TERMINAL · ONE CLOCK FOR EVERY PLATE

FDT

The Force Data Terminal. It connects multiple plates on one shared clock and sends their data to a computer, a phone or tablet, or the analog inputs of your laboratory.



The FDT: plates in, data out.

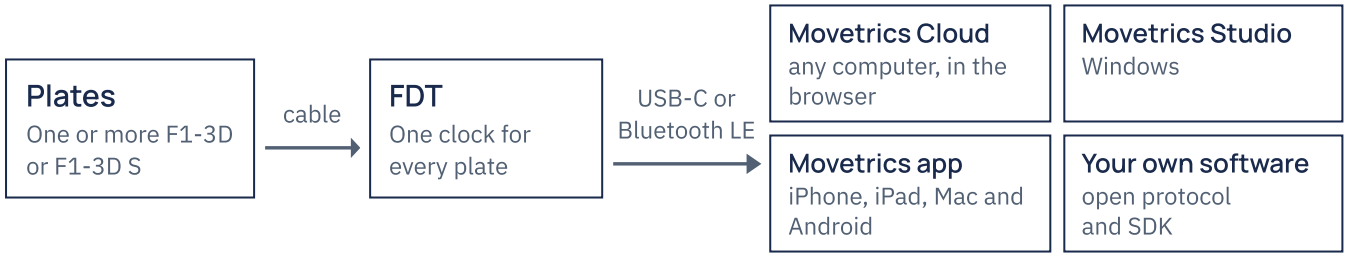
0.1 ms
timestamp steps, one clock for every plate

16
analog outputs, ±10 V

USB-C
to a computer or phone; Bluetooth LE to a phone or tablet

1.75 kg
27 × 21 × 14 cm, rechargeable

HOW IT CONNECTS



For every user
Plates in, one clock, data out: to Movetrics Studio on Windows, the Movetrics app or Movetrics Cloud in the browser.

For the laboratory
16 analog outputs for two plates, and Sync In and Sync Out (3.5 mm, TTL 3.3 V) for the rest of your equipment.

For developers
A documented, open protocol and an SDK under Apache-2.0, so your own software reads the same stream.

Updates
Signed firmware updates with automatic rollback. The plates are updated through the FDT.

Power
Rechargeable. Charges over USB-C from the connected computer or phone, or from the included 12 V adapter.

Made in Germany
Designed and built by Nur Engineering GmbH in Duisburg. Everything is built or assembled in Germany.

Technical data

FDT

PLATES AND DATA

Plates	Multiple F1-3D or F1-3D S. One RJ45 port for all plates: data and power on one shielded cable, up to 25 m
Samples per second	2,000 with one or two plates, 1,000 with three or more
Time base	One clock for all plates; timestamps in 0.1 ms steps
Output resolution	1 N for forces, 1 N·m for moments
Protocol	Documented and open: 24-byte frames and commands, published in the SDK under Apache-2.0
Firmware	Signed updates with automatic rollback; plate firmware is updated through the FDT

LINKS

USB-C	To a computer: Movetrics Studio on Windows, the Movetrics app on a Mac, Movetrics Cloud in Chrome, Edge or Firefox on Windows, macOS, Linux and ChromeOS. To Android phones and tablets with OTG
Bluetooth LE	Pre-certified radio module. To a phone or tablet, one device at a time
Good to know	Use one link at a time

LABORATORY

Analog outputs	16 outputs, ±10 V, DB-25 female, for plates 1 and 2: Fz, Fx, Fy, Mx, My, Mz, CoP x and CoP y for each
Scaling	16-bit. Full scale: Fz ±8,000 N (1.25 mV/N); Fx and Fy ±2,000 N (5 mV/N); moments ±720 N·m (13.89 mV/N·m); CoP x ±15 cm, CoP y ±30 cm. Outputs clamp at full scale
Analog updates	Up to 500 per second per plate, within 1 % of the digital values
Sync In, Sync Out	3.5 mm mono jacks, TTL logic level, 3.3 V

POWER AND HOUSING

Power	Rechargeable battery. Charges over USB-C from the connected computer or phone, or through the 12 V jack; 12 V power adapter included
Size and mass	27 × 21 × 14 cm, 1.75 kg
Ports	RJ45 for the plates, USB-C, DB-25 analog out, Sync In, Sync Out, 12 V jack, micro-USB developer port; power and reset buttons
Conformity	CE marked
Warranty	2 years for business customers

Intended use. Movetrics systems measure forces and moments, calculate metrics and display them, for sport, research, education, and practitioner-led training and rehabilitation. They are not medical devices. They do not diagnose, treat, monitor or predict any disease or condition, and their results do not replace professional judgement.

Specifications may change. The current edition of this sheet is at movetrics.com/fdt. Questions: +49 15678 616 529 or contact@movetrics.com.

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