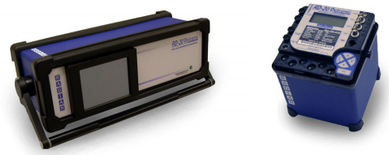
ASTeL 2

ASTeL 2 System is a modular construction with the configuration adjusted for client's individual needs. The basic system modules are: the power source, the reference standard, the suspension rack for tested meters and the computer with control software. Each of these modules may occur in different versions and with different options. For more information refer to the catalogue pages of the system individual components.

Reference standards:

- → RD-20 Dytronic Portable Single-Phase Standard
- → RD-21 Dytronic Portable Single-Phase Standard
- → RD-23 Dytronic Portable Single-Phase Standard
- → RD-30 Dytronic Three-Phase Standard
- → RD-31 Dytronic Three-Phase Standard
- → RD-33 Dytronic Three-Phase Standard

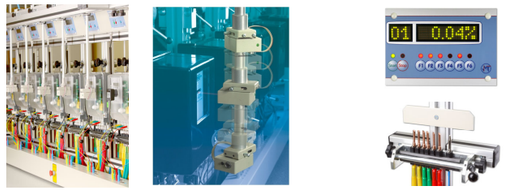


Power sources:

- → Power Source PS2
- → Voltage Integrated Source VIS
- → Current Integrated Source CIS

Stands:

- → Suspension Rack SR
- → Stand Controller IPO
- → Photoelectric Scanning Head GS



Software:

- → AsTest Software for Windows

Accessories:

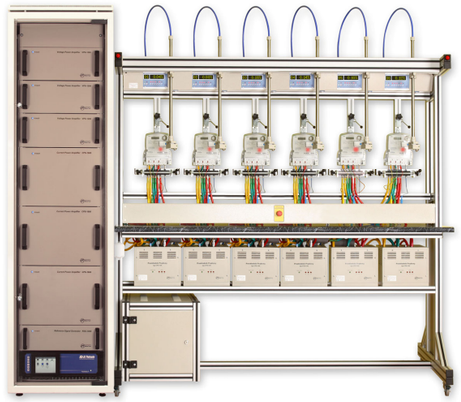
- → High-Precision Voltage Separating Transformer VTS
- → High-Precision Current Separating Transformer CTS
- → Signal Adapter ADA
- → Optical Port Reader IEC1107/RS232
- → Hand-Held Terminal

other …

MeterTest

Meter Test Equipment of ASTeL 2 series

ISO 9001:2000



Features:

- Full compatibility with the IEC 736 standard
- Fully automatic
- Automatic procedures for meters testing
- Efficient calibration and legalization
- Independent waveforms for voltage and current signals
- Different meter communication systems
- Simultaneous testing of meters with different constants
- Modular construction
- Network operation

The ASTeL 2 meter testing system is a fully automatic system enabling simultaneous, multi-position calibration and legalization of **single-phase and three-phase electric energy meters**. The automatics include power sources, reference standards, stand controllers, photoelectric scanning heads, separating transformers and other elements of the system. All these elements are controlled through a Windows® based executive program.

The use of the-latest-design signal processors and advanced technologies of signals synthesis, as well as the unmatched precision, quality and functionality qualify the system for testing all kinds of electric energy meters available on the market, form the simplest electromechanical ones to multi-functional electronic meters, including the prepaid, multi-system, multi-quadrant meters with power recorders, and other.

For determining the tested meters errors, the ASTeL 2 system employs the *reference standard meter method*. The error of the tested meter is determined by counting impulses generated by the reference standard within gating time determined with the photoelectric scanning head, which detects the meter disc movement or with the LED flash of the tested meter. All kinds of other tests indicated in the subject norms are available, such as the test of no-load condition, the test of starting condition, the test of meter constant, the test of maximum power demand indicator, and many other.

