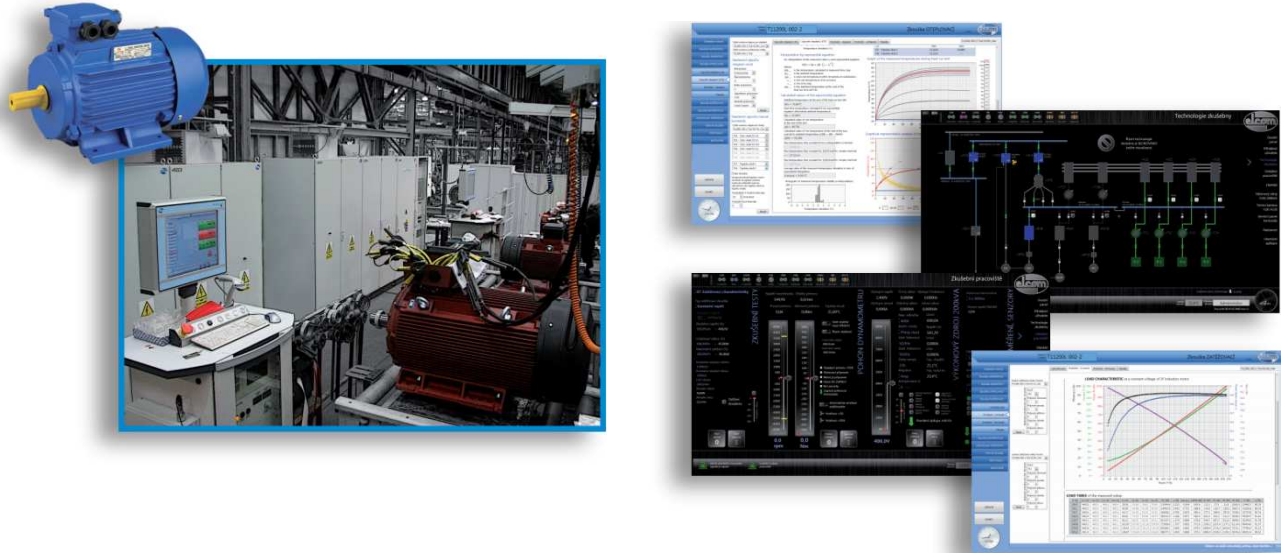


POWER SUPPLY SYSTEMS FOR MOTOR TESTING

Voltage power source for testing one or three-phase electrical machines and devices with nominal frequency 50 Hz, 60 Hz or customizable frequency.



The device can perform the following tests:

- Automated test no load - with a nominal voltage of the motor no-load rotor
- Automated test a short - with reduced voltage and rated current, the blocked rotor
- Measurement HeatRun characteristics*
- Load tests at constant voltage*
- Load tests at constant torque Dynamic or QuasiStatic Tests (torque-speed characteristic)

**Note: assumes the reciprocal control of dynamometer*

Secondary use:

- Power supply for brakes
- Independent power supply fan
- Input voltage for step-up HV source
- Excitation magnetic field (current mode)

Frequency inverter is controlled either manually by using the controller or by the control computer through and serial link. Measurement electrical parameters (voltage, current, power,...) is transmitted to the control computer with serial communications. The great advantage of these resources is a sinusoidal output voltage.

POWER SUPPLY SYSTEMS FOR MOTOR TESTING

APPLICATION

- The output voltage is stabilized by the feedback controller
- The source is a function of limit current, which means that after the alarm current will be reduce the output voltage
- Output supply is short circuit proof
- When resources are running, the output voltage and frequency increased continuously with adjustable ramp and during the whole process are programmable
- Braking is activated by motor deceleration ramp
- When braking, you can choose from two option, where excess energy is directed: a) to the dissipation resistors or b) recovery to the network
- Source is designed for power asynchronous motors at no-load, short circuit tests and other tests
- The input source is included in the filter circuit to reduce the adverse impact on the supply network
- On the door of device is a control and diagnostic panel that allows manual control of supplies - on and off the output, selectable output voltage and a complete set of parameters. At start of the converter the four-line display is used to present the selected measured values (such as output voltage, current, power, etc). The display also used for diagnostics and error reporting about the source. With a user password can block unwanted change parameters

