

Accessories for power quality analyzers

## Reach for more capabilities









**Sonel**® global measurements

measurements

power supply

handling



### measurements



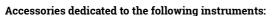
AGT-16T adapter

AGT-32P adapter



Adapters enabling the connection of instruments to singlephase or three-phase sockets in industry environments. Offered in three current load versions - 16 A, 32 A and 63 A - as well as variants with 4 and 5 pins for the 3-phase outlets.

Name	Intended use	Index
AGT-16T	16 A, 1-phase, 3-pole sockets	WAADAAGT16T
AGT-16C	16 A, 3-phase, 4-pole sockets	WAADAAGT16C
AGT-16P	16 A, 3-phase, 5-pole sockets	WAADAAGT16P
AGT-32T	32 A, 1-phase, 3-pole sockets	WAADAAGT32T
AGT-32C	32 A, 3-phase, 4-pole sockets	WAADAAGT32C
AGT-32P	32 A, 3-phase, 5-pole sockets	WAADAAGT32P
AGT-63P	63 A, 3-phase, 5-pole sockets	WAADAAGT63P







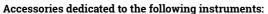


AGT-63P adapter

#### **Adapters for control terminals**

index: WAADAPRZKPL1

Adapters enabling the connection of the analyzer to terminal strips and test points in electrical switchgear units. Measuring category CAT II / 1000 V. The kit includes 5 adapters.



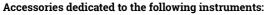




#### Magnetic voltage adapters

index: WAADAUMAGKPL

Adapters enabling the connection of the instrument directly to protective devices in the electrical switchgear. Fast and easy installation means electricians and maintenance personnel save time. Special design to prevent accidental disconnection of the adapter from the fixing point.







#### **Voltage adapters**

index: WAADAM4M6

Adapters enabling the connection of the analyzer directly to DIN rail terminal blocks in electrical switchgear units. Each adapter offers M4 / M6 thread. Versatility of this solution is unique on a global scale. The kit includes 5 adapters.

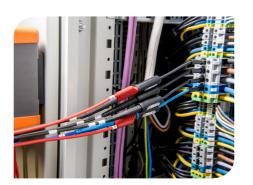
Accessories dedicated to the following instruments:













#### **AC-16 line splitter**

index: WAADAAC16

AC-16 has been designed to simplify current and voltage measurements: it eliminates the need to remove the electrical sockets. It is dedicated for use in earthed networks. The unit is equipped with a 1:1 (X1) ratio and 10:1 (X10) ratio. The maximum current load is 16 A. The adapter can be used with any type of clamps offered by SONEL S.A.



#### Accessories dedicated to the following instruments:





#### **GPS** antenna

index: WAPOZANT10GPS

The antenna allows time synchronization via GPS when the analyzer is used indoors. The length of the lead is 10 m. Thanks to a magnetic holder, the antenna can be mounted on any metal surface, e.g. transformer chamber door.



#### Accessories dedicated to the following instruments:





#### **Voltage probe with grasper**

index: WASONKGB1KPL

It is used for connecting voltage test leads in hard-to-access points. Examples of use: elements of switchgear cabinets: bolts, nuts or busbars. The kit includes 5 test probes.



Accessories dedicated to the following instruments:





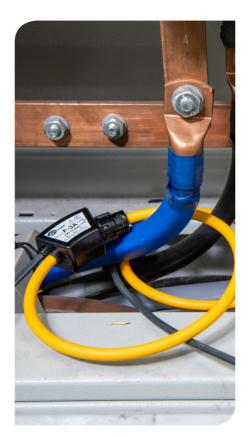
### measurements

#### Flexible coils



Flexible coils, also referred to as Rogowski coils, are used for measurements of alternating currents in hard-to-access points, where it is not possible to clamp fixed jaws. They enable the measurements of current levels up to 6000 A. With the 5-pin termination, they are connected directly to the power quality

Name	Diameter	Rated current	Type of current	Index
F-1A1		1.5 kA		WACEGF1A10KR
F-1A	Ø 360 mm	3 kA		WACEGF1AOKR
F-1A6		6 kA		WACEGF1A60KR
F-2A1		1.5 kA		WACEGF2A10KR
F-2A	Ø 235 mm	3 kA	AC	WACEGF2AOKR
F-2A6		6 kA		WACEGF2A60KR
F-3A1		1.5 kA		WACEGF3A10KR
F-3A	Ø 120 mm	3 kA		WACEGF3AOKR
F-3A6	_	6 kA		WACEGF3A60KR



