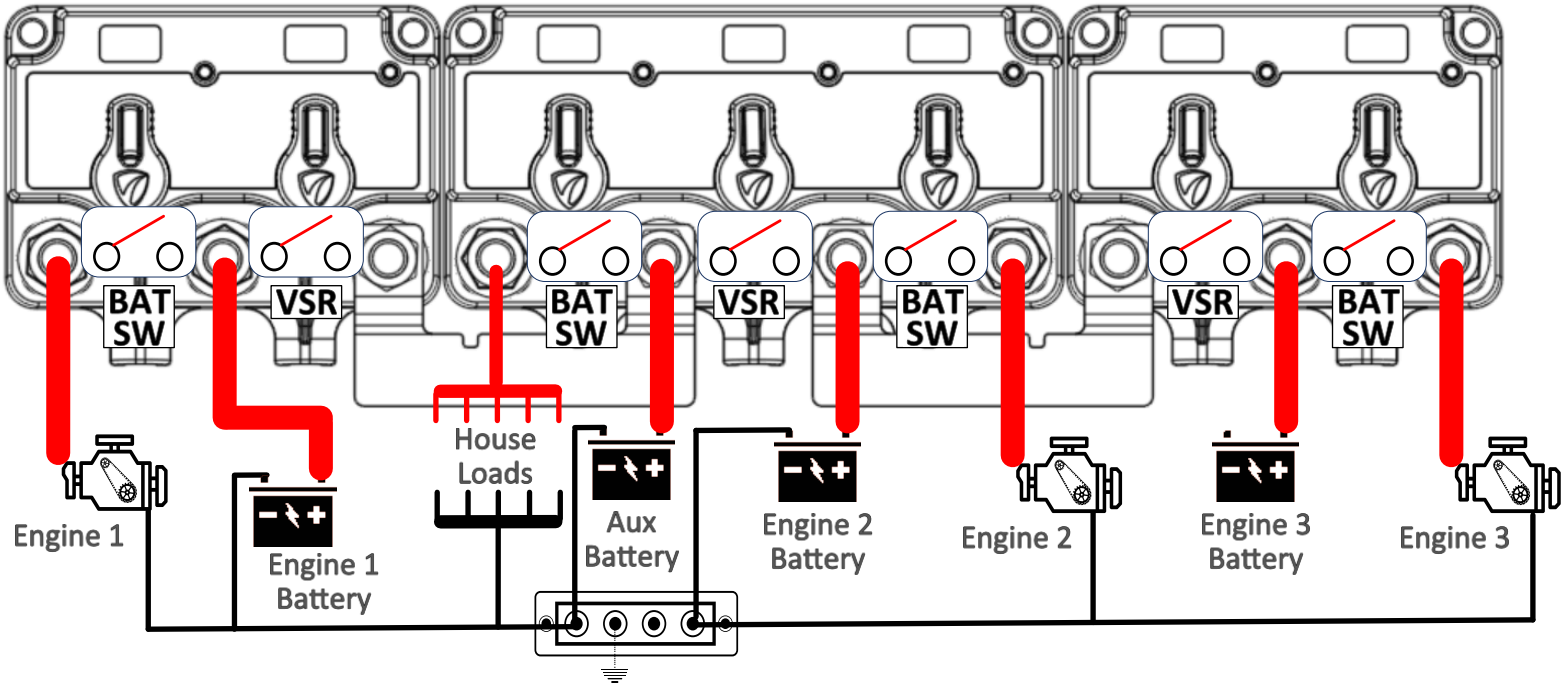
Ex: 8720-1350



Quad Battery Bank Relay / VSR Cluster



Ex: 8720-1530 Ex: 8730-1535 Ex: 8720-1350



XD Series Relays
Flex 2 Bi-Stable Relays & VSRs
Single/Dual/Triple

1. Product Overview

The Egis Mobile Electric XD Series Flex 2 is a high-performance, bi-stable battery disconnect relay platform available in single, dual, and triple-relay configurations. Manual override knobs are optional and devices may include combinations of remote operated and mechanical-only battery disconnect relays.