An important feature of the system is the fact that it performs automatically additional operations facilitating the testing process, which are not defined in an open way, e.g. the system automatically sets tested meters in the mark-in-front position before performing the test of no-load condition or the test of starting condition.

The ASTeL 2 system is a modular construction and the user has a great influence on its final arrangement and functionality. The basic functional blocks are the power source, the reference standard, the suspension racks with stand controllers and the computer station with the operating software. A whole range of options and additional accessories are available. The table containing the list of the system basic performance, represented on the next page, may provide help in identifying own individual needs. There are, among others, single-phase systems, three-phase ones, of different class and different number of measuring positions. A list of available accessories is also presented in the table.

Thanks to excellent parameters, great functionality and flexibility the ASTeL 2 systems find application in utility companies, energy meter manufacturers, governmental bureaus of metrology and other customers interested in electricity meters testing.

MeterTest

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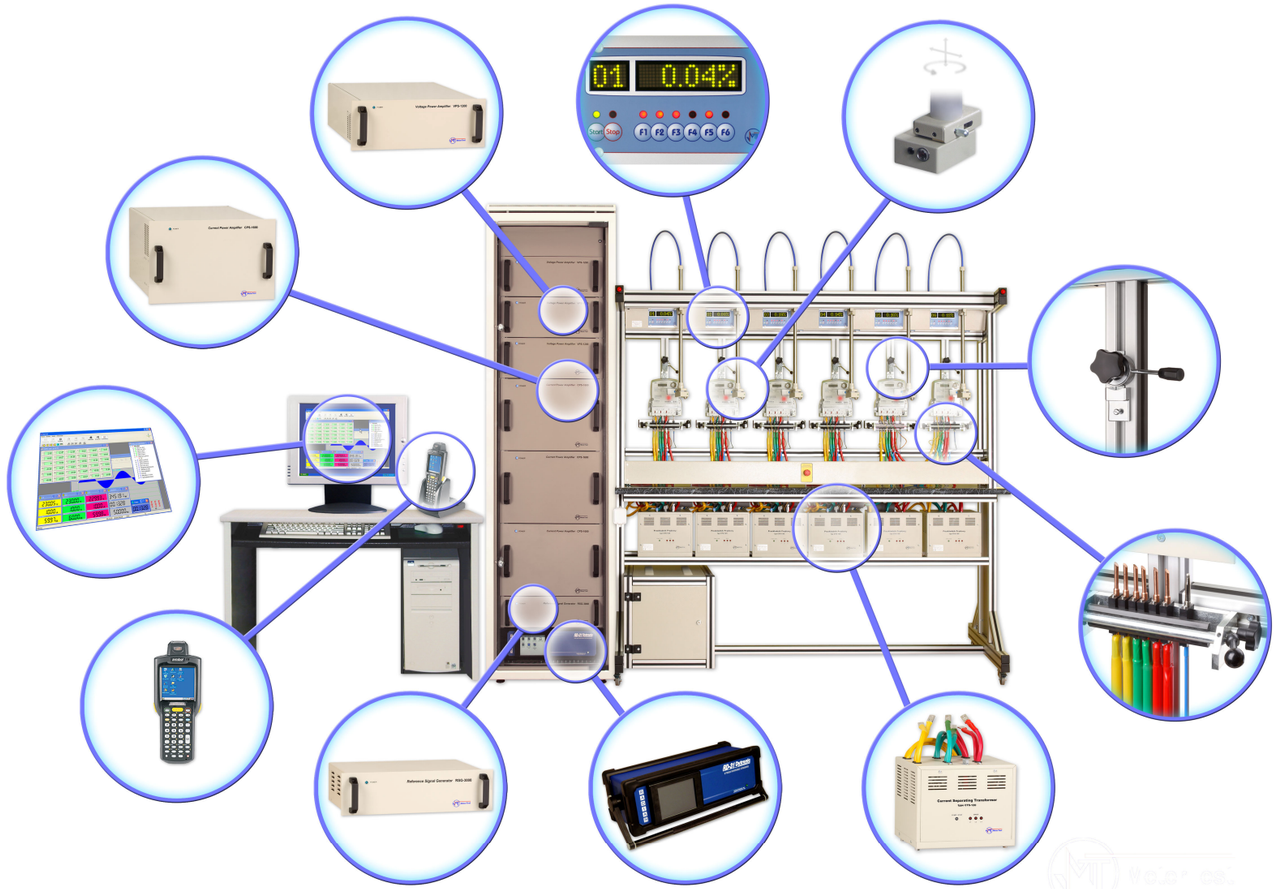
Doc #3202.047.002-EN

