Supporting Information

Flexible capacitive pressure sensors with high sensitivity and durability via electrohydrodynamic printing method

Yixiang Lin[a,b], Zhiheng Yu[c], Hao Xue*[b], Tianyu Zhang[b], Taiyao Pan[b], Jinmei Gu, Fengli Huang*[b]

a. School of Mechanical Engineering, Zhejiang Sci-Tech University, Hangzhou 310018, Zhejiang, China.

b. Key Laboratory of Advanced Manufacturing Technology of Jiaxing City, College of Xingshen, Jiaxing University, Jiaxing 341001, Zhejiang, China.

c. College of Mechanical and Electrical Engineering, Jiaxing Nanhu University, Jiaxing 314001, Zhejiang, China.

Corresponding authors:

*Email: xuehao@zjxu.edu.cn ; hfl@zjxu.edu.cn_

Table S1 Components of dielectric layer in this work

Components	PDMS precursor/g	Curing agent/g	MWCNT/g	Hexane/g
Sensors(1.4wt%)	1.972	0.1972	0.28	4.5
Sensors(1.8wt%)	1.964	0.1964	0.36	4.5
Sensors(2.0wt%)	1.960	0.1960	0.40	4.5
Sensors(2.2wt%)	1.956	0.1956	0.44	4.5

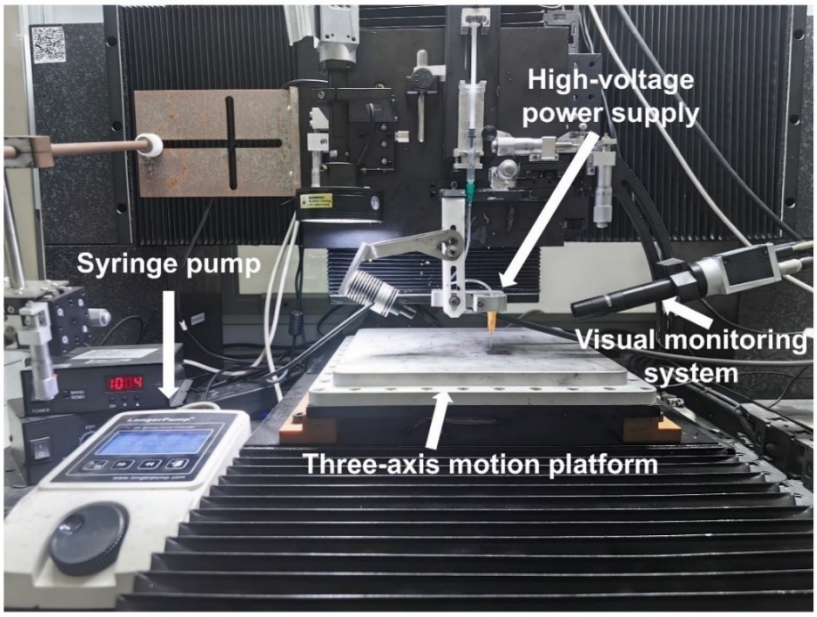

Fig. S1. Physical photograph of electrohydrodynamic direct-writing platform

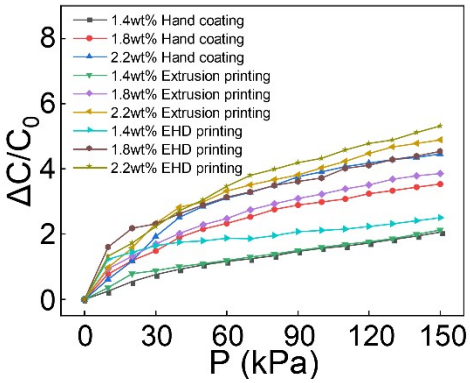

Fig. S2. Comparison of sensitivity of capacitive sensors with different MWCNT content and preparation processes

