



Paper on Input from Globalspec

Ir Dr Asso Prof Samuel Lip

Author Samuel is a senior professional of all disciplines, proprietor of his own Lordray Holding Group, and has extensive and deep knowledge and experience in design and site construction. Continue upgrading and improving as per ISO 9001, being Quality Manager in Thorn Security 2002-06, Senior Member of HKSQ (Subsidiary of ASQ), and HKAS HOKLAS Assessor since 2004, currently still is.

Author Samuel Qualifications and his own Lordray Holding Group credentials and government licenses are listed in the appendix of this paper.

DOI: <https://doi.org/10.68050/JAMS.2026.683>

Received: 25 September 2026; Accepted: 01 October 2026; Published: 09 October 2026

ABSTRACT/CONTENT

V2G is possible if car batteries can be charged by RE, e.g., solar.

EV socket of 50A rating and fast charging to UL NEC approval is accepted. Legrande can promote to EV car manufacturers to install in battery charging inlets and may design an AC-to-DC rectifier with a battery in the car to adapt to charging DC batteries in the car. Promote to EV charger manufacturers to install such socket outlets and manufacture the right EV charging cord with/without an integral rectifier to suit other car battery designs.

Reel before excavation needs an underground utilities survey check; seek Dr. King Wong, famous in HK for this underground survey of utilities.

Choose Si, Sic, or GaN for the transistor depending on their reliability and the current ratings and heat dissipation. Data centers use many UPS, batteries, changeovers, and thyristors transistors of high current ratings. Can sell good to data center installation

A power cord on the construction site should be provided with an RCD or ELCB for earth leakage protection, as the site has rain and is wet. This earth leakage protection can be provided on the power board or portable power distribution panel, which gets power input from the diesel generator. Prevent electrocution of people on-site. Diesel generator casing and internal circuitry must have earth wires and an earthing connection to an electrode/mesh buried inside the ground to provide this earth fault protection and link up with a power distribution panel having 3-phase and single-phase outlets. I have been teaching in Tsing Yi IVE for 5 years as a PT in electrical installation. The diesel generator should sit on an I-beam frame on the ground, with no direct contact with wet ground.

Contact me if needed. Take all risks of short circuit due to water/rain. Weatherproof diesel generator, power distribution panel, socket outlets, and power boards all weatherproofed with a high IP rating suitable for the site environment. Check the description to choose the right IP rating.

Coaxial Radial RF cable and all radial frequency cables should have integral metal wire mesh shield enclosure wires to avoid interference from other power cables

APPENDIX 1 : Qualifications of Ir Dr Assoc Prof KP Samuel Lip, (v8.8.2026) Academic & professional qualifications

Proprietor & Founder of Lordray Engineering Co. Ltd. (www.lordray.com.hk) Proprietor & Founder of SMA (Macau) Consultant & Construction Co. Ltd.



Proprietor & Founder of SMA (Australia) Consultant & Construction Co. Ltd.(progressing to register)

Proprietor & Founder of SMA (Germany) Consultant & Construction Co. Ltd. (progressing to register)

PhD Mech, PhD(Structure) student, HD&HC (Civil), MSc, PgD, BSc, CEng (Construct), CPE, RPE, RCM, CBE,

FCABE, FCIBSE, FIMechE, FCIPHE, FHKICA, FIE.Aust (E&M), MHKICM , MIET, MASHRAE, MIFireE, MHKIE (BS, Elec, Fire, CAI).

Fire Services Experience:

MSc Fire, PgD BS

MIFireE, MHKIE (Fire),

Thorn Security (HK) FS Company, Senior Engineer 2002-2006, Samuel did Airport new wing extension FS installations & commissioning.

Lordray did Airport new extension FS installations with Build King IEM company 2020 plus.

