



UNIVERSITI
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BUILDCON2023

**COMPILATION OF PROJECT INNOVATION IDEAS
SEMESTER MARCH – AUGUST 2023**

EMBRACING SMART CONSTRUCTION TRANSFORMATION

BUILDERS' CONVENTION DAY 2023

**Department of Built Environment Studies and Technology
College of Built Environment
Universiti Teknologi MARA Perak Branch**

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COMPILATION OF PROJECT INNOVATION IDEAS
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Organised by
Department of Built Environment Studies and Technology
College of Built Environment
Universiti Teknologi MARA Perak Branch
Malaysia

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Perpustakaan Negara Malaysia

Cataloguing in Publication Data

No e- ISBN: 978-967-2776-24-6

Cover Design: Muhammad Naim Mahyuddin

Typesetting : Siti Akhtar Mahayuddin

e ISBN 978-967-2776-24-6



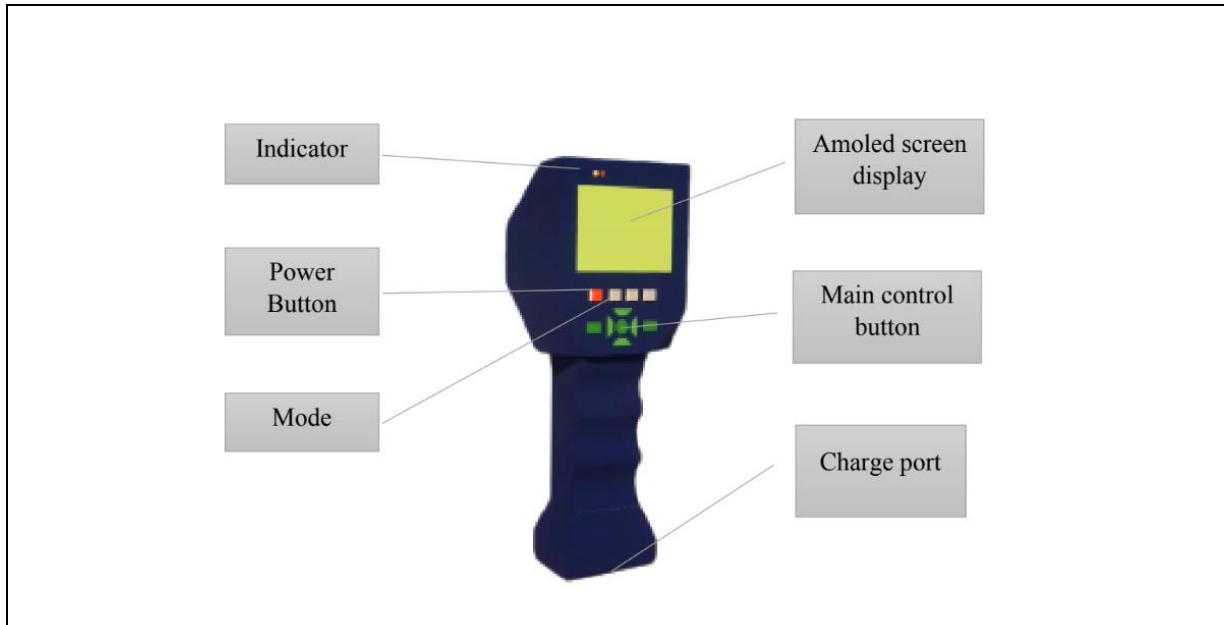
HIGH-TECH PLUMBING DETECTOR

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High-Tech Plumbing Detector

Innovation Idea:

This paper focuses on innovating the current plumbing issues. There is a possibility of plumbing leaks produced by high water pressure in pipes, faulty pipe connection installation, or external factors such as earthquakes. Delayed discovery of plumbing leaks might damage other systems in a building. To detect a leak in a plumbing effectively, there is a need for an efficient plumbing leak detection system. Therefore, this study proposes a plumbing leakage detection system which is constructed with a water level detector (WLD). The approach employed in this study is to build an ideal system model form, which is distinguished by developing the model's hardware and software, testing the device including components like the power supply, WLD, and channel relay module (CRM), and drawing conclusions. According to the book "Journal of Pipeline Science and Engineering" the visual inspection of the fittings and pipes for leakage symptoms such as wet spots, stains, drips, bubbles, fractures, or corrosion is the quickest and most straightforward way to find leaks. Hard-to-reach areas can be visually inspected using a light source, magnifying glass, or a camera. The system performs effectively in detecting plumbing leaks, as evidenced by the transistors' capacity to operate properly when the electrodes are joined by water. In the saturation position, the transistor in the WLD module will function as a switch or transistor.

Surat kami : 700-KPK (PRP.UP.1/20/1)

Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
Universiti Teknologi MARA
Cawangan Perak



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Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

PROF. MADYA DR. NUR HISHAM IBRAHIM
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