

We take care of it.



40 Years of experience in measure and regulation technology



Founded in 1980  
and located at „FrankenCampus“ in Nuremberg



140 Employees  
all dedicated to our corporate mission:  
*Clarity, Openness & Fairness*



Active at all voltage levels  
in production, transport and  
distribution of electrical energy



Operating internationally  
in approx. 65 countries

A. Eberle GmbH & Co. KG

Frankenstraße 160  
90461 Nürnberg  
Deutschland

+49(0)911 628108-0  
info@a-eberle.de  
www.a-eberle.de



Management System  
ISO 9001:2015  
ISO/IEC 27001:2013  
www.tuv.com  
ID 9000008637

Don't miss out on important information such as new products, user tips, events and more.  
Sign up here for the international A. Eberle newsletter: [www.a-eberle.de/newsletter](http://www.a-eberle.de/newsletter)

# Measure. Regulate. Across all grids.

Shaping the grid infrastructure of tomorrow  
– this is our goal.

With our future-oriented solutions, we help our customers  
to face future challenges.

## Product overview

	REG-D REG-DA		REG-DP REG-DPA		MCI	CIF	HPCI	EOR-3DS EOR-IDS		LVRSys Outdoor	LVRSys Indoor	
<b>Design</b>	Various Designs 19" plug-in module, surface-mounted and panel-mounted housing	Metal Housing for wall mounting housing, Panel mounting housing and din-rail mounting	Various Designs 19" plug-in module, surface-mounted and panel-mounted housing	Metal Housing for wall mounting housing, Panel mounting housing and din-rail mounting	Wall Mount Housing	Various Designs in outdoor or indoor control cabinet or on mounting plate	Various Designs in outdoor or indoor control cabinet or on mounting plate	Various Designs Panel mounting housing, or alternatively mountable on DIN rail mounting	Various Designs Panel mounting housing, or alternatively mountable on DIN rail mounting	Various depending on requirements		
<b>Function 1</b>	Regulation and control of transformers with on-load tap-changers		Reliable Earth Fault Compensation		8 Frequency multifrequency current injection (15 - 160 Hz)	2-Frequency current injection	2-Frequency current injection and pulse cabinet	Earth-Fault and Short-Circuit Indicator for intelligent sub-stations	Earth-Fault and Short-Circuit Indicator (directed/undirected)	High resistance to over voltages, direct and indirect lightning strikes	Voltage stabilization for longer lasting & more efficient machines	
<b>Function 2</b>	Limit value monitoring, parallel operation with ParaGramer, current influence, detection of creeping network failures		Expandable with Current Injection for low or highly variable zero-sequence voltages		Calculation of detuning without coil procedure		Fault Recorder and Logbook for precise error analysis		Overload capable like NH fuse			
<b>Function 3</b>	Applications: Voltage Regulation, three winding transformer, transformer banks, phase shifting transformers, variable shunt reactor		Parallel control		Usable for networks up to 1300 A Ice (20 kV)	Usable for networks up to 1000 A Ice (20 kV)	Usable for networks up to 1000 A Ice (20 kV)	Compatible to many low power sensors	Incl. Rogowski Coil Sensors and low power Sensors	No grid interference causes no flicker or harmonics	Robust Tolerates harmonics and flicker	
<b>Function 4</b>	Voltage control system can be created by adding further options or devices	Configurable hardware with various options	Resistance control		Inductance not necessary	16 A Inductance for Current Injection incl. automatic power adjustment and phase selection		Additional intelligent functions through free programm- ability		Highly efficient > 99,5 %		
<b>Function 5</b>	Expandable by customer specific programming		Expandable by customer specific programming		–	–	Pulse location with up to 140 A second- ary pulse stroke in case of earth fault (up to 30 min)	2x Ethernet 100 mm mounting depth	Long-life Capacitor for >4h operation	Easy installation as a cable distribution cabinet	Intuitive operating concept Simplest parameterization via display	
<b>Function 6</b>	SCADA Protocolls: IEC 61850 inkl. GOOSE and Sampled Values, IEC 60870-5-101/103/104, Modbus, DNP 3.0, Spabus, Profibus-DP		IEC 61850 incl. GOOSE and Sampled Values, IEC 60870-5-101/103/104, Modbus, DNP 3.0, Spabus, Profibus-DP		SCADA via REG-DP(A)			SCADA Protocolls: IEC 61850 GOOSE, IEC 60870-5-101/103/104, Modbus, Modbus-Master, DNP 3.0, MQTT IoT, MQTT Management & Operations		Adjustable response time of the controller < 30 ms to 100 s		Immediate regulation < 30 ms response time
<b>Software/ Function 7</b>	AEToolbox		AEToolbox		AEToolbox via REG-DP(A)	AEToolbox via REG-DP(A)	AEToolbox via REG-DP(A)	AEToolbox (encrypted TCP/IP communication)	No Software save & load parameters via SD-Card	Operating Temperature -40°C up to +50°C ambient temperature		

»REGSys®« – Voltage Regulation

»EORSys®« – Earth Fault Compensation

»EORSys®« – Current Injection

»EORSys®« – Short-Circuit and Earth Fault Indicators

»LVRSys®« – Low Voltage Regulation

We take care of it.



