

E-cber A

Accessories for the mobile Power Quality Analyzers PQ-Box family

Oct-19





Rogowski coil set CAT IV 600V

Current range: 1A to 3000A RMS, Accuracy: 1%

size: 61 cm (24"), set of 4 pieces

Diameter = 194mm, Rogowski clamp head = 9,9mm

Frequency range: 10Hz to 20kHz

Order code: 111.7001



Rogowski coil set CAT IV 600V

Current range: 1A to 6000A RMS, Accuracy: 1%

size: 91 cm (36"), set of 4 pieces

Diameter = 290mm, Rogowski clamp head = 9,9mm

Frequency range: 10Hz to 20kHz

Order code: 111.7006



Rogowski coil set CAT IV 600V

Current range: 1A to 500A RMS; Accuracy: 1%

size: 22 cm (9"), set of 4 pieces

Diameter = 70mm, Rogowski clamp head = 6,1mm

Frequency range: 10Hz to 50kHz





Current clamp 4 probes CAT III 600V

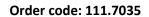
MU-Metal clamp with two switchable measurement ranges, 15 mm inner diameter, set of 4 pieces
(high precision – low angle error)
Switchable measurement range 0...20A...200A



Order code: 111.7015

Current clamp 4 probes CAT III 600V

Current clamp, 15 mm inner diameter, set of 4 pieces Measurement range 0...50A





Current clamp 3 probes CAT III 600V

MU-Metal Current clamp, 15 mm inner diameter set of 3 pieces , (special export edition)

Measurement range 0...20A





Accessoires	
Extension cable	
for current clamps & Rogowski Coils	
5m length, for 7-pole Amphenol plug, IP65	
Order code: 111.7025	
Adapter cable set	
with 4 mm banana plugs for connection	
of AC / DC clamp (111.7020) and other manufacturer	
Order code: 111.7004	
Current clamp one probe:	
10mA5A (100mV/A) AC, 4 mm banana plugs	
Note: Adapter cable, order code 111.7004 is necessary	
Order code: 111.7043	



AC / DC Current clamp (set)

One Current clamp with switchable measurement ranges 60A / 600 A (600mV output), power supply for permanent supply and two 4mm adapter sockets for adapter cable set.

The adapter cable set 111.7004 is required additionally and has to be ordered separately.



Order code: 111.7094

Magnetic voltage probe, 7mm

with 4 mm safety plug (3 x red,1 x blue) 7mm



Order code: 111.7008

Magnetic voltage probe, 6mm

with 4 mm safety plug (3 x black, 1 x blue) 6mm

Order code: 111.7045



Test plug

with 4 mm safety banana sockets for voltage Measurement at grounding receptacle universal socket

Order code: 582.0509





Accessoires	
Variogrip – voltage tap	
Adjustable voltage tap for hexagon socket screws, 5mm.	
Order code: 111.7051	
Variogrip – voltage tap	
Adjustable voltage tap for hexagon socket screws, 6mm.	
Order code: 111.7052	
Grip F – voltage tap	
Adjustable voltage tap for power bars, 030mm	
Order code: 111.7053	
Clutch – voltage tap	
Voltage tap for fast and reliable contact of pins / bolts	
Order code: 111.7065	
Spring Grabber- voltage tap	
Voltage tap for fast and reliable contact of pins / bolts	
Order code: 111.7066	
Test Tap – voltage tap	
Voltage tap for fast and reliable contact of sockets	
Order code: 111.7067	



Fuse voltage probe

High performance fuse (1A) with both sides 4mm banana plugs usage with voltage measurement cables of PQ-Box 100.



Order code: 111.7014 .02

Dolphin clamps

For tapping the measuring voltage for the PQ-Box. The set contains: 3x red, 1x blue, 1x green clamps 1000 V, CAT III / 32 A



Order code: 111.7024

Extension of measuring lead

To extant the measuring lead of the PQ-Box.