#### Accessories dedicated to the following instruments:















#### **Current clamps**

Split-Core Current Clamps clamps are used for measuring alternating and direct currents. They are available in four variants of different diameters of the clamped conductor and the type of current to be measured. All models are terminated with a 5-pin



C-4A current clamp



C-5A current clamp





C-6A current clamp



C-7A current clamp

Rated Type of Index current C-4A Ø 52 mm 1000 A AC WACEGC4A0KR WACEGC5AOKR 1000 A C-5A Ø 39 mm AC/DC C-6A 10 A AC WACEGC6AOKR Ø 20 mm C-7A Ø 24 mm 100 A AC WACEGC7AOKR







### **Comparison of current clamps**

	C-4A	C-5A	C-6A	C-7A	F-1A1 / F-1A / F-1A6	F-2A1 / F-2A / F-2A6	F-3A1 / F-3A / F-3A6			
	WACEGC4AOKR	WACEGC5AOKR	WACEGC6AOKR	WACEGC7A0KR	WACEGF1A10KR WACEGF1A0KR WACEGF1A60KR	WACEGF2A10KR WACEGF2A0KR WACEGF2A60KR	WACEGF3A10KR WACEGF3A0KR WACEGF3A60KR			
Rated current	1000 A AC	1000 A AC 1400 A DC	10 A AC	100 A AC		1500 / 3000 / 6000 A AC				
Frequency	30 Hz10 kHz	DC5 kHz	40 Hz10 kHz	40 Hz1 kHz		40 Hz10 kHz				
Output signal level	1 mV 1 A	1 mV 1 A	100 mV 1 A	5 mV 1 A		77.6 / 38.8 / 19.4 μV 1 A				
Max. diameter of measured conductor	52 mm	39 mm	20 mm	24 mm	360 mm	235 mm	120 mm			
Min. basic accuracy	≤0,5%	≤1,5%	≤1%	0,5%		1%				
Battery power	-	√		_		_				
Lead length		2.2 m		3 m		2.2 m				
Measurement category		IV 300 V		IV 600 V						
Housing protection class		IP	40		IP67					



#### Accessories dedicated to the following instruments:



















## installation

#### **DIN rail mounting bracket** with positioning catches





index: WAPOZUCH3

Elements of this accessory kit enable the solid and permanent suspension of PQM devices on DIN rails, which are popular in switchgear cabinets. Thanks to the special design, the risk of accidentally knocking the instrument off is practically eliminated.

The bracket should be screwed to the rear panel of the analyzer, using the supplied screws. Additionally, the kit includes positioning catches. They are equipped with special hooks that are supported on the DIN rail to improve the stability of the instrument

#### Accessories dedicated to the following instruments:















#### Mounting on the pole

The analyzer is designed for operation in adverse weather conditions – it can be installed directly on power transmission poles. This is ensured by the kit, which includes:

- · mounting bracket for poles straps (2 pcs set),
- · straps for pole mounting.

It is an effective solution, appreciated by all fitters who can perform the task quickly and without the need to use additional tools.



#### **Mounting bracket for poles straps**

index: WAPOZUCH4

Screwed to the rear panel of the analyzer, they form slots for attaching the straps. This way, the instrument can be mounted on the pole.



#### Straps for mounting on the pole

index: WAPOZOPAKPL

Strap length is 120 cm. They can be used for mounting items on poles with different diameters or structures: both pre-stressed concrete and lattice steel types.

Accessories dedicated to the following instruments:







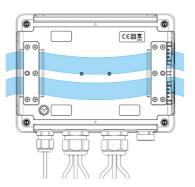














#### **Magnetic holders**

index: WAPOZUCH5

The set includes two holders that are screwed to the rear panel of the analyzer. They are used to mount the instrument on metal surfaces. Magnets with a high attraction force prevent the instrument from sliding down - e.g. on the doors of switchgear panels - despite the load resulting from the forces acting on the analyzer and measuring leads.