TECHNICAL OVERVIEW

- Power range: 1kVA ... 10kVA...100kVA...1MVA according to requirements
- Input voltage / frequency: 3 x 400V / 50, 60 Hz
- Sinusoidal adjustable output voltage, one or three phase
- Direct output voltage without transformer: 0-360V (according to input voltage)
- Transformed output voltage: according to used transformer
 - typical 3 to 5 voltage ranges (for example 100V, 300V, 500V, 700V, 900V)
- Output voltage stability: 2 %
- Adjustable symmetry of voltage vectors: $\pm 10\%$ U_n
- Output frequency: 0 - 200 Hz
- Output voltage distortion (THD): < 2 %
- Adjustable current limitation
- Protection against: short-circuit, over - current, thermal protection, integral heat sources
- Energy flow: typical 2Q, with active input module 4Q
- Compensation of reactive energy using additional capacitance or inductance
- RS485 or TCP/IP communication interface

RECORDS TESTS OF TRIAL OPERATION

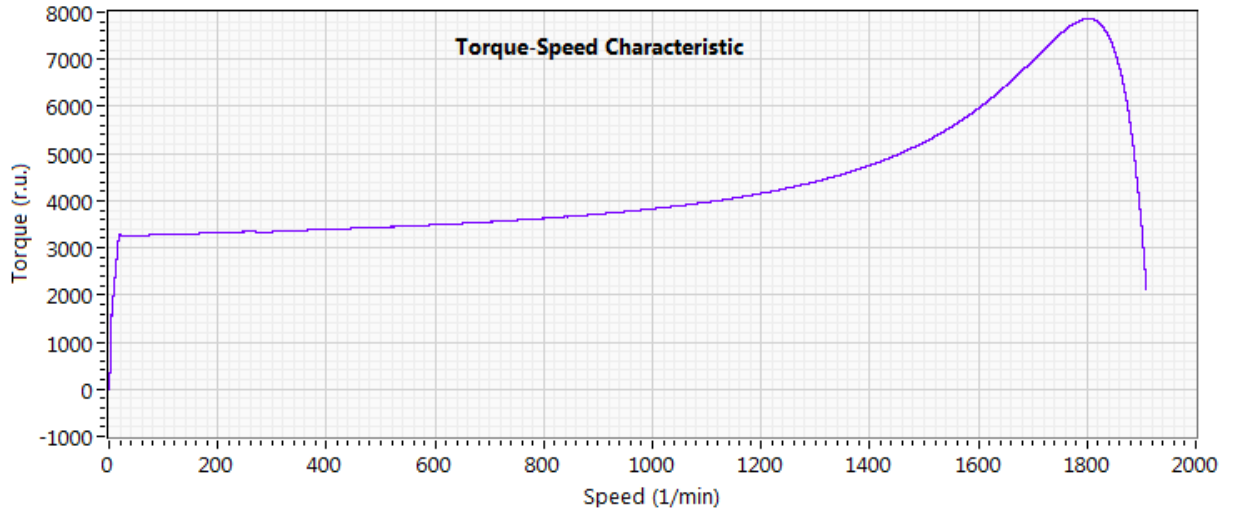


Fig. 1 - Torque-Speed characteristic from determined StartRun test

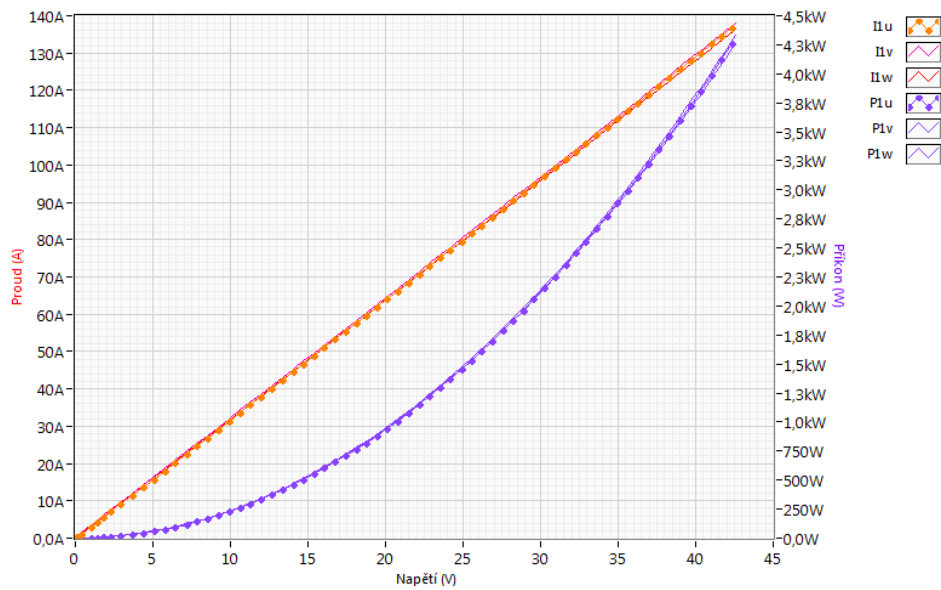


Fig. 2 - Short circuit characteristic measured with source (test duration 1s, without shaft aretation)

