POMO 80 Power Module

- DC-Source 0–80 V, max. 14 A
- DC-Load up to 0–40 A
- Potential-free
- Ramp function
- Modulation up to 50 kHz
- Programmable curve form
- SCPI-Programming
- System diagnose and auto-calibration
- RS232-interface
- 19 "-, 3 HU-housing

REINHARDT System- und Messelectronic GmbH has been market-leader in Germany since 1996 in automatic Incircuit- and Function test systems, which are used in the various production ranges such as e.g. automotive, medical engineering, white and brown products etc. The test systems which we have produced since 1979 often require power electronics for a function test for supplying, stimulating and loading the PCBs or devices under test. The first generation of the power electronics was developed in 1984 and has been produced and delivered successfully since then.

Whereas the voltages in microelectronics dwindle, the DC-voltages in power electronics rise constantly, especially in the automotive range, where the 48 V-technology requires test voltages up to 70 V, e.g. in order to save cable cross-section and thus cost and weight. The POMO 80 power module was developed for these requirements and is an ideal supplement to the REINHARDT-test systems. Our long-time experience with products for the test bay has taught us to develop products in such a way that they can stand the tough use in the test bay reliably and without difficulties for years. The latest development in power electronics has become more compact and efficient by using the latest technologies.
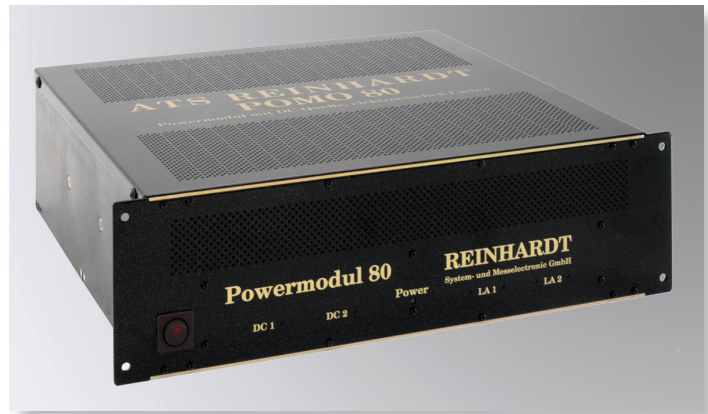
The DC-sources and the loads of POMO 80 can be started up and turned off in any **ramp form (Soft start)**. In the load range, e.g. the behaviour of a bulb can be simulated and modelled. The curve forms are created with an editor and stored in an EEPROM. All modules can be started via an external trigger signal; via interlock relays they can be galvanically isolated from the interface. The modern bus architecture of the POMO 80 allows a number of varieties: A central master microprocessor provides the communication with the control computer via an RS232-interface and an internal bus with every single module which can be a DC-PSU or a load. Because of this intelligent structure, various versions of this 19"-plug-in units can be provided.

The POMO 80 power module is housed in an attractive 19"-housing and can both be used as a desk-top unit or as a plug-in unit in a 19"-cabinet or desk. It is developed for a modular construction, where the customer can choose between the various versions.

Power module DC-Source
The DC-module is linearly controlled and can be programmed in current (4 mA step) and voltage (25 mV) and operates in the three ranges 0–30 V, 14 A, 0–65 V, 7 A, 0–80 V, 4 A.

Power module Load
– Load module type 1: 0–30A, resolution 10mA or 1mA
– Load module type 2: 0–40A, resolution 10mA or 1mA
   max. input voltage 100 V
   max. load per module 400 W
– Modulation up to 50 kHz from 0 to 100 % at a basic current which can be set
– I-, R- and P-mode operation
– Actual value-reply via RS232-interface
– All modules are potential-free towards one another
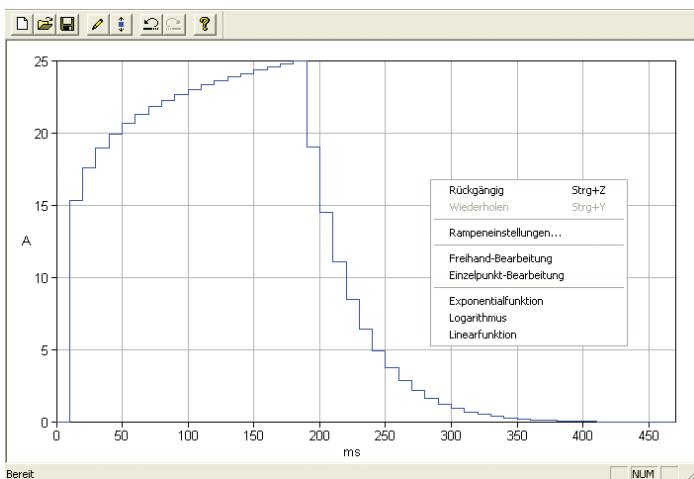
Curve form editor

The following **varieties** can be delivered:

1. Power module **POMO80/1/2** – made up of 1 DC-source and 2 electronic loads: 1 DC-module, linearly controlled, programmable in current and voltage, 0–80 V in several ranges, 0–30 V, max. 14 A, 30–65 V, max. 7 A, 65–80 V, max. 4 A, 2 load modules, 2 programmable current ranges 0–30 A, 10 mA resolution, 0–3 A, 1 mA resolution, max. 400 VA up to 40 V, 200 VA from 40 to 100 V, total power up to 1,000 W, ramp and curve forms can be edited, even for DC, actual value can be re-read via RS232-interface, RS232-interface incl. connection cable