#### Accessories dedicated to the following instruments:













#### Cover with a magnetic strap

index: WAPOZUCH8

It is designed for fixing the analyzer to metal surfaces. It holds the power supply adapter. It allows measuring leads and power cables to be arranged. The kit includes a special case equipped with holders for the connection of the strap with a magnetic lock. Neodymium magnets used in the lock prevent the instrument from sliding down – also from painted metal surfaces.





Accessories dedicated to the following instruments:



## power supply



#### Power supply adapter AZ-1

Mains plug with banana sockets (L and N). It enabling the charging of the analyzer batteries from the power supply socket, while eliminating the need to connect the instrument to the measured object. It is particularly useful when copying data, analyzing results or transferring the configuration: there is no risk of the device battery unexpectedly discharging when performing such operations.



#### Accessories dedicated to the following instruments:















# **AZ-2 power supply adapter**

index: WAADAAZ2

Designed for charging the analyzer battery directly from the electrical switchgear. It is particularly useful during long-term monitoring on facilities, where using the grid socket is not possible. Safety stackable plugs enable the charging of the analyzer while still having the option to perform measurements. Connected to the power supply adapter with an IEC C8 connector, AZ-2 does not require any additional adapters to function properly.



#### Accessories dedicated to the following instruments:

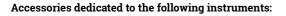
PQM-707



#### Cable for battery charging from car cigarette lighter socket (12 V)

index: WAPRZLAD12SAM

Connected directly to the analyzer. It enables the battery to be charged when the only available source of power is the cigarette lighter socket in a vehicle. Discharged battery? No available power outlet or circuits for instrument charging? Thanks to this accessory, all the required measurements can be carried out. The cable can be also used for other instruments offered by SONEL S.A.



PQM-707





## handling

#### L-8 carrying case (backpack)

index: WAFUTL8

The backpack has been designed to store all the accessories included in the standard kit of analyzers plus a tablet to use them.



The reinforced chamber for the tablet prevents accidental damage during transport. The pockets are designed for additional



#### Accessories dedicated to the following instruments:



#### L-2 hard carrying case

index: WAWALL2

It ensures the safe transport and storage of measuring clamps.



#### Accessories dedicated to the following instruments:













index: WAWALXL2

It ensures the safe transport and storage of the analyzer together with its accessories.



#### Accessories dedicated to the following instruments:













Photo	Name	Index	PQM-711	PQM-710	PQM-707	PQM-703	PQM-702T	PQM-702	PQM-700	Photo	Name	Index	PQM-711	PQM-710	PQM-707	PQM-703	PQM-702T	PQM-702	PQM-700
	AGT-16C adapter (for 3-phase outlets)	WAADAAGT16C		•	•		•	•	•		Li-lon 11.1 V 3.4 Ah battery	WAAKU15			1				
	AGT-16P adapter (for 3-phase outlets)	WAADAAGT16P		•	•		•	•	•		GPS antenna	WAPOZANT10GPS	•	•		•	•	•	
	AGT-16T adapter (for industrial outlets)	WAADAAGT16T		•	٠		•	•	•		flexible clamp F-1A (Ø 360 mm) 3 kA	WACEGF1AOKR	•	•		•	•	•	
	AGT-32C adapter (for 3-phase outlets)	WAADAAGT32C		•	٠	•	٠	•	•		flexible clamp F-2A (Ø 235 mm) 3 kA	WACEGF2AOKR	•	٠		٠	•	•	
	AGT-32P adapter (for 3-phase outlets)	WAADAAGT32P		•	٠		•	•	•		flexible clamp F-3A (Ø 120 mm) 3 kA	WACEGF3AOKR	•	•	4	•	•	•	
	AGT-32T adapter (for industrial outlets)	WAADAAGT32T		•	•		•	•	•		flexible clamp F-1A1 (Ø 360 mm) 1.5 kA F-1A6 (Ø 360 mm) 6 kA	WACEGF1A10KR WACEGF1A60KR		•			•	•	
	AGT-63P adapter (for 3-phase outlets)	WAADAAGT63P		•	•		•	•	•		flexible clamp F-2A1 (Ø 235 mm) 1.5 kA F-2A6 (Ø 235 mm) 6 kA	WACEGF2A10KR WACEGF2A60KR		•			•	•	
	Cable adapter for control terminals CAT II / 1000 V (5 pcs.)	WAADAPRZKPL1		•	•		•	•	•		flexible clamp F-3A1 (Ø 120 mm) 1.5 kA F-3A6 (Ø 120 mm) 6 kA	WACEGF3A10KR WACEGF3A60KR		•		•	•	•	
	magnetic adapter (set of 4 pcs.)	WAADAUMAGKPL	1	1	1	1	1	1	1		C-4A current clamp (Ø 52 mm) 1000 A AC	WACEGC4AOKR		•	•		•	•	
	magnetic adapter, black	WAADAUMAGKBL		•	•		•	•	•		C-5A current clamp (Ø 39 mm) 1000 A AC/ DC	WACEGC5AOKR					•	•	
	magnetic adapter, blue	WAADAUMAGKBU		•	•		•		•		C-6A current clamp (Ø 20 mm) 10 A AC	WACEGC6AOKR		•			•	•	
洲	voltage adapter with M4 / M6 thread	WAADAM4M6	1	1	•	1	1	1	•		C-7A current clamp (Ø 24 mm) 100 A AC	WACEGC7AOKR	•	٠		•	•	•	
	AC-16 line splitter adapter	WAADAAC16	1	1	1	1	1	1	•		L-4 carrying case	WAFUTL4			1				
	AZ-1 power supply adapter (mains plug / banana sockets)	WAADAAZ1	1	1		1	1	1	1		L-5 carrying case	WAFUTL5							1
	AZ-2 power supply adapter (IEC C7 plug / banana sockets)	WAADAAZ2			1						L-8 carrying case (backpack)	WAFUTL8	1	1					