Lordray did miscellaneous FS hydraulic calculations for pml on FS upgrade eg at TST, Jordon bldgs and MTR louvre size calculation for subcon 2013

FSD Standard Safety Advisory Group 2005 Samuel nominated by HKIE (https://drive.google.com/file/d/1ns-g3ZmIy5p6GZJ-cg1rSniD_8kY1iTu/view?usp=sharing)

Lordray doing FS314, 501, 501A work since 2013 Lordray doing FS502, 572 work since 2013

Samuel as Guest speakers in giving FS talks to corporations and institutions

Assessor & Auditor REA Experience:

BSc Elec, PgD BS, MSc Fire, PhD Mech, HD&HC Civil

EMSD REA since 2010 Cap 610. Do Energy audit, FOC, COCR since 2010

FCABE (Panel Interviewer/Chairman), VTC E&M Assessor. HK Beam Society, Beamplus Technical Expert (2013) (Assessed New Bldg. Beamplus award applications), HOKLAS Assessor, Govt QSPs (Samuel & Lordray) Carbon Auditor, HKICA Reg. Carbon Auditor. Done 10 energy & carbon audits for Fugro, and ongoing with Fugro International Corporation at Tuen Mun & Kwai Fong.

Training & Education Experience:

BSc Elec, PgD BS, MSc Fire, PhD Mech, HD&HC Civil

RPE, MHKIE, HKIE Scheme A Engineering Supervisor (BS, Env) for Viewco, Telexmax, Paul Y since 2018. HKIE only allow maximum 3 companies employers. Have to turn down others for seeking me as engineering supervisor.

Lordray's SMA is Govt OGCI Dept Reg. Training School, UK TQUK branch in HK (Training Courses are recognisable by CIBSE), Senior Curriculum Manager in EMHK

(www.emhk.org) (2013-2023), now seeking BD/CIC to run (MWIS) window inspection & replacement training courses



Lecturer (FT & PT) in HKU, PolyU, CityU & SCOPE, VTC IVEs (1995-2018) teaching students from High Certificate level to Master degree level, then continue to teach in own SMA school to industrial peers and as Guest Speakers in giving various engineering disciplines talks to corporations and institutions

Building & Survey Experience:

PhD (structure) in progress, publishing construction papers HD & HC in Civil Engineering

FCABE Chartered Building Engineer, Member of Australia Institute of Building Registered Construction Manager, MHKICM

BD RMWC Class 1 certify minor work completion certificate for subcon since 2020.

BD AS(Venti), BD RMWC3

Building Survey on Gratia College (Shek Kip Mei) for own Lordray project 2024, Building Survey at TST1881 Hotel for Paul Y in 2018,

Elevator & Lift Experience:

BSc Elec, PhD Mech MIAEE

EMSD Registered Lift Engineer Exam(written test passed in 2012). Assistant Manager in Chevalier Lift Company (2012-2013). EMSD Lift Legislative Branch, Contract EME (2001-02). HKHA Maintenance Dept, Lift Maintenance Branch (1979-81)

Electronic Security & Access Control Experience:

BSc Elec

MHKIE (Elec, CAI), MIET

HK Police Electronic Security Cat 3, & electronic security D licence,

Lordray did electronic security & access system, CCTV, audio visual, PA for a catholic church at Tai Po 2022

Thorn Security (HK) Tyco Group, Senior Engineer, done electronic security installations in CLP substations, MTR stations 2002-06

Plumb Drain Experience:

PgD BS, PhD Mech

FCIPHE, FCIBSE, FIE.Aust(E&M) WSD QPs, RPC (AR),

RPE (BS) in site plumb drain FS pipes Interim Inspections & pipes hydraulic testing since 2013, notably for Paul Y Data Centre Bldg in airport

Nominated Tutor by WSD Registered Trainer EMHK to provide CPD training to LPs for WSD award (gold, silver, bronze) (2013-2023)

DSD Project Dept, Temporary EME(1999-2001)

Electrical & Building Services Experience:

BSc Elec, PgD BS, PhD Mech RPE, MHKIE(Electrical, BS),



REW(C0), MIET, FCIBSE, MASHRAE, FCIPHE, FIE.Aust (E&M)

