

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 for top and bottom thread. 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.

The bottom thread detection is a separate function where 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.

A system consists of one central unit and a number of monitors. The central unit needs two different synchronization pulses from the main shaft. These could be created with proximity switches. The stop signal is generated on a relay output at the central unit.

Features

- Monitors thread tension according to selected Indication Limits.
- Generates stop pulse when thread tension is outside the selected Stop Limits or bottom thread is broken or missing.
- Easy setting and clear readings through standard code switches.
- Factory calibrated – no manual reset.
- No complex interface – easy connected and fitted.

Advantages

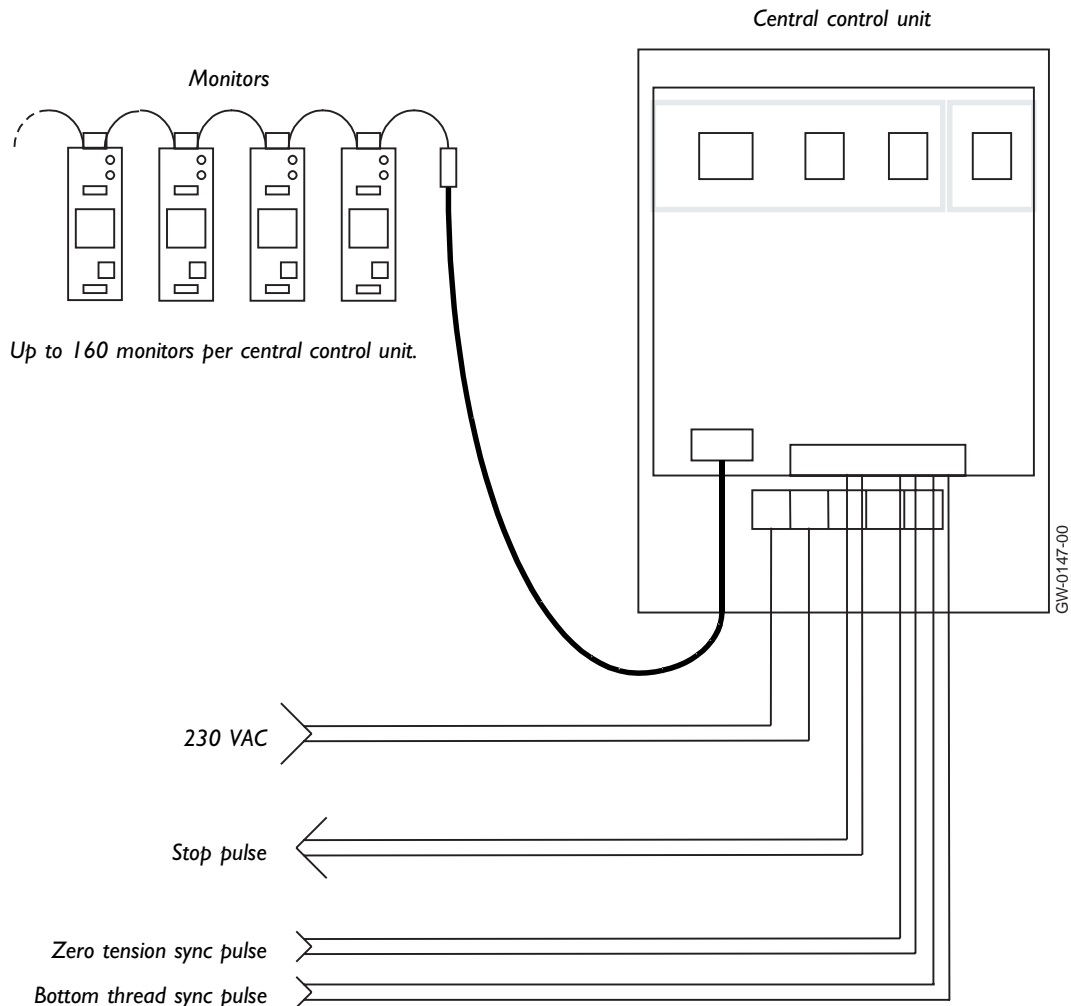
- Improves sewing quality – reduces costs for quality control and mending.
- Allows you to operate with the correct yarn tension.
- Acts as a thread break detector for both top and bottom thread.
- Makes it possible to minimize bottom thread waste.
- Protects against overtension.
- Alerts the operator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

Technical specifications

Eltex Tension Monitor system, Quilting machine model

Central control unit supply voltage	230 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)

Typical application



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