

DATA SHEET TEXTILE HD-EMG GRID

The TMSi Textile HD-EMG Grid is designed for the acquisition of HD-EMG signals. The product is intended to be used by research professionals in a laboratory environment.

This datasheet contains information on the HD-EMG adapter cable (REF 95-0525-2032-0-1) and a varying number of Textile HD-EMG grids (REF 50-xxx3-04yy, where the x and y determine different variants described in this datasheet). The HD-EMG adapter cable and Textile HD-EMG grids are to be used in combination with the SAGA amplifier (REF 95-1000-xxxx-0).

Various layouts for the Textile HD-EMG grid are available. For an overview of all available types, please refer to the different pages that are included as supplementary material to this datasheet. Please note the naming of the grids. The grid's name (e.g., 4-8-L) is to be used in combination with the TMSi Python interface to map the routing of channels on the HD-EMG grid to channels in the amplifier.



Figure 1: HD-EMG adapter cable.



Figure 2: HD-EMG adapter cable with one of the Textile HD-EMG grids

The multiconnector of the HD-EMG adapter cable can be inserted in the SAGA amplifier. Please note the keying of the connector in doing so (marked by a red dot). The textile grid can be connected to the cable by opening the box and aligning the openings on the grid with the alignment pins in the box. Placement is done correctly when the top of the box aligns with the textile side of the grid.

The Textile HD-EMG grids are intended for single use, because of the pre-printed adhesive that comes with the grid. Reusing this adhesive is not recommended. At your own risk, you may remove the original adhesive and replace it by a new double-sided adhesive. However, TMSi can and will not guarantee that the signal quality of this use is unaffected.

The HD-EMG adapter cable comes with a cradle and a set of straps which can be used to fixate the cable to the subject's body. Hence, there is no need to use tape on the subject. For a detailed overview of how to prepare the Textile HD-EMG grid and HD-EMG adapter cable, please refer to our [instructional video](#).

Please store the Textile HD-EMG grids in an air-tight and dark environment.

Technical specifications cable

Table 1: Overview of the technical specifications of the HD-EMG adapter cable

Technical properties	
Property	Specification
Number of channels	32 + PGND + GREF
Length cable	1.5 m
Total weight	63 g
Colour	Black

Contact Information TMSi

TMSi Support can be reached via email (support@tmsi.com) or by phone during office hours (CET). When you send us an email, please provide as much information as possible, including serial numbers of the used products. You may find the REF code and/or serial number on the product but also always on the package label. The REF code starts with 95 followed by two groups of four digits to identify the product type, it ends with two groups of one- or two digits identifying variant and revision of the product. The serial number always has ten digits. This will help us to support you in the best way possible.

Contact Information

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Textile HD-EMG grid: 4-8-L

REF 50-0323-0405-0-1

Table 2: Overview of the technical specifications of the 4-8-L Textile grid

Technical properties	
Property	Value
Number of channels	32
Electrode material	Ag/AgCl
Inter-Electrode Distance	8.75 mm
Size electrode in contact with skin (diameter)	4 mm

