

LAMPIRAN



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Focus and Scope: Computer Engineering - Informatics Engineering - Electrical Engineering - CMI Engineering - Mechanical Engineering - Chemical Engineering

JURNAL TEKNIKA

SURAT KETERANGAN PENERIMAAN JURNAL TEKNIKA

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Dewan penyunting Jurnal TEKNIKA telah menerima artikel,

Nama Penulis : Ekawati Prihatini, Yeni Irdayanti, Muhammad Yuda Alphidah
 Judul : Analisis Kinerja Pembangkit Listrik Tenaga Bayu (PLTB) Sebagai Resource Reserve Pada Pembibitan Ayam Pedaging Berbasis Internet Of Things (Iot)

Asal Instansi : Politeknik Negeri Sriwijaya

Menyatakan bahwa artikel tersebut **telah diproses** sesuai Prosedur Penulisan Jurnal TEKNIKA, Politeknik Negeri Sriwijaya **dan akan diterbitkan pada jurnal TEKNIKA** volume 17 nomor 2 periode terbit bulan juli sampai desember Tahun 2023. Demikian surat keterangan ini dibuat dan harap dipergunakan dengan sebaik-baiknya.

Palembang, 26 Juli 2023
 Ketua Dewan Penyunting

M. Miftakul Amin, S. Kom., M. Eng.



	<p style="text-align: center;">KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN POLITEKNIK NEGERI SRIWIJAYA Jalan Sriwijaya Negara, Palembang 30139 Telp. 0711-353414 fax. 0711-355918 Website : www.polisriwijaya.ac.id E-mail : info@polsri.ac.id</p>	
REKOMENDASI UJIAN TUGAS AKHIR (TA)		

Pembimbing Laporan Tugas Akhir memberikan rekomendasi kepada,

Nama : Muhammad Yuda Alphidah

NIM : 061940341936

Jurusan/Program Studi : Teknik Elektro / Sarjana Terapan Teknik Elektro

Judul Tugas Akhir : Analisa Kinerja Pembangkit Listrik Tenaga *Hybrid* Sebagai Sumber Daya Cadangan Pada Pembibitan Ayam Pedaging Berbasis *Internet Of Things (Iot)*

Mahasiswa tersebut telah memenuhi persyaratan dan dapat mengikuti Ujian Tugas Akhir (TA) pada Tahun Akademik 2023

