

Minimal Node Design		Price in USD	estimated Power cons	Buy Link	Instructables / Comments
Solarcell		0.45	- 0.60mA @5V	https://de.aliexpress.com/item/32900363698.html?spm=a2g0o.productlist.0.0.3f01434afEY9A&algo_pvid=f068456e-c092-4d62-8bd9-78ffbf1b50e&algo_expid=f068456e-c092-4d62-8bd9-78ffbf1b50e-1&tsid=df5bae62-aa7f-4aa1-a91a-c6ee7b05d21d&ws_ab_test=searchweb0_0_searchweb201602_9_searchweb201603_52	
moist soil sensor		0.22	<20mA	https://de.aliexpress.com/item/4000215881979.html?spm=a2g0o.productlist.0.0.17184791aLuiJP&algo_pvid=e1af38cf-eb6f-48df-a2c4-29527e1bcb8a&algo_expid=e1af38cf-eb6f-48df-a2c4-29527e1bcb8a-0&tsid=c0852d38-6e85-4623-856c-9a1e23b5a5c7&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	can be used to measure EC
Light	KY-018	0.2		https://de.aliexpress.com/item/32674596029.html?spm=a2g0o.productlist.0.0.13b758d8wp0Rwm&algo_pvid=c0047f43-bf07-41b4-840b-e49bc425f29c&algo_expid=c0047f43-bf07-41b4-840b-e49bc425f29c-33&tsid=2e9ee964-8610-4406-9473-74e50992ef7c&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	
Batterie	TR 5000mAh 14500 3.7 V Lithur	0.33		https://de.aliexpress.com/item/1859061606.html?spm=a2g0o.productlist.0.0.c9a159e6wPmMau&algo_pvid=98e47c54-cb51-46eb-9ae0-9c0d27893c14&algo_expid=98e47c54-cb51-46eb-9ae0-9c0d27893c14-6&tsid=69a5b55-6d51-4810-b5f7-01295781c5&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	
LoRa Communication	lora nrf4438	2.87	<100mA \ <13mA	https://de.aliexpress.com/item/32988169737.html?spm=a2g0o.productlist.0.0.4546cc6dmXvTQ&algo_pvid=2d60c814-8642-463b-8ea6-c0f23ca48e2&algo_expid=2d60c814-8642-463b-8ea6-c0f23ca48e2-0&tsid=6254d772-9d74-4ed3-82ad-c5b7a872c0&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	
ATtiny85	ATtiny85	1.07	2mA		
Hygrometer / Temperature	DHT11	0.57			
Air Pressure / Temperature	BMP280	0.49			
		6.2	\$		
Geophone Node Design					
additional to the parts above:					
Piezo Vibration Sensor	LDT0-028K	3.67		https://de.aliexpress.com/item/32674596029.html?spm=a2g0o.productlist.0.0.17184791aLuiJP&algo_pvid=e1af38cf-eb6f-48df-a2c4-29527e1bcb8a&algo_expid=e1af38cf-eb6f-48df-a2c4-29527e1bcb8a-0&tsid=c0852d38-6e85-4623-856c-9a1e23b5a5c7&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	Needs some modifications for the right frequency, see instructables
ATmega	atmega2560	4.93		https://de.aliexpress.com/item/32988169737.html?spm=a2g0o.productlist.0.0.4546cc6dmXvTQ&algo_pvid=2d60c814-8642-463b-8ea6-c0f23ca48e2&algo_expid=2d60c814-8642-463b-8ea6-c0f23ca48e2-0&tsid=6254d772-9d74-4ed3-82ad-c5b7a872c0&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	attiny is not powerful enough to calculate and save the date of the geophone, so we need a mega
		13.73	\$		
Central Node					
Raspberry Pi Zero W		12.11		https://de.aliexpress.com/item/32988169737.html?spm=a2g0o.productlist.0.0.4546cc6dmXvTQ&algo_pvid=2d60c814-8642-463b-8ea6-c0f23ca48e2&algo_expid=2d60c814-8642-463b-8ea6-c0f23ca48e2-0&tsid=6254d772-9d74-4ed3-82ad-c5b7a872c0&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	
TouchScreen 320x480		8.99		https://de.aliexpress.com/item/32587995145.html?spm=a2g0o.productlist.0.0.7a512defPvyp9&algo_pvid=4893ad0e-5625-49b7-9ed1-57632311af90&algo_expid=4893ad0e-5625-49b7-9ed1-57632311af90-0&tsid=18533212-0907-4081-990b-4a4911b4d48ff&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	
GSM / GPS - Module		12.8		https://www.aliexpress.com/item/32988169737.html?spm=a2g0o.productlist.0.0.4546cc6dmXvTQ&algo_pvid=2d60c814-8642-463b-8ea6-c0f23ca48e2&algo_expid=2d60c814-8642-463b-8ea6-c0f23ca48e2-0&tsid=6254d772-9d74-4ed3-82ad-c5b7a872c0&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	With this we collect the data via WWW and can mark the geoelocation of the sensor probes
LoRa Communication		2.87		https://de.aliexpress.com/item/32988169737.html?spm=a2g0o.productlist.0.0.4546cc6dmXvTQ&algo_pvid=2d60c814-8642-463b-8ea6-c0f23ca48e2&algo_expid=2d60c814-8642-463b-8ea6-c0f23ca48e2-0&tsid=6254d772-9d74-4ed3-82ad-c5b7a872c0&ws_ab_test=searchweb0_0_searchweb201602_1_searchweb201603_52	
		36.77	\$		