

EFTC 30

EFT / Burst generator

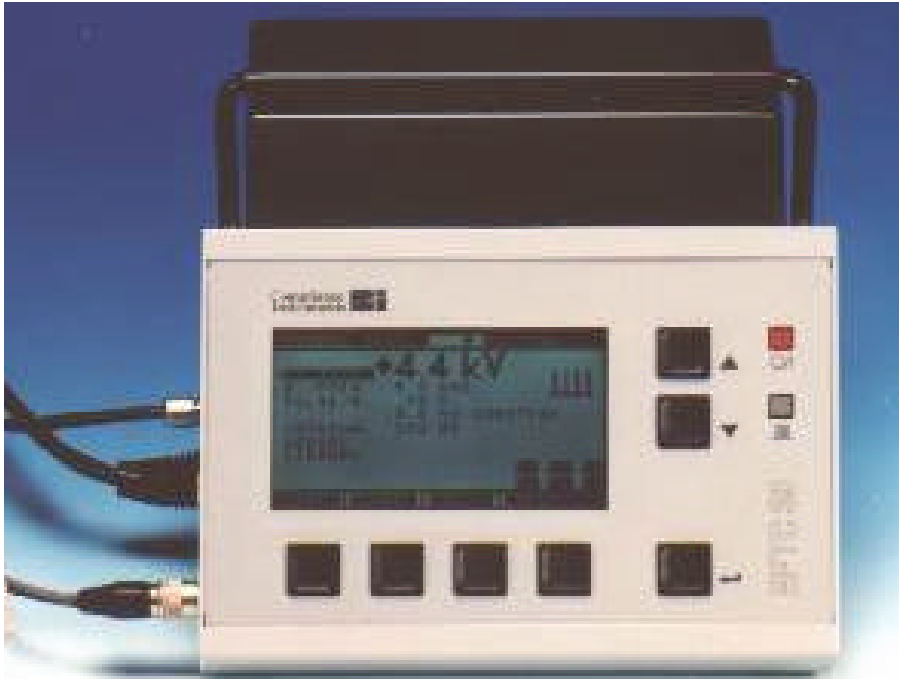


User friendly
Programmable test sequences
Easy set-up according to standards
Portable controller and coupling box

**Compliance
Instruments** 

The EFTC 30 EFT/Burst generator is the first portable full compliance burst generator on the market - and yet one of most advanced. Combined with the CDN 30 Series coupling network they generate a unique and powerful test system.

With the possibility of burst frequencies up to 1 MHz, the specifications of the generator conforms to both IEC (6)1000-4-4, IEC 801-4 and the proposed draft for the forthcoming revised IEC/EN standard. A possibility of continuous pulse generation is also available.



The user friendly operation of the EFTC 30 continues the new standard for user interface set by the ESDC 30 series of ESD generators. The many new features of the controller speeds up analyses and improvements of new designs in product development as well as of testing for compliance with standards. Easy set-up of compliance tests with Library function containing IEC / EN test standards.

In order to make the optimal system choice the generator has no built-in mains coupling network. A choice of external relay controlled coupling networks, CDN 31 (16A, 1 phase) or CDN 33 (16A, 3 phases) is available. A coupling clamp, CCS 30, for capacitive coupling is also available.

Low weight and carrying handles on both the EFTC 30 and the CDN 30 ensures portability and complete freedom of use when performing tests in the field.

The controller

The EFTC 30 controller is housed in a sturdy all stainless steel cabinet measuring only 24 x 25 x 14 cm. The controller part and the burst generator part are placed in two separated sections for optimum EMC performance. The cabinet is also equipped with a carrying handle for portability.

Good handling ergonomics are ensured by the sloping front, no matter if the operator is sitting or standing. The controller has a large back lighted graphical LCD display with high contrast that can be viewed from large viewing angles and long distances.

The functions are controlled from a simple menu structure which is operated with a few push buttons of which some are soft keys. An on-screen help function is also included.

The controller can be operated in three menu selectable modes: Normal, Trig and Sequence. Sequence mode is a unique feature where either voltage or burst frequency can be stepped. Parameters include Start, End and Step (voltage or frequency). Furthermore, each of the selected power lines (L1, L2, L3, N, PE or CM) can automatically be selected in turn and be subjected to the complete programmed test.



