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Find the *ETAS ES1392.1* at our website: ***Click HERE***

ETAS
Engineering Tools

ES1392.1

High Current Switch Board (5-CH)



Key Features

- Two high current switches with a max. current of 20 A each
- Three high current switches with a max. current of 12 A each
- 40 A overall current
- Overcurrent protection
- High current switch interface via front panel
- Overvoltage protection

The ES1392.1 High Current Switch Board provides five high current switches. Switch 0 can be switched to +UBatt or -UBatt. Switch 1 - switch 4 can be switched to +UBatt. Switch 0 and switch 1 can carry 20 A each, switch 2 - switch 4 can carry 12 A each. The maximum overall current may not exceed 40 A.

The switches are controlled via the front panel "high current switch interface" with TTL levels. Additional information about the switches (e.g. overcurrent) can be read back via one digital output for all switches. For further plug-and-play use, a versioning interface is also provided on the high current switch interface.

Every input and every output channel (except the versioning interface) is protected against voltages up to 60 V and against shorts to 0 V.

Application

The ES1392.1 High Current Switch Board is used to simulate vehicle switches, such as an ignition lock. For vehicles with two batteries (12 V / 42 V), the ES1392.1 High Current Switch Board can switch voltages from 6 V up to 58 V. For the switching of two power supplies, two ES1392.1 High Current Switch Boards are required.

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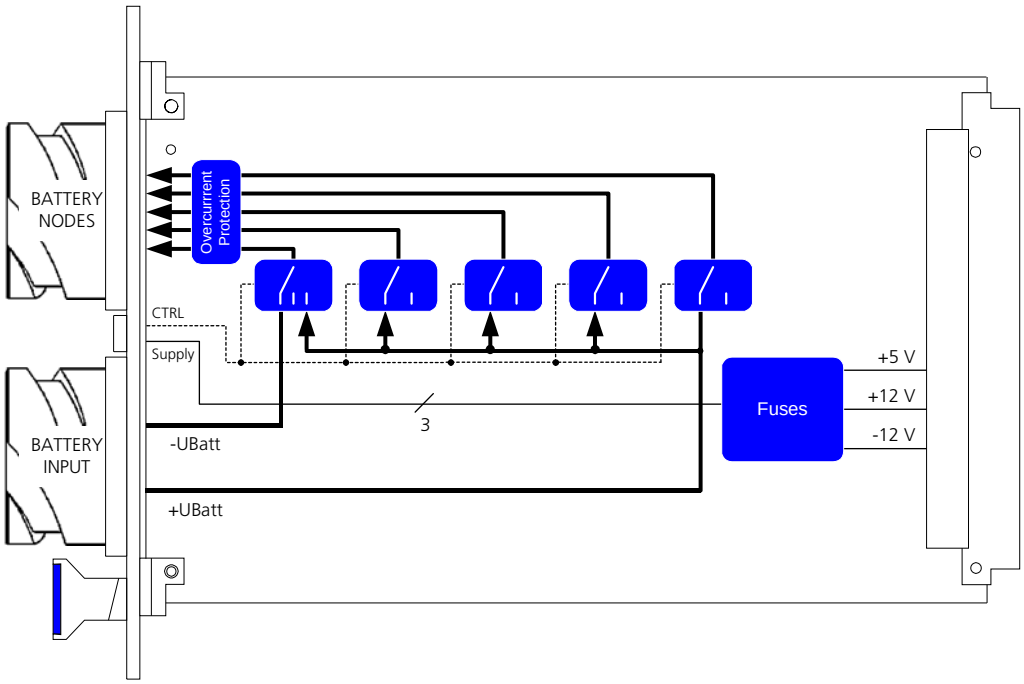
Software Control Interface

The ES1392.1 High Current Switch Board is completely configurable and - in combination with the ES1391.1 Power Supply Controller Board - controllable by software. This software control interface, named RTIO (Real-Time I/O), is included in LabCar Developer or can be ordered as a Target Integration Package (TIPExp) for ASCET-SD.

This control interface (via front panel) enables the user to configure the ES1392.1 High Current Switch Board in the following ways:

- Switch each switch (via ES1391)
- Display error state (one signal for all switches) in the case of an overcurrent of one switch

Block Diagram



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Technical Specifications

Names	Features
Battery Input	
Input voltage range	6 - 60 V
Input current	Max. 40 A
High Current Switches	
Overcurrent protection	Yes
Automatic recovery after overcurrent detection	> 500 ms, < 800 ms (periodically)
Settling time	< 50 µs
Configuration switch 0	Switch to +UBatt or -UBatt
Configuration switch 1 - switch 4	Switch to +UBatt
Current rating switch 0 and switch 1	Max. 20 A each
Current rating switch 1 - switch 4	Max. 12 A each
Overall current	Max. 40 A
Resistance of switches to +UBatt (at 10 A)	< 30 mΩ
Resistance of switches to -UBatt (at 10 A)	< 40 mΩ
Battery voltage	+6 V .. +60 V
Maximum permissible potential difference between ground and -UBatt	±2 V
Minimum voltage between +UBatt and ground	+6 V
High Current Switch Interface	
Configuration	1 interface
Digital output channels	1
Digital output level	TTL (0/5 V)
Digital output current	Max. 10 mA
Digital input channels	5
Digital input level	TTL (0/5 V)
Digital input current	< 100 µA (I_{IH}), < -1 µA (I_{IL})
Digital galvanic isolation	No
Digital overvoltage protection	Yes (60 V)
Interface for versioning data	1
Type of versioning interface	1-Wire®
Galvanic isolation of the versioning interface	Yes
Overvoltage protection for versioning interface	No

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Names	Features
Supply Out Interface	
Configuration	1 interface
Supply voltages	5 V, ±12 V
Max. currents	2 A at 5 V 1.5 A at +12 V 1.5 A at -12 V
Protection	Fuses
Environment	
Operating temperature	0 °C to 70 °C (32 °F to 158 °F)
Storage temperature	-55 °C to +85 °C (-67 °F to 185 °F)
Relative humidity	To 95% non-condensing
Isolation	Non-isolated
Power Supply	
Power consumption	+5 V DC ± 5 %, 300 mA max. ±12 V DC -5% .. ±15 V +5%, 50 mA max.
Dimensions	
Height	3 U
Width	8 HP (occupies 2 VME slots)

Ordering Information

Order Name	Short Name	Order Number
High Current Switch Board (5-CH)	ES1392.1	F-00K-102-727

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