

FernBox

FernBox is a pre-wired and pre-tested engineered hardware solution to remotely manage decentralized energy systems. It minimizes commissioning costs and reduces the time required to bring systems online. The modular kit design allows users to select their components which lowers the cost of the solution



FEATURES



Plug and play with professionally routed, labeled and terminated wiring to reduce commissioning time and costs.



The components of FernBox are not only compatible with the Odyssey platform, but they also have proven record of reliability.



Besides basic components, FernBox may include: UPS, relay output, digital I/O, pulse counter, analog I/O, temperature sensors, AC/DC power meters, wind sensor, rain sensor, solar irradiation sensor, fuel flow and fuel level sensor.

BASIC COMPONENTS

Enclosure	Spelsberg TK PC 3625-16-tm FernFlex
Controller	Regor
GSM Modem	Teltonika TRB-140
Power Supply	Mean Well DRC-40A
Battery	2x Yuasa NP 2.3-12 (24Vdc)
Ethernet Switch	Teltonika TSW010

OPTIONAL ACCESSORIES

Analog input	(0-10VDC) - RESI-4AIU-SIO or RESI-4AIU-ETH (4-20mA) - Ampero MOD-1AI-1
Temperature sensor	(RTD): RESI-2RTD-SIO, RESI-2RTD-ETH or RESI-8RTD-SIO
AC Energy meter	Eastron SDM630, Schneider Electric PM2XXX series
DC Energy meter	Eastron DCM230, QEED QI-POWER-485
Weather station	IMT Tmodul-Si series , Rainwise PVMet330
Fuel level sensor	Technoton DUT-E, Holykell hpt604
Relay outputs	RESI-2RO-SIO
Pulse counter	RESI-1SO-SIO, Aspar MOD-4DI-M

TECHNICAL SPECIFICATIONS

Enclosure

Model	Spelsberg TK PV 3625-16-tm	Sealing material	Polyurethane
Protection type UL	4X, 12/12K	Temperature range	-35°C to 80°C
Protection type	IP66	80°C Dimensions	361 x 254 x 165 mm
Rated Insulation Voltage	690VAC or 1000VDC	Weight	1600g
Base and cover material	Polycarbonate		

FernFlex Controller

Model	phyCORE-AM335x
Connection to field devices	(1) CAN, (2) RS232, (1) RS485, (2) Ethernet (10/100), (4) GPIO
Supported communication protocols	TCP/IP, Modbus RTU, CAN bus, serial communication,
Modbus Nominal voltage	12-24VDC
Running power consumption	2.7W
Temperature range	-35°C to 80°C
Dimensions	22 x 100 x 113mm
Weight	68g

GSM Model

Model	Teltonika TRB-140
Mobile	4G, 3G, 2G
Powering option	4 pin power socket, 9-30 VDC
AVG power consumption	2.3W
Antenna connectors	1 x SMA for mobile
Ethernet	1 x RJ45 port, 10/100/1000 Mbps
Operating temperature	-40°C to 75°C
Dimensions	74.5 mm x 25 x 64.4 mm
Weight	134g

Power Supply

Model	DRC-40B
Voltage input	90 to 264VAC
Voltage output	27.6VDC
Output power	40W
Dimensions	40 x 90 x 100 mm
Weight	300g

Battery

Model	Yuasa NP 2.3-12
Temperature (charge)	-15°C to 50°C
Temperature (discharge)	-20°C to 60°C
Nominal Voltage	12V
Float charge voltage at 20°C (V)/Block	13.65 (±1%)
Dimensions	40 x 90 x 100 mm
Weight	300g