

LABORATORY Temperature Controller



Model 5301-E

With an input circuitry designed to accept resistance or voltage generating temperature sensors such as GaS-diodes, thermocouples, Ge & Pt Sensors, Carbon Resistors and Thermistors. The 5301-E, three mode controller offers temperature regulation to better than 0.01°K (or °C) in Vacuum chambers, Cryogenic dewars, Optical ovens, Tensile strength test apparatus, etc. for physics, metallurgy, chemistry and other scientific fields where the control and temperature range requirements are broad or change frequently. Set point readout is either directly in mV or Ohms (4-terminal measurement), with unlimited temperature range. Proportional, rate and reset modes are all internally adjustable, allowing to tune the controller to the thermal time constants of the process. 100 Watts, DC output or up to 5KW with Model 2202.

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INSTRUMENTATION

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POWER MODULE



Model 2202

To regulate an AC-line connected load by means of a small DC signal from an automatic control instrument. It supplies large amounts of power for control of resistive heaters, thermo-electric elements, light sources, etc. in temperature controlled ovens, vacuum deposition equipment, infrared heat sources, temperature baths and other applications. The instrument features a pulse-width-modulated zero crossing - fires TRIAC circuit to minimize RF Interference, electronic protection against current overloads and voltage transient, and provides linear control to a AC power line up to 25 Amp. (110 V or 220 V).

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measurements. It might be characterized as a fairly brief updating of such old standbys as the books by B. Hague and L. Hartshorn. An experimentalist in search of a method to suit his needs will find useful information, but there are deficiencies in the coverage. As examples, the discussion of transformer bridges hardly does justice to their capabilities at present, the use of "active" circuit elements is suggested only by a special case, and there is no mention of recent developments in time-domain reflectometry and other transient methods. The authors can be more easily forgiven their omission of millimeter-wave and far-infrared techniques as lying beyond their chosen frequency or time range.

There is good material in this book, which should be useful to both present and prospective workers interested in dielectric theory and measurements. The principal shortcomings are ones of omission, which is not too surprising when the amount of material covered in 170 pages is considered.

R. H. COLE
Brown University
Providence, R. I.

new books

Conference Proceedings

Cyclotrons-1972 (AIP Conf. Proc. No. 9, Sixth Cyclotron Conference, Vancouver, Canada, 18-19 July, 1972). J. J. Burgerjon, A. Strathdee, eds. 836 pp. AIP, New York, 1972. \$14.96.

Elementary Particles

Photon-Hadron Interactions. Richard P. Feynman. 282 pp. W. A. Benjamin, Reading, Mass., 1972. cloth \$16.00; paper \$7.95.

The Physics of Elementary Particles. L. J. Tassie, Halsted, New York, 1973.

Atoms and Molecules

Physics of Atoms and Molecules. U. Fano, L. Fano. 592 pp. University of Chicago, Chicago, Ill., 1973. \$14.50.

Chemical Physics

Interatomic Potentials. Ian M. Torrens. 247 pp. Academic, New York, 1972. \$14.00.

Fluids and Plasmas

Progress in Heat and Mass Transfer, Vol. 5: Heat and Mass Transfer in Rheologically Complex Fluids. W. R. Schowalter, ed. 349 pp. Pergamon, New York, 1973. \$33.00.

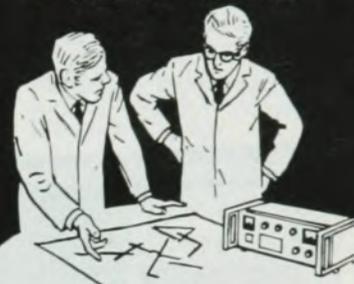
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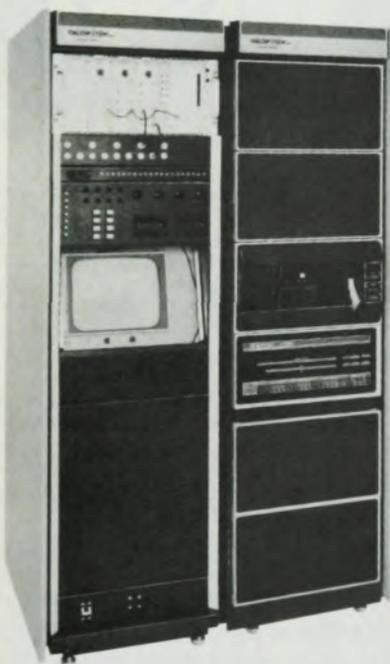
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pp. Springer-Verlag, New York, 1972. \$4.70.

Oxide Magnetic Materials, 2nd Ed., K. J. Standley. 254 pp. Oxford, New York, 1972. \$18.75.

Astronomy, Space, Geophysics

Space Physics and Space Astronomy. Michael D. Papagiannis. 293 pp. Gordon and Breach, New York, 1972.

Biophysics

Biomedical Physics and Biomaterials Science. H. Eugene Stanley, ed. 368 pp. MIT, Cambridge, Mass., 1972.

Theory, Mathematical Physics

Functional Methods and Models in Quantum Field Theory. H. M. Fried. 214 pp. MIT, Cambridge, Mass., 1972. \$8.95.

Instrumentation, Techniques

Fortran for Engineering Physics: Electricity, Magnetism, Light. Alan B. Grossberg. 246 pp. McGraw-Hill, New York, 1973.

Fortran Techniques. A. Colin Day. 96 pp. Cambridge, New York, 1972. cloth \$10.95; paper \$3.95.

Microwave Transmission. J. A. Stani-forth. 243 pp. Wiley, New York, 1972.

Reactor Physics. Paul F. Zweifel. 319 pp. McGraw-Hill, New York, 1973.

Techniques of Circuit Analysis. G. W. Carter, A. Richardson. 548 pp. Cambridge, New York, 1972. \$14.50.

Transferred Electron Devices. P. J. Bulman, G. S. Høbson and B. C. Taylor. 402 pp. Academic, New York, 1972. \$26.50.

Heat, Thermodynamics, Statistical Mechanics

Statistical Mechanics. R. K. Pathria. 527 pp. Pergamon, New York, 1973. \$24.00.

Physics Texts

Classical Mechanics: A Modern Perspective. V. Barger, M. Olsson. 305 pp. McGraw-Hill, New York, 1973. \$11.95.

Used Math for the First Two Years of College Science. Clifford E. Swartz. 270 pp. Prentice-Hall, Englewood Cliffs, New Jersey. 1973.

History and Philosophy

Galileo's Intellectual Revolution: Middle. 1610 to 1632. William R. Shea. 204 pp. Science History Publications, New York, 1972. \$15.95; prepub \$12.85.

Planck's Original Papers in Quantum Physics. Hans Kangro, ed. 59 pp. Halsted, New York, 1973. \$1.95.

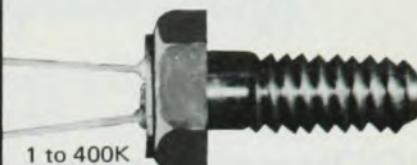
Physics and Society

Changing Careers in Science and Engineering. Sanborn C. Brown, ed. 349 pp. MIT, Cambridge, Mass., 1972. \$10.00.

Science and Technology as an Instrument of Soviet Policy. Mose L. Harvey, Leon Gours and Vladimir Prokofieff. 219 pp. Center for Advanced International Studies, University of Miami, Miami, Fla., 1972. \$5.95.

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