a-eberle *Africa*

A. Eberle Africa (Pty) Ltd has been an approved supplier of voltage regulation - REG-D and REG-DA - for more than 25 years. The relays have been supplied directly from Germany to various systems integrators in South Africa.
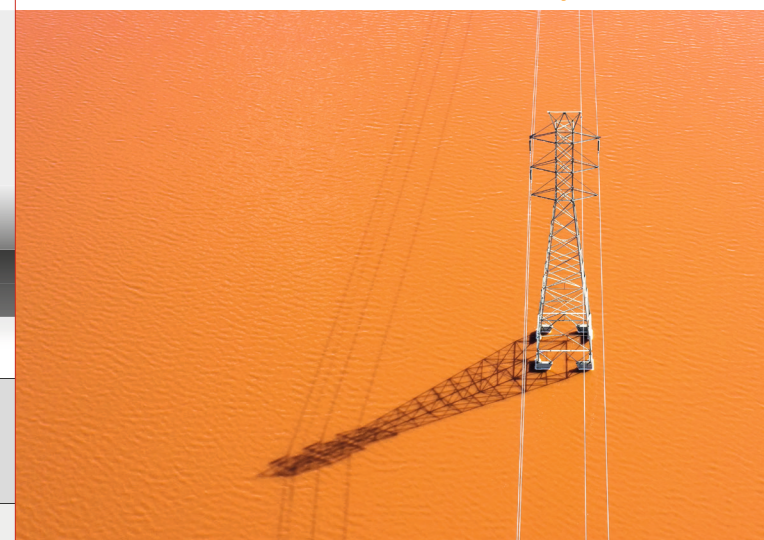
A. Eberle Germany has had a distributor of the main product portfolio in Southern Africa - **Magnet Electrical Supplies (Pty) Ltd** - to support products not only in sales, but especially in after sales service and in marketing for new business opportunities.

Mr. Till Sybel, CEO of A. Eberle Germany (until end of March 2023), has decided to invest in South Africa and establish, together with Magnet, a new business called A. Eberle Africa (Pty) Ltd. This investment aims to support South Africa and the rest of Africa with the A. Eberle products, to guarantee and continuously improve the security of supply and availability of energy networks.

A. Eberle Africa (Pty) Ltd

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	Voltage Regulation		Breakdown Voltage Online with TrafoSticks		Low Voltage Regulation		Short-Circuit and Earth Fault Indicators	
	REG-D	**REG-DA**	**TrafoStick TS4x**	**TrafoStick TS5x**	**LVRSys** Outdoor	**LVRSys** Indoor	**EOR-IDS**	**EOR-3DS**
Design	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	Metal Housing Housing: EN-AW-6063 Measuring zone: EN-AW-7075	Metal Housing Housing: EN-AW-6063 Measuring zone: Brass / Gunmetal	Various depending on requirements		Various Designs Panel mounting housing, or alternatively mountable on DIN rail mounting	Various Designs Panel mounting housing, or alternatively mountable on DIN rail mounting
Function 1	Regulation and control of transformers with on-load tap-changers		Condition-based Power Transformer - and OLTC-monitoring		High resistance to over voltages, direct and indirect lightning strikes	Voltage stabilization for longer lasting & more efficient machines	Earth-Fault and Short-Circuit Indicator (directed/undirected)	Earth-Fault and Short-Circuit Indicator for intelligent sub-stations
Function 2	Limit value monitoring, parallel operation with ParaGramer, current influence, detection of creeping network failures		ONLINE-measurement of Breakdown Voltage (BDV)! TrafoSticks are unique!		Overload capable like NH fuse			Fault Recorder and Logbook for precise error analysis
Function 3	Applications: Voltage Regulation, three winding transformer, transformer banks, phase shifting transformers, variable shunt reactor		TrafoStick TS4x: Measurement value and accuracy — BDV @20°C (Breakdown voltage [kV]): 1-5 %; BDV TM (Breakdown voltage [kV]): 1-5 %; Wc (Water content [ppm]): 2.0 %; Temp (Temperature [°C]): 0.1 %; RS (Relative saturation) [%]: 1-5 %		No grid interference causes no flicker or harmonics	Robust Tolerates harmonics and flicker	Incl. Rogowski Coil Sensors and low power Sensors	Compatible to many low power sensors
Function 4	Voltage control system can be created by adding further options or devices	Configurable hardware with various options	TrafoStick TS5x: Additional measurement of two gases Hydrogen (H_2) and Carbon Monoxide (CO)		Highly efficient > 99,5 %		–	Additional intelligent functions through free programm-ability
Function 5	Expandable by customer specific programming		Available accessories: e.g. DN50 - PN 10/16 flange or DN80 - PN 10/16 flange or other on request		Easy installation as a cable distribution cabinet	Intuitive operating concept Simplest parameterization via display	Long-life Capacitor for >4h operation	2x Ethernet 100 mm mounting depth
Function 6	SCADA Protocolls: IEC 61850 inkl. GOOSE and Sampled Values, IEC 60870-5-101/103/104, Modbus, DNP 3.0, Spabus, Profibus-DP		Customer feedback: „Change in paradigm!" – from temporarily and manually to ONLINE and professional.		Adjustable response time of the controller < 30 ms to 100 s	Immediate regulation < 30 ms response time	Modbus RTU	SCADA Protocolls: IEC 61850 GOOSE, IEC 60870-5-101/103/104, Modbus, Modbus-Master, DNP 3.0, MQTT IoT, MQTT Management & Operations
Software/ Function 7	AEToolbox		TRAFOGAUGE visualization and monitoring software		Operating Temperature -40°C up to +50°C ambient temperature		No Software save & load parameters via SD-Card	AEToolbox (encrypted TCP/IP communication)

