CASE STUDY

# Solar C&C and Data Communications Platform

The power of combining 20+ years of electro-mechanical systems design expertise with a deep manufacturing network

## OVERVIEW

A leading solar energy integrator needed a unique off-the-grid solution for delivering command/control and revenue-grade solar power data to operators hundreds of miles from the plant. The solution developed by BDRCK and manufactured by our trusted manufacturing network fused a data acquisition meter, industrial cellular router, and solar SCADA platform into a robust and reliable system. The client sub-contracted BDRCK to access our technical expertise, unmatched efficiency, and deep network of contract manufacturers. BDRCK received a napkin sketch and delivered a commissioned product in less than six weeks.

## THE CHALLENGE

The primary challenge was the need to quickly deliver a robust, functioning solution from bare minimum input requirements as quickly as possible to mitigate late-stage project delivery risk.

The time available for BDRCK to extract requirements and interfaces collapsed to two emails and one telephone conversation.

## HOW WE SOLVED IT

### 01 We Evaluated the Client's Needs

BDRCK transformed a napkin sketch, two emails, and a phone conversation into all the requirements necessary to architect a robust and manufacturable solution.

### 02 We Designed the Solution

BDRCK leveraged the flexibility of existing automation industry equipment in combination with unique solar energy industry products to develop the full system. The resulting product was assembled, packaged, and prototyped virtually using three-dimensional models to ensure the system solution was manufacturable and maintainable in the field.

### 03 We Executed and Delivered

BDRCK utilized three-dimensional virtual prototype models to develop a set of build-to-print drawings in less than three days. BDRCK then capitalized on decades of industry relationships to quickly obtain reliable quotes from three separate panel shop manufacturers. BDRCK then closely followed the manufacturing process and ensured the solution was delivered as quickly as possible.

## PROJECT SNAPSHOT

**CLIENT**
Blue Ryzon

**INDUSTRY**
Solar Power Integration

**SERVICES**
Systems Design and Contract Manufacturing

**TIMELINE**
March to April 2026

**CONTRACT TYPE**
Commercial sub-contractor

## KEY RESULTS

**0% Product Rework**
Virtual prototypes guaranteed manufacturability

**100% Technical Interface Satisfaction**

**Six Weeks**
Project handoff to delivered product

*"BDRCK stepped up and delivered a unique, complex solution that impressed our client."*
— Pat Fink, Managing Director, Blue Ryzon

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Systems Design
Contract Manufacturing
Management Consulting

