

Seismometer Cable and Box

To connect the 14-pin output of the Titan Accelerometer you would either have to buy the proprietary cable with it's connectors and analyzer from Nanometrics or use the box and cable described here.

Schematics Used

Titan User Guide

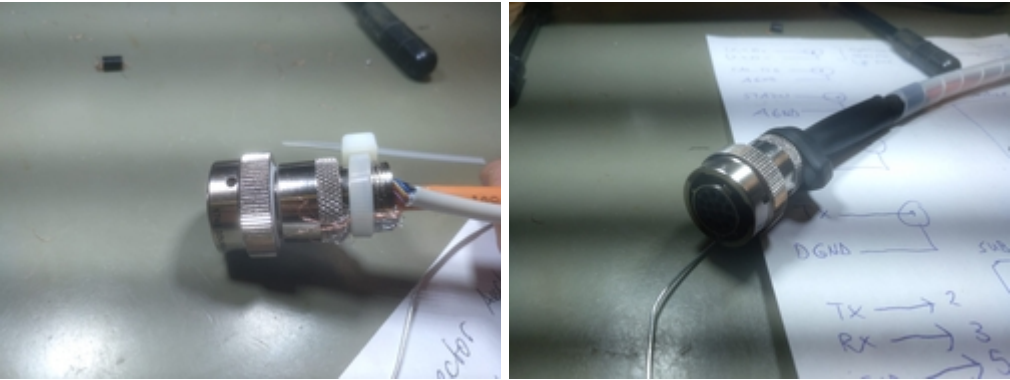
[Page 51 is important]

Cable

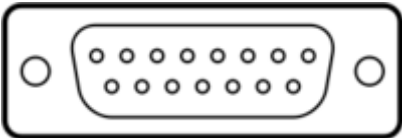
For the connecting cable between the 14-pin connector and the box we used a CAT network-cable (<fc #ffa500>orange</fc>) connected via SubD-15 and a standardized SubD-9 cable (<fc #c0c0c0>grey</fc>) with it's connector. The wires are split up into two different cables to ensure that the X-, Y- and Z-axis signals are completely shielded, hence the CAT network-cable. The analog ground signal is also fed through the shielded network cable. All the other wires go through the SubD-9 cable.

14-Pin Side



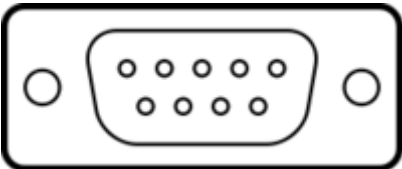


SubD-15 Side - XYZ Connect



Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Name	+X	free	free	+Y	free	free	+Z	AGND	-X	free	free	-Y	free	free	-Z
Function	positive X axis output	none	none	positive Y axis output	none	none	positive Z axis output	analog ground	negative X axis output	none	none	negative Y axis output	none	none	negative Z axis output
Color	<fc #6495ed>blue</fc>	none	none	<fc #ffa500>orange</fc>	none	none	<fc #008000>green</fc>	<fc #800000>brown</fc>	white with <fc #6495ed>blue stripe</fc>	none	none	white with <fc #ffa500>orange stripe</fc>	none	none	white with <fc #008000>green stripe</fc>

SubD-9 Side - Signal Connect



Pin No.	1	2	3	4	5	6	7	8	9
Name	+PWR	TX	RX	free	DGND	-PWR	CAL_SIG	STATUS	free
Function	positive power input	serial RS-232 transmit	serial RS-232 receive input	none	digital ground	negative power in	calibration signal input	state-of-health output	none
Color	black	<fc #800000>brown</fc>	<fc #ff0000>red</fc>	none	<fc #ffff00>yellow</fc>	<fc #008000>green</fc>	<fc #6495ed>blue</fc>	<fc #9400d3>purple</fc>	none

Box



SubD-9 and SubD-15 Link

The two cables coming from the seismometer have to be plugged into the corresponding [XYZ Connect] and [Signal Connect].



Do not plug the SubD-9 [Signal Connect] cable into the other SubD-9 connector; else $\pm$ PWR, CAL_SIG and STATUS won't be passed to the seismometer or back to the box.



You will risk destroying your computer (or any other device) if you connect your device via SubD-9 cable directly to SubD-9 [Signal Connect]!

BNC

The BNC connectors are directly chained to the corresponding output pins of the connected seismometer. Here is a detailed layout for that:

Description	CAL_SIG	STATUS	RX	TX	X	Y	Z
Inner Connector	CAL_SIG	STATUS	RX	TX	+X	+Y	+Z
Outer Ring	AGND	AGND	DGND	DGND	-X	-Y	-Z

PWR

PWR marks the power input. You plug the positive pin into the red connector and the negative one into the black one.



The seismometer needs a voltage from 9V ~ 36V DC isolated. A maximum current load of about 100mA [?] is allowed.

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