2. Power module **POMO80/2/1** – made up of 2 DC-sources and 1 electronic load: 2 DC-modules, linearly controlled, programmable in current and voltage, 0–80 V in several ranges, 0–30 V, max. 7 A, 30–65 V, max. 3.5 A, 65–80 V, max. 2.5 A, 1 load module, 2 programmable current ranges 0–30 A, 10 mA resolution, 0–3 A, 1 mA resolution, max. 400 VA to 40 V, 200 VA from 40 to 100 V, total power up to 800 W, ramp and curve forms can be edited, even for DC, actual value can be re-read via RS232-interface, RS232-interface incl. connection cable

3. Power module **POMO80/0/2P** – made up of 2 electronic loads, 2 programmable current ranges 0–40 A, 10 mA resolution, 0–3 A, 1 mA resolution, max. 400 VA to 40 V, 200 VA from 40 to 100 V, total power up to 800 W, ramp and curve forms can be edited, R-mode, P-mode, U-mode, actual value can be re-read via RS232-interface, RS232-interface incl. connection cable

4. Power module **POMO80/2/0** – made up of 2 DC-sources: 2 DC-sources, linearly controlled, programmable in current and voltage, 0–80 V in several ranges, 0–30 V, max. 7 A, 30–65 V, max. 3,5 A, 65–80 V, max. 2,5 A, ramp and curve forms can be edited, actual value can be re-read via RS232-interface, RS232-interface incl. connection cable

5. Power module **POMO80/1/0** – made up of 1 DC-source: 1 DC-source, linearly controlled, programmable in current and voltage, 0–80 V in several ranges, 0–30 V, max. 14 A, 30–65 V, max. 7 A, 65–80 V, max. 4 A, ramp and curve forms can be edited, actual value can be re-read via RS232-interface, RS232-interface incl. connection cable

6. Power module **POMO80/0/4** – made up of 4 electronic loads: 4 electronic loads, 2 programmable current ranges 0–30 A, 10 mA resolution, 0–3 A, 1 mA resolution, max. 400 VA to 40 V, 200 VA from 40 to 100 V, total power up to 1,000 W, ramp and curve forms can be edited, actual value can be re-read via RS232-interface, RS232-interface incl. connection cable

7. Power module **POMO80/0/3** – made up of 3 electronic loads: 3 electronic loads, 2 programmable current ranges 0–30 A, 10 mA resolution, 0–3 A, 1 mA resolution, max. 400 VA to 40 V, 200 VA from 40 to 100 V, total power up to 1,000 W, ramp and curve forms can be edited, actual value can be re-read via RS232-interface, RS232-interface incl. connection cable

System Diagnose and Calibration
Correction values are stored in an EEPROM for adjustment of the modules. In this way, the customer can check and calibrate the unit at his own site.
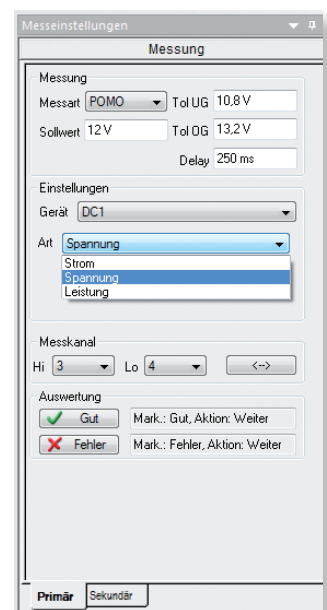
Programming
The POMO80 is programmed in the SCPI-programming language, the default language for GPIB or RS232-control. The language is based on a few commands which are written as clear text.

If no REINHARDT-test system is available, the POMO can be programmed with a terminal programme which comes by default with WINDOWS®.
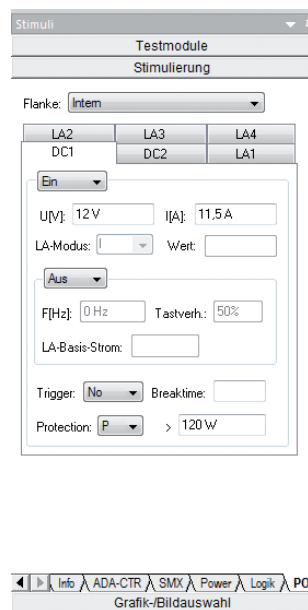
Stimulus Form

Measuring Form

With our test systems, there are several ways for the COM-programming. The most flexible way is via external drivers in two different programming windows, a stimulus field and a measuring field.
The stimulus programming window can be used for write commands without reply by POMO 80. The Measuring and Stimulus programming window is for the commands which hold a reply by the POMO 80.

Technical Data
Housing forms: 19 " plug-in and desk-top unit
Dimensions: 19 ", 3 HU, 450 mm deep
Weight: 22 kg

For AC-supply, there are also high-performance sources in our product range.

IE & OE Specifications subject to change without prior notice   9/2016

REINHARDT System- und Messelectronic GmbH