



**ELECTRONIC DYNAMOMETER FOR
DRILL TOOL, LATHE TOOL, MILLING TOOL
GRINDING TOOL,
AND MULTI COMPONENT DIGITAL FORCE
INDICATOR**

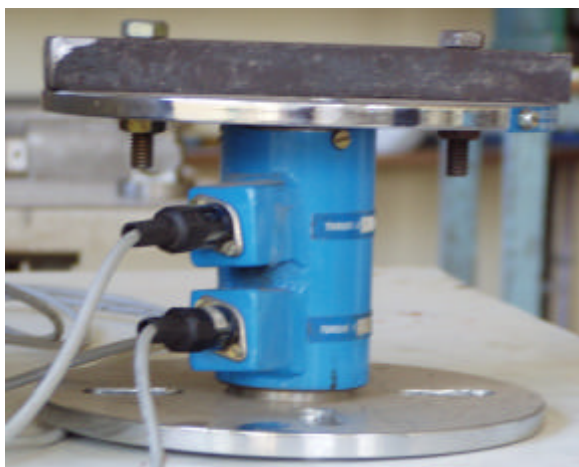
Most application requires measuring one or more forces in perpendicular/angular directions. IEICOS electronic dynamometer is designed to measure these forces. A number of design factors have been considered in manufacturing these dynamometers, such as; the exact location of force, stiffness required and the minimization of cross effects of force in one direction from the other. Ability to withstand extraneous force is the main feature of the dynamometer; generally the dynamometer is a structure capable of the measuring the desired forces while supporting extraneous force simultaneously present. IEICOS' exclusive structure design employs latest art of technology in force measurement using highly stable strain gauge technique. The strain gauges are employed in such a way that the independent bridge senses the mutually perpendicular/angular force.

1(a) IEICOS DRILL TOOL DYNAMOMETER MODEL 600A / 600B / 600C

Drill tool dynamometer for measurement of both the thrust force of the control and the torque produced on the work piece. Used to establish drilling force, study tool configuration and lubricant characteristics. This can be bolted directly, as slots are provided to attach vise or fixture on both top and bottom flanges. The instrument is complete in sealed construction.

Specifications:

Force	: Torque and Thrust.
Range of force	:
	Model 600A - 100kg. Thrust 10 kgm. Torque
	Model 600B - 200kg. Thrust 10 kgm. Torque.
	Model 600C - 500kg. Thrust 20 kgm. Torque.
Sensor	: 4 arm bonded strain gauge component bridge for each force.
Bridge resistance	: 350 ohms typical.
Bridge Voltage	: 12 Volts Max.
Linearity	: +/- 1% of full scale.
Accuracy	: +/- 1% of full scale
Additional Facility	: Self centering vise 3" size to hold the Specimen



1(b) IEICOS DIGITAL MULTICOMPONENT FORCE INDICATOR (TWO CHANNEL) MODEL 651

Instrument comprises of two independent digital display units calibrated to display force directly using two-component drill tool dynamometer.



This instrument comprises of independent DC excitation supply for feeding strain gauge bridges, signal processing system to process and compute respective force value for direct independent display in kgf units. Instrument operates on 230v, 50 c/s AC mains.

Size – 150x350x270 mm nominal.

2(a) IEICOS LATHE TOOL DYNAMOMETER MODEL 620A / 620B / 620C

The Lathe Tool Dynamometer has been designed so that it can be directly fixed on to the tool post using the hole provided on the dynamometer. The dynamometer can measure 3 forces in mutually perpendicular directions, i.e. horizontal, vertical and thrust, and is provided with 3 connector sockets.



Specification:

Force	: XYZ direction.
Range of force	: Model 620A - 100kg. force in XYZ direction Model 620B - 200kg. force in XYZ direction. Model 620C - 500kg. force in XYZ direction.
Sensor	: 4 arm bounded strain gauge component bridge for each force.
Bridge resistance	: 350 Ohms typical
Bridge voltage	: 12 volts Maximum.
Linearity	: +/-1% of full scale
Accuracy	: +/-1% of full scale
Tool post dia	: 20mm (any other size required to be indicated)
Center height	: To be indicated.

