

## ME2100-HS32-M 32-Channel Headstage for ME2100-System

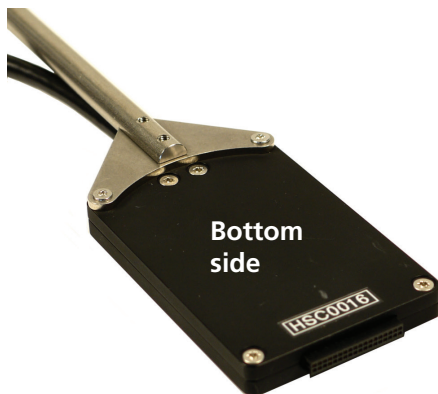
### Pin Layout of the 32-Channel Headstage

#### ME2100-HS32-M Headstage Input Connector

Pin 1	GND (Ground)
Pin 2	Reference input
Pin 3 to 34	Recording channels 1 to 32
Pin 35	Reference input
Pin 36	GND (Ground)



Please note that the side with no screws is considered to be the top side of the ME2100-HS32-M. The figure shows the pin layout viewed from the front, with the case screws down.



#### Application

Use the headstage of the ME2100-System for anesthetized or head fixed animals.

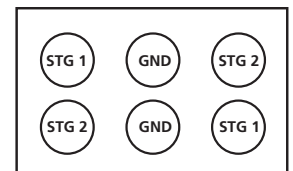
The ME2100-HS32-M headstage can be used with the flexible microelectrode array EcoFlexMEA36 from Multi Channel Systems MCS GmbH. For connecting FlexMEAs (FlexMEA36 or FlexMEA72) or NeuroNexus probes special adapters are available, for example, ADPT-FM-32, ADPT-FM-72, ADPT-NN-32 or ADPT-NN-64-ME2100.

The 32-channel headstage is connected to the ME2100-System via MCS Signal Collector and MCS Interface Board.



#### External Stimulation

Send two independent stimulation patterns to one or two external stimulation electrode(s). Please use the output connector on the side panel of the ME2100-HS32-M. See the pin layout on the scheme.



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### Technical Specifications

#### ME2100-HS32-M

#### Type

Operating temperature  
Storage temperature  
Relative humidity

0 ° to 50 °C  
0 ° to 50 °C  
10 % to 85 % non-condensing

Dimensions (W x D x H)

50 mm x 72.5 mm x 8 mm

Length of the cable

Optional: 3 m, 5 m or 10 m

Weight w/o cable

50 g

Maximum tensile strength of the cable

20 N

Input connector type

Dual-row precision socket, 50 mil (1.27 mm) grid pattern,  
0.35 ± 0.45 mm round pins

#### Integrated Amplifier

Number of analog recording channels

32

Data resolution

24 bit

Bandwidth

DC to 10 kHz, software selectable

Signal input voltage range

± 250 mV

Input impedance

470 MΩ || 10 pF

Input noise

< 0.7  $\mu\text{V}_{\text{RMS}}$  (1 Hz to 3.5 kHz, inputs connected to ground)

Sampling frequency per channel

up to 50 kHz, software controlled

#### Integrated Stimulus Generators

Output voltage

± 10 V @ ± 20 mA max. compliance current

Output current

± 1.5 mA @ ± 16 V compliance voltage

Resolution

16 bit

Stimulation pattern

User customizable patterns

Number of stimulation channels

32 (each channel can be used as stimulation channel)

2 channels can be used for external stimulation

Number of reference electrodes

4 predefined reference electrodes

#### External Stimulation

1 Output connector

6-Pin connector for 2 independent stimulation patterns  
precip-dip series 853, 1.27 mm grid, 0.44 mm round pins

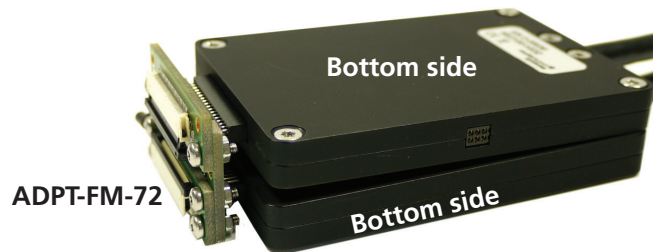
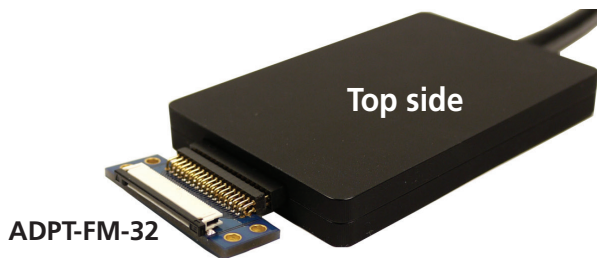
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## ME2100-HS32-M 32-Channel Headstage for ME2100-System

