

A close-up photograph of an industrial X-ray source. In the foreground, a green printed circuit board (PCB) is populated with various electronic components, including integrated circuits (ICs) labeled "LM393 288BF M", "FPD3SF MM74HC 221AM", and "4289G 0022". A brass-colored cylindrical component, likely the X-ray source, is mounted on the board. In the background, a brass-colored cylindrical component is shown in a shallow depth of field. A white, corrugated flexible cable is connected to the board via an orange connector. The overall scene is set against a dark, textured background.

Industrial X-Ray

Miniature X-Ray Source EDiX Overview

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Overview

A Miniature X-Ray Source for Handheld XRF Instruments COMET, a leading supplier of Industrial X-Ray tubes for more than 50 years, now offers the EDiX line of miniature X-Ray Sources. EDiX products are optimized for use in the latest generation of battery-operated handheld XRF instruments. The modules are available in several configurations and consist of a miniature X-Ray tube, a generator and a cable.

EDiX is optimized for the job

Feature	Customer benefit
Brilliant, highly-stable output	Fast readings, low detection limit
Clean spectrum	Spectral accuracy
Small appetite for power	Long battery life

EDiX is optimized for space

Feature	Customer benefit
Small	Minimal source to sample distance, tight coupling of source and detector within the instrument
Light	Portability, less fatigue for continuous-users of handheld instruments
Flexible packaging	Optimization of limited space within an instrument

About the Business Unit Industrial X-Ray

COMET Industrial X-Ray is an experienced supplier of components and modules for industrial X-Ray applications and is proud of its reputation as the preferred engineering partner in terms of innovation potential, know how, flexibility and speed. Our product range features X-Ray tubes and sources with small focal spot resolution ($< 1 \mu\text{m}$) up to 6 kW in output for more power demanding requirements. From the smallest footprint for use in portable units to 450 kV fixed gantry systems that are suitable for cargo screening.

EDiX – Configuration Information

Standard

The standard configuration is as shown on the next page and includes the following building blocks:

- X-Ray tube insert encapsulated in the standard COMET housing
- High voltage cables (2), encapsulated at both ends (No connectors)
- High voltage generator
- Controller
- The controller and high voltage generator are mounted to a base plate

When ordering, please specify your desired length of the high voltage cables.

Customized Modular

This configuration is quite similar to the standard configuration but allows the customer more freedom for customization. The building blocks are the same as above except:

- The customer can specify the shape of the tube housing
- The controller can be separated from the high voltage generator, thus eliminating the need for a base plate

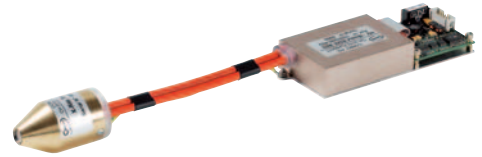
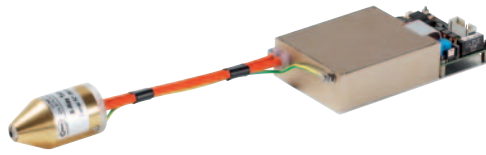
When ordering, please specify your desired length of the ribbon-cable.

Monoblock

In the monoblock configuration there are no cables. The X-Ray tube insert and high voltage generator are encapsulated together in a form specified by the customer. The controller can also be encapsulated into the form if the customer so desires.

Miniature X-Ray Source EDiX

Technical Data



EDiX II

10003126	EDiX 40-2-AG-B-M02-01	EDiX 40-2-W-B-M02-01
Target	Silver (Ag)	Tungsten (W)
Tube voltage	10 kV min / 40 kV max	
Tube current	5 µA min / 100 µA max	
Continuous power	4 W max ¹	
Cable length	50 mm min / 400 mm max	
Total weight	< 450 g (in standard configuration with 200 mm cables)	
Battery input voltage	6.5 V – 17 V DC	

EDiX III

10003983	EDiX 40-2-AG-B-M03-01	EDiX 40-2-W-B-M03-01
Target	Silver (Ag)	Tungsten (W)
Tube voltage	10 kV min / 40 kV max	
Tube current	5 µA min / 50 µA max	
Continuous power	2 W max	
Cable length	50 mm min / 300 mm max	
Total weight	< 260 g (in standard configuration with 50 mm cables)	
Battery input voltage	6.5 V – 9.5 V DC	

High voltage power supply

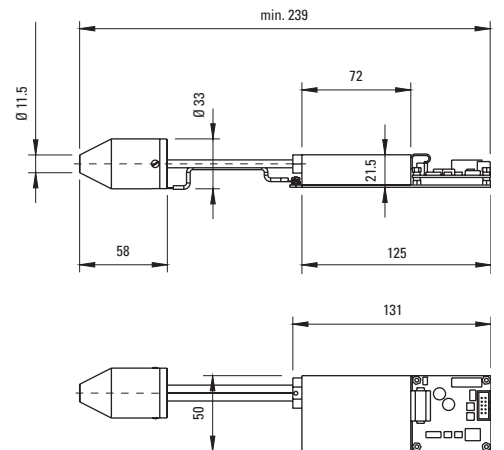
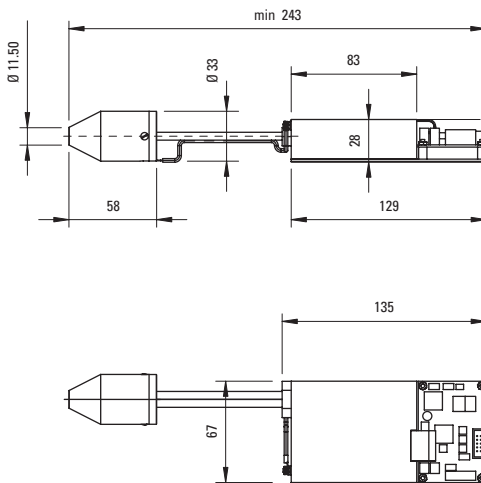
Length	High voltage section: 83 mm, total: 129 mm
Width	67 mm
Height	28 mm

Length	High voltage section: 72 mm, total: 125 mm
Width	50 mm
Height	21.5 mm

Operating temperature²	-10° C – +50° C
Storage temperature	-25° C – +60° C
Window	Beryllium (window at ground)
Focal spot size	Approx. 2 mm diameter
Standard warranty	18 months after shipment or 2000 hours of filament "on time", whichever comes first.

Operating temperature²	-10° C – +50° C
Storage temperature	-25° C – +60° C
Window	Beryllium (window at ground)
Focal spot size	Approx. 2 mm diameter
Standard warranty	18 months after shipment or 2000 hours of filament "on time", whichever comes first.

Outline drawing



¹ The module is capable of running at 4 Watts continuous. However, please refer to the current terms of our warranty. The warranty applies only for operation at 2 Watts continuous and below.

² Assumes: tube is operated at 50% duty cycle or less and that no heat-sinks or active cooling are present.

COMET is a successful technology company in the growth markets security, inspection and microelectronics. As an expert in the field of applied physics, COMET provides a complete and highly flexible offer of components, modules, systems and services from one source.

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The X-perts for security, inspection and microelectronics



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