

# sTEM

## Technical specifications



## Definitions

LM	Transmitter low output current
HM	Transmitter high output current
Tx	Transmitter
Rx	Receiver

## Transmitter Characteristics

	sTEM5	sTEM10	sTEM20
<b>Dual moment</b>	Yes	Yes	Yes
<b>Low moment current</b>	1 Amp	1 Amp	1 Amp
<b>High moment current</b>	5 Amp	10 Amp	20 Amp
<b>Number of Rx channels</b>	1		
<b>Real-time inversion</b>	Ultimo 2024		
<b>Power L (14.4 V, 6.8 Ah, 99.4 Wh)</b>	2 batteries,	2 batteries,	3 batteries,
<b>Tx loop options</b>	20x20 m, 40x40 m	20x20 m, 40x40 m, 80x80 m	40x40 m, 80x80 m
<b>Waveform recording</b>	Pre recorded		
<b>Control app</b>	iOS, Android		
<b>Pulse on / off times</b>	Pre-defined		
<b>LM On-time/Off-time</b>	46%/54%		
<b>HM On-time/Off-time</b>	30%/70%		
<b>Service and upgrades</b>	Via Internet		

## Receiver Characteristics

Text	Value
Sample rate	4 MHz
Dynamic range	>24 bit
Onboard computer	Intel/ASUS NUC12 or newer
Internal RAM	8 GB or more
Harddisk capacity	SSD, 256 GB or more
Operating system	Windows or Linux
I/O interface	WiFi
GPS receiver	Built-in GPS with SBAS
Service and upgrades	Via internet
Bandwidth	App. 1 MHz
Max number of gates	1024
Tapered gating	Yes
Accumulated station stack	Yes

## sTEM unit physical specifications

Text	Value
IP rating	ABS, IP67
Dimensions	36 x 27 x 14 cm
Weight	6.1 kg
Operating temperature	-20 °C to +50 °C

## Transmitter Coil

Tx Coil	20x20 m	40x40 m	80x80 m
Number of drums	1	1	4
Effective area	400 m <sup>2</sup>	1600 m <sup>2</sup>	6400 m <sup>2</sup>
Wire thickness	2,5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>
Weight per drum	3.7 kg	8.8 kg	6.0 kg
Internal damping resistor	330 Ohm	330 Ohm	330 Ohm

## Receiver Coil

Receiver coil	R-36	R-100
Dimensions, effective area	3x3 m, 36 m <sup>2</sup>	5x5 m, 100 m <sup>2</sup>
Number of turns	4	4
Bandwidth	200 kHz	100 kHz
Compatible with Tx coil	20 x 20 m, 40 x 40 m	80 x 80 m

## Battery charging suitcase

Text	Value
Charging capacity	6900 mAh
Time to charge battery	2-3 hours

## Weight and dimensions for a standard system

System	Total transport weight	Dimensions Length, width, height
sTEM, 40x40 m, receiver coil, leadin, battery charging suitcase, two batteries, transport case	35 kg*	80 cm x 60 cm x 45 cm

\* If transporting by air the item must be below 32 kg, so e.g battery and charging suitcase must be in separate luggage.

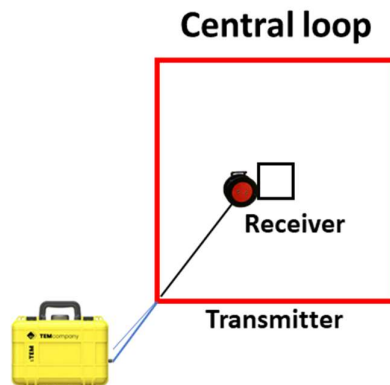


Figure 1: Sketch of the central loop sTEM coil configuration.

## Transmitter Turn off

Transmitter Turn Off	
LM	7 us
HM	13 us

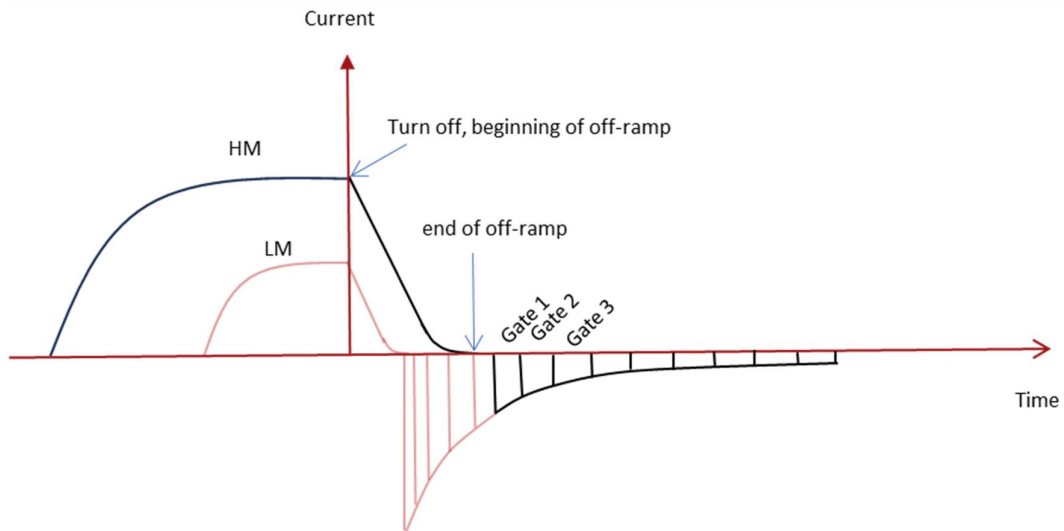


Figure 2: Idealized visualization of the waveform, turn-off ramp and gates. Not to scale.

## Gate Times\*

Text	Gate open	Gate center	Gate close
LM, first gate (after turn-off)	10 us	11.2 us	12.5 us
LM, first gate (after end of off-ramp)	3 us	4.2 us	5.5 us
LM, last gate	794 us	891 us	999 us
HM, first gate (after turn-off)	25.5 us	28.7 us	32 us
HM, first gate (after end of off-ramp)	12.5 us	15.7 us	19 us
HM, last gate	11050 us	12415 us	13940 us

\*in 40 x 40 m loop, standard measurement script