Palembang,, Agustus 2023

Pembimbing I,

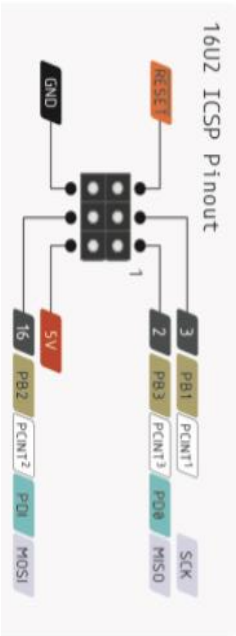
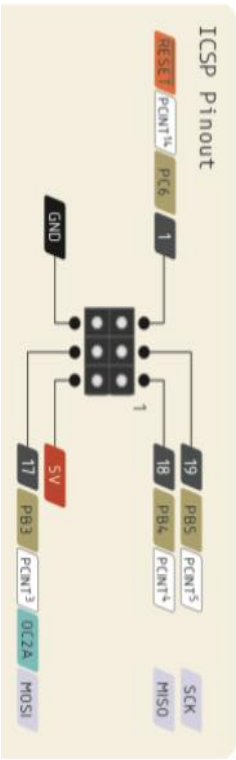
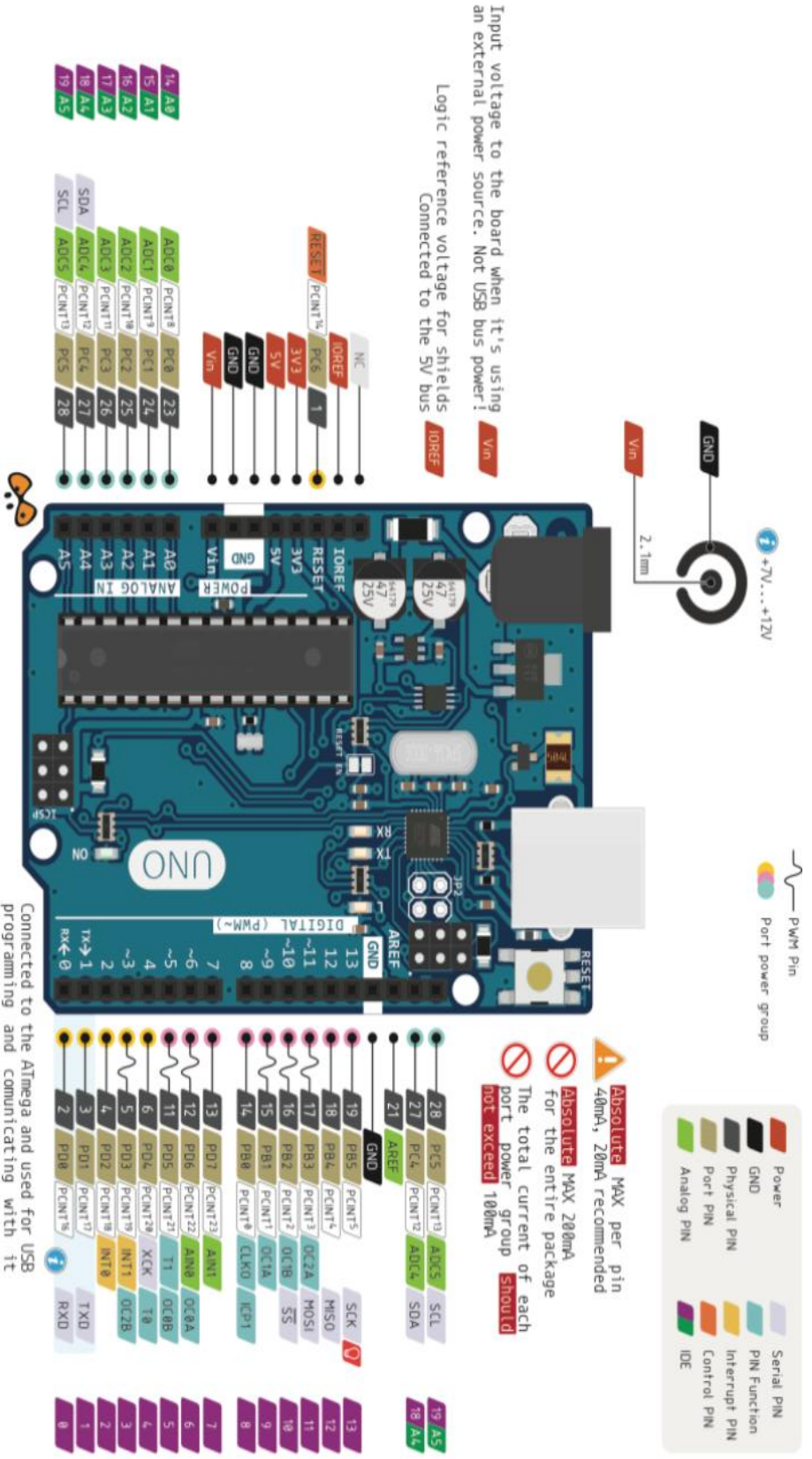


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Pembimbing II,



Ekawati Prihatini, S.T., M.T.
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PWM Pin
Port power group

