



# Wireless Energy HUB

La soluzione Smart per la tua rete intelligente

**GUIDA TECNICA**

NesosNet SmarthUB  
Model 2.1  
Wireless Energy Hub  
2019110066





# Wireless Energy HUB

## IL PRODOTTO

Wireless Energy HUB Model 2 è un dispositivo elettronico nato per fornire connettività a sensori e apparecchiature di acquisizione e misura.

Consente l'immagazzinamento dei dati in tempo reale su cloud, integrandosi perfettamente su una piattaforma web nella quale un utente può aggregare, visualizzare, analizzare i dati o ricevere notifiche di diagnosi o allarme dei propri apparati.







# Wireless Energy HUB

## Electrical Characteristics

### POWER SUPPLY

BRAND	Mearwell
ITEM	HDR-15-5
OUTPUT POWER	15W
OUTPUT VOLTAGE	5V
OUTPUT CURRENT	2.4A
INPUT VOLTAGE	110/230V
FORMAT	1DIN



### SMARTHUB

BRAND	NesosNet
ITEM	WEnergyHub 2.1
CPU ARCHITECTURE	@ARM11 32bit 1GHz
RAM	512MB
FLASH	uSD up to 64GB
INPUT VOLTAGE	5V
POWER CONSUMPTION	10W MAX
FREQUENCY	50/60Hz
WIRELESS CONNECTIVITY	802.11 b/g/n; Bluetooth 4.1 and BLE;
WIRELESS CONNECTIVITY	LoRaWAN 868MHz EU; Quad-band GSM/GPRS
WIRED CONNECTIVITY	RS485; GPIOs TTL
BATTERY	Lipo 3.7V 1800mAh
FORMAT	5DIN





# Caratteristiche Software

- 01** Gestione calendario con giorni della settimana, feriali e festivi
- 02** Gestione 6 fasce multiorarie configurabili fino a 10 intervalli temporali per ciascun giorno della settimana
- 03** Lettura continua dei dati elettrici con campionamento a 1 sec
- 04** Memorizzazione in locale per 6 mesi dei valori totali mensili di energia attiva/reattiva prelevata e immessa
- 05** Memorizzazione in locale dei parametri quartorari di consumo sino a 40 giorni
- 06** Batteria tampone per la gestione dello spegnimento controllato e invio notifica su cloud
- 07** Canale wireless ridondato (WiFi, LoRaWAN, GSM) per collegamento al cloud
- 08** Utilizzo protocollo MQTT con crittografia TLS per il collegamento al cloud
- 09** Configurazione del dispositivo via BLE tramite applicazione Android o iOS
- 10** Aggiornamento software da remoto





# Wireless Energy HUB

SinglePhase Version

Direct Connection - Parameters

## Power

Active Power

Reactive Power

Apparent Power

Power Factor



## Voltage & Current

Voltage

Current

Frequency

## Energy

ActiveEnergyImported

ActiveEnergyExported

ReactiveEnergyImported

ReactiveEnergyExported



# Wireless Energy HUB

ThreePhase Version

Direct Connection - Parameters

## Power

ActivePowerR; ActivePowerS; ActivePowerT;

ActivePowerSum; ReactivePowerR; ReactivePowerS;

ReactivePowerT; ReactivePowerSum; ApparentPowerR;

ApparentPowerS; ApparentPowerT; ApparentPowerSum;

PowerFactorR; PowerFactorS; PowerFactorT;

PowerFactorTot



## Voltage & Current

VoltageRN; VoltageSN; VoltageTN; VoltageRS

VoltageST; VoltageTR; CurrentR; CurrentS; CurrentT

Frequency

## Energy

ActiveEnergyImportedR; ActiveEnergyImportedS

ActiveEnergyImportedT; ActiveEnergyImportedSum

ActiveEnergyExportedR; ActiveEnergyExportedS;

ActiveEnergyExportedT; ActiveEnergyExportedSum

ReactiveEnergyExportedR; ReactiveEnergyExportedS

ReactiveEnergyImportedT; ReactiveEnergyImportedSum

ReactiveEnergyImportedR; ReactiveEnergyImportedS

ReactiveEnergyExportedT; ReactiveEnergyExportedSum





# Wireless Energy HUB

## ThreePhase Version Indirect Connection - Parameters

### Power

ActivePowerR; ActivePowerS; ActivePowerT;  
ActivePowerSum; ReactivePowerR; ReactivePowerS;  
ReactivePowerT; ReactivePowerSum; ApparentPowerR;  
ApparentPowerS; ApparentPowerT; ApparentPowerSum;  
PowerFactorR; PowerFactorS; PowerFactorT;  
PowerFactorTot