2(b) IEICOS DIGITAL MULTICOMPONENT FORCE INDICATOR (THREE CHANNEL) MODEL 652

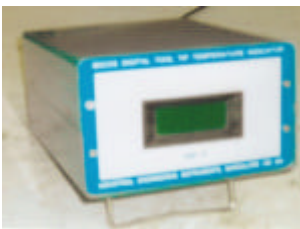


Instrument comprises of three independent digital display calibrated to display force directly using three component tool dynamometer.

This instrument comprises independent DC excitation supply for feeding strain gauge bridges, signal processing system to process and compute respective force value for direct independent display in kgf units. Instrument operates on 230v, 50 c/s AC mains.

Size – 150x475x270 mm nominal.

2(c) IEICOS DIGITAL TOOL TIP TEMPERATURE INDICATOR MODEL 671



Instrument is provided with a miniature thermocouple sensor with a flat end with drilled hole to mount the sensor on the tool tip. The digital display calibrated to read tool tip temperature with the sensor.

Range: 1000 °C
Resolution: 1°C
Accuracy: +/- 1% of full scale

3(a) IEICOS MILLING TOOL DYNAMOMETER

MODEL 630A / 630B/ 630C / 630D

The milling tool dynamometer can be mounted on the table of the milling machine and any component to be milled can be fixed over the dynamometer. Slots are provided to mount the dynamometer to the milling machine. Holes have been provided on the milling dynamometer to enable any type of component to be fixed on it. The output terminals are provided for the force in XYZ direction acting on the working piece.

Specification:



Force	:	X Y Z direction.
Range of force	:	Model 630A - 100kg in XYZ direction Model 630B - 200kg in XYZ direction Model 630C - 500kg in XYZ direction Model 630D - 200 Kg. Force (X) & Thrust (Y); 20 Kg. Torque for Vertical Milling.
Sensor	:	4 arm bounded strain gauge component bridge for each force.
Bridge resistance	:	350 Ohms typical.
Bridge voltage	:	12 volts Maximum..
Linearity	:	+/- 1% of full scale.
Accuracy	:	+/- 1% of full scale
Mounting	:	using slots provided
Additional Facility	:	Self centering vice 3" size to hold the

3(b) IEICOS DIGITAL MULTICOMPONENT FORCE INDICATOR (THREE CHANNEL) MODEL 652

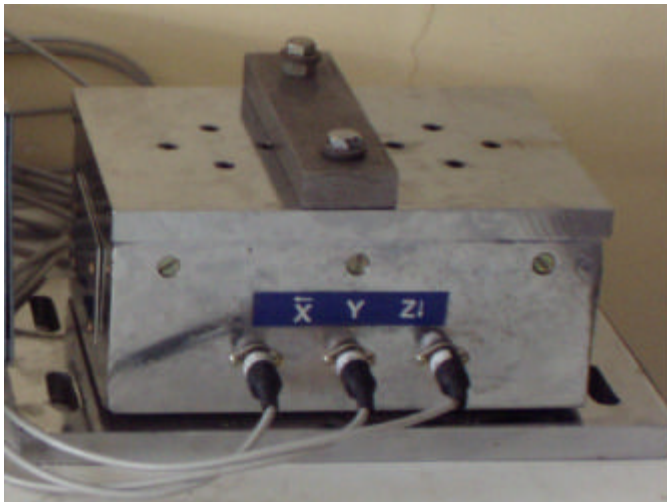
(Same as above in page no. 2 – 2(b))

4(a) IEICOS GRINDING TOOL DYNAMOMETER

MODEL 610A/ 610B/ 610C

The grinding tool dynamometer can be mounted on a table of the grinding machine and any component being ground can be fixed over the dynamometer. Slots are provided to fix the dynamometer to the grinding machine. Holes have been provided on the grinding dynamometer to enable any type of component be fixed on it. Output terminals are provided for the force in X Y Z direction acting on the work piece.