Channel layout

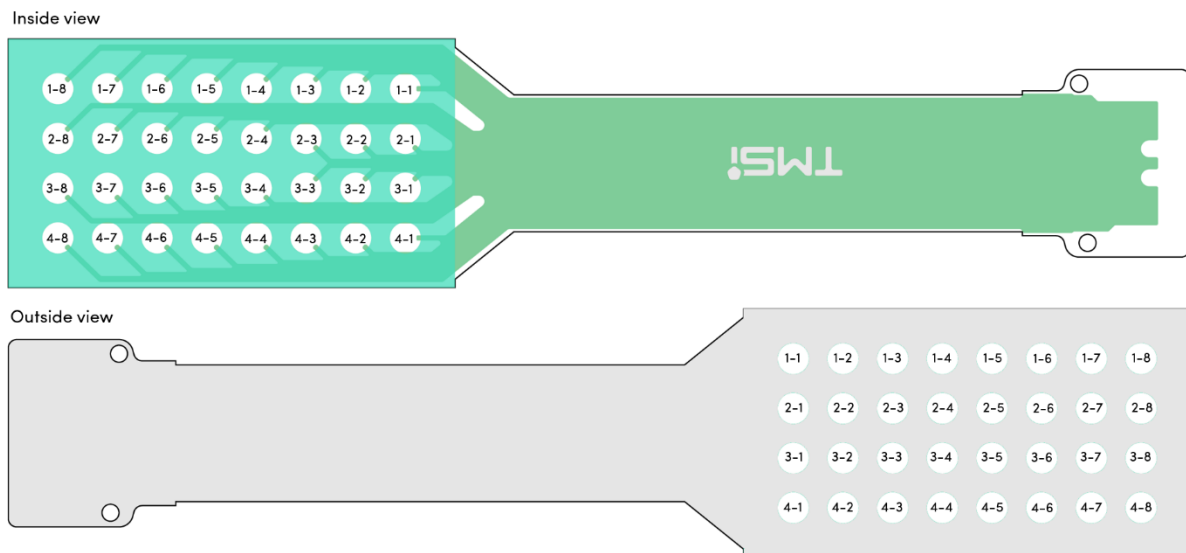


Figure 3: Channel naming logic of the 4-8-L Textile HD-EMG grid. Please note that the – sign is used to distinguish the Row and Column, as denoted in Table 3.

Table 3: Conversion matrix between unipolar channels and position/naming on the Textile HD-EMG grid by Row/Column (R/C).

UNI 01	R1C8	UNI 09	R2C8	UNI 17	R3C3	UNI 25	R4C1
UNI 02	R1C7	UNI 10	R2C7	UNI 18	R3C2	UNI 26	R4C2
UNI 03	R1C6	UNI 11	R2C6	UNI 19	R3C1	UNI 27	R4C3
UNI 04	R1C5	UNI 12	R2C5	UNI 20	R3C4	UNI 28	R4C4
UNI 05	R1C4	UNI 13	R2C4	UNI 21	R3C5	UNI 29	R4C5
UNI 06	R1C3	UNI 14	R2C1	UNI 22	R3C6	UNI 30	R4C6
UNI 07	R1C2	UNI 15	R2C2	UNI 23	R3C7	UNI 31	R4C7
UNI 08	R1C1	UNI 16	R2C3	UNI 24	R3C8	UNI 32	R4C8

