

FOREWORD

ELKHA is a scientific journal regularly published twice a year by the Department of Electrical Engineering, Faculty of Engineering, Universitas Tanjungpura. The Papers published in this journal include Control Engineering, Electronics, Power Systems, Telecommunications, Informatics, Distribution Systems, and Industrial Engineering. The article can be in the form of a research or a review paper. Papers to be published should meet the **ELKHA's** template. An example is attached on the last page of this journal or can be found on **ELKHA's** website. Since 2022, the language used in this journal has been in English to have more global readers. The publisher calls for your contributions by submitting a manuscript that has never been published previously or under consideration by another publisher, and it will be double-blind reviewed. This journal is welcome to the sponsors who want to advertise by contacting the **ELKHA's** team.

EDITORIAL TEAM

Advisor : Head of Department of Electrical Engineering, Faculty of Engineering,
Universitas Tanjungpura

Editor-in-Chief

Seno D Panjaitan

[Scopus ID: 15128105000, IEEE & FORTEI Member]

Universitas Tanjungpura - Indonesia.

Editorial Board:

Filbert Hilman Juwono

[Scopus ID: 35119041900, Associate Editor, IEEE Access, Senior Member, IEEE]

University of Southampton - Malaysia.

Naohiro Hozumi

[Scopus ID :55542908400, IEEJ, IEEE, CIGRE]

Toyohashi University of Technology - Japan

Felix Felgner

[Scopus ID: 11139490000, IEEE Member]

Saarland University - Germany

Bomo W. Sanjaya

[Scopus ID: 57196009899, IEEE & FORTEI Member]

Universitas Tanjungpura - Indonesia

Hugeng

[Scopus ID: 55135962100, IEEE member]

Universitas Tarumanagara - Indonesia

Ayub Ahmed Janvekar

[Scopus ID : 57193060185]

VIT University, Chennai Campus, Tamil Nadu 632014 – India

Bintoro Siswo Nugroho

[Scopus ID: 55894229000]

Universitas Tanjungpura - Indonesia

MANUSCRIPT EDITOR

Supriono

[Sinta ID : 6792165], *Universitas Tanjungpura - Indonesia*

Septami Setiawati

[Sinta ID : 6706463], *Universitas Tanjungpura - Indonesia*

REVIEWERS

Ni Made Ary Esta Dewi Wirastuti

[Scopus ID: 24722146300], *Universitas Udayana - Indonesia*

Dwi Pebrianti

[Scopus ID: 55268466200], *International Islamic University Malaysia, Kuala Lumpur- Malaysia.*

Puput Dani Prasetyo Adi

[Scopus ID: 57212620847], *Universitas Merdeka Malang - Indonesia*

Iswanjono

[Scopus ID:36350962500], *Universitas Sanata Dharma - Indonesia*

Asnal Effendi

[Scopus ID: 57190665097], *Institut Teknologi Padang - Indonesia*

Misfa Susanto

[Scopus ID: 55820056300, FORTEI Member], *Universitas Lampung - Indonesia*

Abdul Syakur

[Scopus ID: 24279097400, IEEE], *Universitas Diponegoro - Indonesia.*

Faiz Husnayain

[Scopus ID: 56623195500, IEEE], *Universitas Indonesia - Indonesia*

Augie Widyotriatmo

[Scopus ID: 25626881300], *Institut Teknologi Bandung - Indonesia.*

Ayong Hiendro

[Scopus ID :36144355400, IEEE], *Universitas Tanjungpura - Indonesia*

Catur Apriono

[Scopus ID: 54787407700], *Universitas Indonesia – Indonesia*

Dwi Joko Suroso

[Scopus ID: 54974129600], *Universitas Gajah Mada - Indonesia*

Eka Budiarto

[Scopus ID: 36940953300], *Swiss German University - Indonesia*

Erwin Sitompul

[Scopus ID: 56011241100], *President University - Indonesia*

Kalvein Rantelobo

[Scopus ID: 35796140100], *Universitas Nusa Cendana - Indonesia*

Good Fried Panggabean

[Scopus ID: 57191996975], *Institut Teknologi Del - Indonesia*

Rudi Kurnianto

[Scopus ID: 8842904600, IEEE & FORTEI member], *Universitas Tanjungpura - Indonesia*