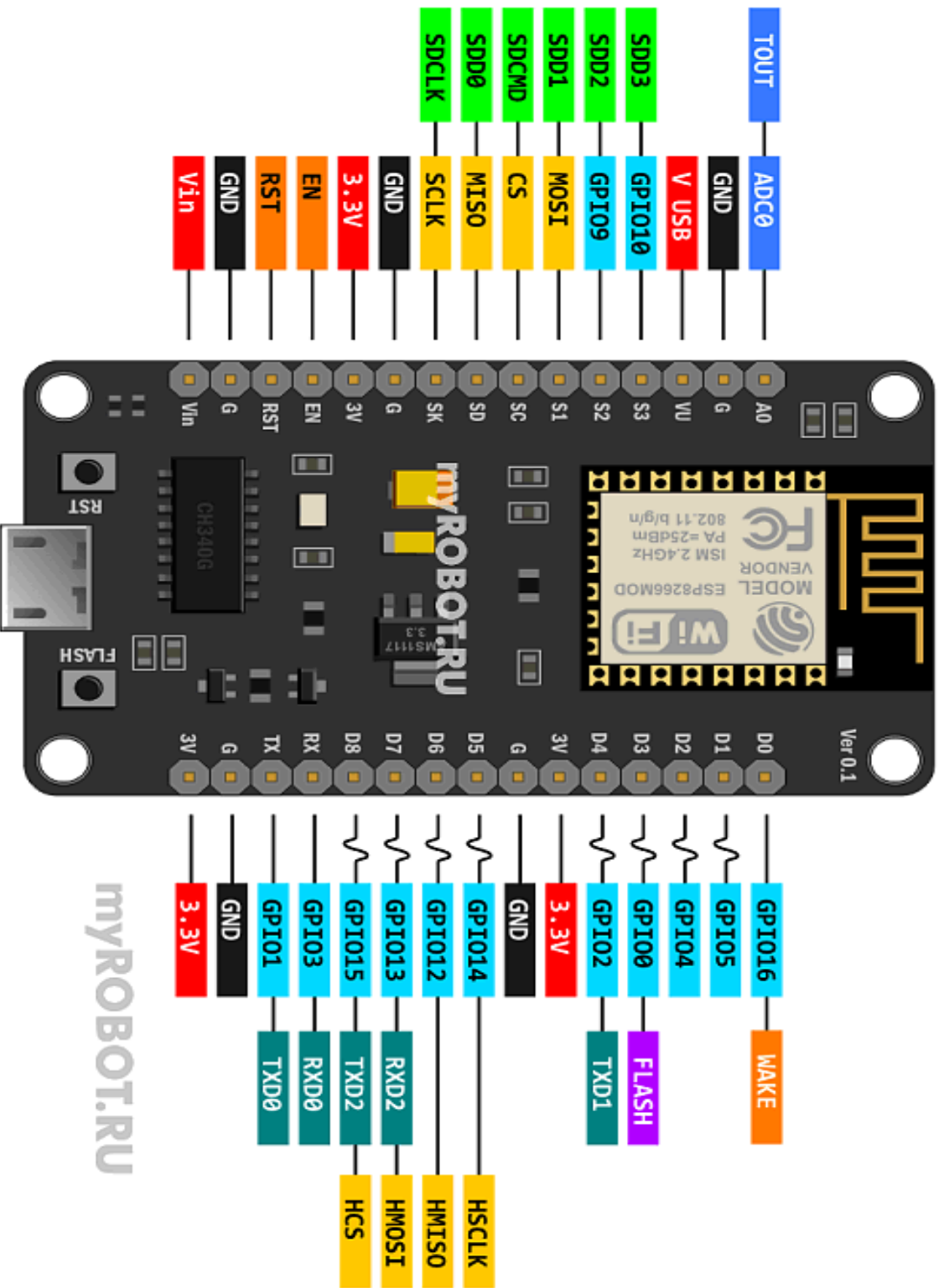
	Power		Serial PIN
	GND		PIN Function
	Physical PIN		Interrupt PIN
	Port PIN		Control PIN
	Analog PIN		IDC

Absolute MAX per pin
40mA, 20mA recommended

Absolute MAX 200mA
for the entire package

The total current of each port power group **should** **not exceed** 100mA

Connected to the Atmega and used for USB programming and communicating with it



User's Manual

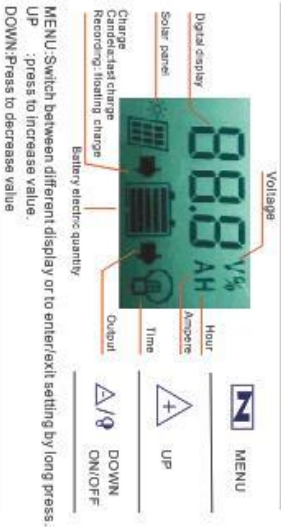
SAFETY INSTRUCTIONS

1. Make sure your battery has enough voltage for the controller to recognize the battery type before first installation.
2. The battery cable should be as short as possible to minimize loss.
3. The regulator is only suitable for lead acid battery, **not OPEN, AGM, GEL**. It is not suited for nickel metal hydride, lithium ions or other batteries.
4. The charge regulator is only suitable for regulating solar modules. **Never** connect another charging source to the charge regulator.

PRODUCT FEATURES

1. Built-in industrial micro controller.
2. Big LCD display, all adjustable parameter.
3. Full 4-stage PWM charge management.
4. Built-in short-circuit protection, open-circuit protection, reverse protection, over-load protection.
5. Dual mosfet Reverse current protection, low heat production.