Textile HD-EMG grid: 8-8-L

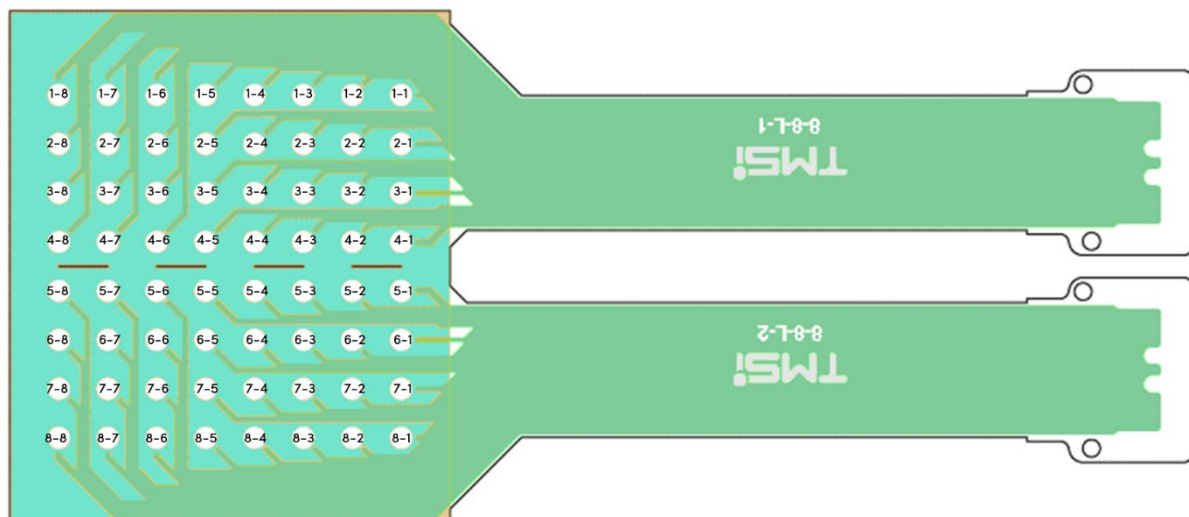
REF 50-0643-0402-0-1

Table 4: Overview of the technical specifications of the 8-8-L Textile grid

Technical properties	
Property	Value
Number of channels	64 (cuttable to 2x 32)
Electrode material	Ag/AgCl
Inter-Electrode Distance	8.75 mm
Size electrode in contact with skin (diameter)	4 mm

Channel layout

Inside view



Outside view

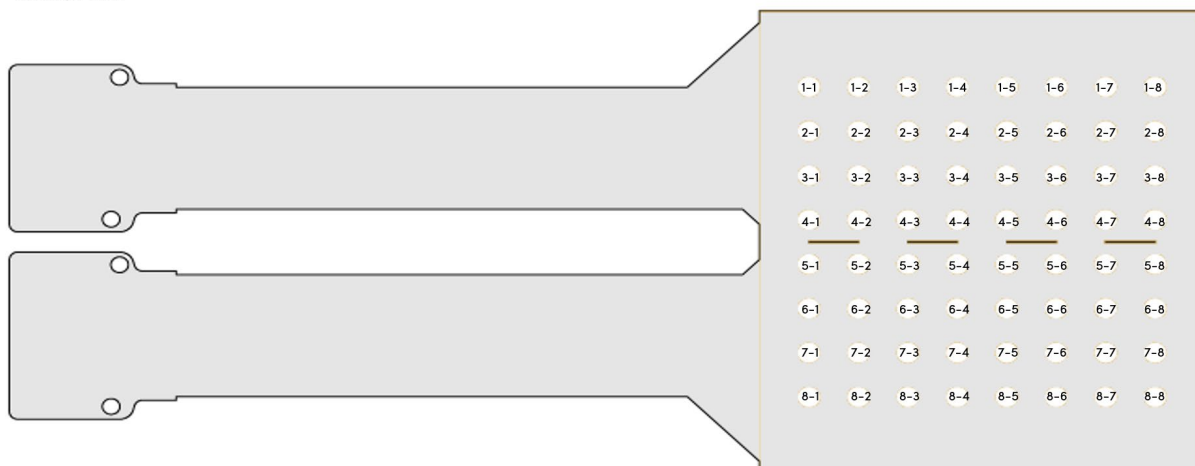


Figure 4: Channel naming logic of the 8-8-L Textile HD-EMG grid. Please note that the – sign is used to distinguish the Row and Column, as denoted in Table 5. The dashes in the figure show the cutting line to create two 32-channel grids.

Table 5: Conversion matrix between unipolar channels and position/naming on the 8-8-L Textile HD-EMG grid by Row/Column (R/C). The first 32 channels belong to the 8-8-L-1 grid, the second 32 channels belong to the 8-8-L-2 grid.