EPD Registered Consultant for EV Chargers design & installation since 2020

WR2 work at Lohas Park estates 2021, Tuen Mun Supermarket 2022, which need REW(C0) ICE, CxA work since since 2020

ICE & CxA, Beamplus T&C Experience:

BSc Elec, PgD BS, MSc Fire, PhD Mech

RPE, MHKIE(Electrical, BS), REW(C0), MIET, FCIBSE, MASHRAE, FCIPHE, FIE.Aust (E&M)

RCx Pro, CxA, ICE

Lordray is Nominated Consultant of Gammon since 2025 & REC since 2020, Tutor in EMHK teaching Beamplus classes to LPs (2013-2023)

CxA in Beamplus T&C compliance for Fugro at Long Ping estate 2023, Gammon at Cyber Port Extension 2025 and some subcons since 2020.

HK Beam Society Technical Expert 2013 in assessment of Beamplus award applications

MVAC Experience:

PhD Mechanical, Post Graduate Diploma (Building Services)

FCIBSE, MASHRAE, BD AS (Ventilation), PhD (Mechanical), FIMechE, FIE.Aust (E&M) Sizing for AC duct for subcon at Kowloon Bay 2020

Investigation of chiller failure and cooling towers discolouration, did report for Build King IEM at Wanchai Sport Ground and Causeway Bay bldg 2020

Tutor on BD AS (Venti) exam preparation course, Data Centre MVAC, Psychiatric Chart usage, for own SMA Training school since 2020

Consultant employed by Chun Wo for toilet upgrading ventilation contract in airport 2020.

RPE (BS) to certify cooling towers operation satisfactory annually to comply with EMSD COPs at zero carbon centre at Kowloon Bay, and for subcons in HK everywhere since 2020

REA doing COCR and FOC for Chiller installations for subcons and Lap Kei MVAC HKEx listed company since 2020

Lifting & Hoisting Experience:

FIMechE, FIE.Aust (Mechanical), PhD Mechanical

Lordray did wheelchair and elderly bed mechanical certification for Jockey Club charity organisation 2024

Lordray did 25 heavy metal gates mechanical certification for CIC 2024.

Lordray did Tower crane mechanical certification at Gammon Construction site at Lohas Park 2021

Lordray did investigation and rectification report for entrance metal gate failure at an estate at So Guan Wat, Gold coast 2023.



Lordray did mechanical load test for luminaires mounting 2023

Window Inspection & Installation Business

Welding license, with current and valid.

Author Samuel has 40 years of site construction , installation of lift landing architrave & landing door and metal window frame experience, which must need welding to secure the architrave, and window frame to concrete wall reinforcement as lift metal door is heavy acting on architrave and window are often pushed open and pulled shut regularly, window is liable to fall out to the street when concrete aging and cement adhesive strength weakens. Author Samuel is experienced in welding, with current and valid welding license and have been classes visit/ invigilator/ assessor including welding tutor in <https://EMHK.org> to comply with Labour Dept welding tutor requirement during his employment as Senior Curriculum Manager in EMHK (2013-23)

Window moving parts use rivets to connect up the linkage between the window pane frame and the fixed frame. Use of rivet gun is a must in window installation, author Samuel is familiar with the use of rivel gun and bought a battery powered rivet gun for window installation. Can install rivets in a min.

Lordray's SMA is Govt OGCI0 Dept Reg. Training School, UK TQUK branch in HK (Training Courses are recognisable by CIBSE), Senior Curriculum Manager in EMHK (www.emhk.org) (2013-2023), now seeking BD/CIC to run (MWIS) window inspection & replacement training courses

Appendix 2 : Asset

Lordray offices (3 self-owned properties in The Cloud, 111 Tung Chau Street, Tai Kok Tsui, HK)
description video weblink

https://drive.google.com/file/d/1MMkDRsRpMOaBcdzEnpJU7-6pj_wKI6Eb/view?usp=share_link