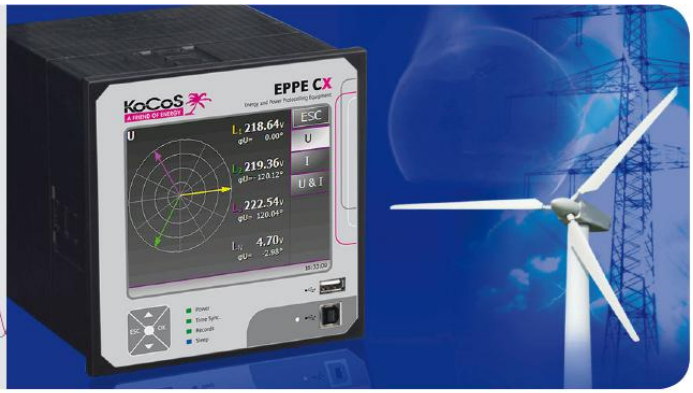
EPPE CX.

SPECIFICATIONS



General description

EPPE CX is a high-accuracy power quality analyser which comprehensively monitors network parameters for compliance with valid quality standards. The dual-processor system and integrated web server offer an excellent range of fast data communication options.

The replaceable 2 GB memory allows long recording periods. The powerful processors can provide a sampling rate of 200 kHz per channel.

The functions and the parameters can be configured freely by software and can also be transferred with a USB flash drive. The optional sensor module also makes the device ideal for monitoring and analysing renewable power systems or industrial plants.

Multi-processor system	Digital signal processor (DSP), 32 bit, 330 MHz for processing signals and processes in real time Communication processor, 32 bit, 624 MHz for mass data storage, simultaneous data communication using different interfaces and protocols, web server functionality and stand-alone operation
User controls and displays	4 status LEDs for trigger and status display 5" colour graphical display with touch screen and 4 function keys
Number of measurement inputs	Max. 12 analog inputs 14 binary inputs
Data memory	Replaceable measurement data memory, 2 GB 128 MB flash RAM for firmware
Quality system	Developed and manufactured to DIN ISO 9001:2000
Calibration	Software-controlled calibration Recommended calibration cycle: check every 5 years
Operating software	EPPE operating software for Windows XP, Windows 7 (32 and 64 bit), Windows Server 2008 R2, Windows Server 2012 R2

Function overview

Recording functions	Power quality analyser, class A Continuous data recording Event data recording Digital fault recorder, sampling rate from 100 Hz…30 kHz RMS fault recorder, sampling rate from 1 Hz…120 Hz Sensor recording Energy meter Logical functions
Standards for measurement and analysis	IEC 61000-4-30 class A IEC 61000-4-7 harmonics and interharmonics IEC 61000-4-15 flicker EN 50160, IEEE 519, IEEE 1159

Analog inputs	General information	Resolution	16 bit
		Sampling frequency	200 kHz per channel
		Accuracy	0.05% of range
		Protection	Galvanic isolation, PH-PE > 2.5 kV
		Safety class	300 V CAT III; 150 V CAT IV
Module 1	Voltage inputs	Number	4
		Measuring range	600 VAC/±848 VDC
		Impedance	6.6 MΩ
		Frequency range	DC…15 kHz
	Current inputs	Number	4
		Measuring range	40 AAC
		Impedance	≤0.1 mΩ
		Overload	100 AAC for max. 3s 500 AAC for max. 1s
		Frequency range	10 Hz…15 kHz
Module 2	Voltage inputs	Number	8
		Measuring ranges	4 x 600 VAC / 4 x 600 VAC 4 x 600 VAC / 4 x 3 VAC (current sensors)
		Impedance	6.6 MΩ
		Frequency range	DC…15 kHz
Sensor module (optional)	Measurement inputs Group 1	Number	4, sampling frequency 200 kHz
		Accuracy	0.05% of range
		Measuring ranges	300 VAC / ±424 VDC 7.07 VAC / ±10 VDC 2 VAC / ±2.82 VDC 4...20 mA
	Measurement inputs Group 2	Number	4, sampling frequency 100 Hz
		Accuracy	0.5% of range
		Measuring ranges	7.07 VAC / ±10 VDC 4...20 mA
	Temperature measurement inputs	Number	2, sampling frequency 100 Hz
		Sensor type	PT 100, PT 500, PT 1000
		Measuring ranges	-50°C...120°C
	Analog outputs	Number	1
		Output range	0…10 VDC 4...20 mA

Binary inputs		Number	14 inputs Galvanically isolated in 2 groups of 7 inputs
		Activation range	24…300 VDC (wide-range inputs)
		Resolution	0.1 ms
		Protection	Transient protection Polarity protection Galvanic isolation up to 2.5 kV
Binary outputs	Electronic relays	Number	6, configurable for status and alarm signals
		Switching capacity	Max. 60 VAC/DC, 400 mA
	Mechanical relays	Number	2, configurable for status and alarm signals
		Contact type	Potential-free relay contact Configurable as NC or NO contact
		Switching capacity	Max. 220 VDC, 2 AAC, max. 60 W
Time synchronisation	Standard equipment	Internal real-time clock	Accuracy 2.5 ppm without external time synchronisation
		NTP/SNTP	Synchronisation over Ethernet network
		Interlink interface	Master-slave time synchronisation between several EPPE CX devices
		GPS receiver	Internal GPS receiver with SMA antenna connection
		DCF 77 input	DCF 77 pulse telegram input for connection to external clock systems or to the KoCoS DCF antenna module
		Pulse input for seconds or minutes pulses	TTL impulse input (5 V), min. pulse width 5 ms 5…24 V impulse input, min. pulse width 5 ms
		IRIG-B signal input	Connection for B001, B002 and B003 telegrams
Interfaces	Standard equipment	Data communication	1 x RS232, 1 x RS485 2 x USB-A, 1 x USB-B 1 x 10/100 Mbit Ethernet (RJ 45)
		Interlink interface	Electric 2-wire interface for networking a number of EPPE CX devices Enables cross-triggering and master-slave time synchronisation over distances of up to 500 m
	Optional	Data communication	1 x 10/100 Mbit optical Ethernet (ST II)
	Protocols	Standard: TCP/IP, Modbus TCP, GSM, GPRS Optional: IEC 61850, DNP 3.0, Profibus, IEC 60870-5-103	

Power supply	Operating voltage	Type 1: 90…350 VDC and 85…265 VAC; 47…63 Hz Type 2: 9…18 VDC Type 3: 18…36 VDC Type 4: 36…72 VDC	
	Power consumption	Max. 20 VA	

Complete system	Mechanical properties	Weight	1.5 kg
		Housing	For panel-mounting, optional DIN-rail mounting
		Protection class	IP 52 (front panel)
		Dimensions	144 mm x 144 mm x 140 mm
	Environment	Storage temperature	-30…70 °C
		Operating temperature	-5…50 °C, minimum switch-on temperature 0 °C
		Relative humidity	5…95%, non-condensing
	Generic standards	Safety	EN 61010-1, 300 V CAT III
		EMC emissions	EN 61000-6-4 (replaces EN 50081-2)
		Susceptibility	EN 61000-6-2 (replaces EN 50082-2)