UNI 01	R1C8	UNI 17	R1C1	UNI 33	R5C1	UNI 49	R8C2
UNI 02	R2C8	UNI 18	R2C5	UNI 34	R5C2	UNI 50	R8C3
UNI 03	R3C8	UNI 19	R2C4	UNI 35	R5C3	UNI 51	R8C4
UNI 04	R4C8	UNI 20	R2C3	UNI 36	R5C4	UNI 52	R8C5
UNI 05	R1C7	UNI 21	R2C2	UNI 37	R5C5	UNI 53	R5C6
UNI 06	R2C7	UNI 22	R2C1	UNI 38	R6C1	UNI 54	R6C6
UNI 07	R3C7	UNI 23	R3C5	UNI 39	R6C2	UNI 55	R7C6
UNI 08	R4C7	UNI 24	R3C4	UNI 40	R6C3	UNI 56	R8C6
UNI 09	R1C6	UNI 25	R3C3	UNI 41	R6C4	UNI 57	R5C7
UNI 10	R2C6	UNI 26	R3C2	UNI 42	R6C5	UNI 58	R6C7
UNI 11	R3C6	UNI 27	R3C1	UNI 43	R7C1	UNI 59	R7C7
UNI 12	R4C6	UNI 28	R4C5	UNI 44	R7C2	UNI 60	R8C7
UNI 13	R1C5	UNI 29	R4C4	UNI 45	R7C3	UNI 61	R5C8
UNI 14	R1C4	UNI 30	R4C3	UNI 46	R7C4	UNI 62	R6C8
UNI 15	R1C3	UNI 31	R4C2	UNI 47	R7C5	UNI 63	R7C8
UNI 16	R1C2	UNI 32	R4C1	UNI 48	R8C1	UNI 64	R8C8

Textile HD-EMG grid: 8-8-S

REF 50-0643-0401-0-1

Table 6: Overview of the technical specifications of the 8-8-S Textile grid

Technical properties	
Property	Value
Number of channels	64 (cuttable to 2x 32)
Electrode material	Ag/AgCl
Inter-Electrode Distance	4 mm
Size electrode in contact with skin (diameter)	2 mm