Length: 2m

Order code: 111.7054.00, black

111.7054.01, red 111.7054.02, blue





Accessoires	
Label set for measurement stripes	
Label set, different colored, to tag measurement stripes	
for international use.	376 376 376
	376 376
Order code: 111.7044	
Measuring adapter 400V, CAT III	
Adapter 5-phases including plug (32 A) and conductor	
to measure the voltage and current values.	
4 mm banana plugs to connect measurement stripes	100000
Order code: 111.7042	
Measuring adapter 400V, CAT III	
Adapter 5-phases including plug (16 A) and conductor	
to measure the voltage and current values.	
4 mm banana plugs to connect measurement stripes	
Order code: 111.7068	



Measuring adapter, 3-phase, 230V, CAT II

Adapter 3-phases including plug and conductor to measure the voltage and current values.

4 mm banana plugs to connect measurement stripes

Order code: 111.7056



Test plug

with 4 mm safety banana sockets for voltage Measurement at 16A CEE socket

Order code: 111.7072



Test plug

with 4 mm safety banana sockets for voltage Measurement at 32A CEE socket

Order code: 111.7073



GPS Clock for PQ-Box

radio controlled GPS-clock, RS232 for PQ-Box U_h : H1 or H2, with accessory

Order code: 111.9024.47 (H1)

H1: external AC 85V...110V...264V/DC88V...220V...280V

Order code: 111.9024.48 (H2) H2: external DC 18V ... 60V ... 72V





<u>USB – RJ45 extension cable</u>

Extension of USB cable via RJ 45, max 45m



Order code: 111.9030.51

USB - Ethernet Adapter

for remote readout (only PQ-Box 100)



Order code: 111.9030.43

UMTS connection for TCP interface

To connect the PQ-Box 150/200/300 via UMTS



Order code:

Basic Unit:	Tosibox Lock 100,	111.9030.55
Stick:	Tosibox Key 200,	111.9030.70
Modem:	USB-UMTS(3G) Modem,	111.9030.54
	Antenna adapter (3G),	111.9030.58
	USB-LTE (4G) Modem,	111.9030.63
	Antenna adapter (4G),	111.9030.64
Antenna:	Antenna, 8m cable,	111.9030.59
	Extension, 10m,	111.9030.60



LEMP Isolation cover

Small LEMP Isolation cover for PQ-Box 100 (only!) to cover measurement equipment during recording at the house connection box.

A simple and really rough case of a weak and steady isolation material allows a maximum way of safety. The cover could be locked by a locker, cable connector or seal at the cable sleeves.

Dimensions: 450x 250x250 mm

Order code: 111.7012



LEMP Isolation cover for PQ-Box, small

LEMP Isolation cover for PQ-Box to cover measurement equipment during recording at house connection-box.

A simple and really rough case of a weak and steady isolation material allows a maximum way of safety.

The cover could be locked by a locker, cable connector or seal at the cable sleeves.

Dimensions: 470x300x240 mm

Order code: 111.7071



LEMP Isolation cover for PQ-Box, large

LEMP Isolation cover for PQ-Box to cover measurement equipment during recording at house connection-box.

A simple and really rough case of a weak and steady isolation material allows a maximum way of safety.

The cover could be locked by a locker, cable connector or seal at the cable sleeves.

Dimensions: 735x435x240 mm





Calib Box

Calibration set for PQ-Box 100/150/200/300 for connecting a calibrator, (default 230V). Adjustment of all U / I inputs via software with report

Order code: 111.7039



Factory calibration current clamp set

Measurement points: 1A, 5A, 10A

Order code: 200.0101

Prüfbescheinigung

Test certificate

Factory calibration rogowski coil set

Measurement points: 250A, 500A, 1000A

Order code: 200.0102

Prüfbescheinigung

Test certificate

DAkkS calibration of PQ-Box

Depending on the complexity of the desired measurement points and test accessories.

The PQ-Box, current clamp and / or rogowski coil is checked by an external calibration laboratory and returned with report document.

