

# ***Eltex Tension Monitor***

## ***Quilting Machine Model***



### ***General Description***

The Eltex Tension Monitor (ETM) is an on-line device for quilting machines. The device monitors the thread tension on the top thread. It also acts as a thread break detector. It enables the operator to keep the thread tension within the desired tension range for best operation and quality of the seam.

The ETM indicates, with LEDs, if the thread tension is outside the selected Indication Limits. If the thread tension exceeds the selected Stop Limits, the ETM will send a stop signal to the machine.

A system consists of one central control unit and a number of monitors.

The central control unit needs synchronization pulses from the main shaft. These could be generated by proximity switches. The stop signal is generated on a relay output at the central control unit.

The I450I model is designed for chain stitch machines. It is equipped with a bottom thread detection. Variations in the top thread tension is used to detect a bottom thread failure. A Bottom Thread Detector Limit is set to decide if the bottom thread is present or not.

### ***Features***

- Monitors thread tension according to selected Indication Limits.
- Generates stop pulse when thread tension is outside the selected Stop Limits.
- Easy setting and clear readings through standard code switches.
- Factory calibrated – no manual reset.
- No complex interface – easy connected and fitted.
- I450I only: Acts as a thread break detector for bottom thread.

### ***Advantages***

- Improves sewing quality – reduces costs for quality control and mending.
- Allows you to operate with the correct yarn tension.
- Acts as a thread break detector.
- Makes it possible to minimize bottom thread waste.
- Protects against overtension.
- Alerts the operator to dirt and dust in the thread tensioners.
- Makes it easier for the operator to set the correct bobbin tension.

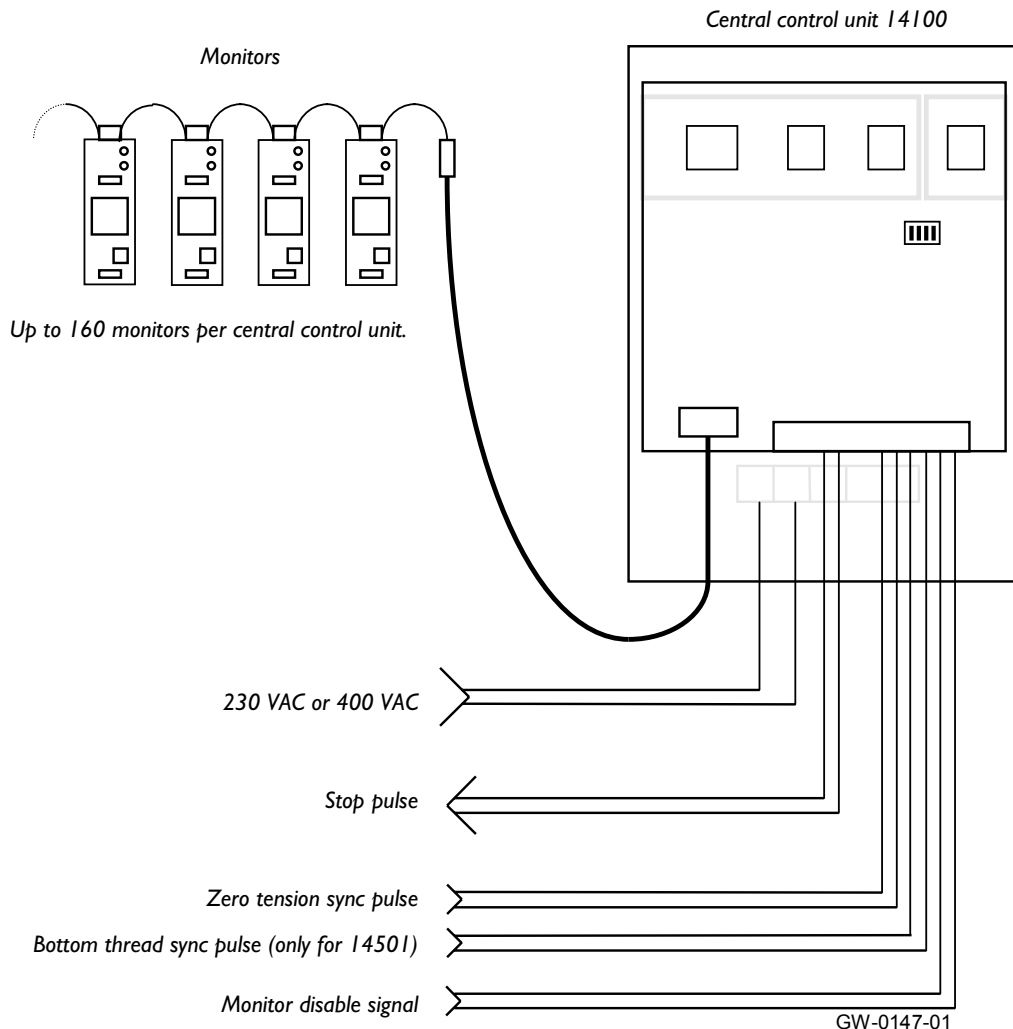
## Technical specifications

Central control unit supply voltage .....	230 VAC or 400 VAC
Maximum relay contact load .....	2 A at 75 VDC / 50 VAC
Speed range .....	80–5000 RPM
Stop pulse length .....	2 seconds
Maximum voltage at Synchronization input .....	30 V DC. $V_{in\ low}$ : 0–1.2 V $V_{in\ high}$ : 6.0–30 V
Central control unit dimensions (width x height x depth) ....	176 x 250 x 115 mm
Monitor dimensions (width x height x depth) .....	25 x 80 x 90 mm
Working ambient temperature range .....	15–45°C (60–110°F)

## Models

14500	ETM for lock stitch machines
14501	ETM for chain stitch machines. Bottom thread break detection.

## Typical application



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