

The CONDUCTRA-9 — a wire and smart-textile cording platform for heating, sensing, and e-textile work.

WIRE & SMART-TEXTILE CORDING

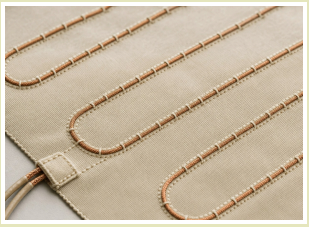
CONDUCTRA-9

Embroidered wires, sensors, heating elements — the smart-textile workhorse.

A nine-needle flat head paired with a single PD (taping) head, configured for couching continuous wire, CNT thread, and conductive cord under engineered stitch paths. The platform does Tailored Wire Placement — routing heating wire, sensor wire, and smart textiles and stitching them down — turning embroidery into an electrical assembly process.

WHY THIS MACHINE

Drop a 28 AWG copper wire under flat stitch, route a meander, and you have a heated panel. Swap to CNT thread and you have an antenna. Add a piezoresistive thread and you have a pressure sensor. One machine, one workflow, the entire smart-textile stack.



Couched wire heating element

CAPABILITIES

- Couches 20–42 AWG copper wire and 16 µm CNT thread
- Electrical envelope: 3 V – 55 V, 1 mA – 15 A
- Heating elements — car seat heaters, deicers, heated jackets
- Sensor wire stitching and smart-textile routing
- Integrated laser cutter for trimmed-edge encapsulated conductors
- Three-bead sequin head for hybrid decoration + function

IDEAL FOR

Heated-apparel makers, smart-textile startups, e-textile research groups, and deicing / heated-surface developers.

SPECIFICATIONS

Configuration	9 needles × 1 flat head + 1 taping (PD) head
Functions	Flat • Cording • Taping • Three-bead twin sequin • Laser cutting
Embroidery area	650 × 1200 mm
Maximum speed	1,200 spm
Control	12" colour touchscreen LCD
Special equipment	Three-bead twin sequin device, laser cutting device
Power	Standard 120 V — quiet operation
Machine size	2,470 × 1,630 × 1,600 mm
Net weight	650 kg

SAMPLING Bring your spec — we'll stitch a sample on this platform at our showroom.

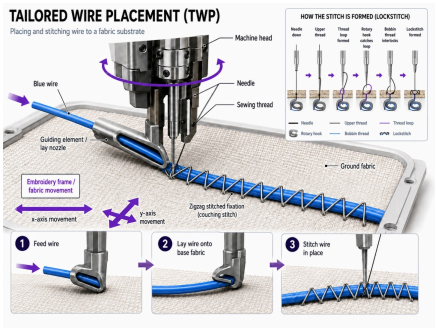
PRICING Contact for current pricing and availability.

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WHAT THE PLATFORM MAKES

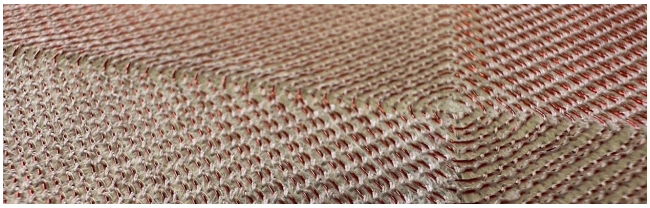
Tailored Wire Placement for Smart Textiles

Tailored Wire Placement (TWP) lays continuous wire exactly along a programmed path and stitches it down to a fabric substrate — no soldered traces, no rigid board. The CONDUCTRA-9 routes heating wire, sensor wire, CNT thread and conductive cord, embedding heating elements, sensors and antennas directly into the textile.



THE PROCESS · TAILORED WIRE PLACEMENT

How TWP works A guiding nozzle lays continuous wire onto a moving base fabric while a needle couches it down with a zigzag lockstitch. The embroidery frame moves in X and Y so the head follows any programmed path — placing conductor only where the circuit demands it.



COPPER WIRE · HEATING ELEMENT

Couched heating element

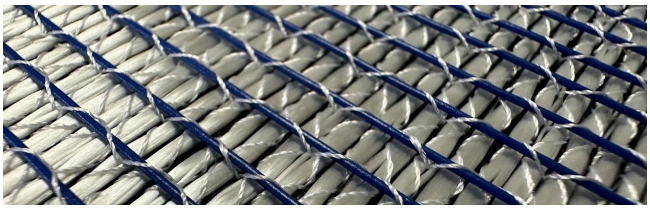
Continuous copper wire couched in a tight spiral meander — a programmable resistive heater stitched straight into fabric for car-seat heaters, deicers and heated apparel.



THERMAL IMAGING · HEAT PROOF

Heated panel under FLIR

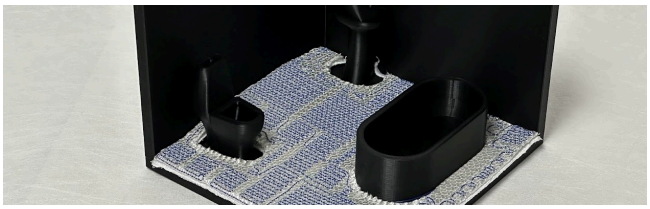
A thermal camera shows even heat across a couched-wire panel — proof the embroidered circuit warms uniformly with no cold spots or runaway hot wires.



SENSOR WIRE · SMART TEXTILE

Sensor-wire routing

Fine conductive wire couched in dense, repeatable rows — the basis for capacitive and resistive sensing grids stitched directly into a flexible textile.



E-TEXTILE · INTEGRATED ASSEMBLY

Smart-textile demonstrator

Embroidered conductive panels integrated with molded fixtures — showing how TWP turns a length of fabric into a finished, wired electrical assembly.

One machine, the entire smart-textile stack. Couch 20–42 AWG copper wire and 16 µm CNT thread, work within a 3–55 V, 1 mA–15 A electrical envelope, and trim encapsulated conductors with the integrated laser cutter — heating elements, sensors and antennas, all stitched on a single platform.

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