## PROJECT IN FOCUS

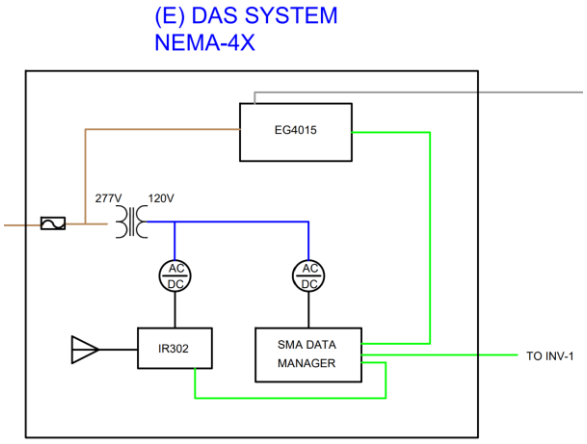


*Figure 1- Input Sketch from Client*

*Figure 2 - Virtual Prototype Enclosure Assembly Model*

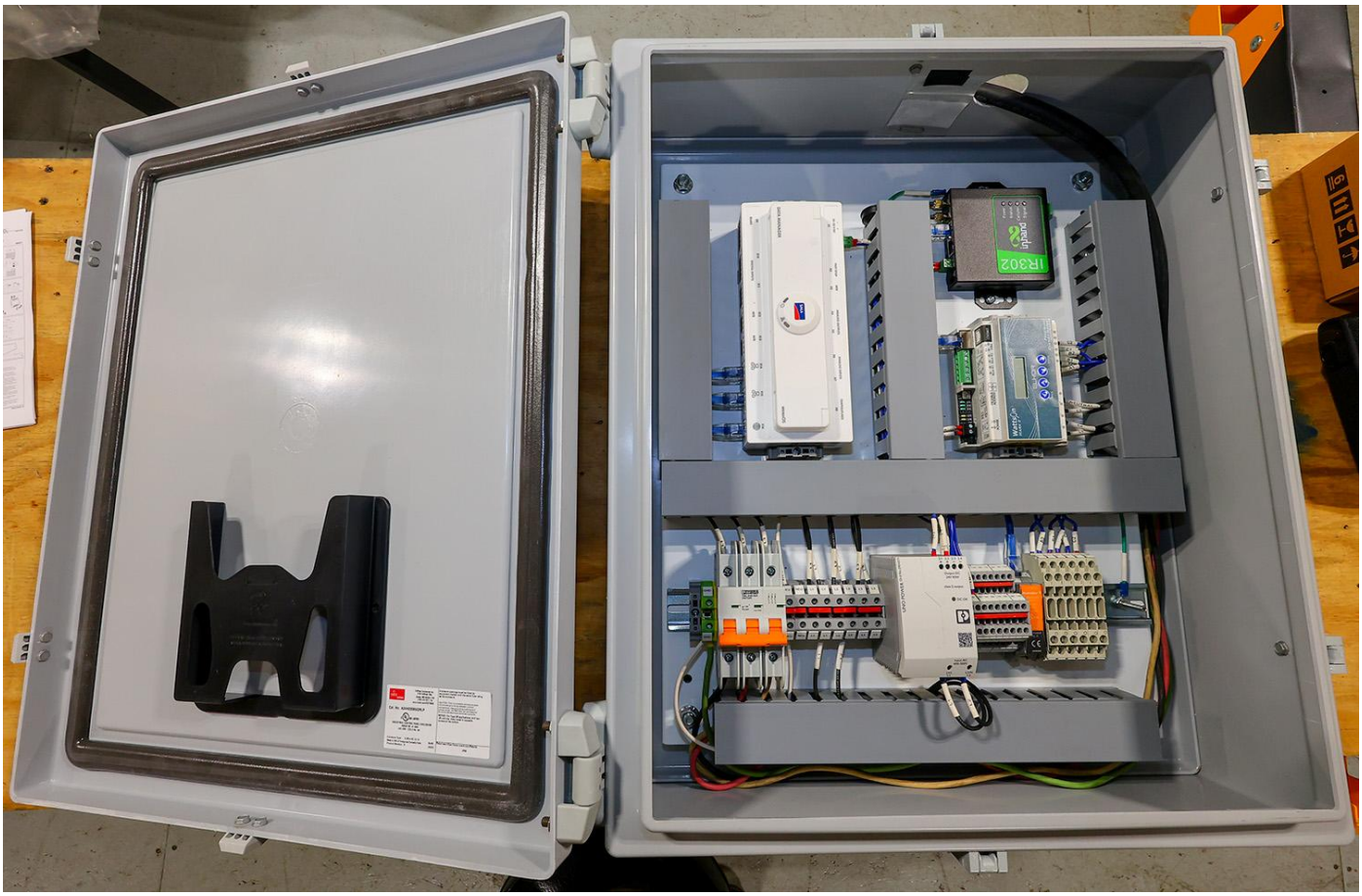

*Figure 3 – Manufactured Solar C&C and Data Acquisition System, Ready for Test*


*Figure 4 – Focus on Solar Command and Control Platform, Revenue-Grade Data Acquisition, and Cellular Router*

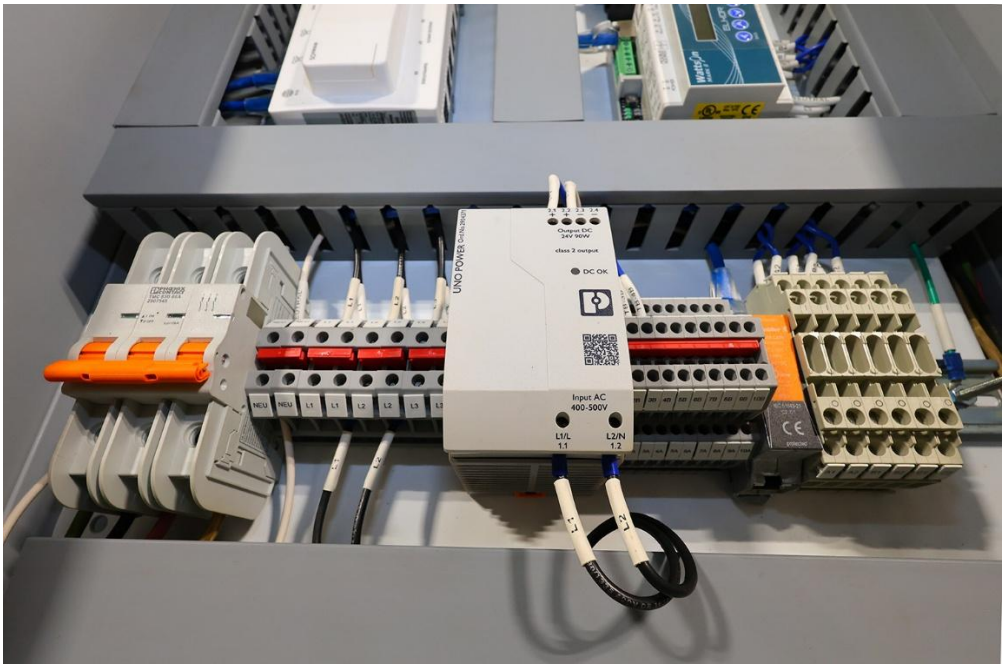


*Figure 5 – Focus on 3-Phase Power Conversion to 24VDC and Signal Input Stage*

**Senior Expertise Without Headcount Cost**

20+ years of electro-mechanical and systems engineering depth — engaged as needed, without the overhead.

**Autodesk CAE & PLM Toolset**

Enterprise-grade design and data management tools applied to every project.

**Concept to Deployment**

We own the full lifecycle — from initial design through manufacturing and field delivery.