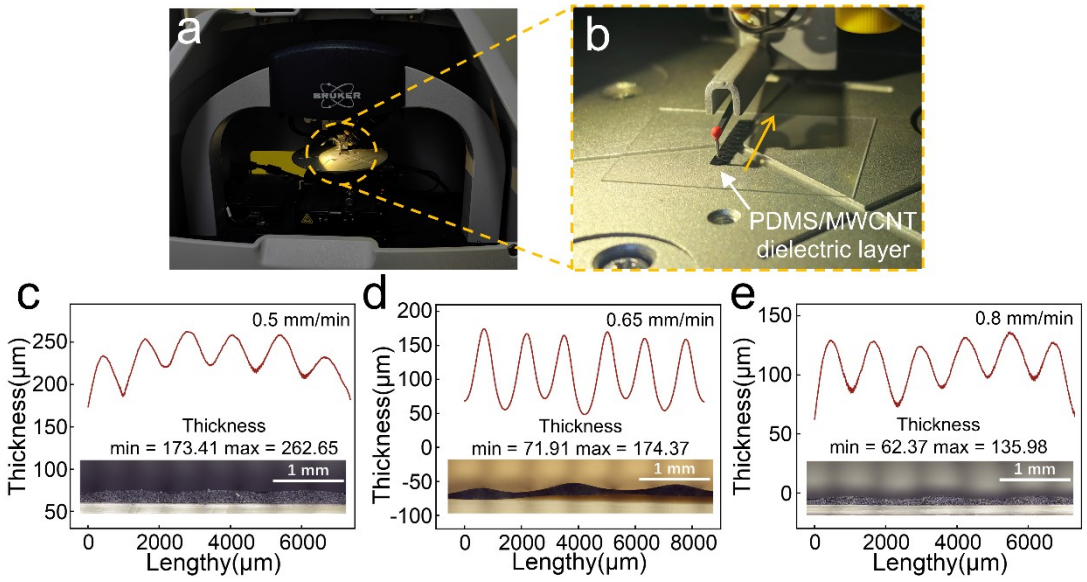

Fig. S3. (a,b) Step profilometer setup for microstructure characterization of PDMS/MWCNT dielectric layer. Step profilometer test and ultra-depth-of-field images of the microstructure of PDMS/MWCNT dielectric layers fabricated with different EHD printing speeds: (c) 0.5 mm/min, (d) 0.65 mm/min, (e) 0.8 mm/min.

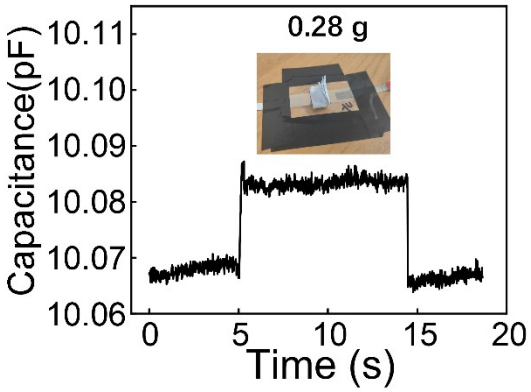

Fig. S4. Ultimate pressure detection of the pressure sensor (280 mg, ~ 20 Pa)

