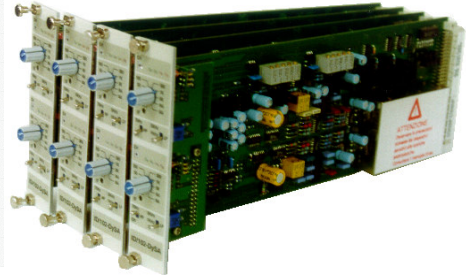


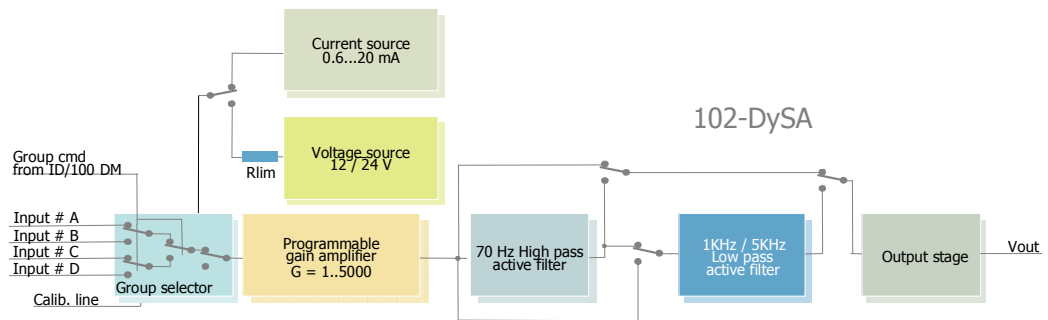
GLE/102-DySA Dual Channel Dynamic Strain Gauge Amplifier

- Two input channels per card, change-able over 4 groups.
- Particularly suitable for vibration monitoring and modal analysis.
- Selectable filter types (LP, HP) and cut-off frequencies (from 0.05 to 20kHz).
- Selectable gain in 8 steps (from 1 to 5000)
- Up to 12 cards can be housed in a 19" 3U rack mounting (e.g. up to 24 contemporarily active channels with 96 wired measurement points).



Overview

The GLE/102-DySA dual channel amplifier has been developed by GreenLake Engineering for the measurement of dynamic signals incoming from strain-gauge transducers requiring reliable and flexible conditioning (i.e. current feeding, filtering and amplification). Thanks to its high gain and wide frequency response, GLE/102-DySA conditioner is particularly suitable for applications like vibration monitoring and modal analysis. To allow measurements from a single strain gauge avoiding the completion to a bridge configuration, a current excitation method has been implemented. The user may choose between a constant electric current mode or a constant voltage with limited current mode (see the block diagram). In both cases to secure the strain gauge to the unit, just a two-wires connection is required. The gain is selectable from 1 to 5000 choosing among the following 8 values: 1, 5, 10, 50, 100, 500, 1000 and 5000. Intermediate gains can however be set between the main steps fine tuning a 20 turns trimmer.



102-DySA Single channel block diagram

Also the frequency response is user-definable according to the specific measure's requirements. The available filter configurations are described in the table besides.

Filter	LP	HP	Bandwidth
Wide bandwidth	Off	Off	0.05÷20000 Hz
Low pass	1 kHz	Off	0.05÷1000 Hz
Low pass	5 kHz	Off	0.05÷5000 Hz
High pass	Off	70 Hz	70÷20000 Hz
Band pass	1 kHz	70 Hz	70÷1000 Hz
Band pass	5 kHz	70 Hz	70÷5000 Hz

The GLE/102-DySA cards are designed to be plugged into the 19" 3U rack mountable chassis GLE/EuroRack. Up to 12 cards can be installed in one chassis enabling up to 24 channels to be simultaneously active. Moreover it is possible to connect up to 4 strain gages to a single input channel, so that complete GLE/EuroRack configuration can support 4 groups of 24 strain-gages for a total of 96 measurement points per unit. The selection of the active transducers is performed by a switch on the frontal panel of the GLE/100 Display Module, that is a standard accessory pluggable in the GLE/EuroRack. GLE/100 Display Module also allows the measurement of the RMS output voltage of each channel installed in the rack mountable chassis and to numerically display the current value of a selected channel..

On the GLE/100 Display Module a dedicated BNC input connector is also available for the system calibration, that is performed connecting a known voltage signal to be applied to just one or simultaneously to all the input channels. The connections between strain-gages and the conditioners are accomplished by using removable screw terminal blocks located on the rear panel of GLE/EuroRack. Output signals are also available on the rear panel of GLE/EuroRack via standard BNC connectors.

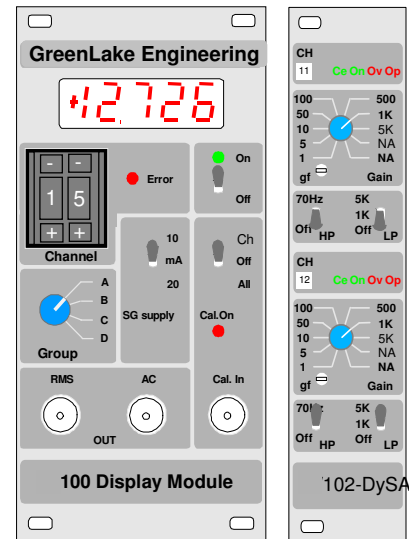
Technical Specifications- GLE/102 DySA model

Input stage	
Number of input channels	2 active selectable among 4
Input type	Differential
Coupling	AC (FC=0.05 Hz)
Impedance	≅ 10 MΩ
Gain	Selectable (selector on the front panel) among: 1, 5, 50, 100, 500, 1000 and 5000
Transducer supply	1. Constant current 2. Constant voltage with limited current
Excitation current	1. 0.625, 1.25, 2.5, 5, 10, 20 mA (Constant current mode) 2. 10 or 20 mA (Constant voltage with limited current mode)
Output stage	
Output swing	20 Vpp (25 Vpp max)
Frequency response	Selectable (see table above)
Linearity	0.1 % (Vout≤10V)
Output impedance	<< 50 Ω
General	
SNR (Typ.)	≅ 72 dB @ G=1000; Fc=5 kHz
Connectors	<ul style="list-style-type: none"> Strain Gages: removable screw terminals Outputs: BNC and multi-poles standard connector
Power supply	± 15 V (+2.5 A; -1.8 A max)

Accessories

GLE/EuroRack	
19" 3U rack mountable chassis. It can host up to 12 GLE/102-DySA cards and 1 GLE/100 Display module	
Power supply	± 15 V (+2.5 A; -1.8 A max)
GLE/ 100 Display Module	
Digital voltmeter 4 ½ digits (single channel visualization)	
Selector for active strain gages groups	
RMS output of the selected channel (BNC connector on the front panel)	
Separated BNC connector for channel calibration	
Alarm/status led indicators: over-range, current feed, open connection	

Due to continuous developments specifications subject to change without prior notice.



GLE/100 Display Module and GLE/102-DySA module front view



Fully equipped with 12 GLE/102-DySA cards and GLE/100 Display Module