Each relay position (excluding mechanical-only positions) supports:

- Battery Disconnect Relay (Remote ON/OFF)
- Voltage Sensing Relay (VSR/ACR)
- Manual ON / LOCK OFF override control
- Local & remote LED status indication

Flex 2 relays feature:

- Ultra-low standby current: 1.3 mA combined
- High-current ratings up to 500 A continuous (with dual 4/0 AWG wiring)
- Bi-stable latching coil (draws current only when changing state)
- Stainless-steel M10 studs
- IP67 / IP6K9K sealed housing
- Integrated thermal overload protection

Mechanical-only positions operate strictly through the knob—no remote or automatic operation.

2. Safety Information

⚠ Disconnect all battery negative connections before installation.
⚠ Install a 7.5A fuse in the BLACK main DC(-) wire.
⚠ Mount away from explosive gases, battery fumes, or direct water spray.
⚠ Do not install in an area where the device may be submerged.

Always install Egis Mobile Electric components in accordance with applicable industry standards and regulatory codes, including but not limited to ABYC, NEC, and NFPA requirements. Failure to comply with applicable codes may limit or void product warranties. For additional information or technical support, contact support@egismobile.com.

3. Mounting Instructions

- Mount the Flex 2 as close to the battery bank as practical.
- Ensure connecting cables are supported and strain-relieved.
- Allow accessibility to XD product so that emergency override knobs can be used, if equipped.
- Avoid mounting directly above vented lead-acid batteries.
- The mounting surface must be continuously flat, with no openings, recesses, or cutouts behind the device, to ensure proper sealing of the DIP switch cover.

4. High-Current Wiring

Steps

1. Connect battery positive conductor to either cable mounting stud of relay.
2. Connect load, additional battery bank, or distribution bus to the opposite mounting stud.
3. Start cable fastening nuts by hand to ensure cross-threading does not occur. Do not use power, pneumatic, or impact driver tools to drive or tighten the nut. Tighten terminal nuts to 120 in-lbs.
4. Use wire sized appropriately for system rating:

- 2/0 AWG → ~225 A continuous
- 4/0 AWG → ~300 A continuous
- Dual 4/0 AWG → up to ~500 A continuous

5. Manual Override Knob Operation

Flex 2 devices may or may not have manual knobs in any position.

Knob Positions

- AUTO / REMOTE – Relay follows remote control signals or VSR logic.
- LOCK ON – Relay is mechanically forced ON; all remote/VSR control is ignored.
- LOCK OFF – Relay is mechanically forced OFF; all remote/VSR control is ignored. Use for service.

Mechanical-Only Positions

- LOCK ON – Relay is mechanically forced ON.
- LOCK OFF – Relay is mechanically forced OFF.

Power-Up Behavior

Upon first time power-up or after exiting manual override, LEDs will indicate a "pending" (flashing) state until the next remote ON/OFF control signal is received.

6. Control Wiring

Flex 2 devices use a sealed flying-lead harness. Mechanical-only positions do not have control wiring.

Relay Configuration

Wire	Function	Notes
Black	XD Device DC(-)	Must be fused with 7.5 in-line fuse
Red	Remote ON/OFF	FLOAT = Auto | DC(+) = ON | DC(-) = OFF
Brown	Momentary ON	Apply +V until relay closes
Green	Momentary OFF	Apply +V until relay opens
Yellow	LED Output	Provides path to (DC-) when relay is ON

VSR Configuration

Wire	Function	Notes
Black	XD Device DC(-)	Must be fused with 7.5 in-line fuse
Red	Remote Parallel	+V = ON > ~120 seconds, then VSR mode
Brown	Start Isolation	+V = ON for ~180 seconds, then VSR mode
Green	Start Isolation	+V = ON for ~180 seconds, then VSR mode
Yellow	LED Output	Provides path to (DC-) when relay is ON

7. DIP Switch Configuration

Each electronic relay/VSR position includes a 6-position DIP switch on the back of the device. These switches, referenced in this guide and the XD specification, are commonly referenced as “DS”. They determine whether the relay functions as a Remote Battery Disconnect Relay or as a Voltage Sensing Relay (VSR/ACR) and establish the corresponding ON/OFF voltage thresholds. Installers do not generally need to adjust DS2-DS6 unless the system includes unusual charging voltages, specialized battery charge profiles, or long cable runs causing increased voltage drop.

