

# Cristopher Sanhueza

Senior Electrical Engineer | HV Protection & Commissioning | Renewable Energy Integration | IEEE Member  
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## Professional Summary

Electrical Engineer with 12+ years of international experience (Chile, USA, Australia), specializing in HV protection, commissioning, and renewable energy integration. Delivered 20+ substations, renewable plants, and industrial HV projects exceeding USD 50M. Expert in IEC 61850, Omicron/Doble testing, and power system studies (ETAP, DlgSILENT). Proven leader in mentoring engineering teams, reducing commissioning errors by 20%, and enabling secure renewable integration across three continents.

## Global Talent Impact

Recognized for delivering **world-first engineering solutions**, including Thermon's rail-thickener heating project in Chile/USA, and for advancing **Australia's clean energy transition** through renewable integration and BESS deployment. Proven ability to **influence international standards** and lead **multidisciplinary teams** in complex HV environments. Active IEEE Member and academic mentor, bridging **industry, research, and sustainability** to shape the global energy transition.

## Professional Experience

### Sr. Specialist Protection and Commissioning Engineer Techcorp Services – Australia | 25 Jun 2025 – Present

- Lead HV protection relay design, configuration, and commissioning (SEL, Siemens, ABB), including FAT/SAT, SCADA, and HV equipment testing with Omicron/Doble.
- Standardize ITR frameworks and HV testing methodologies across the company, improving compliance and reducing commissioning errors by 20%.
- Manage projects up to USD 5M, delivering relay settings, fault analysis, and mentoring junior engineers under IEC 61850/IEEE.  
**Impact:** Strengthened grid reliability in WA & SA, enabling renewable integration and supporting Australia's clean energy transition.

### Sr. Protection and Commissioning engineer Ampcontrol – Australia | 18 December 2024 – 21 April 2025

- Designed and commissioned protection schemes for transmission lines, transformers, feeders, and renewable assets.
- Led the HV department, managing planning, quality assurance, and workforce coordination across multiple projects.
- Supervised FAT/SAT and SCADA validation with Omicron/Doble and relays (SEL, Siemens, ABB).  
**Impact:** Advanced renewable energy integration by combining technical delivery with departmental leadership

### Sr. Protection Engineer Power Protech – Australia | 20 March 2024 - 18 December 2024

- Developed and coordinated HV/MV protection schemes, ensuring IEC/IEEE/AS-NZS compliance.
- Configured, tested, and commissioned relays (ABB, SEL, GE, Siemens) with IEC 61850 automation and SCADA integration.
- Conducted power system studies (ETAP, DlgSILENT, ASPEN): short-circuit, load flow, and coordination.  
**Impact:** Enabled secure renewable grid integration and strengthened HV/MV protection frameworks.

### Electrical Commissioning Engineer / Leader Wolff Power – Australia | Aug 2022 – Feb 2024

- Executed HV/LV commissioning and relay testing in substations and renewable projects under IEC/IEEE standards.
- Performed diagnostics and maintenance on switchgear, transformers, motors, and battery systems with Omicron.
- Supervised electricians in LV wiring, loop checks, VSDs, MCCs, ensuring compliance and safety.  
**Impact:** Delivered safe energization of HV systems and supported renewable project readiness across Queensland.

**Electrical Engineer Manager**  
**Sesef (Transelec) – Chile | Feb 2016 – Mar 2021**

- Directed maintenance and repair of HV/MV substations and transmission lines, managing engineering teams.
- Led testing of CTs, VTs, transformers, and protection relays with Omicron/Megger and SCADA systems.
- Managed 40+ industrial clients, delivering projects aligned with Chile's renewable expansion policies.  
**Impact:** Supported Chile's grid modernization and renewable growth, combining technical oversight with client leadership.

