

FEATURES

- The **Mult-K NG AQE 01** is a Power Quality Analyzer, conceived for measuring and recording campaigns of Steady-State Voltage, which procedures are stated in the ANEEL's PRODIST - Module 8, a Brazilian standard. Calculations of the electrical parameters are performed in accordance to the ABNT NBR IEC 61000-4-30 Class S, IEC61000-4-7 (harmonics) and IEC 61000-4-15 (flicker) standards.
- Designed for installing in Light Poles, the **Mult-K NG AQE 01** is provided with Alligator clips for voltage measuring.
- Measurement readings can be obtained locally (through an LCD display) or remotely, using the RS-485 output for communication.
- Includes specific non-volatile memories for recording of more than 1000 PQ events – sag, swell and interruptions - and storage of aggregated parameters (Class S), essential informations for power quality analysis.

APPLICATIONS

- Steady-State Voltage campaigns – PRODIST Module 8.
- Power Quality evaluations, statistics and reports
- Analysis of electrical circuits and equipments
- Any application related to electrical parameters measurements directly associated to voltage



POWER
QUALITY



LIGHT POLE



AGGREGATION
MEMORY



LCD



USB

PRODUCT INFO

PRODIST – MODULE 8 – REV. 12 – POWER QUALITY

- Steady-State Voltage (measurement campaign)
- SSV histograms
- DRP (precarious values) and DRC (critical values)
- Short-Term Voltage Variations (classification of PQ events - Sag, Swell, Interruptions)
- Impact factor calculation
- Frequency variations, with recording of minimum and maximum values
- Voltage unbalance
- Voltage fluctuations (PST- Flicker)
- Voltage THD (total, even, odd and multiples of third order) and Harmonics
- Percentile values for voltage unbalance, flicker and THD

INSTALLATION

- For installing in Light Poles
- IP-65 (outdoor use)
- Alligator Clips for Voltage measuring
- Technical support via e-mail, telephone, WhatsApp and YouTube videos

PQ EVENTS AND AGGREGATIONS RECORDING

- Contains specific non-volatile memories to record voltage events and aggregated parameters, essential informations for power quality analysis

INTERFACES, READINGS & CONFIGURATIONS

- Man Machine Interface (MMI) composed of an LCD display and three navigation keys, allowing local reading and setting/checking of configuration parameters
- RS-485 communication
- Software for reading and configuring: RedeMB
- MODBUS-RTU protocol, allowing integration to PLCs, master MMIs, data concentrators and supervisory systems

