

Libera Pilot Tone FE

Beam Position Monitor Front End with Reference



The Libera Pilot Tone FE is a result of a partnership between Elettra and Instrumentation Technologies d.o.o.

Benefits

Enhanced long-term stability for beam-position monitors

Cable drift compensation

Capable to measure single bunch fill pattern through a SAW filter

Clean turn-by-turn data without artificial artifacts

Remote control and power over PoE

Applications

- Storage ring BPM
- Single pass machines BPM
- Upgrade of the existing BPM systems
- Suited for bunch-by-bunch measurements

Libera Pilot Tone FE general description

Beam current dependency, thermal drifts of the electronics and variations in cables caused by changes in temperature and humidity affect the accuracy of the BPM system. The Libera Pilot Tone FE is installed in the tunnel and connected between the BPM pickup and BPM electronics. It combines the RF BPM signals with a pilot tone signal that is slightly offset to the RF. Both signals pass through the RF cables to the BPM electronics and are exposed to the same disturbances. The BPM electronics (Libera Spark ERPT)

process both signals independently in the frequency domain. A digital algorithm compensates the RF BPM signal based on information from the pilot tone in real time.

For more info check the QR code:



Specifications

General product code	LPTFE
Frequency versions	500 MHz 408 MHz 352 MHz
Input/ Output channels	4 / 4 (SMA-F connectors)
Input impedance	50 Ohm
Programmable attenuation	0 to 90 dB
1 dB compression point	+ 16 dB
Crosstalk	Better than -60dB
Pilot tone generation	Internal or external (SMA-F input)
Control interface	TCP-IP over Ethernet
Power supply	PoE or 9-12, 1A
Dimensions	175x151x40mm
Weight	1,2 kg
Temperature dependence	Frequency dependence: approximately -250 Hz/°C Amplitude dependence: approximately -0.03 dB/°C

Compatible with

LIBERA SPARK ERXR / ERPT



Compact beam position monitor electronics for electron circular machines.

For **Purchasing Enquiries** please contact Instrumentation Technologies directly

www.i-tech.si/contact-us/