PQ-Box Order code: 200.0201

<u>current clamp set</u> Order code: 200.0202

<u>rogowski coil set</u> Order code: 200.0203

PQ-Box with

<u>current clamp set</u> Order code: 200.0204

PQ-Box with

rogowski coil set Order code: 200.0205

PQ-Box with

current clamp set and

<u>rogowski coil set</u> Order code: 200.0206





Carrying box PQ-Box 50

Carrying box with forms for PQ-Box 50 and accessories. Case dimensions 450x 360x 123mm
Plastic material, color black, Weight 1500 g



Order code: 582.0040

Carrying bag PQ-Box 50

Carrying bag, textile with forms for PQ-Box 50 and accessories Bag dimensions 420x 340x 85mm Weight 1.300 g



Order code: 582.0032.01

Protection cover

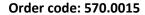
Protection cover for PQ-Box 50 A simple and really rough case to protect your PQ-Box 50. Material color black



Order code: 564.0515

Battery- Pack for PQ-Box 50

For PQ-Box 50







Accessoires	
PQ-Box 50 Upgrade Basic (B0) to Light (B1) Order code: 900.9298 Note: serial number required	PQ-Box 50 PQ-Box 50 Upgrade: Basic - Light Feature: B1
PQ-Box 0 Upgrade Light (B1) to Expert (B2) Order code: 900.9299 Note: serial number required	PQ-Box 50 PQ-Box 50 Upgrade: Light to Expert Feature: B2
PQ-Box 50 Upgrade Basic (B0) to Expert (B2) Order code: 900.9297 Note: serial number required	PQ-Box 50 PQ-Box 50 Upgrade: Basic to Expert Feature: B2
PQ-Box 50 Upgrade Ripple control analysis (R0) to (R1) Order code: 900.9296 Note: serial number required	PQ-Box 50 PQ-Box 50 Upgrade: RSA Feature: R1
PQ-Box 50, Service package I Recalibration with certificate and inspection sticker Order code: 200.0013	Prüfbescheinigung Test certificate



Carrying box PQ-Box 100

Carrying box with forms for PQ-Box 100 and accessories. Case dimensions 534x 427x 157mm
Plastic material, Weight 3.900 g



Order code: 582.0033

Carrying bag PQ-Box 100

Carrying bag, textile with forms for PQ-Box 100 and accessories Bag dimensions 420x 340x 85mm Weight 1.300 g



Order code: 582.0032.01

Protection cover

Protection cover for PQ-Box 100 A simple and really rough case to protect your PQ-Box 100. Material color orange



Order code: 564.0500



Accessoires	
PQ-Box 100 Upgrade Basic (B0) to Light (B1) Order code: 900.9090 Note: serial number required	PQ-Box 100 PQ-Box 100 Upgrade: Basic - Light Feature: B1
PQ-Box 100 Upgrade Light (B1) to Expert (B2) Order code: 900.9091 Note: serial number required	PQ-Box 100 PQ-Box 100 Upgrade: Light to Expert Feature: B2
PQ-Box 100 Upgrade Basic (B0) to Expert (B2) Order code: 900.9093 Note: serial number required	PQ-Box 100 PQ-Box 100 Upgrade: Basic to Expert Feature: B2
PQ-Box 100 Upgrade Ripple control analysis (R0) to (R1) Order code: 900.9092 Note: serial number required	PQ-Box 100 PQ-Box 100 Upgrade: RSA Feature: R1
PQ-Box 100, Service package I Recalibration with certificate and inspection sticker Order code: 200.0001	Prüfbescheinigung Test certificate
PQ-Box 100, Service package II Recalibration with certificate and inspection sticker New Akku New SD-Karte, 2GByte Order code: 200.0002	Prüfbescheinigung Test certificate



