

## Test & Measurement



Makkays is a leading name in Test and Measurement solutions; it represents a group of globally acknowledged testing instruments' manufacturing brands.

Initiated in 1992, Test and Measurement group emerged as one of the key business units of Makkays. This group is dedicated to incorporating diverse test and measurement technologies which facilitate in developing comprehensive solutions to improve the efficacy of industrial and commercial operations.

Our highly skilled technical staff is committed to delivering quality services. This is done through a careful selection of world renowned test and measurement instruments specifically designed for precision in validating the reliability of high-performance manufacturing, deployment, commissioning, maintenance and troubleshooting, to help our customers in meeting IEC and ITU-T quality standards.

### Why Us?

- Products range covering from Physical layer to Application layer
- Authorized partnership with world leading T & M instruments manufacturing brands
- Fully compliant with ITU-T & IEC latest standards
- Rugged, portable, safe and user friendly tools and equipment
- Diverse range of T & M products
- After Sales Services
- Calibration Services
- In-house Repair Facilities
- Product Trainings & Warranties

### Our Partners

**EXFO****FLUKE****SUMITOMO  
ELECTRIC****KEPCO  
THE POWER SUPPLIER****spectracom**  
Synchronizing Global Operations**EXTECH  
INSTRUMENTS****FLUKE  
networks****AMPROBE**



## COMMUNICATION T&M SOLUTIONS

Makkays provides T & M solutions for wireless and wire line network Operators and Network equipment manufacturers in various industries. These solutions include:

- Basic and advance physical layer testing solution including VFL's, Laser sources, Power meters, Fiber optical loss test sets (FOT), Fiber Inspection Probe (FIPs), Live Fiber Detector(LFDs), Next Generation OTDRs, CD & PMD analysers and OSAs for 40G and 100G Networks.
- Most advanced solutions for Access, metro and long-haul networks including FTTx and copper network testers, Ethernet Testers from 10M to 100GE, SDH/OTN Testers up to 40G, OSAs for CWDM/DWDM with point-to-point and ROADMs capabilities for 100G ready networks.
- Complete 24/7 powerful, sophisticated monitoring and service assurance solutions that measure service-specific key performance indicators in real time from end to end. Most advanced RFTS system for Dark and live fiber monitoring.
- Protocol Analyzers, Simulators and Load Generators for multi technology support including 2G, 3G, LTE, IMS, CS and PS Core with Ethernet interfaces; hence off-line analysis of all those technologies.





## INDUSTRIAL T&M SOLUTIONS

Makkays provides solutions for industrial electronic installation, maintenance and service, precision measurement and industrial quality control. These include:

- Simple Digital Millimetres, Clamp Meters to high quality advanced T&M equipment like Power Quality Analysers and Thermal Imagers.
- Power Quality Tools include both single-phase and three-phase Power Quality Analysers/Loggers for preventive maintenance, detection of Unbalance, Harmonics and Load studies.
- Earth Ground testers based on 3- and 4-pole fall-of-potential testing, selective testing, stake less testing and 2-pole testing.
- Quality Thermal Imagers with exclusive features such as IR-OptiFlex focus system, IR-Fusion technology, electronic compass, smart view analysis and reporting software.
- Non-contact infrared (IR) thermometers, visual IR thermometers and contact thermometers.
- Process Calibration Tools including a full range of solutions for the field and bench. For example Multifunction, mA Loop, Pressure and Temperature Calibrators.



## IT & ENTERPRISE SOLUTIONS

In order to verify network cabling and validate higher application layer monitoring, our Top of the range IT & Enterprise T&M provide a collection of solutions and products. These include:

- Cabling Certification, Copper certification and Testing, Fiber Certification and Testing, and Datacom Installation Tool Kits from Fluke Networks.
- Centralized Performance Monitoring and Troubleshooting, Portable Network Analysis and Troubleshooting, Application deep inspection tools, Network and service analysis and wireless design, analysis and security tools.
- Real time monitoring and troubleshooting up to 10G speeds.
- Visual solutions responsible for delivering critical business services by managing end-to-end user experience of enterprise-wide application, network and VoIP performance.
- Fluke Networks performance management solutions give you the vision you need to support new project rollouts and solve the most difficult problems for today's advanced applications including virtualization, unified communications, and multi-tiered applications.
- Makkays Networks solutions address the entire wireless LAN lifecycle, from planning and deployment, to on-going troubleshooting and dedicated security and performance monitoring, Voice-over-Wi-Fi providing the expertise to solve every problem in the wireless network