Helmy Fitriawan

[Scopus ID: 22984642600, FORTEI Member], *Universitas Lampung - Indonesia*

Indar C. Gunadin

[Scopus ID: 36806155900], *Universitas Hasanuddin - Indonesia*

Irrine B Sulistiawati

[Scopus ID: 53265132700], *Institut Teknologi Nasional Malang - Indonesia*

Ayodya Pradhipta Tenggara

[Scopus ID : 55941026600], *Universitas Gadjah Mada - Indonesia*

Iwan Setyawan

[Scopus ID: 57193931420], *Univesitas Satya Wacana Christian Universitas – Indonesia*

Rudy Gianto

[Scopus ID: 16480522100, IEEE & FORTEI member], *Universitas Tanjungpura - Indonesia*

Mohd Hafizi Ahmad

[Scopus ID: 56956176200, IEEE], *Universiti Teknologi Malaysia - Malaysia*

Ain Sahara

[Scopus ID: 57220117809], *Sekolah Tinggi Teknologi Migas- Balikpapan, Indonesia*

Nyoman P. Sastra

[Scopus ID: 24767212900], *Universitas Udayana - Indonesia*

Oo Abdul Rosyid

[Scopus ID: 22735401800], *Badan Pengkajian dan Penerapan Teknologi (BPPT) - Indonesia*

Redi Ratiandi Yakoup

[Scopus ID: 36940953300, FORTEI Member], *Universitas Tanjungpura - Indonesia*

Rizal Munadi

[Scopus ID: 16022345800], *Universitas Syiah Kuala - Indonesia*

James Julian

[Scopus ID: 57159089400], *Universitas Pembangunan Nasional Veteran Jakarta - Indonesia*

Seng Hansun

[Scopus ID: 56030061700], *Universitas Multimedia Nusantara - Indonesia*

Shamsul Aizam Bin Zulkifli

[Scopus ID: 57188535696], *Universiti Tun Hussein Onn - Malaysia*

Prima Asmara Sejati

[Scopus ID : 57207961793], *Universitas Gadjah Mada - Indonesia*

Yopa Eka Prawatya

[Scopus ID: 57034118300], *Universitas Tanjungpura – Indonesia*

Yandri

[Sinta ID : 6706496], *Universitas Tanjungpura – Indonesia*

Berlian Sitorus

[Scopus ID: 26645232900], *Universitas Tanjungpura – Indonesia*

Ahmad Almaarif

[Scopus ID : 56703335800], *Universitas Telkom – Indonesia*

Nana Sutarna

[Scopus ID : 57411054900], *Politeknik Negeri Jakarta - Indonesia*

Fitri Oktafiani

[Scopus ID : 58017485500], *National Yang Ming Chiao Tung University - Hsinchu, Taiwan*

Dewi Yanti Liliana

[Scopus ID : 43461515300] , *Politeknik Negeri Jakarta – Indonesia*

Indarto

[Scopus ID : 36466676100] , *Universitas Gadjah Mada - Indonesia*

Deendarlianto

[Scopus ID : 8971684800] , *Universitas Gadjah Mada - Indonesia*

Amirullah

[Scopus ID : 57053422400], *Universitas Bhayangkara Surabaya- Indonesia*

Muhammad Reza Kahar Aziz

[Scopus ID : 55844998200], *Institut Teknologi Sumatera (ITERA), Lampung- Indonesia*

