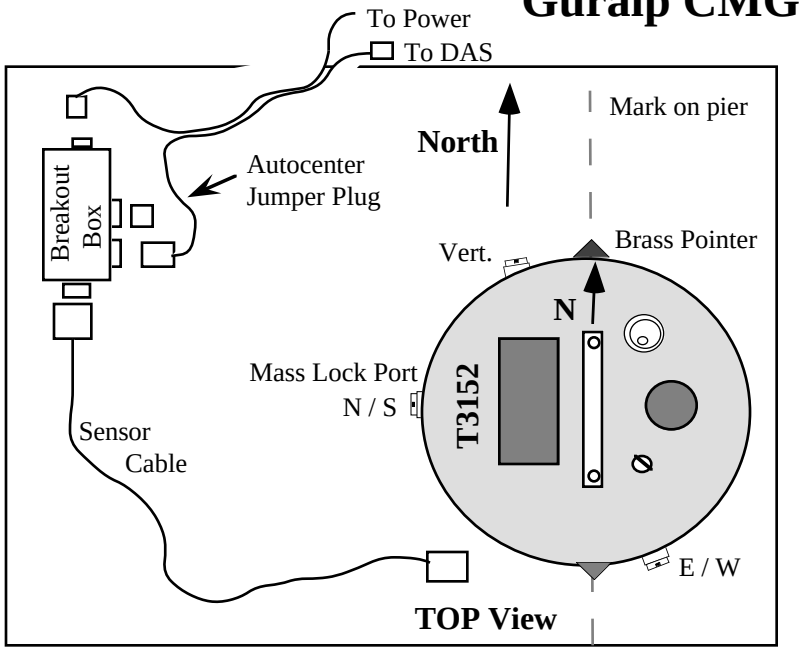
Guralp CMG-3 ESP



Channel Order
(positive voltage on DAS channel means ground moved in given direction)
1 Up
2 North
3 East

Sensitivity
2000 Volts / meter / second

Calibration constant
1 volt input ~ 1 volt output

Typical DAS parameters:
Gain 1
Cal Amplitude 0.10 Volts
Cal Interval 90
Cal Step Size 91

Physical Characteristics:

Size cylinder 16.8 cm diamteter, 38 cm height
Weight 14 kg.
Shipping Weight 65 lbs. **Size** 13x13x24 inches (Gbox)
Power consumption
100 mA @ 12 VDC
pulses of 400 mA required for centering

Frequency Response:

Natural Freq.	0.033 Hz. (30 seconds)
Damping	0.707 critical
Zeros	two at zero
Poles	-0.147 + 0.147*i*
	-0.147 - 0.147*i*

Installation Tips:

(See also the Field Note on Guralps. These are tips, not complete instructions)

1. The sensor pad should be within 5° of level, marked with line oriented north. Construction of the sensor enclosure is critical to data quality. See Field Note on Broadband Vault Construction.
2. Align the sensor using small pointers extending from the base, the brass one points north. Level the sensor by adjusting the feet to center the bubble level on top. When level, twist the foot lock ring down (clockwise) onto the bottom of the slot to lock the foot from turning.
3. Attach the sensor cable. Secure the sensor cable so that tugs on it (inadvertent or otherwise) do not budge the sensor and that it does not wiggle around near the sensor.
4. Unlock the masses using the 3 mm hex key provided on the breakout box. It should be clean before use.
5. Cover the sensor with insulation. Insulate the vault and close the vault.
6. Connect the sensor cable to the Guralp breakout box, attach the larger grey cable to the breakout box at the "recorder" port, leave the power cable laying near the power port. Attach the other end of the grey cables to the PASSCAL Powerboard (white +, black -) and to the REF TEK DAS. Check the polarity is correct on the power and plug power cable into Guralp breakout box. Connect the Guralp Control Box to the control port and set the meter to 1 volt range.
7. Center the sensor using the "enable" and "centre" buttons on the breakout box. The voltage should be within one volt of zero. If after more than 3 attempts an element mass position voltage still has not crossed zero, consult the Guralp Field Note for further instruction.

Cabling Notes:

Two cable assemblies and a breakout box are included with a sensor.

1) A 4 meter sensor cable with the same connector (PTO6F-16-26S) on each end. They are blue, yellow, or grey. Only the blue cables make the busy LED operate on the breakout box.

2) A 4 meter pair of cables (tied together) to connect the breakout box to power and DAS. There is a jumper plug for autocentering tied to the breakout box end.

3) The PASSCAL issued breakout box has a 3 mm hex key attached, be sure to leave it that way.