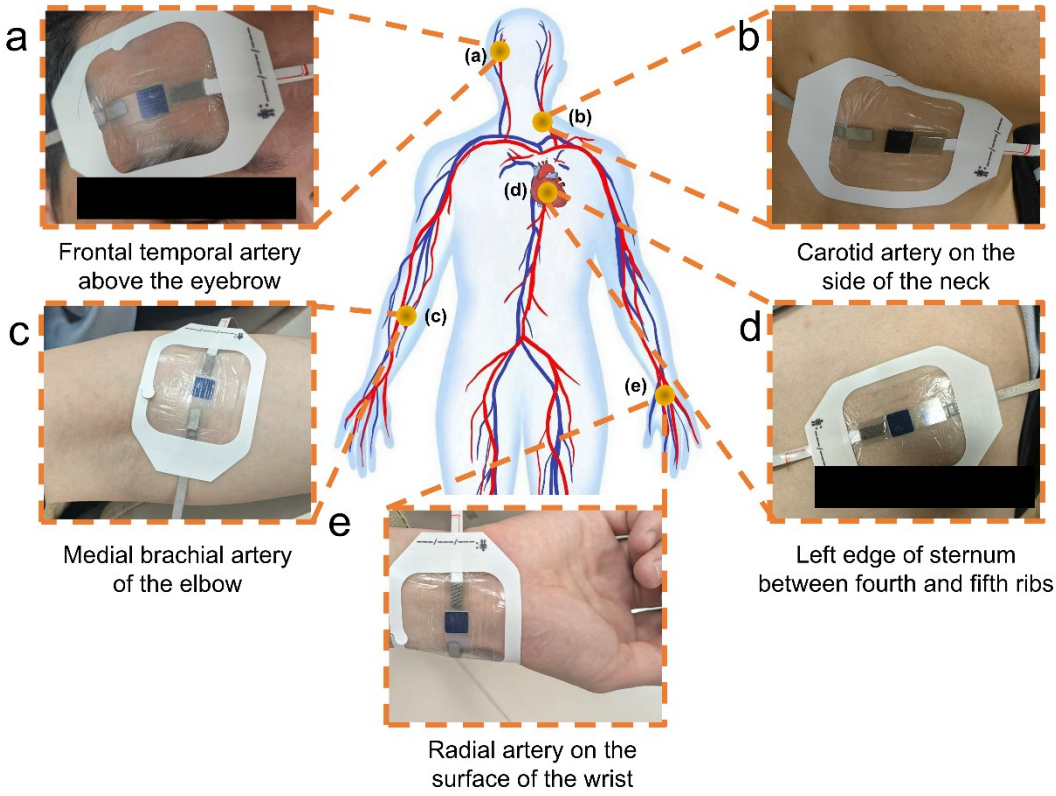

Fig. S5. Installation diagram of sensor in corresponding physiological position: (a) Frontal temporal artery above the eyebrow, (b) Carotid artery on the side of the neck, (c) Medial brachial artery of the elbow, (d) Left edge of sternum between fourth and fifth ribs, (e) Radial artery on the surface of the wrist.

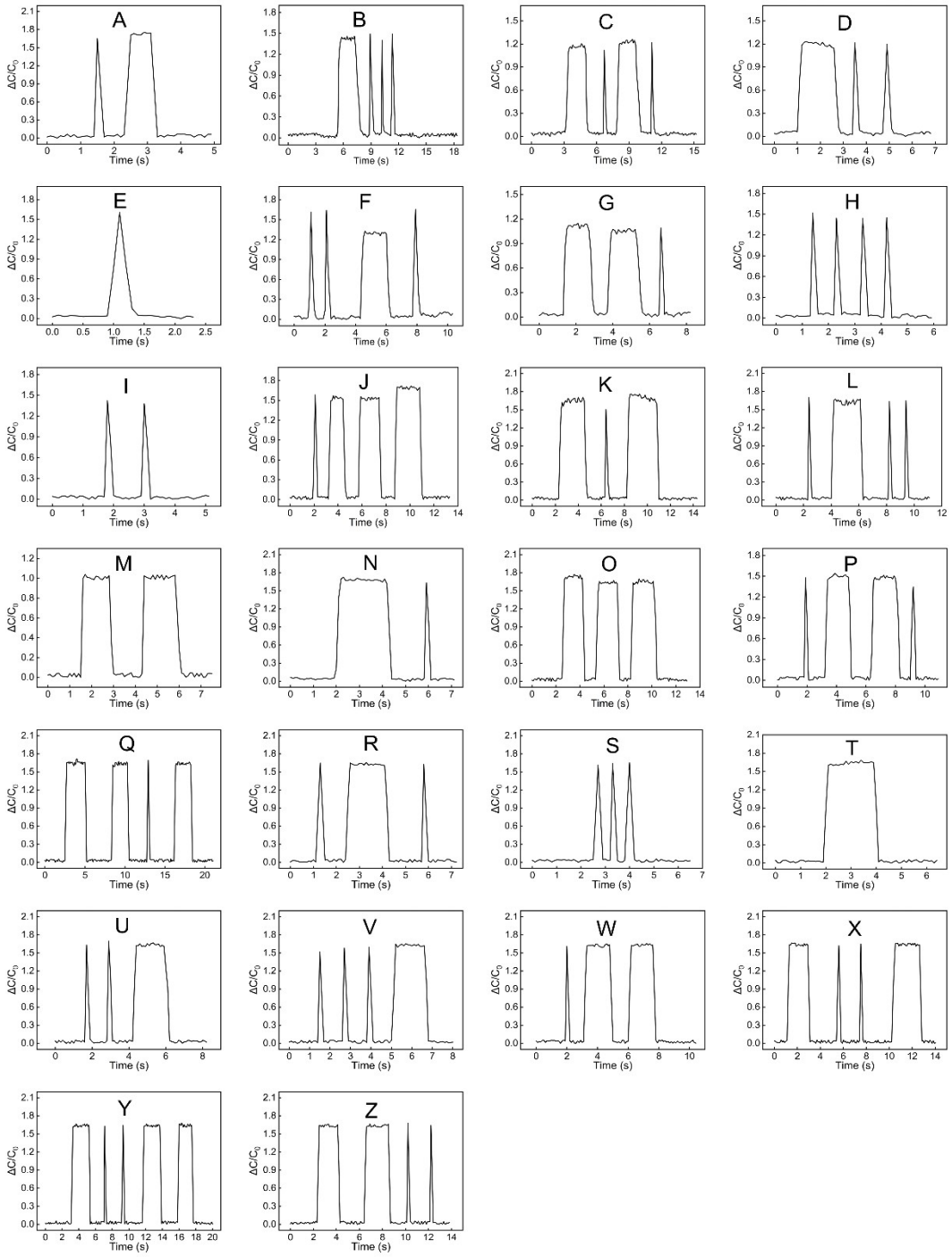

Fig. S6. Capacitive signals corresponding to letters A-Z in Morse code based on the fabrication in this work.