Channel layout

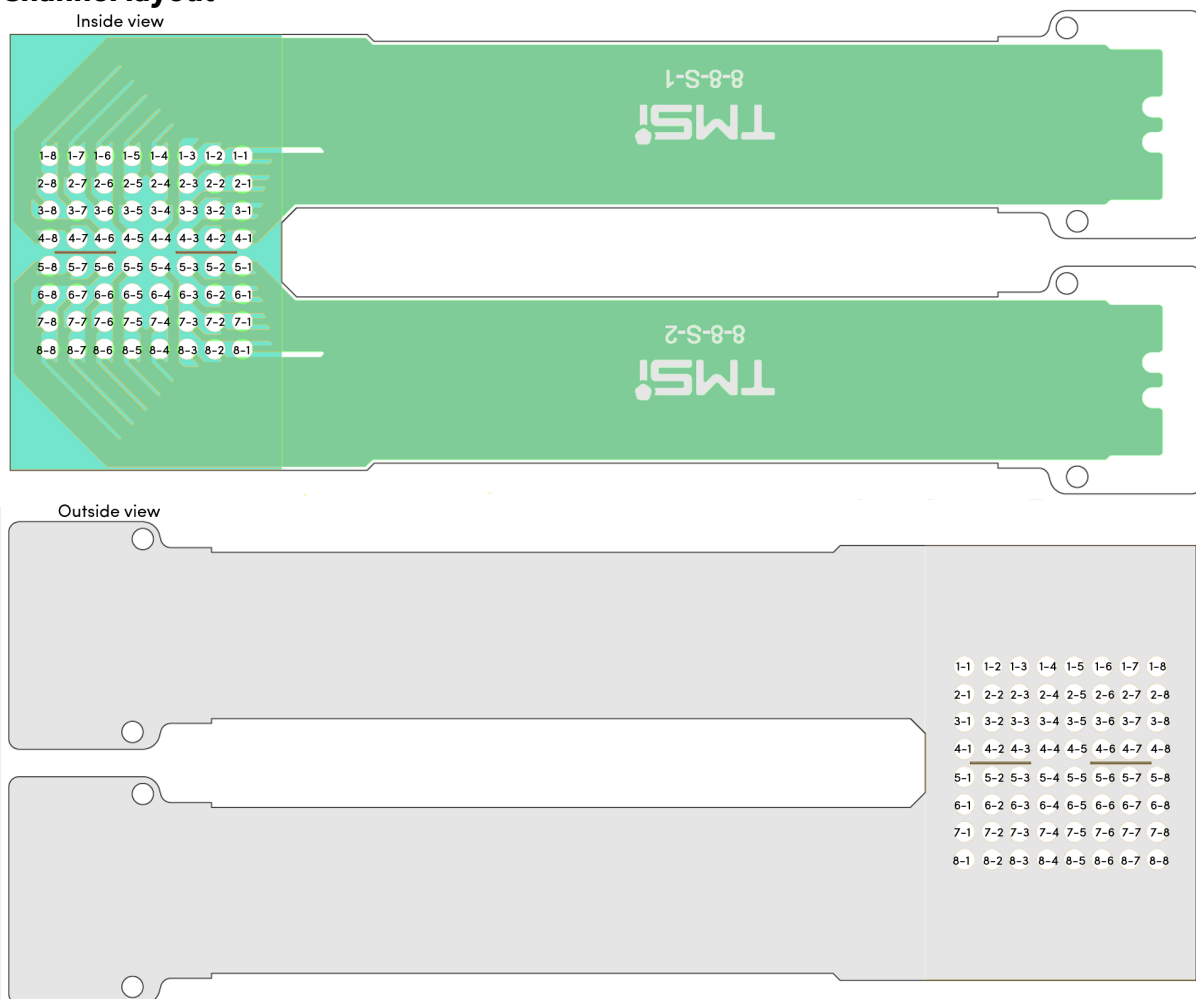


Figure 5: Channel naming logic of the 8-8-S Textile HD-EMG grid. Please note that the – sign is used to distinguish the Row and Column, as denoted in Table 7. The dashes in the figure show the cutting line to create two 32-channel grids.

Table 7: Conversion matrix between unipolar channels and position/naming on the 8-8-S Textile HD-EMG grid by Row/Column (R/C). The first 32 channels belong to the 8-8-S-1 grid, the second 32 channels belong to the 8-8-S-2 grid.

UNI 01	R4C8	UNI 17	R2C4	UNI 33	R5C1	UNI 49	R7C5
UNI 02	R4C7	UNI 18	R1C4	UNI 34	R5C2	UNI 50	R8C5
UNI 03	R4C6	UNI 19	R3C4	UNI 35	R5C3	UNI 51	R6C5
UNI 04	R3C8	UNI 20	R4C4	UNI 36	R6C1	UNI 52	R5C5
UNI 05	R2C8	UNI 21	R1C3	UNI 37	R6C2	UNI 53	R8C6
UNI 06	R1C8	UNI 22	R1C2	UNI 38	R6C3	UNI 54	R7C6
UNI 07	R3C7	UNI 23	R1C1	UNI 39	R7C1	UNI 55	R6C6
UNI 08	R2C7	UNI 24	R2C3	UNI 40	R7C2	UNI 56	R8C7
UNI 09	R1C7	UNI 25	R2C2	UNI 41	R7C3	UNI 57	R7C7
UNI 10	R3C6	UNI 26	R2C1	UNI 42	R8C1	UNI 58	R6C7
UNI 11	R2C6	UNI 27	R3C3	UNI 43	R8C2	UNI 59	R8C8
UNI 12	R1C6	UNI 28	R3C2	UNI 44	R8C3	UNI 60	R7C8
UNI 13	R4C5	UNI 29	R3C1	UNI 45	R5C4	UNI 61	R6C8
UNI 14	R3C5	UNI 30	R4C3	UNI 46	R6C4	UNI 62	R5C6
UNI 15	R1C5	UNI 31	R4C2	UNI 47	R8C4	UNI 63	R5C7
UNI 16	R2C5	UNI 32	R4C1	UNI 48	R7C4	UNI 64	R5C8

Textile HD-EMG grid: 6-11-L

REF 50-0643-0402-1-1

Table 8: Overview of the technical specifications of the 6-11-L Textile grid

Technical properties	
Property	Value
Number of channels	64 (cuttable to 2x 32)
Electrode material	Ag/AgCl
Inter-Electrode Distance	8.75 mm
Size electrode in contact with skin (diameter)	4 mm