Comparison Power Quality Tools

Easy to operate,  
highly accurate.



Option	PQ-Box 50	PQ-Box 150	PQ-Box 200	PQ-Box 300
Data memory (memory optional)	1 GB	4 (32) GB	4 (32) GB	8 (32) GB
Sampling frequency voltage / transient measurement	20,48 kHz / -	20,48 kHz / -	40,96 kHz / 4 MHz	409,60 kHz / 409,60 kHz
Sampling frequency current	20,48 kHz	20,48 kHz	40,96 kHz	40,96 kHz
Input voltage (resolution)	4 (16-bit)	4 (24-bit)	4 (24-bit)	4 (24-bit)
Input current (resolution)	4 (16-bit)	4 (24-bit)	5 (24-bit)	5 (24-bit)
Bridging energy failure	1,5 h	4,0 h	4,0 h	3,5 h
IP protection	IP65	IP65	IP65	IP65
Voltage harmonics according to IEC 61000-4-30 Ed. 3 Kl.A	-	•	•	•
Voltage harmonics 200 Hz frequency bands - 2 kHz to 9 kHz (IEC 61000-4-7)	-	-	-	•
Display (Inch)	-	• (4,5)	• (4,5)	• (4,5)
Digital In- and Outputs (Trigger)	-	-	1/0	1/0
Residual Current Monitoring RCM & FCM	-	-	• (accessories)	• (accessories)
Temperature input for PT100 / PT1000 / KTY	-	-	• (accessories)	• (accessories)
Automatic evaluation according to norms	-	•	•	•
Magnitude V,A	< 0,1 %	< 0,05 %	< 0,05 %	< 0,05 %
Voltage and current harmonics up to	H50	9 kHz	20 kHz	160 kHz
WiFi Option	•	•	•	•
FFT bandwidth up to	10 kHz	10 kHz	20 kHz	170 kHz

»PQMobil« – mobile Power Quality analysers

»PQSys« – fixed-installed Power Quality analysers

Do you have any questions or would you like advice on our solutions?  
Please feel free to contact us at sales@a-eberle.de



PQI-LV	PQI-DA smart	PQI-DE	I-Sense
Low Voltage	Low-, Medium-, High Voltage		
> 2 years	> 2 years	> 2 years	
40,96 kHz / 40 kHz	40,96 kHz / 40 kHz	40,96 kHz / 40 kHz	
40,96 kHz optional	40,96 kHz optional	bis zu 40,96 kHz	
4 (16-bit)	4 (16-bit)	4 (16-bit)	
4 (16-bit)	4 (16-bit)	5 (16-bit)	
Supercap	Supercap	Supercap	
IP20	IP20	IP54	
•	•	•	
2 - 20 kHz	2 - 20 kHz	2 - 20 kHz	
n.A.	• (1,7)	• (5,0)	
n.A.	2/2	8/4	
-	-	•	
-	-	•	
•	•	•	
< 0,1 %	< 0,05 %	< 0,05 %	
2 - 20 kHz	2 - 20 kHz	2 - 20 kHz	
-	-	-	
20 kHz	20 kHz	20 kHz	

With the new »I-Sense« technology for our fixed installed power quality analysers PQI-LV, PQI-DE & PQI-DA smart, it is now possible to measure feeder current in the secondary substation securely, easily and economically for up to 16 feeders. The installation is easy and quick using Rogowski coils and, in addition to current measurement in the feeders, the system also offers the option of highly sophisticated power quality monitoring at the secondary substation transformer.

Power Quality Services

- Expert knowledge, tailored to your requirements
- Network analysis according to EN 50160 and IEC 61000-2-2, -2-4, -2-12
- Discover the causes of grid problems quickly and in a targeted way
- Problem-focused assessment for every application
- Use of our high-quality Power Quality Analysers



We support you with our expertise and our well-equipped device lending pool including all necessary measurement accessories. After the network analysis, we will develop a solution with you based on the measurement data and evaluation.



We take care of it.



»PQSys« - Software

WinPQ – high-quality PQ analysis software  
WinPQ system solution for all fixed-installed fault recorders, power quality measuring devices and mobile network analyzers from A. Eberle. Permanent monitoring of power quality - from high voltage to the end customer in one system.



WebPQ® – the intelligent add-on for WinPQ  
The fully responsive & web-based user interface as an installable app for evaluating your power quality data in your local IT environment.

»PQMobil« - Software

- WinPQ mobil
- Extensive evaluation functions such as load analysis or the ability to determine the cause of network faults
- Automatic report creation to preset or freely adjustable standard settings
- Free software and free updates of the evaluation software and device firmware

PQ-Box App for Android and iOS  
A free app for Android and iOS operating systems allows all PQ Boxes with integrated WLAN/Wi-Fi interfaces to be operated wirelessly. All measuring devices can also be parameterised very easily using smartphone or tablet.

