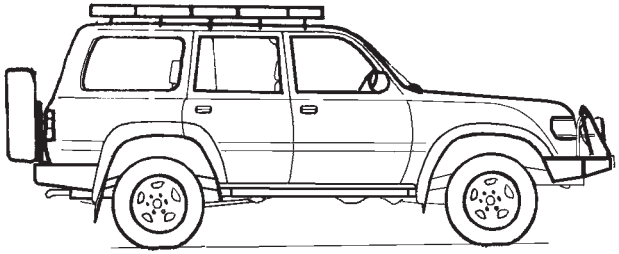
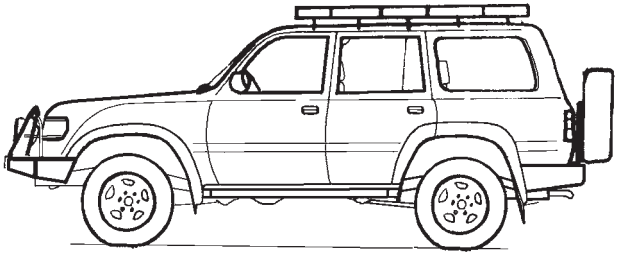


IBS Intelligent Battery System

the ultimate Battery System

DBi-DBS 24V Dual Battery System



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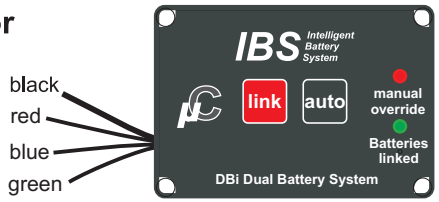
IBS-Dual Battery System 5 Jahre ans year Warranty

Installation

Battery Monitor

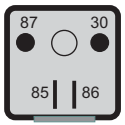


Wires:

black	- Battery (GND)
red	+Battery (Main)
blue	+Battery (Aux)
green	Relay Control (86)

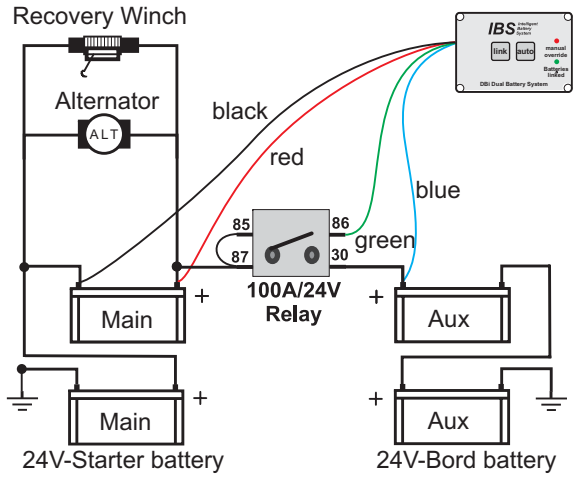
Mount Unit
Release Unit

Battery Isolator



IBS100A/24V Relay
(view from contacts)

Wiring (Diagram 1)



Users Manual

- **Automatic Battery Link (green LED)**
  The Battery Isolator links the two batteries automatically while the engine is running and isolates the two batteries for discharging. The green LED indicates that the batteries are linked. The system recognizes charge on both batteries (Alternator on Starter Battery or Solar Power/Battery charger on Aux battery) and links the batteries for parallel charging.

- **Manual Battery Link, override function (red LED)**
  In an emergency situation (defective or empty Main Battery) or in case of higher power consumption the two batteries (Main & Aux) may be connected together by activating the **link** button (red LED **manual override** is on). After 30 minutes (or immediately after activating the **auto** button), the system returns to the automatic mode. The **Load Sharing Function** with the manual battery **link** reduces the stress on alternator, wiring and the batteries in conjunction with the use of electrical winches. If high power consumption is needed from both batteries for longer time, actuate the **link** button again before the 30 minutes-timer expires, preventing from batteries separation. Avoid pressing the **auto** button under full load.

- **Manual Battery Link de-activation**
  In case of an auxiliary battery failure (shortened cells, leaking battery body) it is recommended to disconnect this battery from charge to protect the alternator from overheating. Press **link** until both LEDs go off (The starter battery is still getting charged). No automatic or manual linking is now possible anymore. This function has no automatic return! To reset the system press **auto** for 6 seconds. Now manual and automatic link is active again.

- **Failure and alarm indication**
  Green LED: If green LED is flashing system indicates a link failure. No charge is going to the other battery (check power terminals, wiring between batteries and power relay to locate failure).
  Red LED: If red LED is fast flashing main battery is low, if red LED is flashing slowly auxiliary battery is low. Alarm level is for both batteries if voltage is 24V or less.

- **Winch applications**
  Connect an electrical recovery winch to the main battery as shown in Diagram 1.