a-eberle *Africa*

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

Comparison Power Quality Tools

Simply ingenious, ingeniously simple.

Power Quality Mobile / **Power Quality System**

Option	PQ-Box 50 Basic	PQ-Box 50 Light	PQ-Box 50 Expert	PQ-Box 150 Basic	PQ-Box 150 Basic+	PQ-Box 150 Light	PQ-Box 150 Expert	PQ-Box 200 T0	PQ-Box 200 T1	PQ-Box 300	PQI-DA smart	PQI-DE
Data memory (memory optional)	1 GB			4 (32) GB				4 (32) GB		8 (32) GB	1 (32) GB	1 (32) GB
Sampling frequency voltage / transient measurement	20,48 kHz / –			20,48 kHz / –				40,96 kHz / 4 MHz		409,60 kHz / 409,60 kHz	40,96 kHz / 40 kHz	40,96 kHz / 40 kHz
Sampling frequency current	20,48 kHz			20,48 kHz				40,96 kHz		40,96 kHz	40,96 kHz optional	up to 40,96 kHz
Input voltage (resolution)	4 (16-bit)			4 (24-bit)				4 (24-bit)		4 (24-bit)	4 (16-bit)	4 (16-bit)
Input current (resolution)	4 (16-bit)			4 (24-bit)				5 (24-bit)		5 (24-bit)	4 (16-bit)	5 (16-bit)
Bridging energy failure	1,5 h			4,0 h				4,0 h	3,5 h	3,5 h	Supercap	Supercap
IP protection	IP65			IP65				IP65		IP65	IP20	IP54
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)	• (1,7)	• (5,0)
Digital In- and Outputs (Trigger)	–			–				I/O		I/O	2/2	8/4
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 %	< 0,05 %	< 0,05 %
Voltage and current harmonics up to	H50			9 kHz				9 kHz		170 kHz	9 kHz	9 kHz
Wifi	•			S1				S1		S1	–	–

WinPQ Software

High-quality analysis software for your Power Quality data
- Plug&Play installation thanks to guided wizard
- Security by Design according to BDEW Whitepaper
- Separate flow chart for each measuring point
- TOP / DOWN analysis
- Autoreporting per measuring point

WinPQ system solution for all fix-installed and mobile power quality analyzers from A. Eberle. Monitor power quality permanentely - from high to low voltage in one system. Intuitive operation despite large data volumes.

WinPQ mobil & PQ-Box App

Features of the 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. A wide range of online screens is available. It is also very easy to set device parameters for all measuring devices using a smartphone.
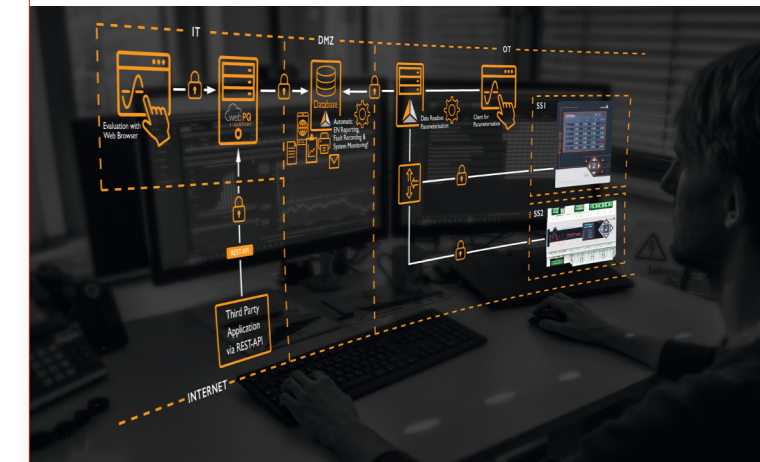
WebPQ™ Visualizer

The intelligent add-on to WinPQ

The fully responsive & web-based user interface as an installable app for the evaluation of your Power Quality data in your local IT environment!

State-of-the-art web technology with:
- Grid Overview Dashboard – Detect grid faults at a glance!
- Analysis section – Get to the bottom of causes of grid disturbances individually
- Configurable REST-API – Open for data exchange in your company
- 100 % Secure! – IT-Security via full User Rights Management System!