LCD DISPLAY/KEY

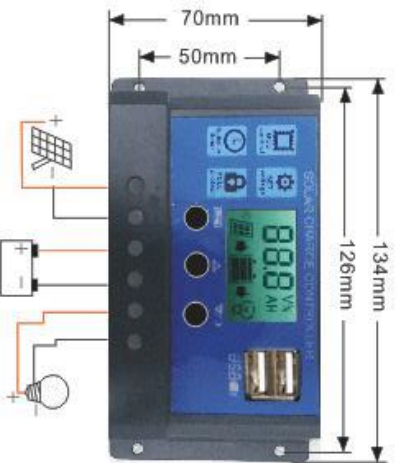


MENU: Switch between different display or to enter/exit setting by long press.
 UP :press to increase value.
 DOWN: Press to decrease value

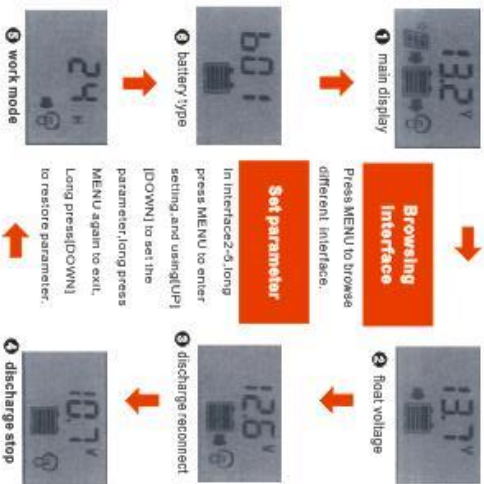
SYSTEM CONNECTION

1. Connect the battery to the charge regulator- plus and minus.
2. Connect the photovoltaic module to the regulator- plus and minus.
3. Connect the consumer to the charge regulator- plus and minus.

The reverse order applies when deinstalling!
 An improper sequence order can damage the controller!



DISPLAY/SETTING



- Attn :
1. Press the [DOWN] button to ON/OFF load manually at main display.
 2. The work mode is working as below:
 - [24H] load output 24 hours
 - [1-23H] load on after sunset and closed after setting hours
 - [OH] Dusk to dawn

TROUBLE SHOOTING

Situation	Probable cause	Solution
Charge icon not on when sunny	Solar panel opened or reversed	Reconnect
Load icon off	Mode setting wrong	Set again
Load icon slow flashing	Battery low	recharge
Load icon slow flashing	Overload	Reduce load watt
Load icon slow flashing	Short circuit protection	Auto reconnect
Power off	Low Battery voltage	Check battery/connection reverse

TECHNICAL PARAMETER

MODEL	KW1210	KW1220	KW1230	KW1240	KW2450
Batt voltage	12V/24V	auto adapt			
Charge current	10A	20A	30A	40A	50A
Discharge current	10A	20A	30A	40A	50A
Max Solar Input:	<34V				
Equalization	B01 sealed	B02 Gel	B03 flood		
Float	14.4V	14.2V	14.6V		
Discharge stop	13.2V(default,adjust table)				
Discharge reconnect	10.7V(default,adjust table)				
Self-consume	<10mA				
USB output	5V/2A Max				
Operating Temperature	-35--+60 °C				
Size/Weight	134*70*35mm/150g				

*all red color 12V voltage X2, X4 while using 24V system.
 *Product specifications are subject to change without prior notice.



Size : 12V 3500rpm

12V 3500rpm

\$29.65

24V 7000rpm

\$30.17

Brand

Walfront

Speed

3500 RPM

Voltage

12 Volts

Horsepower

30 Watts

Item dimensions 50 x 30 x 70 millimeters

L X W X H

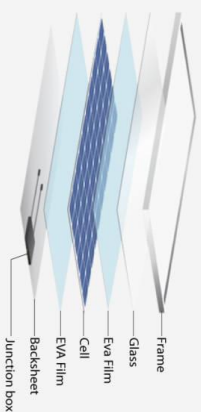
Material

Copper

Item weight

0.45 Kilograms

ITS100M-36
Monocrystalline 36 cells 100W-110W



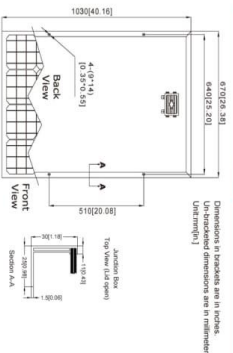
Key Features

- Widely using of the most popular and mature type of modules for off-grid system
- High power output and highest conversion efficiency of 16.51%
- Anti-reflective and anti-soiling surface reduces power loss from dirt and dust
- Outstanding performance in low-light irradiance environments
- Excellent mechanical load resistance: Certified to withstand high wind loads (2400Pa) and snow loads (5400Pa)
- High salt and ammonia resistance certified by TÜV NORB