Zubehör	
Carrying box PQ-Box 150 Carrying box with forms for PQ-Box 150 and accessories. Case dimensions 534x 427x 157mm Plastic material, Weight 3.900 g Order code: 582.0038	
PQ-Box 150 Upgrade Basic (B3) to Basic+ (B2) Order code: 900.9398 Note: serial number required	PQ-Box 150 PQ-Box 150 Upgrade: Basic to Basic+ Feature: B3 → B2
PQ-Box 150 Upgrade Basic+ (B2) to Light (B0) Order code: 900.9390 Note: serial number required	PQ-Box 150 PQ-Box 150 Upgrade: Basic+ to Light Feature: B2 → B0
PQ-Box 150 Upgrade Light (B0) to Expert (B1) Order code: 900.9391 Note: serial number required	PQ-Box 150 PQ-Box 150 Upgrade: Light to Expert Feature: B0 → B1
PQ-Box 150 Upgrade Basic+ (B2) auf Expert (B1) Order code: 900.9393 Note: serial number required	PQ-Box 150 PQ-Box 150 Upgrade: Basic+ to Expert Feature: B2 → B1
PQ-Box 150 Upgrade Basic (B3) to Light (B0) Order code: 900.9399 Note: serial number required	PQ-Box 150 PQ-Box 150 Upgrade: Basic to Light Feature: B3 → B0
PQ-Box 150 Upgrade Basic (B3) auf Expert(B1) Order code: 900.9400 Note: serial number required	PQ-Box 150 PQ-Box 150 Upgrade: Basic to Expert Feature: B3 → B1



Zubehör	
PQ-Box 150 Upgrade Ripple control analyses (R0) to (R1) Order code: 900.9392 Note: serial number required	PQ-Box 150 PQ-Box 150 Upgrade: RSA Feature: R1
PQ-Box 150 Upgrade Wifi (S0) to (S1) Order code: 900.9397 Note: serial number required	PQ-Box 150 PQ-Box 150 Upgrade: Wifi Feature: S1
PQ-Box 150, Service package I Recalibration with certificate and inspection sticker Order code: 200.0031	Prüfbescheinigung Test certificate



Accessoires	
Carrying box PQ-Box 200 Carrying box with forms for PQ-Box 200 and accessories Case dimensions 534x 427x 157mm plastic material, weight 3.900 g Order code: 582.0035	FD 804.200
Protection braces for PQ-Box 200 Protection braces for PQ-Box 200 set of 2 pieces with strap, Material color orange Order code: 564.0510	
PQ-Box 200 Upgrade Ripple control analyses (R0) auf (R1) Order code: 900.9094 Note: serial number required	PQ-Box 200 PQ-Box 200 Upgrade: RSA Feature: R1
PQ-Box 200 Upgrade Wifi (S0) to (S1) Order code: 900.9396 Note: serial number required	PQ-Box 200 PQ-Box 200 Upgrade: Wifi Feature: S1
PQ-Box 200 Upgrade Transient measuring board (T0) auf (T1) Order code: 200.0020 Note: device must be sent in for retrofitting	PQ-Box 200 PQ-Box 200 Upgrade: Transientenkarte Feature: T1
PQ-Box 200, Service package I Recalibration with certificate and inspection sticker Order code: 200.0011	Prüfbescheinigung Test certificate



Accessoires **Carrying box PQ-Box 300** Carrying box with forms for PQ-Box 300 and accessories Case dimensions 534x 427x 157mm plastic material, Weight 3.900 g Order code: 582.0039 Protection braces for PQ-Box 300 Protection braces for PQ-Box 300 set of 2 pieces with strap, Material color black Order code: 564.0514 PQ_□Box 300 PQ-Box 300 Upgrade **PQ-Box 300** Ripple control analyses (R0) auf (R1) **Upgrade: RSA** Order code: 900.9394 Feature: R1 Note: serial number required PQ-Box 300 PQ-Box 200 Upgrade **PQ-Box 300** Wifi (S0) to (S1) **Upgrade: Wifi** Order code: 900.9395 Feature: S1 Note: serial number required PQ-Box 300, Service package I Prüfbescheinigung Recalibration with certificate and inspection sticker

Order code: 200.0012

Test certificate



Carrying bag PQ-Box 150/200/300

Carrying bag textile with forms for PQ-Box 150/200/300 and accessories.

Case dimensions 475x 365x 65 mm, Weight 600 g

Order code: 582.0036

Locker for PQ-Box 150/200/300

Locker with steel cable (length 1,8 m)to lash PQ-Box 150/200/300.







Adapter cable set for PQ-Box 200/300

with 4 mm banana plugs for connection of AC / DC clamp (111.7020) and other manufacturer

Order code: 111.7028



Irradiance sensor and temperature probe

Irradiance sensor and temperature probe for PQ-Box 200/300

Measurement range: 0..1000W/m², -30..70°C, 0..1V The power supply 111.7049 is required additionally and has to be ordered separately.

