

QNA 500

Modular power quality analyzer



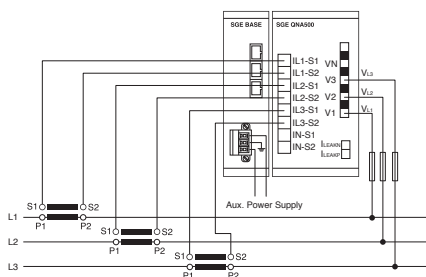
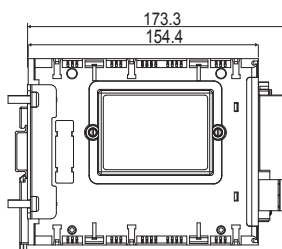
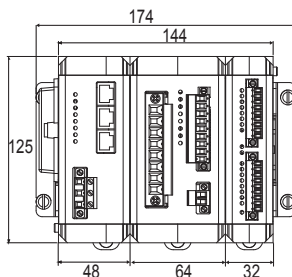
Description

QNA 500 is a modular power quality analyzer designed to measure and record the main electrical parameters and transient disturbances. The measurement is taken in true root mean square (TRMS), with 5 AC voltage inputs, 4 AC current inputs (via /5 A current transformers) and a leakage current input.

Applications

QNA 500 is designed to supervise the electric installation and problems relating to electric power quality, in order to control production processes and manage incidents. It integrates easily with **SCADA** applications and interacts with commercially available PLCs, and so can be part of more global data acquisition systems and report to users the information they require at any time. Its modularity and the addition of **M-8IO** modules enable the user to also control energy consumption, states of switches or loads, send alarms, and even connect/disconnect loads according to configurable conditions.

When combined with software, the user can configure customised reports to assess the correct running of the electric installation, and can apply standards such as the **EN-50160**, event tables such as **CBEMA**, **UNIPEDA** or others. By automating this information, the user can view the most important data needed for the relevant analysis with just one click .



Technical features

Auxiliary power supply (BASE)	Power supply voltage	90...300 Vac - 130...380 Vdc	
	Frequency	50 ... 60 Hz	
	Consumption	7 W / 11 VA (BASE) 4 W / 5 VA (QNA500) 6 W / 10 VA (8IO)	
Auxiliary power supply by battery (BASE)	Type	Removable battery	
	Battery life	15 minutes of continuous operation (QNA500) 1 minute of continuous operation (8IO)	
Voltage measurement (QNA 500)	Measurement circuit	3 or 4 wires	
	Measurement range	0...500 VP-N / 0...866 VP-P	
	Other voltages	Via measurement transformers	
	Maximum permanent measurement voltage:	1500 Vc.a.(F-F)	
	Maximum instantaneous measurement voltage:	1,2/50 μS (8/20 μS) 6 kV	
	Frequency	42.5...69 Hz	
	Sampling frequency	512 samples/cycle	
Current measurement (QNA 500)	Measurement range	1%...120% I_n ... $I_n = 5$ A	
	Maximum current	120% of I_n (for $I_n = 5$ A, $I_{max} = 6$ A) permanent, 100 A t < 1 s	
	Sampling frequency	512 samples/cycle	
Leakage current measurement (RCCB) (QNA 500)	Measurement range	0...3 A	
	Maximum current	3 A	
	Sampling frequency	64 samples/cycle	
Accuracy		Type	QNA-500-A QNA-500
	Voltage		0,1 % 0,2 %
	Current		0,1 % 0,2 %
	Power & Energy		0,2 % * 0,5 %
	Unbalance		± 0.15%
	Flicker		in accordance with IEC -61000-4-15
	Harmonics		in accordance with IEC -61000-4-7
Memory	2 GB memory (Micro SD card)		
Electrical safety	Category III - 300 Vac / 520 Vac		
	EN-61010 Double-insulated electric shock protection, class II		
Standards	IEC 664, VDE 0110, UL 94, IEC 801, IEC 348, IEC 571-1, EN 61000-6-3, EN 61000-6-1, EN 61010-1, EN 61000-4-11, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 55011, CE, IEC 61000-4-30 Class A or Class S		

* measurement according to IEC-61000-4-30

Variables

Log variables	Unit	L1	L2	L3	III
Phase-phase and phase-neutral voltage (effective, maximum, minimum)	V	•	•	•	•
Current (effective, maximum, minimum)	A	•	•	•	•
Neutral current (effective, maximum, minimum)	A				•
Neutral earth voltage (effective, maximum, minimum)	V				•
Frequency (effective, maximum, minimum)	Hz	•	•	•	
Active power (effective, maximum, minimum)	kW	•	•	•	•
Inductive reactive power (effective, maximum, minimum)	kVar	•	•	•	•
Capacitive reactive power (effective, maximum, minimum)	kVar	•	•	•	•
Apparent power (effective, maximum, minimum)	KVA	•	•	•	•
Maximum demand	kW	•	•	•	
Power factor (effective, maximum, minimum)		•	•	•	•
Crest factor (voltage and current)	V o A	•	•	•	
K factor		•	•	•	
Active energy	kWh	•	•	•	•
Inductive reactive energy	kVarh	•	•	•	•
Capacitive active energy	kVarh	•	•	•	•
Voltage THD or TDD (effective, maximum, minimum)	%	•	•	•	
Current THD or TDD (effective, maximum, minimum)	%	•	•	•	
Voltage harmonics (up to 50 th order)	Arm V	•	•	•	
Current harmonics (up to 50 th order)	Arm A	•	•	•	
Voltage interharmonics (up to 50 th order)	Arm V	•	•	•	
Current interharmonics (up to 50 th order)	Arm A	•	•	•	
Flicker (PST)		•	•	•	
Gaps	%	•	•	•	
Interruptions	%	•	•	•	
Overvoltage	%	•	•	•	
Voltage transients		•	•	•	
Current transients		•	•	•	
Voltage unbalance		•	•	•	
Current imbalance		•	•	•	

References

Type	Energy accuracy	Class	Harmonics	Events	Transitory log	Inputs / Outputs	Impulse centraliser	Demand control
K-QNA 500	0,5	S	50	•	•	-	-	-
K-QNA 500 8IO	0,5	S	50	•	•	8 / 8 digitals	•	-
K-QNA 500 8IOR	0,5	S	50	•	•	8 / 8 relay	•	•
K-QNA 500-A	0,2	A	50	•	•	-	-	-
K-QNA 500-A 8IO	0,2	A	50	•	•	8 / 8 digitals	•	-
K-QNA 500-A 8IOR	0,2	A	50	•	•	8 / 8 relay	•	•

Each unit is made up of a BASE module (power supply) + measurement module + relay module (depending on the type)

Type	Class	Inputs	Outputs	Memory	Web server	Communications
QNA 500	S	-	-	2 GB	•	-
QNA 500-A	A	-	-	2 GB	•	-
8IO	-	8	8 digitals	2 GB	•	-
8IOR	-	8	8 relay	2 GB	•	-
QD-500	-	Display module		-	-	RS-485/RS-232