Reliable Quality

- Positive power tolerance: 0+3W
 - 100% EL double-inspection ensures modules are defects free
 - Modules binned by current to improve system performance
 - Potential induced Degradation (PID) Resistant
- 10** Years Manufacturing Warranty
- 12** Years Warranty
90% Power Output
- 25** Years Warranty
80% Power Output
- Free module recycling through membership in the Ceres Cycle Association

Mechanical Drawings



Electrical Characteristics

Maximum Power at STC (Pmax)	100W
Short Circuit Current(Isc)	5.87A
Open Circuit Voltage (Voc)	22.4V
Maximum Power Current(Imp)	5.48A
Maximum Power Voltage(Vmp)	18.3V
Module Efficiency	16.01%
Power Tolerance	0+-3%

Mechanical Specification

Cell Type	Multi Crystalline silicon solar cell
Dimensions(LxWxH)	1030mm(40.16in)x670mm(26.38in)
Weights	7.74kg(17.06lbs)
Front Glass	3.2mm tempered low iron glass
Frame	Anodized aluminum
Junction Box	IP67, with bypass diodes
Connector	MC4 compatible
Output Cables	TUV, length 900mm, 4.0mm

System Integration Parameters

Maximum system voltage	VDC 1000V
Maximum Series Fuse	15 A
Increased snowload acc.to IEC 61215	5400Pa
Operating Temperature	-40o+85°C
Number of Bypass diodes	3

Temperature Characteristics

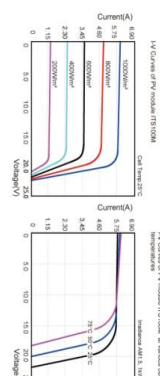
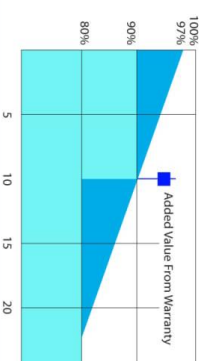
Normal Operating Cell Temperature (NOCT)	45°C±2 °C
Temperature Coefficient of Pmax	-0.44%/°C
Temperature Coefficient of Voc	-0.34%/°C
Temperature Coefficient of Isc	0.06%/°C

Qualifications And Certificates



System Integration Parameters

- 10-year product warranty
- 25-year linear power output warranty



STC: Irradiance 1000W/m²



Wind Speed Sensor

WSS 100/REED
WSS 100/HALL



TECHNICAL DATA

Wind speed measurement range: 0,8 - 55,0 m/s

Operating voltage: 5...24V DC

Signal output (WSS 100/hall):

pulse (1 pulse/rotation)

Hall: NPN transistor, open collector, $I_{max} = 20$ mA

Signal output (WSS 100/REED):

pulse (1 pulse/rotation)

contact rating 10 mA maximum

Current consumption (WSS 100/HALL): 7 mA

Output frequency: 1,1 Hz / m/s

Temperature Operating Range: -25°C to +60°C

Accuracy: +/- 4%

Sensor type: WSS 100/HALL - Hall effect sensor
WSS 100/REED - 1 x REED contact

Cable: 4 x 0,34 mm²; 5 m standard

Bearings: 2 x stainless steel Ball bearing

Material housing: Anodized Al
cup: PA

Mounting: the sensor mounts on a pipe with ϕ 20 mm outside diameter

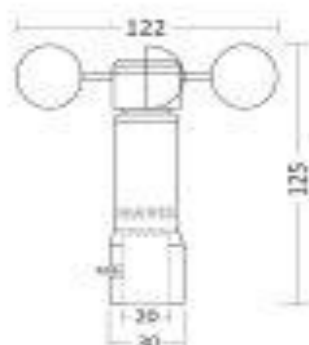
WIRING WSS 100/HALL



WIRING WSS 100/REED



DIMENSIONS



PZEM-017 Wiring diagram