Installation Instructions

Connect the black, red and blue wires **directly to the battery terminals** as shown in the wiring diagram. Use protection hose for secure installation (passing firewall), otherwise use 6A fuse for blue and red wire at battery terminals. Extension of wires: black, red: 1.5mm^2; blue, green: 0.5mm^2, no restriction in lenght <10m total).

Use adequate wires (25mm^2) for the heavy duty wiring from the batteries (+) to the IBS 100A relay (87/30 terminals), install a by-pass wire (25mm^2) between Main Battery Minus (Starter) and Aux Battery Minus to increase winching performance. The terminalkit is included.

Check the polarity of the supply wires from the Battery Monitor :
red = Battery **PLUS**, **black** = Battery **Minus**.

Check the correct wiring of the relay. The link of the relay terminals 85 to 87 has to be connected to Main Battery Side as shown in the wiring diagram! Do not over tighten power terminals 30 and 87 of relay. The relay is hot in normal application to keep the contacts securely closed.

System information (for the computer minded)
This new system with microcomputer is designed in interrupt software architecture, in very rare cases it might be the display is flickering. Several tasks with different priority might be processed at the same time. Reloading the display LEDs has the lowest priority and therefore has to wait sometimes for a split of a second. Most of the time the system remains in the sleep mode, for very low power consumption, processor then only draws 10uA.

IBS Intelligent Battery System
the ultimate Battery System

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Ph./Fax: +41 (0)33 221 06 16/17
www.ibs-tech.ch
www,ibs-dual-battery.ch
www.ibs-inverters.ch

MADE IN SWITZERLAND

Distributor:

DBi_DBS_12V_e_4 / 15.1.10 SW_V4.0

Applications

Applications:

- Commercial Truck and 4WD Industry
- Recreational 4WDs / Expedition Vehicles
- Motorhomes, Campers
- Yachting

Warranty:

This warranty shall not apply to any product which has been subject to any misuse, negligence, accident or has been used (or opened, broken seal) for any other purpose than was designed.

5 year: Installation done by a IBS **approved** auto electrician.
3 months: Other installations.

IBS RBM Sytem Upgrade (Relay Booster Module)
For maximum request in system availability the optional RBM module offers full link start support from auxiliary battery even if starter battery has failed totally and shows less than 20V(Currently 24V not available).

Emergency Instructions

DO NOT COMPLETE THE FOLLOWING MODIFICATION UNLESS THE RELAY AND HEAVY DUTY WIRING ARE IN WORKING ORDER.

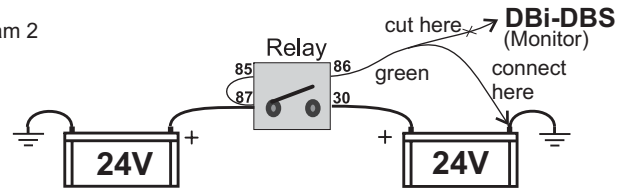
If the TJM-DBS is damaged by fire, welding spikes, salt water, an accident or crash or the battery monitor is stolen, the batteries can be linked by cutting the green wire that connects the relay and the TJM-DBS.

1) Cut the green wire connecting the DBi-DBS to terminal 86 on the relay. (Refer Diagram 2)

2) Connect the green wire from Terminal 86 on the relay to a negative terminal of either battery or to a earthing point. A 'CLACK' noise will be made when the relay links the batteries.

Note: As long as the green wire connects the relay to a negative terminal or an earthing point, the relay is on and is drawing power. The batteries can no longer be automatically disconnected using the auto-button.

Diagram 2



Specifications

System Setup	MicroComputer
Architecture	RISK MicroPower Interrupt based
Supply Voltage	8..32V
System Voltage	24V
Measuring Range (sense wire blue)	8..32V
Linking threshold starter battery (link/sep)	26.2V/25.6V
Linking threshold Aux battery (link/sep)	26.2V/25.6V
Accuracy	+/-1%
Consumption stand-by	<0.5mA
Link failure detection / green LED	slow blink
Low battery alarm threshold main red LED	<24V
Low battery blink interval main batt./red LED	2 Seconds
Low battery alarm threshold aux / red LED	<24V
Low battery blink interval aux batt./ red LED	6 Seconds
Relay Consumption on-state	0.18 A
Relay Max/Continuous load/inrush current	100A/250A
Relay contact material	silver AgSnO2
Life time contacts (cycle@IN)	100'000@100A
Starter and Gel batteries may be combined	yes
Operating Temperature	-40°..+80° C
Housing	ABS black
Size	73x50x33 [mm]
Protection level	IP52
Mount	IBS RMS System
PCB polyurethane sealing (protection against humidity/corrosion)	yes

Wires:

red:	Supply/Sense (Main Battery)
black:	GND (Main Battery)
Blue:	Sense (Aux Battery)
green:	Relay Control (open collector)

Protection:

- against wrong polarity
- against overload of relay driving circuit on PC Board with SMD Electronical Security Devices, no fuses have to be replaced

CE **RoHS OK**

No liability for damages as a result of misuse, negligence, accident or wrong installation will be