

TGA102 ANALOG ACQUISITION UNIT



The TGA102 analog data acquisition unit is a flexible unit that can be inserted on the bus of a Teleco SHM602 system to acquire and store measures obtained from a wide range of analog transducers like strain gauges, load cells, thermocouples, temperature,

pressure and position transducers, piezoelectric accelerometers, gyros etc. The high configurability level of the TGA102 relies on choices that are taken into account at a fabrication level and must, consequently, be selected at the ordering stage, and on choices that can be modified at will by the user when desired. The TGA102 unit is powered by the SHM602 bus and includes a regulated power supply for the connection of sensors inserted in a bridge or half-bridge configuration.

Features

- Two differential input channels
- Internal power supply for bridge-connected sensors
- Total compatibility with the SHM602 bus

Applications

- Acquisition of additional data generated by analog sensors in SHM systems
- Realization of flexible data loggers based on the TSD10 storage and control unit

TGA102 SPECIFICATIONS

- Gain: 10 / 100 (user selectable, TGA102A); 1 / 2, 10, 100, 200 (user selectable, TGA102B)
- Output range: ± 4000 mV
- Output resolution: 16 bit @ 20Hz acquisition rate
- Max. gain error: 0.15%
- Operating temperature: -20°C $+80^{\circ}\text{C}$
- Max. error over temperature at $G=100$ (intrinsic)¹: 0.004% of output range / $^{\circ}\text{C}$
- Max. error over temperature at $G=100$ (bridge)²: 0.006% of output range / $^{\circ}\text{C}$
- Input resistance (dc): 10 G Ω
- Input range³: $\pm 4.0\text{V}$ ($G=1$), $\pm 400\text{mV}$ ($G=10$), $\pm 40\text{mV}$ ($G=100$), $\pm 20\text{mV}$ ($G=200$)
- Input offset³: $\pm 8.0\text{V}$
- Max. admissible input voltage: $\pm 20\text{V}$
- Max. admissible differential input voltage: $\pm 20\text{V}$
- Operating humidity: 0 to 95% RH non-condensing
- Dimensions: 124 mm x 88 mm x 30 mm
- Weight: 450 grams
- Approvals: CE

¹ Shorted inputs

² Using internal bridge and power supply

³ The maximal voltage on the input pins (input + offset) must not exceed 8V or be lower than -8V. This condition should be checked when $G=1$.