RECORDS TESTS OF TRIAL OPERATION

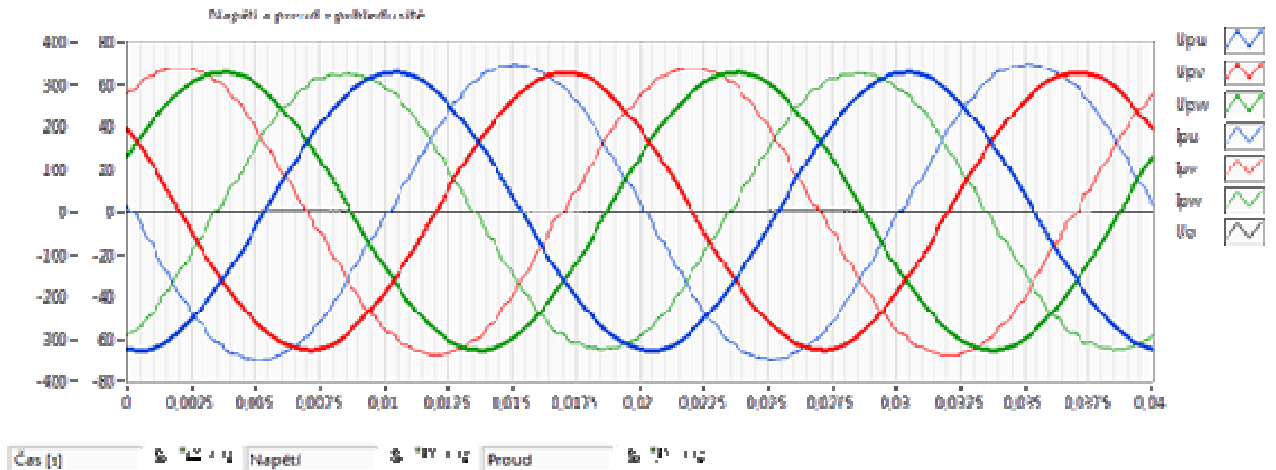


Fig. 3 - Waveform of output voltage and motor current from static sinusoidal source

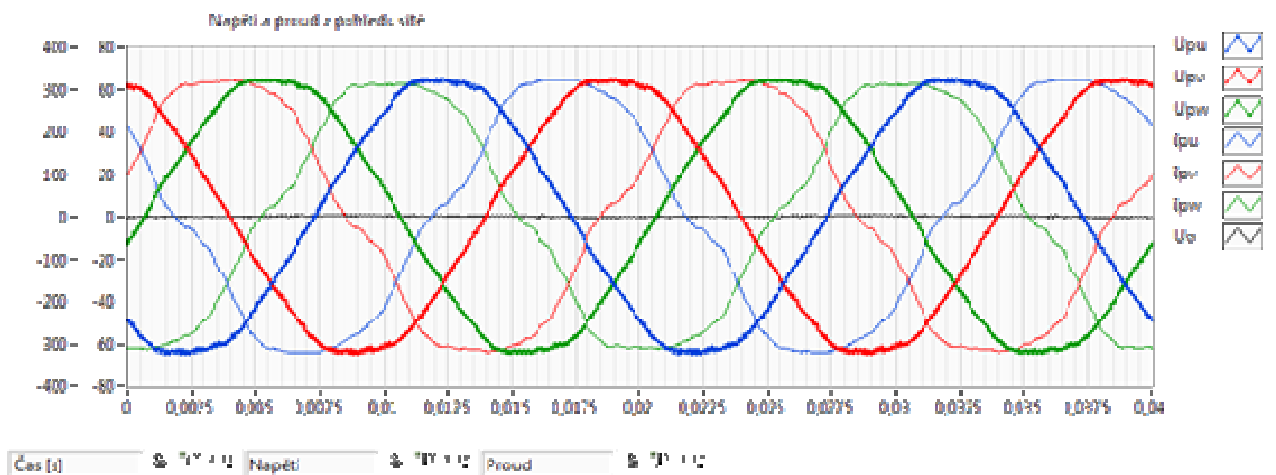


Fig. 4 - Typical waveform voltage and motor current powered from Power grid