IDC25/45 Fault Diagnosis Tips

PROJECTA

LED Fault Indicators-Your key to determining faults!!

Charging LED	Solar LED	Alternator LED	Battery Type LED	Fault	Remedy		A MULTIMETER is critical for accurate diagnosis of IDC25 issues, plus an understanding of how to us it! You need to be able to check VOLTAGES,CURRENT and CONTINUITY.
Solid RED				The unit is faulty	Check if there is any output from the BROWN wire WHILE CONNECTED to the AUX battery.	➡	Using your MULTIMETER, check the voltage of the AUX battery BEFORE engaging the IDC25. Make a note of the voltage and then engage the IDC25 (Start the vehicle engine or connect solar. Wait 2 minutes then check the AUX battery again. If it is higher than the initial measurement, the IDC25 is most likely charging. Contact Projecta Technical Support on 1800 422 422.
Flashing AMBER				Bulk Charging Time Out	Aux battery may be faulty or current draw from the battery is too high for an extended period (or output is limited).	➡	Batteries do not last forever!! To eliminate a faulty battery as a possible cause, it is recommended to have the battery load tested to ensure the battery is capable of accepting/holding a good charge. If the Charging Light flashes AMBER, the IDC25 has given up trying to charge your battery due to the batteries inability to accept or maintain the charge. Temperature sensing wire may have been cut!
Solid RED			Flashing BLUE	Output battery is reverse connected	Check polarity of output cable. BROWN is positive and should be connected to the POSITIVE terminal on the AUX battery	➡	It happens! Check the BROWN output cable is connected to the POSITIVE terminal on the AUX battery and the NEGATIVE terminal is grounded to the same point as the HEAVY BLACK negative cable on the IDC25. Best to simply connect the IDC25 BLACK CABLE to the AUX battery NEGATIVE post, then the NEGATIVE cable from the starter battery to the same NEGATIVE TERMINAL on the AUX battery.
Flashing RED			Flashing BLUE	Over-voltage detected at output (BROWN Cable)	Check the AUX battery voltage	➡	Check there is no additional charging device that is feeding the AUX battery, particularly SOLAR. If there is, the voltage MUST be lower than 16.0v. Try removing the additional charge source (Solar?) and check if the charger operates correctly.
Solid AMBER			Flashing BLUE	Output open circuit due to blown fuse or flat battery	Check polarity of output cable. BROWN is positive and should be connected to the POSTIVE terminal on the AUX battery	➡	It is important that the HEAVY BLACK negative cable on the IDC25 "see's" the negative terminal on BOTH the AUX battery and the STARTER battery (if charging from the alternator is being deployed). If grounding through the chassis, ensure the connection point is clean and check the quality of the grounding. Consider a STAR washer or SPRING washer. Also check any FUSE on the BROWN cable.
	Solid RED			Solar input is reverse connected	Check the solar input polarity is correct	➡	Solar panels cable polarity is not always clear. Check the cable connections to ensure the POSITIVE solar output cable is connected to the GREEN solar input cable. Also check the fuse if fitted.
	Flashing RED			Over-voltage detected at Solar Input (GREEN Cable)	Check the Solar panel open circuit voltage	➡	Some solar panels (particularly those that are intended from domestic solar installations) output voltages higher than the IDC25 max voltage of 28.0v. Any higher and you will see this error pattern and you may need to consider an alternative panel.
		Solid RED		Alternator Input is reverse connected	Check alternator input connection. RED cable on the IDC is POSITIVE!	➡	Ensure the POSITIVE from the starter battery is feeding the RED input wire on the IDC25. Good idea to double check your Anderson connector polarity (if fitted) with your Multi Meter if the issue persists.
		Flashing RED		Over-voltage is detected at Alternator	Check voltage at the starter battery	➡	Check there is no additional charging device that is feeding the STARTER battery such as unregulated SOLAR. The voltage MUST be less than 32v. Check the alternator voltage at the Starter Battery BEFORE starting the engine and then again with the engine running.

Things to remember

- If your vehicle has a smart alternator (variable output voltage) you must connect the BLUE WIRE to a source that is active **ONLY** when the ignition is **ON**.
- The BLUE "ignition sense" wire will activate the IDC25 ON when there is greater than 12.2v applied. You must ensure there is NO VOLTAGE available to the BLUE WIRE when the ignition is turned OFF.
- The BLUE "ignition sense" wire is ONLY required if the IDC25 voltage feed is less than 13.4 volts CONSISTANTLY.
- Starter battery Negative, AUX battery negative, Solar Negative and IDC25 Negative MUST all "SEE" each other either through a common point or at least are all connected to the same METAL surface.
- If you are experiencing issues, the first thing to check is FUSES! **There should be a 50amp fuse on the INPUT (RED) and OUTPUT (BROWN) cables.**
- It is highly recommended NOT to use Circuit Breakers. Incorrect fitting or vibration can cause intermittent operation. We recommend ANS Fuses or better.
- Ensure THOROUGH cleaning of both sides of metal surfaces when grounding the NEGATIVE cables to the chassis. **This issue generates the majority of our request for support calls.**
- Consider good quality STAR or SPRING washers when bolting to the CHASSIS for grounding to ensure the best contact to chassis. DO NOT UNDERESTIMATE THE IMPACT OF INADEQUATE GROUNDING.
- DO NOT use self tapper screws for grounding high current cables to the chassis. Use a bolt & nut and tighten firmly. Immediate failure or failure over time is almost certain.
- The IDC25 solar input (GREEN cable) must NOT have a Solar Controller installed between the Solar Panel and the IDC25. Only a raw feed from the solar panel is suitable.
- It is NORMAL for the IDC25 to appear to be idle every 2 minutes while the unit searches for the best mode of operation.
- An intermittent charge light suggests a high voltage drop from the alternator (inadequate grounding or low voltage to the red input wire).

Key measurement values	12V vehicle	24V vehicle
Minimum input voltage (from starter battery)	11.9v	26.8v
Maximum input voltage (from starter battery)	32.0v	32.0v
Minimum Solar voltage input	11.0v	11.0v
Maximum Solar voltage input	28.0v	28.0v
Maximum Solar wattage	385w	385w
IDC25 turn ON voltage (BLUE wire NOT connected)	13.4v	26.8v
IDC25 turn OFF voltage (BLUE wire NOT connected)	12.8v	25.6v
IDC25 turn ON voltage (BLUE wire IS connected)	12.2V	24.4v
IDC25 turn OFF voltage (BLUE wire IS connected)	11.9v	24.0v