The sequence mode is a very useful tool in the analysis of a specific problem in a device and for performing complete tests according to standards.

In the Trig mode the burst pulse trains can be synchronised to an externally generated trigger pulse. Parameters

include Delay and Hold off. The Trig mode is a useful tool in the analysis of irregularly or intermittently incidences e.g. in serial data communication or VDU's.



In each of the modes eight user selected parameter sets can be stored in non volatile memory for later use. This makes it easy to repeat a certain test, for example when a circuit has been modified in order to reduce its sensitivity to burst pulses. Further more a number of pre-defined set-ups, for example according to the four test levels in IEC / EN 1000-4-4, are available from a user library ready for use.



Another unique feature is the fail/stop function which can be used to halt the test when the device under test fails. This is a most useful tool in determining whether a modification of the device under test is for the better or worse.

Whenever a test has been completed, the controller enters the Safe mode ensuring that a hazardous situation can not take place until the Ready button has been pushed again. This mode is clearly indicated on the graphical screen of the controller.

A user selectable function allows for automatic shut down when the controller has not been operated for a specific periode of time.

The coupling network

The CDN 30 Series of coupling networks sets a new standard for coupling networks. Low weight and a carrying handle ensures complete portability. The carrying handle also serves as a support when operating the network in the alternative 45° position for optimum ergonomics.

The network connects to the controller by a thin and highly flexible cable, which can be detached from the controller. As the cable only carries low voltages, a damaged cable will never lead to hazardous situations. Also, a high voltage coax cable equipped with a Fischer high voltage coax connector transfer the Burst pulses from the controller to the network.

Coupling selection is controlled from the controller by means of individual

high voltage relays for each line. Therefore, complete tests according to standards can be accomplished.

A control box for operating the CDN 30 Series of networks with other Burst generators is also available.

Capacitive coupling clamp.

A coupling clamp, CCS 30, for capacitive coupling is also available. The clamp is constructed for cables with diameters of 4 mm to 40 mm. The dimensions of the clamp are those proposed in the IEC 1000-4-4 standard.

Options

- Coupling networks CDN 31 and CDN 33
- Coupling clamp CCS 30
- RS 232 optical interface incl. Windows software.



Technical specifications of the EFTC 30 generator

Conforms to EN 61000-4-4, IEC (6)1000-4-4 and IEC 801-4

Visual indication	Graphical LCD display (B/W) with back light
Controls	4 soft keys plus, up, down, return, trig and 0-I (on/off) keys
Inputs	Optical input and 9 pin D-sub controlling the fail/stop function.
Control output	12 pin connector to CDN.
High voltage output	High voltage Fischer coax connector to CDN or clamp.
Memory	E ² PROM for storing vital data and 24 user memories
Power	Mains input 230/240 V AC max. 50 VA. Optional 110-130 V AC
Dimensions	240x 250 x 140 mm
Weight	5.5 kg

Burst output

Burst voltage (open circuit)	0.2 to 4.4 kV, in 0.05 / 0.1 kV steps
Polarity	Positive and negative
Voltage tolerance	< ±5 %
Impedance	50 ± 20 %
Rise time	5 ns ± 30 %
Duration	50 ns ± 30 %
Coupling capacitor	10 nF

Adjustment range

Frequency	500 Hz to 1.0 MHz in 56 steps
Interval	4 ms to 1000 ms
Duration	Freq. depending, e.g. 200 us to 30 ms at 5 KHz
Max. number of pulses	150 pulse / burst, 500 pulse / sec
Delay (trig menu)	0 ms to 100 ms
Phase angle	Synchronic (trig menu), asynchronous (normal menu)

Technical specifications of the CDN 30 Series of networks

Conforms to EN61000-4-4, IEC (6)1000-4-4 and IEC 801-4

Lines	CDN 31	L1, N, PE (1 phase network)
	CDN 33	L1, L2, L3, N, PE (3 phase network)
Weight	CDN 31	5.5 kg
	CDN 33	6.5 kg
Max. current		16A
Coupling control		Relays
Frequency range		1 to 100 MHz
Coupling capacitor		33 nF
Line to line crosstalk		> 30 dB
Decoupling attenuation		>20 dB
Coupling attenuation		< 1 dB

Compliance Instruments reserve the right to alter the equipment specification without prior notice.

Local representation



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