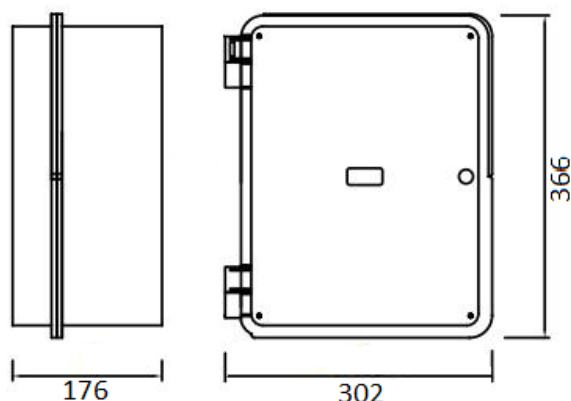
CONNECTION DIAGRAMS

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

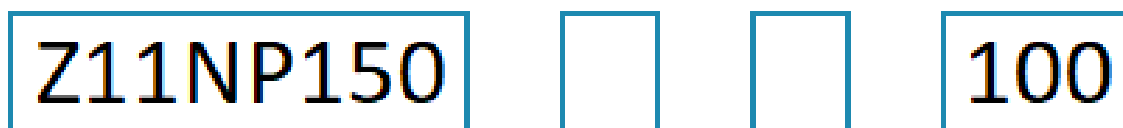
ELECTRICAL GREATNESSES	<i>Instantaneous</i>	Voltage (Ph-Ph, Ph-N and 3Ph), Frequency, THD-Voltage (Ph until 40 th order), Angles between phases , Pinst
	<i>Maximum and Minimum</i>	Voltage, Frequency (Ph and 3F) and THD (F)
POWER QUALITY	<i>Standard</i>	Prodist - Module 8, Revision 12
	<i>PQ Parameters</i>	Steady-State Voltage (Measurement Campaign – 1008 Readings) Voltage Harmonics (Ph until 40 th order) Voltage THD, TEHD, TOHD and TTHD(Ph) Short-Term Voltage Variations (PQ events - Sag, Swell, Interruptions) Voltage unbalance (%), PST and PLT (Flicker), Impact Factor (PQ events)
MEASUREMENTS AND INPUT INFO	<i>PQ events recording (duration)</i>	Minimum of 1 cycle (16,66 miliseconds)
	<i>Samples per Cycle</i>	128
	<i>Connections Diagrams</i>	Three-Phase (Star or Delta), Two-phase and Single-Phase
	<i>Voltage – Working Range</i>	60 to 280Vac [1.5 Vmax overload (1s)]
	<i>Frequency – Working Range</i>	50Hz: 42.5 to 57.5 Hz 60Hz: 51 to 69 Hz
	<i>Connection/cable length</i>	Alligator Clips (Dolphin type) 2 meters long
AGGREGATION MEMORY	<i>Cabling - Color Representation</i>	Blue: Voltage Va White: Voltage Vb Red: Voltage Vc Black: Neutral
	<i>Internal Consumption</i>	< 10 VA
	<i>Storage Capacity</i>	2MB (Maximum of 8 SSV measurement campaigns, 1008 readings each)
	<i>Recording Interval /Recording modes</i> <i>150 parameters</i> <i>(In accordance to Prodrist - Module 8)</i>	10 minutes (Class S – 10 minutes aggregations) Circular (FIFO) or Linear Voltage = V1, V2, V3 (also Min.,Max.) Hz (Min., Max) Voltage unbalance (%) THD, TEHD(even), TOHD(odd), TTHD (triplens) - V1, V2, V3(%) Harmonics V1, V2,V3 (%) – 2nd to 40th order PST and PLT (Phases 1, 2 and 3) Number of PQ events over a measurement campaign – MVV, TVV and LVV
POWER SUPPLY	<i>Voltage</i>	Self-powered: 60 to 280Vac (Voltage signal obtained from measurement circuit, consumption as mentioned in its info section)
ACCURACY at 25°C (77 °F), referred to the full scale	<i>Voltage</i>	± 0,5% (usually 0,2%)
	<i>Frequency</i> <i>THD and Harmonics</i>	±0,05Hz ± 5% * tests based on references described in Table 4 - item 4.6.2 of ANEEL Prodrist resolution - Module 8, Revision 7 and in Table 1, item 5.3 of IEC 61000-4-7 - 2002-08.
COMMUNICATION	<i>Connection/Protocol</i>	RS-485/USB: Modbus RTU
	<i>Transmission Speed</i>	9600, 19200, 38400 or 57600bps (configurable)
	<i>Adressing / Data Format</i>	1 to 247 (configurable) 8N1, 8N2, 8E1 or 8O1 (configurable)
DISPLAY	<i>LCD (blue)</i>	128x64 pixels, with backlight
CASE	<i>Material</i>	Thermoplastic
	<i>Mass</i>	5Kg
ENVIRONMENTAL CONDITIONS	<i>Protection Degree</i>	Case: IP-65 Voltage Clips: CAT III
	<i>Temperature</i>	Operation: 0 to 60°C (32 to 140°F) Storage: -25 to 70°C (-13 to 158°F)
	<i>Maximum Altitude</i>	1000 meters
	<i>Temperature Coefficient</i>	50ppm/°C
STANDARDS	<i>Relative Air Humidity</i>	Maximum of 100% (without condensation)
	<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 61000-4-7 IEC 61000-4-8 IEC 61000-4-11 IEC 61000-4-15 IEC 61000-4-30 "Classe S" CISPR 11

- For further information. see User Manual

DIMENSIONS



How to Specify:



Data Recording

5: E-32 -> Aggregation Memory

Communication

1: RS-485 to USB cable (standard item, always provided)

4: USB cable + GPRS modem*

5: USB cable + RS-485 to Ethernet converter*

* Ordering upon consultation, please contact technical support

The bold signaled items indicate the standard options, which have higher stock availability

Standard Model: (Example)

Z11NP150 5 1 **100**

Mult-K NG AQE 01 {Aggregation Memory} {RS-485 to USB cable}

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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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