

Materials List for:

# Manufacturing Simple and Inexpensive Soil Surface Temperature and Gravimetric Water Content Sensors

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URL: <https://www.jove.com/video/60308>

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## Materials

Name	Company	Catalog Number	Comments
Single sensor audio cable	<a href="http://alliedelec.com">alliedelec.com</a>	Allied Stock #: 70004848	Cable; 1Pr; 22AWG; 7x30; TC; PP ins; Foil; Black PVC jkt; CMR
Double sensor audio cable	<a href="http://alliedelec.com">alliedelec.com</a>	Allied Stock #: 70004635	Cable; 2Pr; 22AWG; 7x30; TC; PP ins; Foil; Black LSZH jkt; CMG-LS
Thermocouple cable	<a href="http://Omega.com">Omega.com</a>	Part #: TT-E-24-TWSH-SLE- (Desired length)	Type E, 24 ga, PFA (teflon coated), twisted shielded, special limits of error
Eight prong terminal strip	<a href="http://Samtec.com">Samtec.com</a>	MTSW-108-21-G-S-1130-RA	
Four prong terminal strip	<a href="http://Samtec.com">Samtec.com</a>	MTSW-104-21-G-S-1130-RA	
Two prong socket strip	<a href="http://Samtec.com">Samtec.com</a>	SSW-102-03-G-S	
0.13" moisture-seal heat shrink tubing	<a href="http://McMaster.com">McMaster.com</a>	Part #: 7861K51	
0.25" moisture-seal heat shrink tubing	<a href="http://McMaster.com">McMaster.com</a>	Part #: 7861K53	
0.38" moisture-seal heat shrink tubing	<a href="http://McMaster.com">McMaster.com</a>	Part #: 7861K54	
0.5" moisture-seal heat shrink tubing	<a href="http://McMaster.com">McMaster.com</a>	Part #: 7861K55	
Liquid electrical tape	<a href="http://McMaster.com">McMaster.com</a>	Part #: 76425A23	
Metal film resistor	<a href="http://Newark.com">Newark.com</a>	Part #: RN55C1001BB14	
Voltage divider resistor	<a href="http://Newark.com">Newark.com</a>	Part #: 83F1210	
16- or 32-Channel Relay Multiplexer	<a href="http://campbellsci.com">campbellsci.com</a>	AM16/32B	This relay multiplexer is critical for the sensors to function correctly
CR1000X Measurement and Control Datalogger	<a href="http://campbellsci.com">campbellsci.com</a>	CR1000X	