

FEATURES

- The **Konect 120** is an instrument conceived to measure electrical parameters in AC systems, such as energy consumption, current, voltage and others.
- Applicable in direct measurements of circuits with loads up to 120A AC, without the use of external transformers. It can also be applied for measurements in medium or high voltage, through the programming of connection schemes and the ratios of Potential and Current Transformers.
- Also applicable in **IoT (Internet of Things) and Industry 4.0** systems, as it allows integration with various platforms such as Amazon AWS, Microsoft Azure, TagoIO, among others.
- Communication through **Wi-Fi (MQTT and Modbus TCP), Ethernet (MQTT and Modbus TCP), Bluetooth (Modbus RTU), LoRa (LoRaWAN) and RS-485 (Modbus RTU)** connections. Data can be made available locally or remotely through software, applications, cell phones, tablets, panels, supervisory systems or web platforms.
- Features a data concentrator function, gathering information from other devices such as water, gas, and oil meters. It includes a digital relay output for sending commands in control systems (ON/OFF).
- Equipped with mass memory for storing the history of up to twenty parameters, with a minimum interval of 1 minute.

APPLICATIONS

- IoT, Industry 4.0, and Automation Systems
- Energy Efficiency and Cost Allocation
- Energy Cogeneration Systems (measurement in all four quadrants, consumption, and supply)
- Analysis of Circuits and Electrical Equipment
- Any application involving measurement of electrical parameters

PRODUCT INFO

ELECTRICAL PARAMETERS (104 parameters)

- Includes current, voltage, frequency, energy consumption, energy demand, active, reactive and apparent powers, power factor and other parameters

CONNECTION DIAGRAMS

- Mono-Phase, Two-Phase or Three-Phase systems (configurable)

INSTALLATION

- Panel's Background, 35 mm DIN Rail Fastening.
- Technical support via e-mail, telephone, WhatsApp and YouTube videos.

MEMORY

- Mass Memory for generating a history of the behavior of up to 20 parameters, with minimum intervals of 1 minute between recordings. Can be used with buffering capabilities

INTERFACES, READINGS & CONFIGURATIONS

- LCD Human Machine Interface (HMI) - for data visualization of the meter.
- Data outputs through Ethernet, RS-485, Bluetooth, Wi-Fi, and LoRa.
- Protocols include MODBUS-RTU, MODBUS-TCP/IP, and MQTT.
- Free software for reading and configuration: RedeMB (RS-485 and Bluetooth), RedeMB-TCP (Ethernet and Wi-Fi), Android app (MQTT and Bluetooth).
- Application in IoT and Industry 4.0 systems, connection to MQTT Broker. Integration with Dashboards, Apps, and other IoT tools.
- Integration with PLCs, external HMIs, supervisory systems, and concentrators (Modbus-RTU/Modbus-TCP).

WATER, GAS, OIL, TEMPERATURE, COMMANDS....

- Up to 3 digital inputs for external pulse concentration, generated by input meters (such as water, gas). Up to 2 digital relay outputs for sending commands (On/Off).