Channel layout

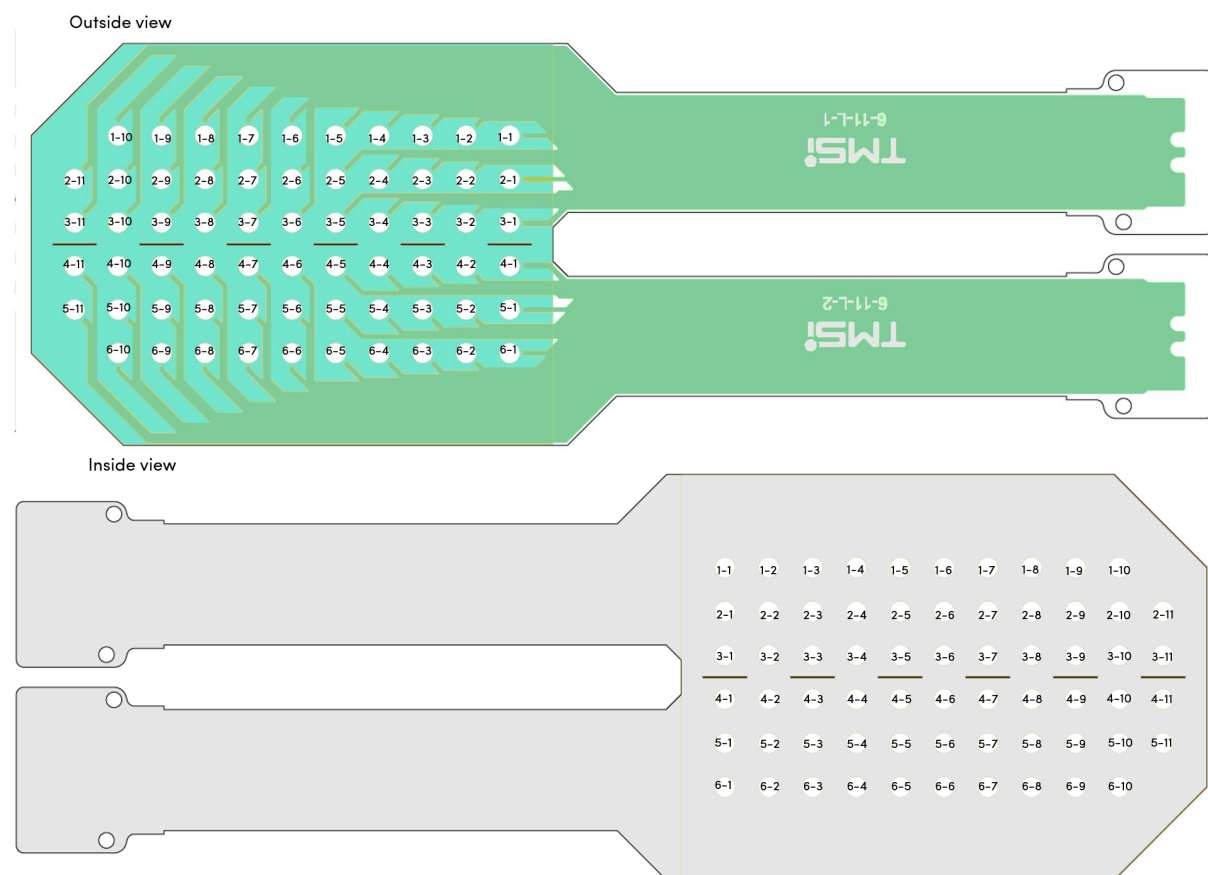


Figure 6: Channel naming logic of the 6-11-L Textile HD-EMG grid. Please note that the – sign is used to distinguish the Row and Column, as denoted in Table 9. The dashes in the figure show the cutting line to create two 32-channel grids.

Table 9: Conversion matrix between unipolar channels and position/naming on the 6-11-L Textile HD-EMG grid by Row/Column (R/C). The first 32 channels belong to the 6-11-L-1 grid, the second 32 channels belong to the 6-11-L-2 grid.

