

Thickness Monitors Controller TMC-13



Description

TMC13 is the newest technology electronics designed for monitoring and controlling any coating and deposition processes. Up to six channel inputs and two additional vacuum gauge channels together with 6,5" TFT display makes this unit really unique and universal. Sensor inputs can be assigned to different materials with individual parameters as well. High speed and high accuracy measuring process controlled by DSP processor improves the film quality and repeatability. It brings also the features of accuracy, stability and instrument configuration.

Features

- Six channels for quartz balance
 - 6,5" TFT touch panel display
 - intuitive & multilanguage interface
 - compact design
 - two inputs for most active vacuum gauges
 - up to 8 shutters and I/O reprogrammable
 - relay outputs
 - two reprogrammable analog outputs for rate and thickness monitoring with 16 bits resolution
 - communication interfaces: RS232/485, Ethernet IP
 - industry standard 6 MHz Crystal
 - frequency resolution: 0.1 Hz (for TM13) or 0.01 Hz (for TM14)
 - Rapid SE and LabVIEW libraries
 - **operation of up to two multi-crystal sensor heads (pneumatic or stepper motor)**
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- 19" rack mounting or stand-alone
 - one-touch material change
 - favourites list for frequently used materials
 - one-touch units change
 - save individual user profile
 - built-in video tutorials

Software

Software for TMC-13 available, please request

Technical data

Supply voltage	100 - 240VAC 50/60HZ 2.2A
User interface	TFT LCD 6.5", 400x240px with integrated touch panel
Communication Interface	RS232/485, EtherNet/IP, USB, Bluetooth
Dimensions [mm]	W: 212.6 mm (42HP), H: 128.4 mm (3HU), D: 260.9 mm
TM sensor inputs	6
Thickness	0 - 9999000 Å
Rate	0 - 9999 Å/s

Frequency resolution 0.1 Hz (for **TM13**), 0.01 Hz (for **TM14**)

Frequency Range 2-6 MHz

Thickness Resolution 0.1 Å

Rate Resolution 0.1 Å/s

Tooling Factor 1 - 400%

Measurement units Å, kÅ, nm

Measurement period 0.25 s

Shutter control manual, time, thickness

Shutter Time 1 - 1000000 s

Shutter Thickness 0 - 9999000 Å

**Pressure channels
inputs** 2

Compatible sensors ITR90, ITR100, PTR90/225/237, CTR90/91, TTR90, TTR211/216,
MKS 870B Baratron and PG105

Measurement units mbar, Pa, Torr, Psia

Degas Time 1 - 3 min

- 8 relay outputs (2 outputs with COM NC and NO contacts,

Output 6 outputs with COM and NO contacts)

- 2 analog outputs: 0-10V (thickness, rate, pressure)

Inputs 4 digital inputs (in 5V logic)

Operating temperature 15 - 40°C

Weight, approx 3 kg