Order code: 111.7040



Temperature sensor probe

Temperature sensor probe for PQ-Box 200/300 $\,$

Measurement range: 20..80°C – 0..1V

The power supply 111.7049 is required additionally and

has to be ordered separately.



Power supply

Power supply 230V AC, Output 15V DC, 400 mA

Order code: 111.7041





DCF 77 Radio controlled clock for PQ-Box 150/200/300

DCF 77 Radio controlled clock for PQ-Box incl. rotating wall holder, connection cable and documentation

output: RS232



Order code: 111.9024.01

Wide range power supply for PQ-Box 150/200/300

Range: 88V \dots 500V AC / 100V \dots 300V DC 600V CAT IV, IP 65, Set with two adapter cables

Order code: 111.7069



Adapter cable

As a junction at a measuring point

For use with power supply you need two pieces

Order code: 582.2037



Wide range power supply Set

1x Wide range power supply (111.7069)

1x Test plug (582.0509)

2x Adapter cable (582.2037)

Order code: 111.7069.10





Accessoires	
Battery- Pack for PQ-Box 150/200/300	Annual Administration of the Control
For PQ-Box 150/200/300	Commence of the commence of th
Order code: 570.0011	
Micro-SD-Card 4GB for PQ-Box 150/200/300	B 28 8
For PQ-Box 150/200/300	Service Servic
Order code: 900.9098.04	5
Micro-SD-Card 8GB for PQ-Box 150/200/300	
For PQ-Box 150/200/300	See
Order code: 900.9098.08	*