UNI 01	R2C11	UNI 17	R3C6	UNI 33	R4C1	UNI 49	R5C6
UNI 02	R3C11	UNI 18	R1C5	UNI 34	R4C2	UNI 50	R6C6
UNI 03	R1C10	UNI 19	R1C4	UNI 35	R4C3	UNI 51	R4C7
UNI 04	R2C10	UNI 20	R1C3	UNI 36	R4C4	UNI 52	R5C7
UNI 05	R3C10	UNI 21	R1C2	UNI 37	R4C5	UNI 53	R6C7
UNI 06	R1C9	UNI 22	R1C1	UNI 38	R5C1	UNI 54	R4C8
UNI 07	R2C9	UNI 23	R2C5	UNI 39	R5C2	UNI 55	R5C8
UNI 08	R3C9	UNI 24	R2C4	UNI 40	R5C3	UNI 56	R6C8
UNI 09	R1C8	UNI 25	R2C3	UNI 41	R5C4	UNI 57	R4C9
UNI 10	R2C8	UNI 26	R2C2	UNI 42	R5C5	UNI 58	R5C9
UNI 11	R3C8	UNI 27	R2C1	UNI 43	R6C1	UNI 59	R6C9
UNI 12	R1C7	UNI 28	R1C5	UNI 44	R6C2	UNI 60	R4C10
UNI 13	R2C7	UNI 29	R1C4	UNI 45	R6C3	UNI 61	R5C10
UNI 14	R3C7	UNI 30	R1C3	UNI 46	R6C4	UNI 62	R6C10
UNI 15	R1C6	UNI 31	R1C2	UNI 47	R6C5	UNI 63	R4C11
UNI 16	R2C6	UNI 32	R1C1	UNI 48	R4C6	UNI 64	R5C11

Textile HD-EMG grid: 6-11-S

REF 50-0643-0401-1-1

Table 10: Overview of the technical specifications of the 6-11-S Textile grid

Technical properties	
Property	Value
Number of channels	64 (cuttable to 2x 32)
Electrode material	Ag/AgCl
Inter-Electrode Distance	4 mm
Size electrode in contact with skin (diameter)	2 mm