Adapter for the ME2100-HS32-M Headstage:  
ADPT-FM-32  
ADPT-FM-72  
ADPT-NN-32

Setup: Adapter ADPT-FM-72 and two ME2100-HS32-M

Setup: Adapter ADPT-FM-32 and ME2100-HS32-M



The adapter ADPT-FM-36 is necessary for use of FlexMEA36 probes.

If the adapter **ADPT-FM-32** is connected as shown on the foto to the top side of the **ME2100-HS32-M**, the **Flex-MEA36** must be inserted with the electrodes and contact pads facing downward.

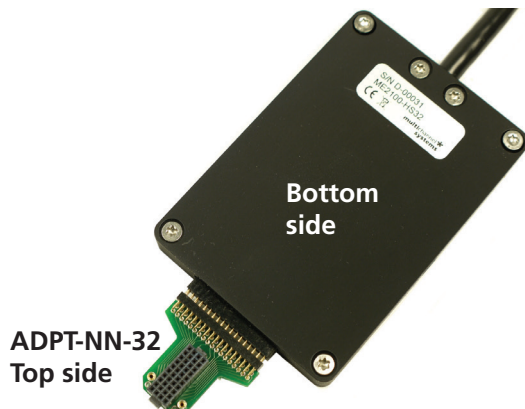
Please read also the datasheet of the FlexMEA36 and the datasheet of the adapter ADPT-FM-32

The adapter ADPT-FM-72 is necessary when using two ME2100-HS32-M headstages and FlexMEA72 probes.

Both **ME2100-HS32-M** headstages must be inserted with their top sides facing to each other (to the inner part of the adapter **ADPT-FM-72**) and the bottom sides facing outwards.

Please read also the datasheet of the FlexMEA72 and the datasheet of the adapter ADPT-FM-72.

Setup: Adapter ADPT-NN-32 and ME2100-HS32-M



The adapter ADPT-NN-32 is necessary when using 32-electrode NeuroNexus probes.

Please connect the ME2100-HS32-M headstage with the bottom side up to the top side of the adapter **ADPT-NN-32** as shown on the picture.

Please read also the datasheet of the ADPT-NN-32 and the datasheet of the respective 36-electrode NeuroNexus probe.

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## ME2100-HS32-M 32-Channel Headstage for ME2100-System

Adapter for the ME2100-HS32-M Headstage:  
**ADPT-NN64-ME2100**

Without Adapter:  
**EcoFlexMEA36**

### Setup: Adapter ADPT-NN-64-ME2100 and two ME2100-HS32-M

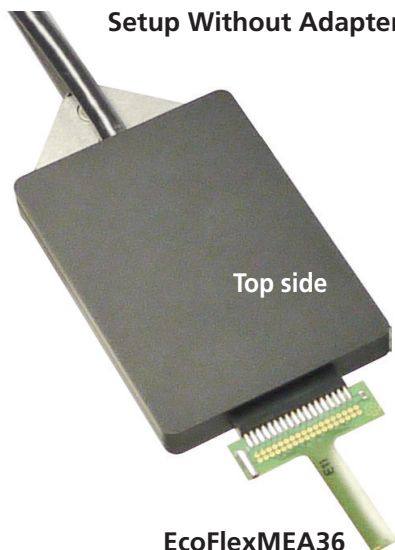


The adapter **ADPT-NN-64-ME2100** is necessary for use of 64-electrode NeuroNexus probes and two ME2100-HS32-M headstages.

Both **ME2100-HS32-M** headstages must be inserted with their bottom sides facing up and the top sides facing down. The connectors for the NeuroNexus probe on adapter are also facing down, please see the foto.

Please read also the datasheet of the respective 64-electrode NeuroNexus probe and the datasheet of the adapter ADPT-NN-64-ME2100.

### Setup Without Adapter: EcoFlexMEA36 and ME2100-HS32-M



Please connect the EcoFlexMEA36 directly to the ME2100-HS32-M.

As shown on the foto the top side of the **ME2100-HS32-M** and the top side of the **FlexMEA36** with the electrodes are facing up.

Please read also the datasheet of the EcoFlexMEA36.

**EcoFlexMEA36**

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