### Voltage & Current

VoltageRN; VoltageSN; VoltageTN; VoltageRS  
VoltageST; VoltageTR; CurrentR; CurrentS; CurrentT  
Frequency

### Energy

ActiveEnergyImportedR; ActiveEnergyImportedS  
ActiveEnergyImportedT; ActiveEnergyImportedSum  
ActiveEnergyExportedR; ActiveEnergyExportedS;  
ActiveEnergyExportedT; ActiveEnergyExportedSum  
ReactiveEnergyExportedR; ReactiveEnergyExportedS  
ReactiveEnergyImportedT; ReactiveEnergyImportedSum  
ReactiveEnergyImportedR; ReactiveEnergyImportedS  
ReactiveEnergyExportedT; ReactiveEnergyExportedSum



# Wireless Energy HUB

## SINGLEPHASE

### Electrical Characteristics

<b>GENERAL</b>	BRAND	Eastron
	ITEM	SDM230-Modbus
	VOLTAGE AC (UN)	230V
	VOLTAGE RANGE	60%..120% of Un
	BASE CURRENT (IB)	10A
	MAX / MIN CURRENT (IMAX/MIN)	100A / 0.5"
	POWER CONSUMPTION	<2W
	FREQUENCY	50/60Hz
	AC VOLTAGE WITHSTAND	4KV for 1min
	IMP VOLTAGE WITHSTAND	6KV-1.2uS
	OVERCURRENT WITHSTAND	30Imax for 0.01s

<b>ACCURACY</b>	VOLTAGE	0.5% of range max
	CURRENT	0.5% of nominal
	FREQUENCY	0.2% of mid freq
	POWER FACTOR	1% of unit
	ACTIVE POWER	1% of range max
	REACTIVE POWER	1% of range max
	APPARENT POWER	1% of range max
	ACTIVE ENERGY	Class 1 IEC62053-21
	ACTIVE ENERGY CLASS B	Class B EN50470-1/3
	ELECTROMAG HF FILEDS	IEC 61000-4-3
	REACTIVE ENERGY	1% of range max



### ENVIRONMENT

OPERATING TEMP	-25°C .. +55°C
RELATIVE HUMIDITY	0 .. 95% non condensing
WARM UP TIME	10s
INSTALLATION CATEGORY	CAT III
MECHANICAL	M1
ELECTROMAGNETIC ENV	E2
DIN	2M

### CONFORMITY

ELECTROMAGNETIC COMPAT.	EN61326-1:2013
ELECTROMAGNETIC COMPAT.	EN61326-2-3:2013
LOW VOLTAGE DIRECTIVE	EN61010-1:2010
LOW VOLTAGE DIRECTIVE	EN61010-2-30:2010
MID DIRECTIVE	2014/32/EU





# Wireless Energy HUB

## THREEPHASE DIRECT

### Electrical Characteristics

<b>GENERAL</b>	BRAND	Eastron
	ITEM	SDM630-Modbus V2
	NOMINAL VOLTAGE (UN)	3x230/400V AC
	OPERATIONAL VOLTAGE	80%..120% of Un
	AC VOLTAGE WITHSTAND	4KV for 1min
	IMPULSE VOLTAGE WITHSTAND	6KV-1.2uS
	BASIC CURRENT (IB)	10A
	MAC RATED CURRENT	100A
	OPERATIONAL CURRENT RANGE	0.4% Ib-I <sub>max</sub>
	OVER CURRENT WITHSTAND	30I <sub>max</sub> for 0.01s
	OPERATIONAL FREQUENCY RANGE	50/60Hz
	POWER CONSUMPTION	<2W

<b>ACCURACY</b>	VOLTAGE	0.5% of range max
	CURRENT	0.5% of nominal
	FREQUENCY	0.2% of mid freq
	POWER FACTOR	1% of unit
	ACTIVE POWER	1% of range max
	REACTIVE POWER	1% of range max
	APPARENT POWER	1% of range max
	INTERNATIONAL STANDARDS	IEC 62053-21
	INTERNATIONAL STANDARDS	EN50470-13
	ACCURACY CLASS	Class 1 / ClassB
	ELECTROMAG HF FILEDS	IEC 61000-4-3
	HARMONIC DISTORTION	1% up to 31 <sup>st</sup> harmonic