Channel layout

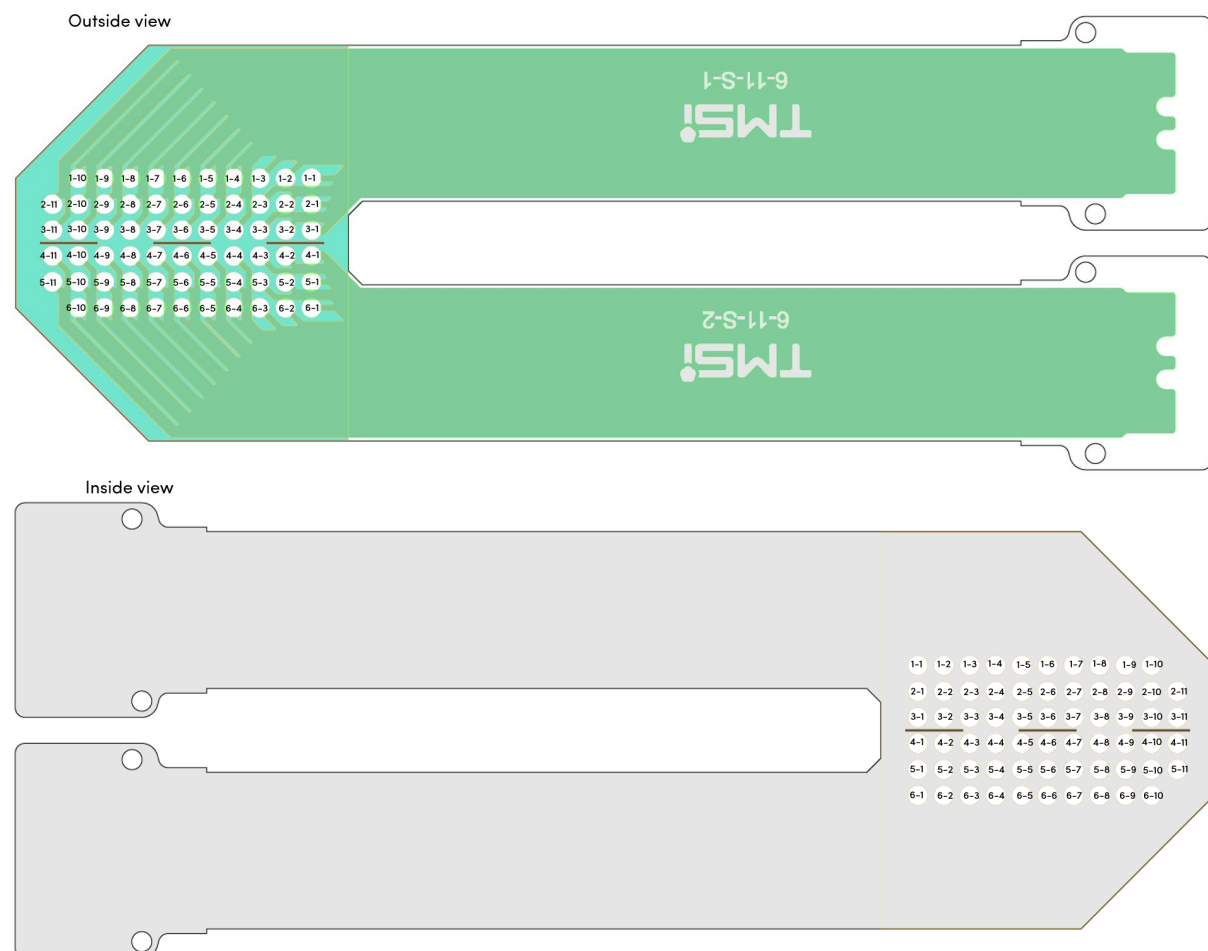


Figure 7: Channel naming logic of the 6-11-S Textile HD-EMG grid. Please note that the – sign is used to distinguish the Row and Column, as denoted in Table 11. The dashes in the figure show the cutting line to create two 32-channel grids.

Table 11: Conversion matrix between unipolar channels and position/naming on the 6-11-S Textile HD-EMG grid by Row/Column (R/C). The first 32 channels belong to the 6-11-S-1 grid, the second 32 channels belong to the 6-11-S-2 grid.

UNI 01	R2C11	UNI 17	R3C6	UNI 33	R4C1	UNI 49	R5C6
UNI 02	R3C11	UNI 18	R1C5	UNI 34	R4C2	UNI 50	R6C6
UNI 03	R1C10	UNI 19	R2C5	UNI 35	R4C3	UNI 51	R4C7
UNI 04	R2C10	UNI 20	R3C5	UNI 36	R5C1	UNI 52	R5C7
UNI 05	R3C10	UNI 21	R1C4	UNI 37	R5C2	UNI 53	R6C7
UNI 06	R1C9	UNI 22	R2C4	UNI 38	R5C3	UNI 54	R4C8
UNI 07	R2C9	UNI 23	R3C4	UNI 39	R6C1	UNI 55	R5C8
UNI 08	R3C9	UNI 24	R1C3	UNI 40	R6C2	UNI 56	R6C8
UNI 09	R1C8	UNI 25	R1C2	UNI 41	R6C3	UNI 57	R4C9
UNI 10	R2C8	UNI 26	R1C1	UNI 42	R4C4	UNI 58	R5C9
UNI 11	R3C8	UNI 27	R2C3	UNI 43	R5C4	UNI 59	R6C9
UNI 12	R1C7	UNI 28	R2C2	UNI 44	R6C4	UNI 60	R4C10
UNI 13	R2C7	UNI 29	R2C1	UNI 45	R4C5	UNI 61	R5C10
UNI 14	R3C7	UNI 30	R3C3	UNI 46	R5C5	UNI 62	R6C10
UNI 15	R1C6	UNI 31	R3C2	UNI 47	R6C5	UNI 63	R4C11
UNI 16	R2C6	UNI 32	R3C1	UNI 48	R4C6	UNI 64	R5C11