Netzanalysator Typ	PQ-Box 50		PQ-Box 150			PQ-Box 200		PQ-Box 300		
Gerätevariante	Basic	Basic Light Expert		Basic	Basic+	Light	Expert	T0	TI	HF
Speichergröße in Gbyte (Speicher optional)		1			4 (3	32)		4 (32)		8 (32)
Abtastfrequenz Spannung	20,46 kHz		20,46 kHz				40,96 kHz		409,60 kHz	
Abtastfrequenz Strom	20,46 kHz			20,46	kHz		40.96 kHz		40,96 kHz	
Abtastfrequenz Transientenmesskarte	_		_			_	4 MHz	409.60 kHz		
Eingänge Spannung (Auflösung AD-Wandler)	4 (16-bit)		4 (24-bit)				4 (24-bit)		4 (24-bit)	
Eingänge Strom		4 (16-8	-	4 (24-bit)			5 (24-bit)		5 (24-bit)	
Betriebszeit über Akku		4.0 1		4.0 h			4.0 h 3.5 h		3.5 h	
Schutzklasse		IP65		4,0 n			1P65		IP65	
	-	-	,		IFE	-		•	•	11-03
Analogeingang (1000 mV)	-	_	-	-	_	-	-	-	•	•
Binăreingang (0-250 V AC/DC)	-	-	-	_	-	-	_	•	•	•
Automatische Normauswertung und Ereigniserfassung nach EN50160/IEC 61000-2-2/IEC 61000-2-12/IEC 61000-2-4 (Klasse 1; 2; 3)/NRS048 /IEEE 519/VDE AR-4105	-	•	•	•	•	•	•	•	•	•
Aufzeichnung freies Intervall 1 sec bis 30 min:										
Aufzeichnung 200 msec und 3 sec Intervall zusätzlich zu freiem Intervall		-		•			•	•	•	
Spannung & Strom: Mittel-, ½ Perioden-Minimal-, Maximalwert	•	•	•	•	•	•	•	•	•	•
Leistung: P, Q, S, PF, $cos(\phi)$, $sin(\phi)$, $tan(\phi)$	•		•		•		•	•	•	•
Verzerrungs-, Grundschwingungs-, Modulations-, Unsymmetrieblindleistung	•	•	•	•	•	•	•	•	•	•
Energie: P, Q, P+, P-, Q+, Q-	•		•		•			•	•	•
Flicker (Pst, Plt, Pinst)	-		•	-	•	•	•	•	•	•
Unsymmetrie Strom und Spannung; Gegensystem, Mittsystem, Nullsystem				-	•	•		•		•
Spannungsharmonische nach IEC 61000-4-30 Ed. 3 Class A - bis H50.	-		•	-	•		•	•	•	•
Spannungsharmonische Extremwerte 2. bis 50. (200 ms RMS)	<u> </u>	_	_	_	_					•
Phasenwinkel der Spannungs und Stromharmonischen	-	-	_	_	_			•		
Spannungsharmonische 200 Hz Frequenzbänder - 2 kHz bis 9 kHz (IEC 61000-4-7)	-	-	-	-	-	-	•	•	•	•
Supraharmonische 2 kHz bis 170 kHz (200 Hz / 2 kHz Frequenzbänder)	-	-	_	_	_	_	_	-	_	•
Stromharmonische 2. bis 50.	-			_	•	•	0	•		•
Stromharmonische Extremwerte 2. bis 50. (200 ms RMS)	† <u>-</u>	-	_	_	_			•		
Stromharmonische 200 Hz Frequenzbänder 2 kHz bis 9 kHz	-	_	_	_	_	_		•		
Wirk-, Blind-, Scheinleistung und Phasenwinkel Harmonische	<u> </u>	-	_	_	_			•		
THD U und I : PWHD U und I : PHC					•			•		
FFT Berechnung bis	-	10	kHz	_	_		kHz		kHz	170 kHz
	-	_	, KIIZ	_		•	K/12		NHZ	170 KHZ
Rundsteuersignal 100 Hz bis 3 kHz (200 ms RMS Maximalwerte)	-	-	-	_	-				-	
Frequenz, 10 sec, Mittel-, Minimal-, Maximalwert	•	•	•	•	•	•	•	•	•	•
10/15/30 min Intervall Leistungswerte P, Q, S, D, $cos(\phi)$, $sin(\phi)$, $tan(\phi)$	•	•	•	•	•	•	•	•	•	•
Online Modus	-									
Oszilloskopbild - Abtastfrequenz		20,46 k	dHz		20,46			40,9	6 kHz	409,60 kHz
Leistungsdreieck 3D für Wirk-, Blind, Schein- und Verzerrungsblindleistung	-	•	•	•	•	•	•	•	•	•
Spannungs-, Strom-, Zwischenharmonische (U,I)	-		•	-	•		•		•	•
Online Spektralanalse	-	-	DC bis 10 kHz	-		DC bis 10 kHz		DC bis 20 kHz		DC bis 200 kHz
Spannungs-, Stromharmonische 200 Hz Frequenzbänder - 2 kHz bis 9 kHz	-	-	-	-	-	-	•	•	•	•
Supraharmonische bis 200 kHz (200 Hz; 2 kHz Frequenzbänder)	-	-	-	-	-	-	-	-	-	•
Richtung der Harmonischen und Phasenwinkel Stromharmonische	-	-	•	-	-	•	•	•	•	•
Triggerfunktionen (Oszilloskop / TRMS)										
Manueller Trigger über Taste	-	-	-	-	•	•	•	•	•	•
Effektivwert-Trigger Unterschreitung und Überschreitung (U, I)	-	-	•	-	•	•	•	•	•	•
Effektivwert-Trigger Sprung (U, I)	-	-	•	-	•	•	•	•	•	•
Frequenztrigger Unterschreitung, Überschreitung, Sprung	-	-	•	-	-	•	•	•	•	•
Phasensprung-Trigger	-	-	•	-	-	•	•	•	•	•
Hüllkurven-Trigger	-	-	•	-	_	•	•	•	•	•
Intervall-Trigger; Automatik-Trigger	-	-	•	-	_		•	•	•	•
Trigger auf Binäreingang (0 – 250 V AC/DC; Schwelle 10 V)	-	-	_	-	_	-	-	•	•	•
Option RI Rundsteueranalyse Rekorder für Spannung und Strom 100 Hz bis 3 kHz	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI
Option \$1 WLAN / Wifi	•	•	•	SI	SI	SI	SI	SI	SI	SI



Warranty Conditions:

Warranty: 1 year from date of delivery for accessories & 3 years for PQ-Boxes.





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Version: 10/7/2019 3:15 PM