ELECTRICAL GREATNESSES	<i>Instantaneous</i>	Voltage (Ph-Ph, Ph-N, and 3Ph), Current (Ph, N, and 3Ph), Frequency, Active Power (Ph and 3Ph), Apparent Power (Ph and 3Ph), Reactive Power (Ph and 3Ph), Power Factor (Ph and 3Ph).
	<i>Energy</i>	±Active Energy kWh (Consumption and Supply) ±Reactive Energy Varh (Inductive and Capacitive Loads) Active and Apparent Demand (Average and Maximum)
MEASUREMENTS AND INPUT INFO	<i>Maximum and Minimum</i>	Voltage, Current, Powers, Power Factor(Ph and 3F)
	<i>Connections Diagrams</i>	Three-Phase (Star and Delta), Two-phase and Single-Phase
	<i>Voltage – Working Range</i>	20 to 500Vac (Ph-Ph) (1.5 Vmax overload (1s))
	<i>Current – Working Range</i>	120Ac.a. (min 200mAc.a.) Split-Core 600A: 0,3.....600A 5A: 0,05.....5A Split-Core 1000A: 1,5.....1000A Split-Core 300A: 0,3.....300A Split-Core 2000A: 1,5.....2000A
	<i>Frequency – Working Range</i>	45~65Hz
	<i>Connection</i>	Terminal Blocks: Quick coupling terminal (IP-00)
POWER SUPPLY	<i>Maximum Cable to be Used</i>	Current for direct measurement: 13mm diameter through hole – cable up to 35mm ² Current for indirect measurement: 9mm diameter through hole – cable up to 16 mm ² Power Supply, Voltage and Split Core connections: 2,5mm ²
	<i>Internal Consumption</i>	< 0,5VA
	<i>Voltage</i>	85-265Vac./70-300Vdc
	<i>Internal Consumption</i>	< 10VA
	<i>Voltage and Frequency</i>	0,5%
	<i>Current, Powers, Power Factor and Energies</i>	0.5% for measurement on closed/inner core CTs 1% for measurement on Split Core and Bi-party CTs
ACCURACY at 25°C (77 °F), referred to the full scale	<i>Connection/Protocol</i>	Wi-Fi: Modbus-TCP & MQTT RS-485 ,Bluetooth: Modbus RTU LoRa: LoRaWan (LA915-928A)
	<i>RS-485 Cabling</i>	Shielded cables, with at least two twisted pairs (2x24 AWG), minimum section of 0.25mm ² and characteristic impedance of 120ohms.
	<i>Transmission Speed</i>	RS-485: 9600, 19200 (configurable) Ethernet: 10/100 Mbits/s
	<i>Addressing/ Data Format</i>	1 to 247 8N1, 8N2, 8E1 ou 8O1 (configurable)
COMMUNICATION	<i>Data storage and publication interval</i>	Minimum 1 minute (resolution only in minutes)
	<i>Quantity</i>	Up to 20 variables**
IoT DATA PUBLISHING AND MASS MEMORY	<i>Memory capacity</i>	16MB
	<i>I/O</i>	<i>Up to 3 Digital Inputs</i> Type: Open Collector Voltage required: 12~24Vdc Maximum Frequency: 2Hz Admittable pulse width: 200ms
DISPLAY	<i>Up to 2 Digital Outputs</i>	Relay Output, 250V – 2A (Ac or Dc)
	<i>LCD</i>	2 lines x 10 characters
CASE	<i>Material</i>	Thermoplastic
	<i>Mass</i>	0,325 Kg
	<i>Protection Degree</i>	IP-40
ENVIRONMENTAL CONDITIONS	<i>Operation Temperature</i>	Operation: -10 a 60 °C (14 to 140°F) Storage : -25 a 60 °C (-13 to 140°F)
	<i>Relative Air Humidity</i>	Maximum of 85% (without condensation)
STANDARDS	<i>Electrical Parameters</i>	IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 CISPR 11
	<i>Wi-Fi</i>	IEE 802.11 b, g, n Anatel Certification - 00038-18-10990

** Wi-Fi: Up to 20 parameters | Lora: Up to 10 parameters.

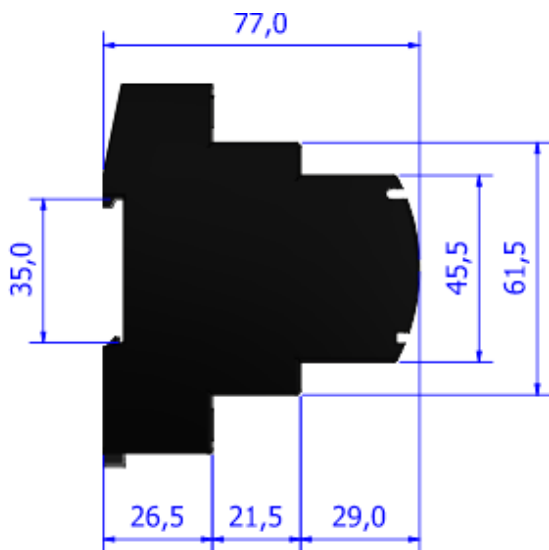
- For further information, see User Manual

DIMENSIONS

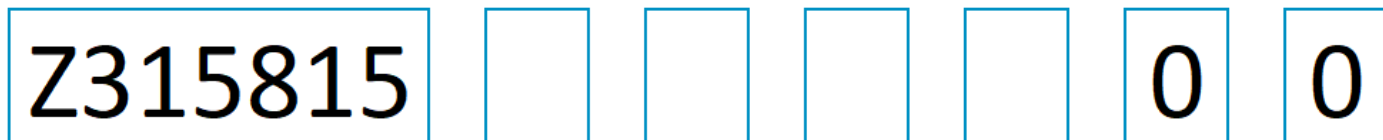
Front View



Side View



How to Specify:



Current Input:

- 1: 120A (Ø 13mm)
- 2: 5A (Ø 9mm)
- 5: Split Core 300A
- D: Split Core 600A
- H: Split Core 1000A
- I: Split Core 2000A

Frequency:

- 1: 60Hz
- 2: 50Hz

Communication:

- 1 - RS-485
- 2 - RS-485 + Ethernet + Wi-Fi + Bluetooth
- A - RS-485 + LoRa
- B - RS-485 + LoRa (Extension)

Digital Outputs and Inputs:

- 0 - No digital inputs or outputs
- 1 - 2 Inputs and 2 Outputs
- 2 - 3 Inputs and 1 Output

Standard Model: (Example)

Z315815 1 1 2 1 0 0

Konect 120 {120Aac -Direct Measurement } { Frequency 60Hz} {Communication RS-485 + Ethernet + Wi-Fi + Bluetooth} {2 Digital Inputs and 2 Digital Outputs}

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 For correct utilization of the product, the User Manual must be consulted before its installation or operation.
 Some items presented here may be optional, being necessary the correct product specification by their code.

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