Photo	Name	Index	PQM-711	PQM-710	PQM-707	PQM-703	PQM-702T	PQM-702	PQM-700
*	crocodile clip, black 1 kV 20 A	WAKROBL20K01	3	3	3	3	3	3	3
4	crocodile clip, red 1 kV 20 A	WAKRORE20K02	2	2	2	2	2	2	2
	crocodile clip, blue 1 kV 20 A	WAKROBU20K02	1	1	1	1	1	1	1
	crocodile clip, yellow 1 kV 20 A	WAKROYE20K02	1	1	1	1	1	1	
	OR-1 wireless receiver (USB)	WAADAUSBOR1				1	1	1	
<b>◆</b>	lead 2.2 m, black 1 kV (banana sockets)	WAPRZ2X2BLBB			3				
0	lead 2.2 m, blue 1 kV (banana sockets)	WAPRZ2X2BUBB			1				
0	lead 2.2 m, yellow-green 1 kV (banana sockets)	WAPRZ2X2YEBB			1				
	USB data transmission cable	WAPRZUSB	1	1	1	1	1	1	1
	pin probe, black 1 kV (banana socket)	WASONBLOGB1			•				
	pin probe, red 1 kV (banana socket)	WASONREOGB1			•				
	pin probe, blue 1 kV (banana socket)	WASONBUOGB1			•				
	pin probe, yellow 1 kV (banana socket)	WASONYEOGB1			•				
////	voltage probe with grasper (5 pcs.)	WASONKGB1KPL	•	•	•	•	•	•	•
B	temperature probe	WASONT2					1		

Photo	Name	Index	PQM-711	PQM-710	PQM-707	PQM-703	PQM-702T	PQM-702	PQM-700
	hanging straps (type L-2)	WAPOZSZEKPL			1				
	tablet	Tablet	1	1					
00	strap for mounting on the pole (set)	WAPOZOPAKPL	1	1		1	1	1	1
	DIN rail mounting bracket with positioning catches	WAPOZUCH3	1	1		1	1	1	1
	plates for pole mounting	WAPOZUCH4	2	2		2	2	2	2
38	magnetic holder for mounting the meter (2 pcs.)	WAPOZUCH5	•	•		•	•	•	•
	Case for hanging with a magnetic strap (universal)	WAPOZUCH8			•				
	hard carrying case for clamps	WAWALL2	•	•	•	•	•	•	•
	hard case for PQM-70X line	WAWALXL2	•	•		1	1	1	•
15	cable for battery charging from the car lighter socket 12 V	WAPRZLAD12SAM			1				
100	mains cable 230 V (IEC C7 plug)	WAPRZLAD230			1				
	Z7 power supply adaptor	WAZASZ7			1				
	1 2 /	1 – the numbe	r of	ha	ein	20	000	enr	ioc

1, 2, 4 – the number of basic accessories

• - additional accessory