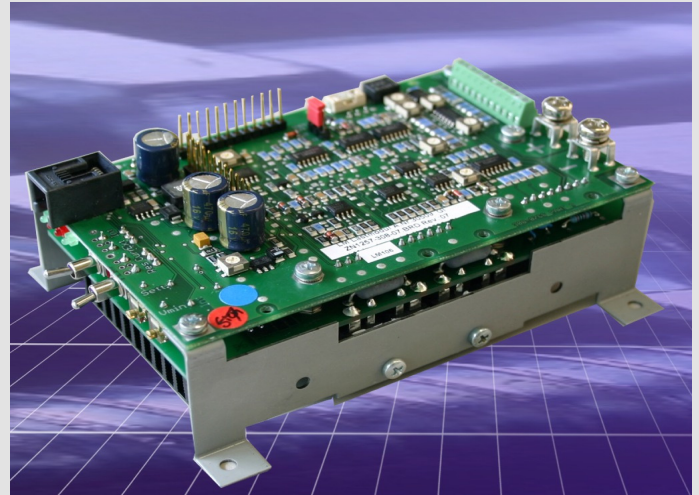


LM Load Modules 100W

- As open frame or plug-in unit
- Versions with 30V/30A, 60V/15A or 120V/8A
- Operating Modes CC - CR
- Load current adjustable manually or by analog control with 0 ... 10V
- Analog output 0 ... 10V for V and I
- Adjustable trigger voltage
- Fan cooling
- Supply voltage 12V ... 24V



The LM load modules are available as open frame version or as partial plug-in unit for module frames.

Operating modes are Constant Current and Constant Resistance.

Settings are made by a multi-turn potentiometer. The current can also be set by an analog signal of 0...10V.

Analog monitor signals for voltage and current as well as input switching per TTL signal allow an integration of the modules.

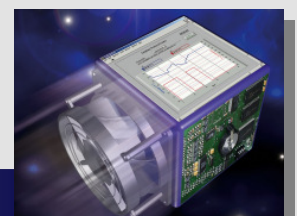
If a mainframe system MF3/GPIB-LM with LMxxTE-I modules is built, then the additional operating modes constant voltage and power are also available (software-controlled).

An adjustable switch-on voltage allows the use of the load modules even with pulsed input voltages.

A DC voltage of 12 ... 24V is used as supply voltage.

Using a mainframe, the supply voltages for 6 modules are already integrated (galvanically separated).

If the mainframe with integrated GPIB/RS232 interface is used the devices can be programmed in SCPI syntax.



Model (Order-No)	Open Frame Plug-in unit (Manual) Plug-in unit (Interface)	LM103OF LM103TE-M LM103TE-I	LM106OF LM106TE-M LM106TE-I	LM112OF LM112TE-M LM112TE-I	
Input:	Voltage Current Resolution ¹⁾ ca. Min. voltage Power/channel Resolution	Vmax Imax Ires Vmin Pmax ca. Rmin...Rmax ¹⁾	30V 30A 9mA 1,5V@30A 100W/80W at TE 0,4Ω...260Ω	60V 15A 4,5mA 1V@15A 100W/80W at TE 1,5Ω...1100Ω	120V 8A 2,4mA 1,5V@8A 100W/80W at TE 5Ω...4kΩ
Tolerances: Settings (at T _A 25°C)	Current Voltage ²⁾ Resistance ²⁾ Power ²⁾ Trigger voltage	Itol Vtol ²⁾ Rtol ²⁾ Ptol ²⁾ Vtr	±0.2% of setting, ±0.15% of Imax Vtol = VMtol + (Ri · Ires); Ri=internal resistance of the DUT ³⁾ Rtol = ((V+VMtol) / (I-IMtol - Ires))-R Ptol = ((V+VMtol) · (I-IMtol + Ires))-P		
Display/ Measurement	Current ¹⁾ Voltage ¹⁾	IMtol VMtol	±0.2% of setting, ±0.1% of Vmax ±0.2% of meas. value, ±0.1% of Imax, Resol. ca. 12Bit ⁴⁾ ±0.2% of meas. value, ±0.1% of Vmax, Resol. ca. 12Bit ⁴⁾		
Derating:	Power	Pmax (OF)	100W/80W at 21°C, -2% per °C for temperatures > 21°C (at unimpeded ventilation)		
Analog Monitor Outputs:	Current/Accuracy Voltage/Accuracy		0 ... 10V for 0 ... Imax, (±0.2% nom. value, ±30mV) 0 ... 10V for 0 ... Vmax, (±0.2% nom. value, ±30mV)		
Analog Control Input:	Current/Accuracy		0 ... 10V for 0 ... Imax, ±0.2%, ±1% of setting range		
Dynamic Behaviour:	Current rise/fall time Resistance, Power ¹⁾		ca. 0.3ms (10% ... 90% and 90% ... 10% Imax) Software-controlled, setting time ca. 1s ... 3s		
Installation:			Only suitable for touch-safe installation		
Terminals:	Open frame version Plug-in unit version		Input: M4 screw terminals, Signals: terminal strip Input and signals via DIN 41612 connector		
Protections:			Over-voltage, over-current, over-power, over-temperature protection, reverse-polarity up to nominal current, transient protection		
Cooling:			Temperature-controlled fans		
Dimensions:	W x H x D, Weight	Open frame Plug-in unit	128 x 100 x 65mm, approx. 0.35kg 12U for 3HU mainframe 160mm, approx. 0.5kg		
Electrical Safety, EMC, CE Sign:			DIN EN61326-1; DIN EN61000-3-2; DIN EN61000-3-3;DIN EN61010-1		
Supply:		Open frame Plug-in unit	12V...24V DC, approx. 0.4A 24V DC		
Order No. for Options:	Plug-in power supply 12V Mainframe for 6 pcs. LMxxxTE with power supply Mainframe for 6 pcs. LMxxxTE-I with power supply, GPIB/RS232 interface and SCPI interpreter (Only in connection with LMxxxTE-I modules)		LM03 MF3-LM MF3/GPIB-LM		

*) Only available with MF3/GPIB-LM and LMxxxTE-I

1) The minimum resistance is defined at the minimum input voltage ($R_{min} = V_{min} / I_{max}$). The maximum adjustable resistance depends on the input voltage level. The defined value is still adjustable at V_{min} . At higher input voltages (V) the maximum resistance is calculated as $R = (V / V_{min}) \cdot R_{max}$.

2) The tolerances result from the tolerances for voltage and current measurement and current setting, respectively, corresponding to the given formulas. They have to be calculated using the topical setting values.

3) A stable voltage control needs the condition that a minimum load current of 5% of I_{max} is set.

4) Due to the compensation of the device tolerances during calibration the resolution decreases slightly from 12 bit down to 3600 steps

Technical changes reserved



Load Modules in 19" Mainframe MF3-LM

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