Specification:

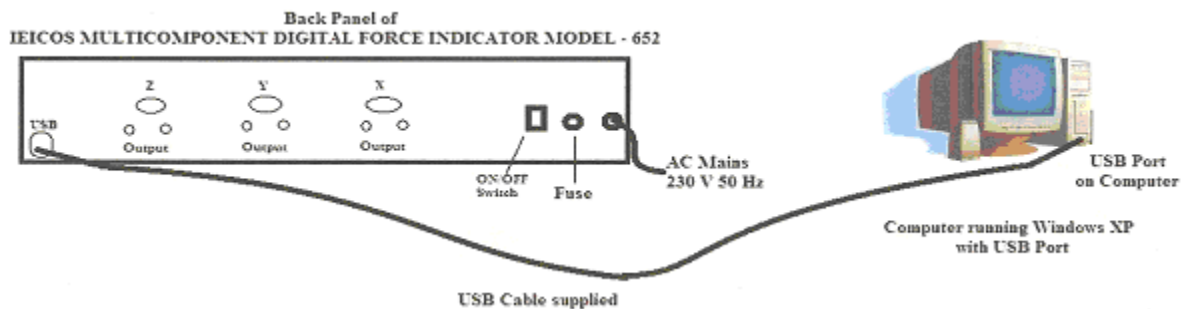


Force	: X Y Z direction.
Range of force	:
	Model 610A - 100kg force in XYZ direction.
	Model 610B - 200kg force in XYZ direction.
	Model 610C - 500kg force in XYZ direction.
Sensor	: 4 arm bounded strain gauge. component bridge for each force.
Bridge resistance	: 350 Ohms typical.
Bridge voltage	: 12 volts Maximum.
Linearity	: +/- 1% of full scale.
Accuracy	: +/- 1% of full scale
Mounting	: using slots provided
Additional Facility	: Self centering vice 3" size to hold the specimen.

4(b) IEICOS DIGITAL MULTICOMPONENT FORCE INDICATOR (THREE CHANNEL) MODEL 652

(Same as above in page no. 2)

5) COMPUTER INTERFACE SOFTWARE AND HARDWARE DEVICE FOR COLLECTING DATA FROM IEICOS MULTI COMPONENT DIGITAL FORCE INDICATOR MODELS 651 / 652



MANUFACTURERS OF:

ELECTRONIC MICROPROCESSOR BASED DIGITAL INSTRUMENTS, SYSTEMS AND TRANSDUCERS FOR MEASURING, RECORDING, PRINTING, TESTING, PROCESS AND QUALITY CONTROL, ANALYSIS, EVALUATION, SIMULATION OF TORQUE SPEED, POWER, PRESSURE, STRESS, STRAIN LOAD, FLOW LEVEL, DISPLACEMENT, VIBRATION, SOUND TEMPERATURE, HUMIDITY, ELECTRICAL PARAMETERS, DYNAMOMETERS FOR TESTING AND EVALUATION OF MACHINE TOOLS, ROTATING MACHINERY, LOADING FRAME WITH ELECTRONIC DATA LOGGERS FOR STRUCTURAL STUDIES IN THE FIELDS OF : INSTRUMENTATION, MECHANICAL ENGINEERING, PRODUCTION TECHNOLOGY, FLUID MECHANICS/HYDRAULIC LABORATORY, CIVIL/STRUCTURAL ENGINEERING, ELECTRICAL/ELECTRONICS ENGINEERING IN EDUCATION, R & D, INDUSTRY AND DEFENCE INSTITUTIONS.

INDUSTRIAL ENGINEERING INSTRUMENTS

Manufacturers of Techno Electronic Aids Devices, Instruments and Systems,
203, 12th Main Road, 3rd Phase, Peenya Industrial Area,
Peenya, Bangalore-560 058. Karnataka, India.
Phone: 080 28394520 Fax: 080 28371386
Email: info@ieicos.com **Web Site:** www.ieicos.com