DS1 — Function Selection

- OFF — Relay Mode: The relay operates strictly from remote control inputs and/or manual knob position.
- ON — VSR Mode: The relay automatically connects and disconnects batteries based on system voltage conditions.

DS2 & DS3 — VSR ON Threshold

These DIP switches define the minimum voltage at which the VSR will begin its 120-second timer before turning the position ON.

Flex 2 devices ship from the factory with default ON threshold settings already selected to match the most common charging system profiles. The default values are indicated by a blue color highlight on the DIP switch reference labels located on the back of each XD device.

30-Second ON Threshold: Always 0.6 V higher than the selected ON threshold. This accelerated ON threshold allows the relay to close sooner when the charging system is clearly active.

DS4, DS5 & DS6 — VSR OFF Threshold

These switches define the voltage at which the relay will turn OFF to prevent unintentional discharge.

Key Notes on VSR Behavior:

- The manual knob overrides all automatic / VSR functions.
- OFF behavior includes an internal algorithm evaluating charging vs. discharge conditions.
- After a forced ON signal via remote input is received, the relay will not disconnect automatically until at least 120 seconds have passed.
- Start-isolation inputs, if used, temporarily suspend VSR automatic closing.

8. LED Status

Condition	LED Behavior (Local & Remote)
Relay ON	Solid ON
Relay OFF	OFF
Pending ON/OFF	Rapid Flashing (3x repeating flash remote)
Manual Override Active	2x repeating flash pattern
Start Isolation Active	4x repeating flash pattern
Over-Voltage Condition	5x repeating flash pattern

9. Operating Summary

Relay Mode (DS1 OFF)

Relay ON when:

- Red = +V (latching)
- Brown = +V (momentary)

Relay OFF when:

- Red = DC(-) or FLOAT
- Green = +V (momentary)

Manual knob always overrides remote control.

VSR Mode (DS1 ON)

Relay automatically engages (ON) when:

- Voltage > ON threshold for 120 sec, or
- Voltage > ON threshold +0.6 V for 30 sec

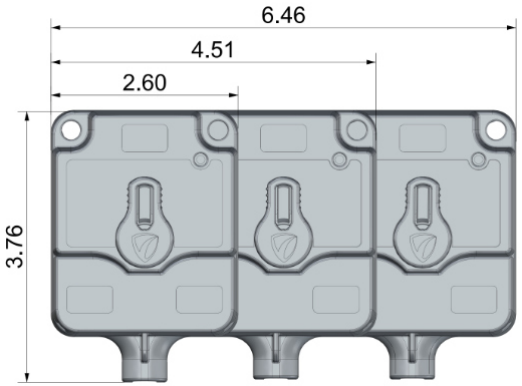
Relay automatically disengages (OFF) when:

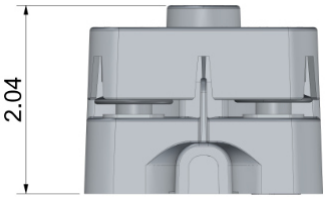
- Voltage < OFF threshold (DS4–DS6), and
- 120 sec has passed since last forced ON input signal was received

Start Isolation: Applying +V to start-isolation wires prevents VSR closing and delays re-arming for 3 minutes.

10. Warranty

Egis Mobile Electric warrants its products to be free from defects in materials and workmanship for 4 years from the date of purchase, provided proof of purchase is supplied. This warranty does not apply to products that have been improperly installed, used beyond their rated specifications, applied incorrectly, or damaged due to environmental exposure or mechanical misuse such as galling or stripping hardware. Products meeting warranty criteria will be replaced or credited. For full warranty terms or to initiate a claim, visit egismobile.com/warranty.





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