MeterTest

ASTeL 2 system enables performing all tests required by norms

- ✓ basic error with the possibility of statistical analysis of the obtained results
- ✓ checking the starting current
- ✓ checking the no-load run
- ✓ checking the meter constant
- ✓ checking the impulse outputs
- ✓ checking the maximum demand indicator (electromechanical or electronic)
- ✓ pre-heating
- ✓ testing the influence of frequency, harmonic distortion, voltage, current and other parameters on the meter error
- ✓ other



ASTeL 2 system enables testing the following types of meters

- ✓ active and reactive energy
- ✓ single phase or three phase
- ✓ for 2, 3 or 4 wire systems
- ✓ electromechanical (also with impulse outputs) and electronic (static)
- ✓ meters with closed links
- ✓ multi-tariff, up to 16 tariffs
- ✓ with multifunctional inputs/outputs 4/16
- ✓ with maximum demand indicator
- ✓ multifunctional with active/reactive energy/power registers,
- ✓ with different arrangement of voltage and current terminals
- ✓ with non-homogenous output impulses
- ✓ other

Basic executions of system ASTeL 2

System	1.24.1	1.24.2	1.22.1	1.22.2	1.21.1	3.24.1	3.24.2	3.22.1	3.22.2	3.21.1	System
Number of phases	single-phase					three-phase					Number of phases
Reference Standard	**RD-20**		**RD-21**		**RD-23**	**RD-30**		**RD-31**		**RD-33**	**Reference Standard**
Typical accuracy	0,01%		0,005%		within traceability uncertainties	0,01%		0,005%		within traceability uncertainties	Typical accuracy
Power Source	**PS2-1004**	**PS2-1114**	**PS2-1002**	**PS2-1112**	**PS2-1001**	**PS2-3004**	**PS2-3114**	**PS2-3002**	**PS2-3112**	**PS2-3001**	**Power Source**
Voltage Integrated Source	VIS-400	VIS-1200	VIS-400	VIS-1200	VIS-400	VIS-400	VIS-1200	VIS-400	VIS-1200	VIS-400	Voltage Integrated Source
Current Integrated Source	CIS-600	CIS-1600	CIS-600	CIS-1600	CIS-600	CIS-600	CIS-1600	CIS-600	CIS-1600	CIS-600	Current Integrated Source
Suspension Rack	**SR-1**					**SR-3**					**Suspension Rack**
Material	light, aluminium profiles										Material
Number of Positions	up to 12	up to 32	up to 12	up to 32	up to 12	up to 12	up to 32	up to 12	up to 32	up to 12	Number of Positions
Scanning Head	without scanning heads or with GS										Scanning Head
Stand Controller	IPO-S, IPO-E										Stand Controller
Other rack options	→ quick fixing device FFD-1 → single position rotation		→ shelf for meter placing → desktop		→ auxiliary mains sockets → ….	→ quick fixing device FFD-3 → single position rotation		→ shelf for meter placing → desktop		→ auxiliary mains socket → ….	Other rack options
System accessories and options											
Separation	high-precision voltage separating transformers VTS					high-precision current separating transformers CTS					Separation
Other system options	→ network operation with central databases and central archive		→ automatic calibration		→ signal adapter ADA	→ optical port reader		→ hand-held terminal			Other system options
Software	**AsTest for Windows**										**Software**