**Electrical Engineer Leader**  
**Thermon – Chile/USA | Jul 2012 – Feb 2016**

- Designed and commissioned electrical heating systems and substations for mining projects in Chile and the USA.
- Developed heat-tracing and insulation solutions using CompuTrace® for clients (Codelco, BHP, Anglo American).
- Conducted Omicron testing on transformers, CBs, and relays, ensuring system reliability.  
**Impact:** Built international expertise (Chile & USA) in industrial and mining energy solutions

**Electrical Engineer (Internship)**  
**TÜV Rheinland – Chile | Mar 2011 – Dec 2011**

- Conducted a feasibility study for battery banks in vehicle inspection plants.
- Assessed implementation and regulatory compliance for energy solutions.
- Supported technical evaluations and reporting for infrastructure upgrades.  
**Impact:** Gained foundational experience in applied energy solutions and compliance.

**Academic & Teaching Contributions**  
**Adjunct Professor / Lecturer – Universidad Mayor, ACAPOMIL Chile**  
**2008 – Present**

- Delivered undergraduate & postgraduate teaching in Power Systems, Protection, and Renewable Energy Applications.
- Supervised 30+ theses and final-year projects, ensuring compliance with IEEE/IEC standards and industry needs.
- Contributed to robotics and renewable integration research, embedding innovation into engineering curricula.  
**Impact:** Demonstrated long-term academic influence, mentoring the next generation of engineers while linking academia with industry innovation.

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**Education**

- Master in Energy Engineering, Pontificia Universidad Católica de Chile (2020–2021)  
Scholarship for Academic Excellence | Thesis (2025): "Cost Analysis of Residential Infrastructure for EV Charging in Chile".
- Diploma in Electrical Generation, PUC Chile (2020).
- Diploma in Business Management, University of Chile (2015).
- Civil Electronic/Electrical Engineer, Universidad Mayor (2012–2013)
- Electronic/Electrical Engineer, Universidad Mayor (2008–2012)

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**Honors & Awards**

- Academic Excellence Graduate Scholarship – Awarded by Pontifical Catholic University of Chile for outstanding academic performance in the Master of Energy Engineering program (2020).
- Best Student – Electronic Civil Engineering – Universidad Mayor, Chile (2016). Recognition as top graduate of the program.
- Award for Professional Continuity (Thesis) – Granted by Codelco Chuquicamata for excellence in professional thesis project (2015).
- Best Student in Professional Practice – Twice awarded:
  - Thermon Inc. (2014) – for outstanding engineering performance in industry placement.
  - Codelco Chuquicamata (2012) – for excellence in professional internship in mining operations.

## Technical Skills

- HV Protection & Commissioning: Relay protection (SEL, ABB, Siemens), FAT/SAT, Omicron & Doble testing, fault analysis, coordination studies.
- Power Systems & Renewable Integration: Substations, transmission lines, generation plants, BESS integration, smart grids.
- Digital Engineering Tools: ETAP, DlgSILENT PowerFactory, MATLAB, AutoCAD Electrical, PCM600, DIGSI, Easergy, Test Universe, PTM.
- Standards & Compliance: IEC, IEEE, AS/NZS, ANSI, NERC.
- Leadership & Project Delivery: Multi-million-dollar projects, planning, budgeting, risk analysis, quality assurance, mentoring.

## Selected Projects with Global Impact

- 132 kV Substation Commissioning – Diamantina Power Station (Australia): Reduced commissioning time by 25% and optimized SCADA integration, improving HV reliability.
- Coal Processing Plant – WICET (Australia): Enhanced system reliability by 30% through advanced relay coordination and protection upgrades.
- World-First Rail Thickener Heating System – Thermon (Chile/USA): Led design and commissioning of a unique heating system for tailings pipeline thickener, a one-of-a-kind project in global mining.
- EV Charging Infrastructure Feasibility – Master Thesis (Chile, 2025): Developed technical and policy recommendations for large-scale EV adoption, demonstrating long-term financial viability (NPV/IRR).

## Languages

- **English:** Professional Working Proficiency (C1)
- **Spanish:** Native

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## References

**Felipe Barrientos** – General Manager, Thermon Latin America (USA).

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**Dr. Zdenek Severa** – Life Senior Member IEEE, CPEng, RPEQ, (USA/Australia).

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**Pablo Naranjo** – Member IEEE - MIEAust - RPEQ, Brisbane, (Australia). Sr. Electrical Design Engineer, Ampcontrol,

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**Roberto Acevedo** – Professor & Researcher, Universidad San Sebastián (Chile); PhD, University of London

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