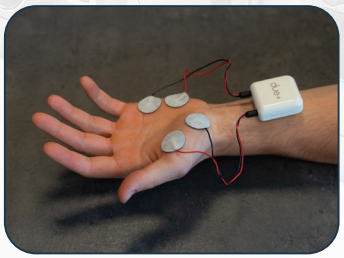
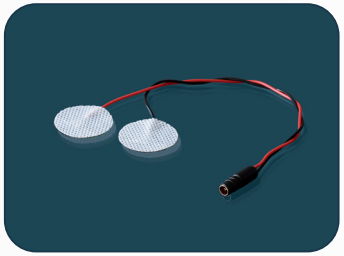
due+pro

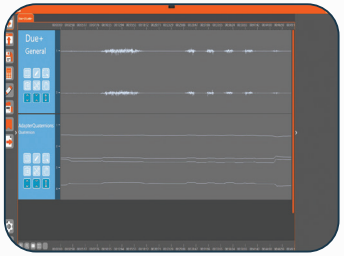
dynamic EMG



Easy High Density
EMG Detection



CDE-C



sEMG signal

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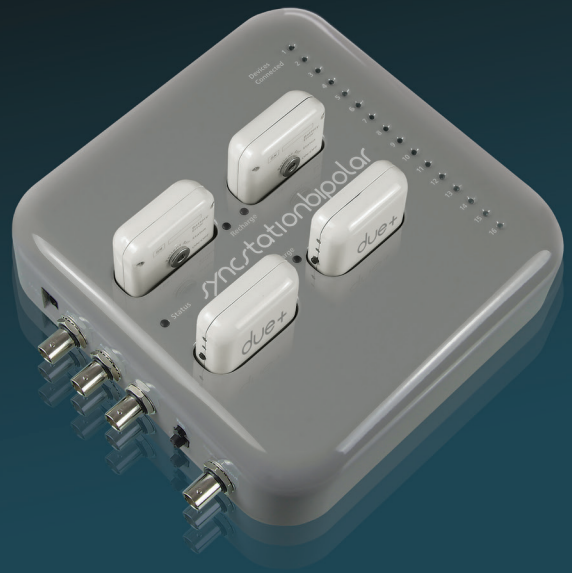


due+pro
dynamic EMG

The image refers to the 4-probe system

General description

Due+Pro is a wearable EMG device designed to meet the most demanding needs in different applications, including sports, ergonomics and rehabilitation. Due+Pro system is composed by 8 wireless probes called Due+ and one receiving unit called SyncStationBipolar+. Due+Pro records up to 16 bipolar EMG signals and 4 auxiliary signals (e.g. force, angle) with 8 wireless probes simultaneously. Each one of the wireless probe, called Due+, has an internal integrated IMU. The recharging and synchronization base SyncStationBipolar+ allows the connection of up to eight Due+ probes or other eight different probes (up to eight, in total, simultaneously). The SyncStationBipolar+ makes available three auxiliary inputs and 1 load cell input. The acquired data can be viewed in real time with OT BioLab+ software or with Matlab, Python and any other software capable of reading data from TCP socket. Due+Pro is specifically designed to provide users with indication of the timing and degree of muscle activity in highly dynamic activities (e.g., running, skiing, rowing).
Due+Pro suits well for prolonged recordings of muscle activity during particularly demanding work tasks and in complex work stations. Due+Pro is a user-friendly and highly customizable interface for therapeutic interventions (e.g. via biofeedback) and for monitoring rehabilitation progress (e.g. degree of muscle tension, back pain).

Features:

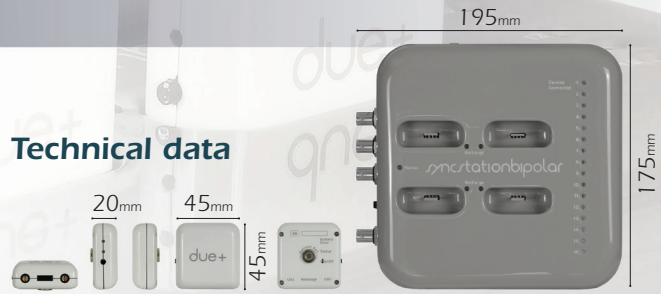
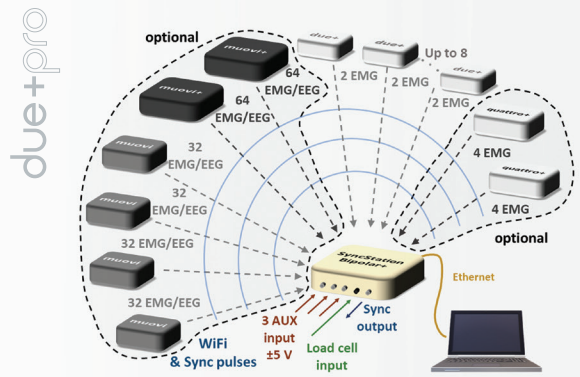
Each Due+ probe allows to acquire different types of signals:
- 2 sEMG bipolar signals;
- quaternions obtained by the fusion of inertial sensor data.

The Due+ probe can be directly interfaced to a PC with WiFi (one probe at a time) or to the SyncStationBipolar+.

Each SyncStationBipolar+ base allows to interface with WiFi:
- up to eight Due+ probes with 2 bipolar channels.
- up to two Muovi+ probes with 64 channels or up to two 64 channel devices among Sessantaquattro/Sessantaquattro+
- up to four Muovi probes with 32 channels;
- up to two Quattro+ probes with 4 bipolar channels.

Moreover the base makes available:
- 3 auxiliary inputs;
- 1 load cell input;
- 1 trigger output;
- ethernet connection toward a PC.

Technical data



Due+Pro	Class	I BF
	Total number of channels	16
	Max. number of probes	Up to 2 Muovi+, 4 Muovi, 8 Due+, 2 Quattro+
Due+probe	Functions	Acquisition of 2 sEMG bipolar signals
	Bandwidth	10 – 500 Hz
	Sampling frequency	500 or 2000 Hz
	Noise	< 4 μV_{RMS}
	Power supply	Battery LiPo 3,7 V
	Battery life times	Power on: 6 hours Continuous transmission: 2.30 hours
	IMU	Integrated inertial sensor
	Resolution	16 bit
	Data transfer to PC	WiFi (single probe)
	Receiver	PC or SyncStationBipolar+
	Weight	42g
SyncStationBipolar+	Functions	Charge, Receiver, Auxiliary inputs
	Communication to PC	Ethernet
	Auxiliary channels	3 – input range ± 5 V
	Load cell input	1 – power supply 5 V
	Power Supply	12VDC power supply supplied with the system