ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Piezosystem Jena ENV / ENT* at our website: ***Click HERE***

piezosystemjena
incredibly precise

system ENV • multi channel piezo controller unit

- modular multi channel amplifier system
- plug-in modules
- flexible system configuration
- fast and high power analoge piezo amplifer
- manual control
- independent number of I/O
- table top casing or 19“-rack mount system
- inside space 28 to 84 TE (1TE=5.08mm)
- bare handels or L-bracktes mountable



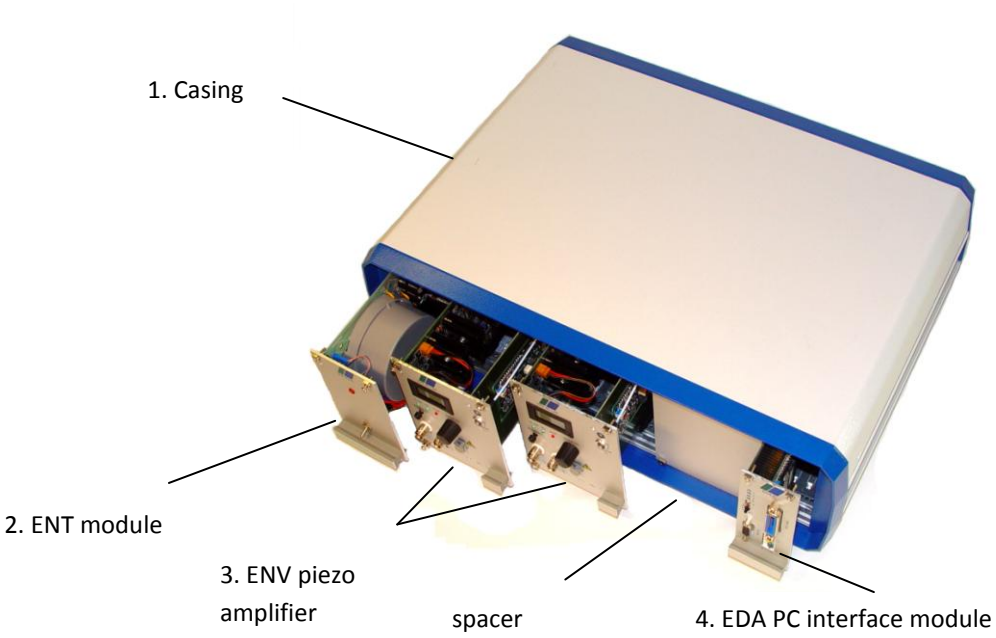
pic. 1: ENV system based on 63TE table top casing

ENV – the modular plug-in piezo amplifier series

The amplifier system ENV is a modular system with a 19" housing. In special applications it is possible to combine one or more amplifier modules with different characteristics. Each amplifier module has its own display which shows the output voltage. If used with a measurement system and closed loop module, it displays the calibrated motion. Different modules for closed loop and PC connections are available. On the front side of each module are the input and output connections, the display and the potentiometer for manual control.

Each ENV amplifier system consists of at least three modules and can be extended with the analog/digital PC interface card EDA:

- the casing; size and type can be changed after customer requirements
- the ENT module supplies the main voltages for the piezo amplifier modules
- the ENV piezo amplifier; verifies depending on the requirements of power
- EDA interface card for PC control



pic. 2 ENV configuration sample

phone: +49 (3641) 66880 • fax: +49 (3641) 668866
info@piezojena.com • http://www.piezosystem.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

system ENV • multi channel piezo controller unit

1. Casing

In the casing the ENT and ENV modules can be placed individually. The casing can be delivered as a 19" rack mount. Depending on the application several amplifier modules can be combined with one power supply module ENT into one casing. All components inside are connected via bus system. A complete system is always according to the valid standards of electrical noise and RohS.

overview casings for the system ENV

description	inside space	outside dimensions [mm]			part. no.	casing design according to:
	1 TE ≙5.08mm	width	depth	higth		
28 TE casing	28 TE	193	343	158	E-103-93	pic: 4
42 TE casing	42 TE	265	343	158	E-103-95	pic. 4
42 TE casing with active cooling *	42 TE	265	343	158	E-103-951	pic. 4
63 TE casing	63 TE	373	343	158	E-103-90	pic. 4
63 TE casing with active cooling *	63 TE	373	343	158	E-103-901	pic. 4
84 TE casing	84 TE	480	343	158	E-103-91	pic. 4
84 TE casing with active cooling *	84 TE	480	343	158	E-103-911	pic. 4
84 TE 19“-rack casing**	84 TE	483	272	133	E-103-92	pic. 4
84 TE 19“-rack casing 375mm depth***	84 TE	483	375	133	E-103-921	pic. 3
84 TE casing double hight	2x84 TE	480	343	290	E-103-94	pic. 4

* casing with active cooling are required in combination with the use of the high power amplifier modules only (it is recommended to use the casing with active cooling by the use of more than one ENV 300 amplifier or by the use of at least one ENV 800 amplifier – casing with active cooling is always recommended if the output power of the used amplifier configuration is beyond 300mA).