## ENVIRONMENT

OPERATING TEMP	-25°C .. +55°C
RELATIVE HUMIDITY	<90% non condensing
WARM UP TIME	1min
INSTALLATION CATEGORY	CAT III
MECHANICAL	M1
ELECTROMAGNETIC ENV	E2
VIBRATION	IEC 60068-2-6, 2g
DIN	4M

## CONFORMITY

ELECTROMAGNETIC COMPAT.	EN61326-1:2013 EN61326-2-3:2013
LOW VOLTAGE DIRECTIVE	EN61010-1:2010
LOW VOLTAGE DIRECTIVE	EN61010-2-30:2010
MID DIRECTIVE	2014/32/EU



# Wireless Energy HUB

## SINGLEPHASE INDIRECT

### Electrical Characteristics

<b>GENERAL</b>	BRAND	Easton
	ITEM	SDM630-Modbus V2
	NOMINAL VOLTAGE (UN)	3x230/400V AC
	OPERATIONAL VOLTAGE	60%..120% of Un
	AC VOLTAGE WITHSTAND	4KV for 1min
	IMPULSE VOLTAGE WITHSTAND	6KV-1.2uS
	RATED CURRENT (IB)	5A CT
	OPERATIONAL CURRENT RANGE	0.4% Ib-I <sub>max</sub>
	OVER CURRENT WITHSTAND	20I <sub>max</sub> for 0.01s
	OPERATIONAL FREQ. RANGE	50/60Hz
	POWER CONSUMPTION	<2W

<b>ACCURACY</b>	VOLTAGE	0.5% of range max
	CURRENT	0.5% of nominal
	FREQUENCY	0.2% of mid freq
	POWER FACTOR	1% of unit
	ACTIVE POWER	1% of range max
	REACTIVE POWER	1% of range max
	APPARENT POWER	1% of range max
	INTERNATIONAL STANDARDS	IEC 62053-21 IEN50470-13
	ACTIVE ENERGY	Class 1
	REACTIVE ENERGY	Class 2
	RADIATED EMISSION	EN 55022



<b>ENVIRONMENT</b>	
OPERATING TEMP	-25°C .. +55°C
OPERATING HUMIDITY	<90% non condensing
WARM UP TIME	1min
INSTALLATION CATEGORY	CAT III
MECHANICAL	M1
ELECTROMAGNETIC ENV	E2
VIBRATION	IEC 60068-2-6, 2g

<b>CONFORMITY</b>	
ELECTROMAGNETIC COMPAT.	EN61326-1:2013
ELECTROMAGNETIC COMPAT.	EN61326-2-3:2013
LOW VOLTAGE DIRECTIVE	EN61010-1:2010
LOW VOLTAGE DIRECTIVE	EN61010-2-30:2010
MID DIRECTIVE	2014/32/EU





# Wireless Energy HUB

## TA-Electrical Characteristics

<b>SPLIT CORE</b>	BRAND	Easton
	SERIES	ESCT-B
	FREQUENCY	50/60Hz
	RATED CURRENT (IR)	100A..5000A
	RATED OUTPUT	5A
	ACCURACY	1% from 20% to120% of Ir
	PHASE ANGLE	<2° at 50% of Ir
	MAX PRIMARY VOLTAGE	5000Vac
	DIELECTRIC STRENGTH	2.5KV/ImA/ImIn
	OPERATING TEMP	-15°C...60°C
	CASE MATERIAL	PC/UL94-V0
	BOBBIN	PBT
CORE	Permalloy	

<b>MINI SPLIT CORE</b>	BRAND	Easton
	SERIES	ESCT-T
	FREQUENCY	50/60Hz
	RATED CURRENT (IR)	100A..6000A
	RATED OUTPUT	5A
	ACCURACY	1% from 20% to120% of Ir
	PHASE ANGLE	<2° at 50% of Ir
	MAX PRIMARY VOLTAGE	5000Vac
	DIELECTRIC STRENGTH	2.5KV/ImA/ImIn
	OPERATING TEMP	-15°C...60°C
	CASE MATERIAL	PC/UL94-V0
	BOBBIN	PBT
CORE	Permalloy	



### SOLID CORE 3-IN1

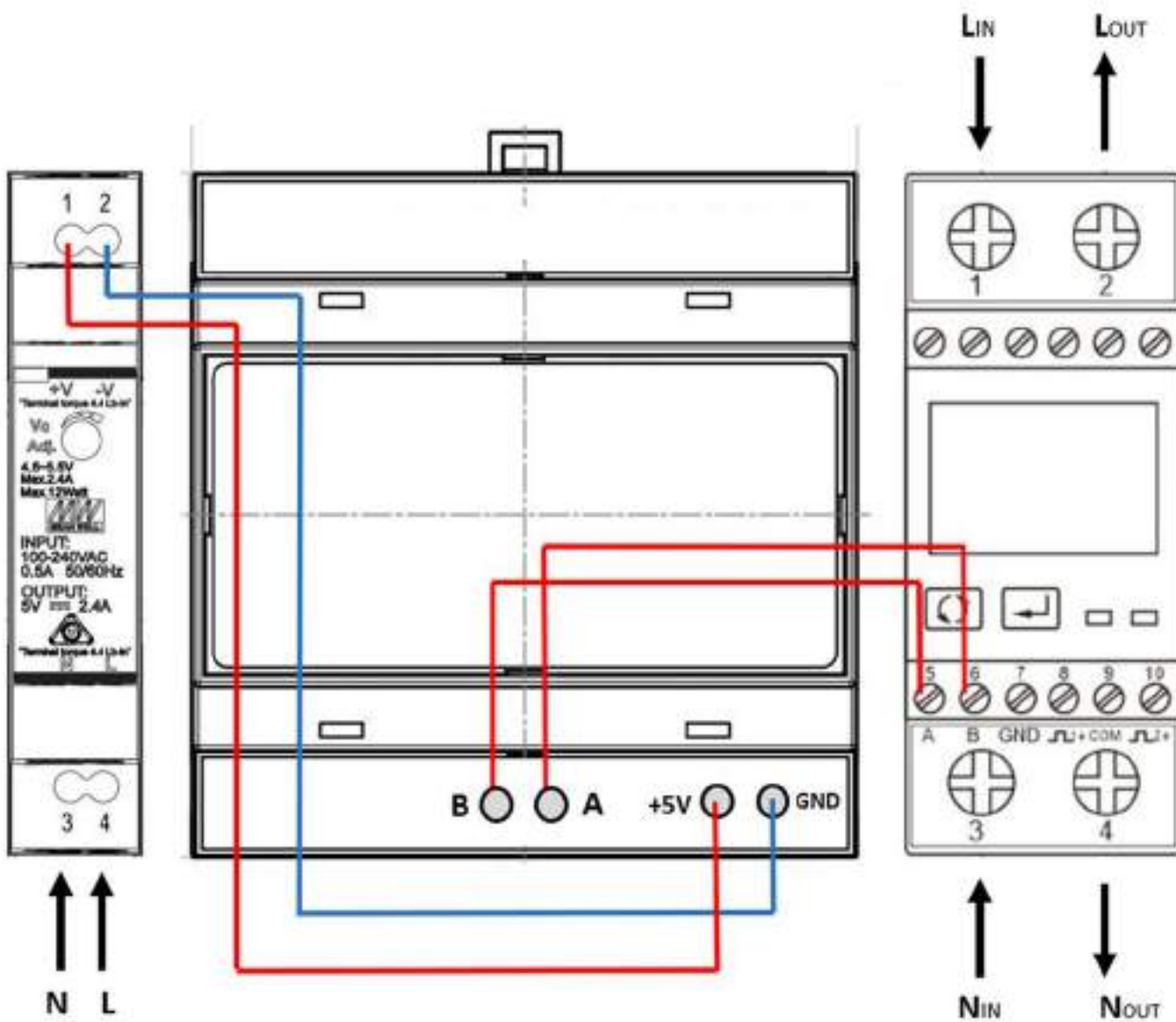
BRAND	Easton
SERIES	ESCT-C
FREQUENCY	50/60Hz
RATED CURRENT (IR)	100A..6000A
RATED OUTPUT	5A
ACCURACY	1% from 20% to120% of Ir
PHASE ANGLE	<2° at 50% of Ir
INSULATION VOLTAGE	6000Vac
MAX PRIMARY VOLTAGE	5000Vac
DIELECTRIC STRENGTH	2.5KV/ImA/ImIn
OPERATING TEMP	-15°C...60°C
CASE MATERIAL	PC/UL94-V0



# Wireless Energy HUB

## COLLEGAMENTI

### MONOFASE - CONNESSIONE DIRETTA







# Wireless Energy HUB

## COLLEGAMENTI

### TRIFASE - CONNESSIONE DIRETTA

