

Assisted Cranking 2CH - Unilateral

Category: NMES/FES – motion triggered cyclic

Supports arm cranking by stimulating the biceps and triceps on one arm, usually the hemiparetic side after a stroke. The cranking motion is detected by placing the stimulator on the stimulated arm. The images of the electrodes and the stimulator show the placement using the right arm as an example.

Indication: Paralysis or muscle weakness of one arm, e.g., after stroke

Stimulation pattern: sequential activation

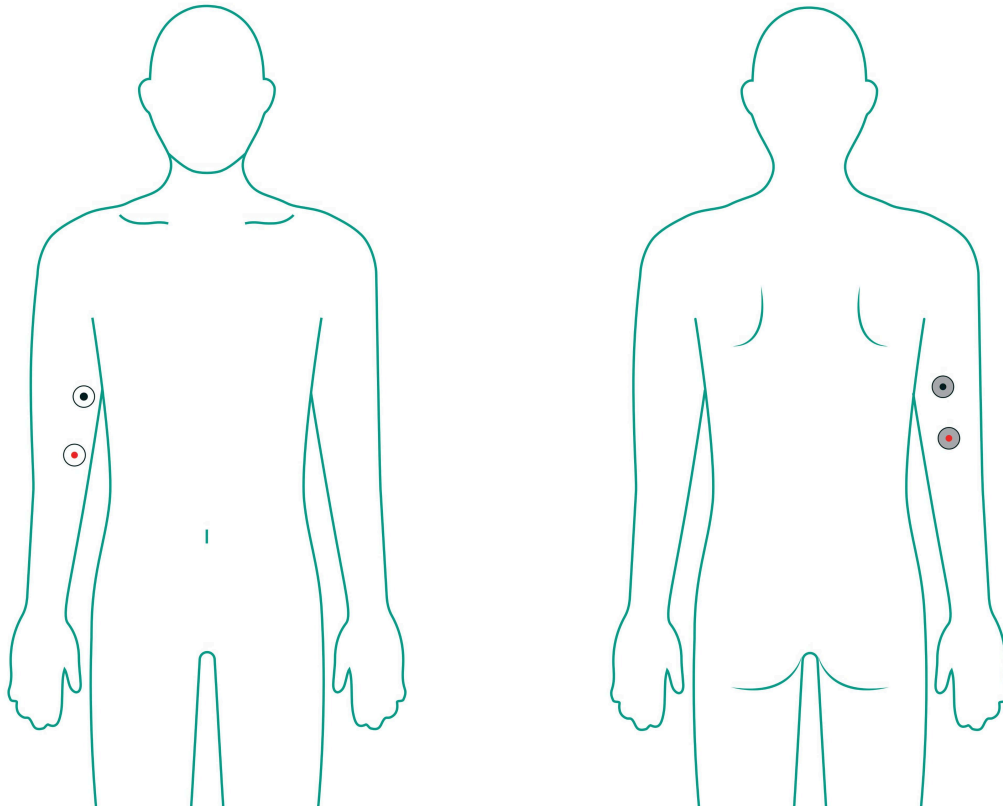
Stimulation cable: 2-channel

Active channels: Channel 1, Channel 2

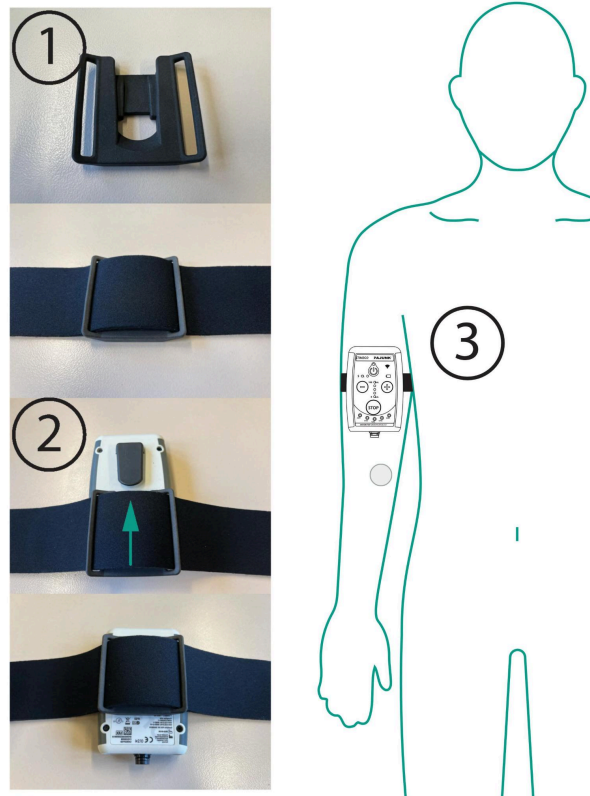
Solo mode: Yes

Placement of electrodes and stimulator

Channel	Function	Electrode type
1	biceps	bipolar, square 2" x 2" (5cm x 5cm)
2	triceps	bipolar, square 2" x 2" (5cm x 5cm)



Electrode placement: channel 1 – biceps and channel 2 – triceps

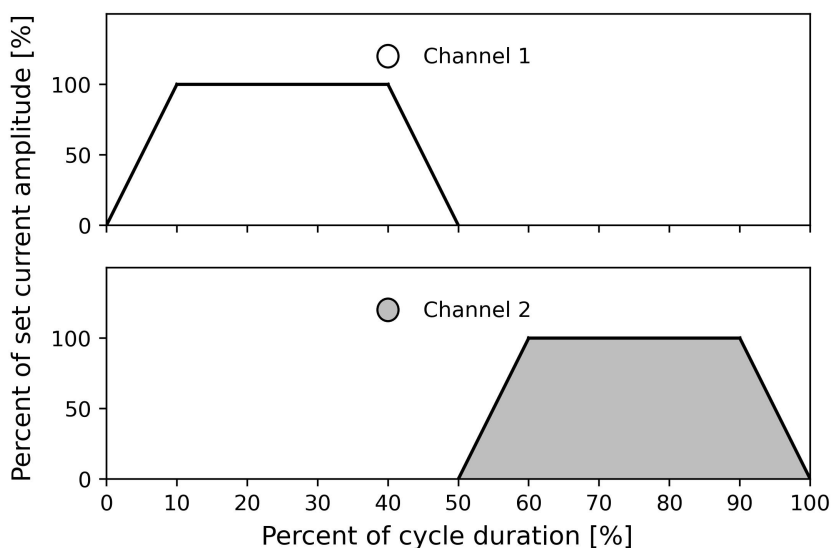


Stimulator placement

Current settings for stimulation stages

Training:

Total duration		30:00:000 (min:sec:msec)			
Sequence duration		N/A			
Sequence mode¹		motion triggered cyclic			
Channel	Maximal current	Maximal pulse width	Frequency	Pulse form	Pulse mode ²
1	100.0 mA	500 μ s	33.3 Hz	biphasic (100 μ s pause)	sequential
2	100.0 mA	500 μ s	33.3 Hz	biphasic (100 μ s pause)	sequential



Activation of the stimulation channels for training

**¹Sequence modes**

- Automatic repetition: The stimulation sequence will be automatically repeated until the total duration of the stage is reached.
- Motion triggered cyclic: The stimulator is placed on a limb and the cycle percentage will be estimated during cyclic movements like leg cycling or arm cranking. The Stimulation is controlled as a function of the current cycle percentage and can be activated in up to three phases per active channel.
- Motion triggered with threshold: The stimulation sequence will be triggered by an change in the inclination angle of a body segment on which the stimulator is placed. The angle and direction of change (increasing or decreasing) must be defined.
- Manually triggered: The stimulation sequence will be manually triggered by the therapist or patient using the Stim2Go app.

²Pulse modes

- Sequential: The stimulation is activated in up to three phases within a sequence duration or motion cycle.
- Always on: For a current amplitude larger than zero, the stimulation of a channel is permanently on over the entire sequence duration.