Syukron Abu Ishaq Alfarozi

[Scopus ID : 57191739119], *Universitas Gadjah Mada - Indonesia*

CONTENTS***Volume 17, Number 1, April 2025***

Foreword	i-v
Analysis of Wind Energy Potential On Nusa Penida Island Using The Weibull Distribution : Evaluation of Power Density and Intermittency <i>Amanda Austin Herlambang, Ni Made Ary Esta Dewi Wirastuti, Ida Bagus Gede Manuaba</i>	1-8
Analysis of Potential Fire Due to Short Current in Semi-permanent Buildings at Tinumbu Street in Aisle 148-149 Makassar City <i>Rahmania, Adriani, Rohana</i>	9-14
Analysis of 3 kW Solar Power Plant Production Optimization by Improving Energy Production Efficiency Using 3d Pvsyst Simulation Method <i>Teguh Mohammad Fiqri, Redi Ratiandi Yacoub, Rudi Kurnianto, Rusman, Hasan</i>	15-23
Digital Administration Acceptance for Mountain Climbers in Mount Merbabu National Park <i>Achmad Wahyu Mochtar, Rino Ardhian Nugroho, Roisa Nur Hanifah, Septyanto Galan Prakoso</i>	24-31
Hybrid ANN-PSO Based MPPT Optimization for Enhanced Solar Panel Efficiency <i>M. Ilham Hasby Hamzah, Happy Aprillia, Andhika Giyantara</i>	32-37
Fuzzy Logic Optimization to Control Air Conditioner (AC) Conditions Using Rule-Based Algorithm <i>Mhd. Idham Khalif, Abdul Muis</i>	38-45
State of Charge Estimation on Lithium-Ion Batteries Using Particle Swarm Optimization Method <i>Muhammad Ridho Dewanto, Riza Hadi Saputra, Kharis Sugiarto, Agung Adi Saputra</i>	46-52
Analysis of Photovoltaic Panel Performance Integrated with the Grid in a Load-Sharing Scheme <i>Agellio Farras Aditya, Agus Ulinuha</i>	53-60
Analysis of Power Transformer Insulation Resistance Using the Applied Voltage test Method <i>Mohammad Feri, Jamaaluddin, Shazana dyah Ayuni</i>	61-67
MPPT Performance Analysis for PV Energy Harvesting Using Grey Wolf Optimization (GWO) Algorithm <i>Aripriharta, Muhiban Syabani, Siti Sendari, Aji Prasetya Wibawa, Suhiro Wongso Susilo, Muhammad Cahyo Bagaskoro, Norzanah Rosmin</i>	68-76
Harmonic Distortion Analysis Of On-grid Photovoltaic Panel Integration In Load Sharing Scheme <i>Satria Adji Santoso, Agus Ulinuha</i>	77-83
Wireless Sensor Sub-Network Based IoT System for Probiotic Dosing and Water Quality Management Using Artificial Neural Network <i>Anggy Pradiftha Junfithrana, Anang Suryana, Utamy Sukmayu Saputri</i>	84-91

ELKHA	Volume 17	Number 1	Page 1 - 91	Pontianak April 2025	p-ISSN 1858-1463 e-ISSN 2580-6807
--------------	------------------	-----------------	------------------------	---------------------------------	--

EDITOR PREFACE

Thank and praise God that **ELKHA** volume 17, number 1, can be published in April 2025. **ELKHA** journal is a medium for scientific activities in Control Engineering, Electronics, Power Systems, Telecommunication, Informatics, Distribution Systems, and Industrial Engineering. Publishing this **ELKHA** journal aims to create an academic atmosphere, especially the scientific development of the world academic and research community.

The representation of quality improvement is continuously carried out, both in papers quality and editorial aspects. Improving the quality of the content is carried out through the double-blind review process of the submitted manuscript with the help of editors and reviewers in their fields. Hopefully, all these efforts can improve the quality of **ELKHA** journals in the future.

Editors thank all parties who have supported the publication of the journal **ELKHA** volume 17, number 1. The editorial team hopes all the readers enjoy the paper's contents and freely use them as references for their works.

PUBLISHER

Department of Electrical Engineering
Faculty of Engineering - Universitas Tanjungpura
Jl. Prof. Dr.H.Hadari Nawawi Pontianak, 78168, Indonesia

Telp/Fax : (0561) 740186

<https://jurnal.untan.ac.id/index.php/Elkha/index>

e-mail: jurnal.elkha@untan.ac.id

ORCID ID: <https://orcid.org/my-orcid?orcid=0000-0002-0779-1277>

Citedness as Scopus Secondary Documents

Accredited by KEMENRISTEKDIKTI RI at Level 2 (SINTA S2).
*Keputusan Direktur Jenderal Riset dan Pengembangan Kementerian Pendidikan Tinggi, Sain dan Teknologi
Republik Indonesia. Nomor : 10/C/C3/DT.05.00/2025*

Pontianak, April 2025

Seno D. Panjaitan
Editor-in-Chief