** mounting angles (L-brackets) for the 19“-rack mount casing available upon request

*** casing 84TE 19”-rack mount system, 375mm depth, comes with integrated high power main supply module (90V-265V), there is no need for a seperate ENT module.



pic. 3: casing design 19“rack mount version



pic. 4: table top casings 63TE and 84TE



pic. 5: L-brackets for 19-rack mount casing E-103-921

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

2. ENT – main supply module



The main supply module ENT provides the internal necessary voltage signal required by the ENV-System. According to their specification, the maximum output power can reach 100W (ENT 400). All ENT modules are available for main voltage of 115V and 230V. If necessary also two ENT modules can be placed into one casing.

The 19“-rack mount casing, 375mm depth, (part no. E-103-321) comes with integrated main supply module. Theres no need for an additional ENT module anymore. Based on the design of this particular casing, the full width of 84TE can be used for the integration of other modules.

pic. 6: ENT 400

overview ENT main supply modules

description	main supply voltage	part. no.	output current	power	module width	recommended ENT module in combination to the used amplifiers*
ENT 40	230V	E-103-13	100mA	25W	14TE	4x ENV 40
	115V	E-103-14	200mA	25W	14TE	
ENT 150	230V	E-103-13	200mA	50W	14TE	1x ENV 300 oder
	115V	E-103-14	400mA	50W	14TE	4x ENV 40
ENT 400	230V	E-103-33	400mA	100W	18TE	1x ENV 800 oder
	115V	E-103-34	800mA	100W	18TE	2x ENV 300 oder 6x ENV 40*
main supply module 450W	90-265V	as a part of E-103-921	3.2A	450W	-	3x ENV 800 oder 6x ENV 300 oder 6x ENV 40*

* limited by the casing space only

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

system ENV • multi channel piezo controller unit

3. ENV – piezo amplifier module



The analog piezo amplifier series ENV is available in three classes:

ENV 40 40mA output current (permanent)
static and low dynamic applications only
output voltage: -10…150V

ENV 300 300mA output current (permanent)
made for semi dynamic application (e.g.. PX 100 up to 500Hz)
output voltage: -20…130V

ENV 800 800mA output current (permanent)
especially made for high dynamic application
output voltage: -20…130V

pic. 7: ENV 300 (open loop piezo amplififer module)

The ENV amplifier modules are a main part of the modular system. Each amplifier unit can controlled manually via potentiometer and has an analog modulation input from 0…10V. A monitor output allows to read out the signal applied to the piezo actuator divided by scale factor of 16. Monitor output and the input are made for BNC connector. ENV amplifier with integrated servo module for closed loop control can show (except ENV 40C*) depending which mode is activated, either the parameter in micron or in volt.

* ENV 40C comes without display

overview piezo amplifier modules

description	ENV 40	ENV 40 Compact	ENV 300	ENV 800
output current * (permanent)	40mA	40mA	300mA	800mA
output voltage	-10V…150V	-10V…150V	-20V…130V	-20V…130V
display	Yes	No	Yes	Yes
version with servo controller for SG feedback sensors	Yes	Yes	Yes	Yes
version with servo controller for capactive feedback sensors	Yes	No	Yes	Yes
version combined with nanoX drive	Yes	No	Yes	Yes
CLE version with ASI*** functionality available	No	No	Yes	Yes
soft start function**	No	No	Yes	Yes
signal noise ratio	0.3mV@500Hz	0.3mV@500Hz	0.3mV@500Hz	0.3mV@500Hz

* The maximum working frequency of piezo electrical actuators are based on the supplied current, provided by the amplifier module and the electrical capacitance of the piezo actuator.

** during the soft start function the output voltage signal ramps up and down one time, to charge and discharge the piezo ceramic slowly. This is always recommended after long term storage before using.

*** Automatic sensor identification, independent of the use of SG or CAP feedback sensor systems in conjunction with amplifiers with this special functionality.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

system ENV • multi channel piezo controller unit

4. EDA – PC-interface



pic. 8: EDA 5

The interface card modules EDA 4 and EDA5 are especially made for external PC control of an ENV unit. EDA 4 and EDA 5 are plug-in modules. The EDA 4 comes with a RS232 interface, the EDA 5 with RS232 and IEEE.

- EDA 4, 16 bit resolution and RS 232 interface
- EDA 5, 16 bit resolution and RS 232 & IEEE interface

Both interface cards are made with a micro processor on board. Therefore, they can work independently from any PC connection. A given program can transferred to the EDA card and the routine runs without every PC connection. A software package with demo programs comes with the EDA modules

overview EDA modules

description part no.		EDA 4 E-202-40	EDA 5 E-202-50
type of interface		RS 232-C.	RS 232-C. and IEEE 488.2
resolution		16 bit	16 bit
sample rate		32 ksamples/s	32 ksamples/s
numbers of analog	inputs outputs	4 4	4 4
numbers of digital	inputs outputs	8 TTL (HCT573) 8 analog inputs 0…+5V, 10bit	8 TTL (HCT573) 8 analog inputs 0…+5V, 10bit
programmable		Yes	Yes
module width		6TE	10TE

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP