Specifications

Connections		
Interface Connector		8STA6-04-06SN
Battery Terminal		Copper Plated M6 Stud
Output Terminal		Copper Plated M6 Stud
Electrical		
Supply Voltage (V_s)		8V-30V
Operating Current (I_s)	Normal	0.03A
	Isolated	0.02A
	Standby	0.001A
PDM/ECU Output		
Drive type		Configurable
Output Voltage (On)		V_s
Output Current (max)		200mA
Switched Current		
Maintained Current		200A @ 25°C
Peak Current		1000A
Physical		
Rating		IP63
Operating Temp		-20 to 100°C
Weight		115g
Dimensions		99 x 70 x 28mm

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Master Relay

Quick Start Guide

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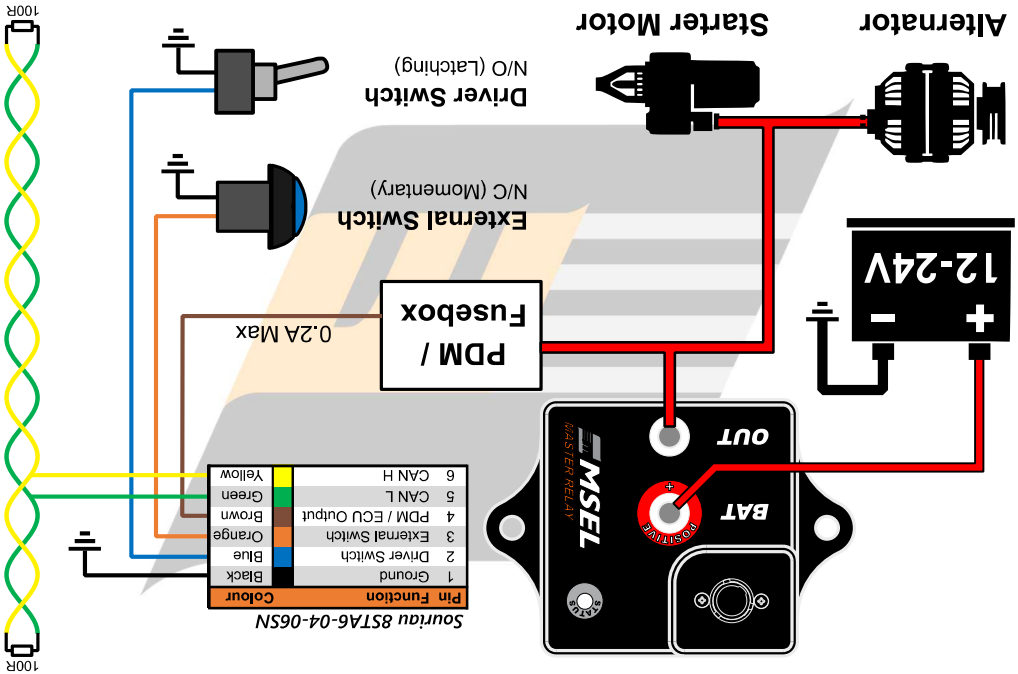

MSEL Master Relay Connection Diagram

Installation

The master relay is connected between the positive terminal of the battery and the rest of the vehicles positive power supply. See the diagram on the reverse for a typical installation. For more detailed installation instructions please refer to the User's Manual available online.

ENSURE THAT THE GROUND CONNECTION IS MADE BEFORE CONNECTING THE BATTERY AND OUTPUT TERMINALS.

Switch Connection

The Master Relay has two separate switched inputs, the driver switch and the external switch. The driver switch is the master switch and should be of a latching type, such that when engaged the switch contacts are closed.

The external switch should have normally closed contacts and in the event of a button press the contacts should become open. Multiple external switches can be connected in series, please refer to the User's Manual for additional setup configuration.

LED Indicator States

Status	LED Colour	Status Enumeration	Warnings Bit Mask
Normal	Green	1	-
Normal (CAN Error)	Green Flashing		
Over Temperature Warning	Blue Flashing	2	0x01
Over Current Warning	Yellow	3	0x02
Low Voltage Warning	Green/Blue Flashing	4	0x04
High Voltage Warning	Green/Red Flashing	5	0x08
Over Temperature Kill	Blue/Red Flashing	6	0x10
Driver Switch Kill	Red	7	0x20
External Switch Kill	Red Flashing	8	0x40
CAN Trigger Kill	Blue	9	0x80
Power On Reset	Purple	10	-

PDM / ECU Connection

Pin 4 of the master relay connector provides a logical output for a PDM / ECU allowing engine kill functionality with alternator load dump protection. Default the drive of the output is an active high, half bridge. However, it can be reconfigured for alternate applications, please refer to the User's Manual for further information.

CAN Bus

The Master Relay comes default with the following CAN configuration, please refer to the User's Manual if you need to alter the CAN baud rate or address.

Baud Rate: 1Mbps **Update Rate:** 10Hz **Byte Order:** MSB First

Base Address (Default: 0x6E4)

Byte	Channel	Units	Length	Base	Signed	Value	Transmitted
0 1	Voltage Out	V	2	0.01	Unsigned	12.56	1256
2 3	Current Load	A	2	0.1	Signed	54.5	545
4 5	Internal Temperature	°C	2	0.1	Signed	25.2	252
6	Warnings	-	1	1	-		see [2]
7	Status	-	1	1	-		see [1]

Base Address + 1 (Default: 0x6E5)

Byte	Channel	Units	Length	Base	Signed	Value	Transmitted
0 1	Voltage In	V	2	0.01	Unsigned	12.56	1256
2 3	Serial No.	-	2	1	Unsigned	-	-
4 5	Configuration	-	2	1	Unsigned	-	-
6	Time Since Shutdown	s	1	0.1	-	15.5	155
7	Shutdown Cause	-	1	1	-		see [1]

[1] List of Status enumerations are available in the table on the opposite page

[2] Warning bit masks are available in the table on the opposite page

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