



1900 Powell Street, Suite 890 Emeryville, CA 94608
1-415-292-5404 Phone
save@smarttrash.com
www.smarttrash.com

SmartTrash® Micro Remote Control Hub Compactor Monitor Installation Worksheet

SmartTrash® MONITOR SERIAL NUMBER: _____

DATE: _____

LOCATION: _____

Identify the compactor (Color, material, number, etc) _____

HYDRAULIC COMPACTOR: YES....NO, OR AUGER COMPACTOR: YES....NO

MANUFACTURER: _____

COMPACTOR MODEL #: _____, COMPACTOR SERIAL #: _____

CONTAINER SIZE: _____, Voltage: _____, Phase: _____

COMPACTOR RAM POSITION AT START (circle): FORWARD BACK

Is there a directional valve? YES....NO If no, are there 2 motor starters? Did you connect DIR input to the reverse motor starter relay input : YES....NO

If Auger compactor, did you connect DIR input to the motor starter relay input : YES....NO

Is there a FULL-LIGHT? YES....NO Did you connect it to the HAUL INPUT : YES....NO

Is there a cart/bin lifter?: YES....NO Does the lifter have its own power pack? : YES....NO

TIPPER MANUFACTURER: _____

TIPPER MODEL #: _____ TIPPER SERIAL # _____

PRECHRUSHER?: YES....NO; Time it takes ram to compact into the container: _____ seconds

INSTALLATION PICTURES: 1-Whole Compactor, 2-Loading Door, 3-Monitor installation location, 4-Hopper/Chute/Lifter

INSTALLER NAME: _____

INSTALLER SIGNATURE: _____



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SMARTTRASH® IS COMPRISED OF A UL/CE APPROVED WATER TIGHT ENCLOSURE WITH A POWER SUPPLY(115V 60Hz to 230V), a proprietary SmartTrash® Micro RCH CIRCUIT BOARD WITH AN ONBOARD WIRELESS LTE MODEM

A UL/CE APPROVED 22AWG 300VAC MULTI-CONDUCTOR UV/OIL/FLAME RESISTANT CABLE IS CONNECTED TO THE Micro RCH CIRCUIT BOARD.

Connect the wires to the compactor control panels as follows (see next page for picture):

AC COMPACTOR CONTROL PANELS	
NOTE: SmartTrash Unit is wired to use the same AC Neutral reference for all inputs. If this is not the case contact SmartTrash for instructions.	
OPTO1-RED - DIR = 110v to 220v AC Digital input.] FOR COMPACTORS WITH NO DIRECTIONAL VALVE AND 2 MOTOR STARTERS, CONNECT DIR INPUT TO REVERSE MOTOR STARTER RELAY INPUT. FOR AUGER COMPACTORS (NON-HYDRAULIC), CONNECT DIR INPUT TO THE MOTOR STARTER RELAY INPUT.	BLACK - AC LINE goes to panel transformer output voltage (90 to 264VAC) at 47 to 63Hz. Standard unit can not be used with low Voltage 24VAC Compactors. These compactors require a 24VAC SmartTrash Monitor. Contact SmartTrash if you need to replace the standard unit with a 24VAC Monitor.
OPTO2-Yellow - DOOR = Safety Door or Gate Switch Relay High Voltage Lead (110v DC to 220v AC Digital input)	WHITE - AC NEUTRAL or REFERENCE TO GROUND goes to panel transformer output neutral.
OPTO3-BROWN - HAUL = Full or 80% Light or container away safety interlock switch relay high voltage Lead 110v DC to 220v AC Digital input. AC(N) return for input signal	BLUE – CURRENT COIL (black or white wire)
OPTO4-GREEN - DIN 4 connect to a bin/ cart lifter down or pre-crusher gate up relay high voltage Lead (110v DC to 220v AC Digital input. AC(N) return for input signal or AC output Options to connect an external relay. On this version Green wire will go to Din 4 and then to Black Second version is Green wire go to Din 4 and then to White.	ORANGE – CURRENT COIL (black or white wire)



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Standard AC SmartTrash Monitor



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THE MULTI-CONDUCTOR CABLE EXITS THE MONITOR THROUGH CABLE GRIP. MAKE SURE THE CABLE GRIP IS TIGHT AND ENCLOSURE COVER IS CLOSED PROPERLY UPON COMPLETION. NO MOISTURE CAN BE ALLOWED IN THE ENCLOSURE. THE CABLE IS CONNECTED TO THE COMPACTOR CONTROL CIRCUITS AS DESCRIBED ABOVE AND TO THE CURRENT SENSOR SUPPLIED WITH THE UNIT.

INSTALLATION PARTS NOT INCLUDED: INSTALLER MUST HAVE A VARIETY OF MOUNTING SCREWS SINCE THE FIELD CONDITIONS ARE NOT KNOWN.

2 MOUNTING SCREWS: SELF-TAPPING SCREWS OR MASONRY SCREWS CAN BE USED WITH THE ENCLOSURE MOUNTING TABS TO ATTACH THE UNIT TO THE COMPACTOR CONTROL PANEL OR AN ADJACENT WALL .

DO NOT DRILL ANY ADDITIONAL HOLES IN THE SMARTTRASH ENCLOSURE.

INSTALLATION PARTS INCLUDED:

MULTI-CONDUCTOR CABLE (1.5 meters or 5 feet standard): If the cable supplied is not long enough for the selected mounting position, installer must provide the additional cable as required or a longer cable can be ordered with the unit.

DO NOT SPLICE THE CABLES! A CONTINUOUS RUN FROM THE COMPACTOR CONTROL PANEL TO THE SMARTTRASH UNIT IS NECESSARY SINCE IT MUST BE WATER TIGHT.

CABLE GRIP OR STRAIN RELIEF: Mount this in the 1/2" hole punched out or drilled into the bottom of control panel and run the belden cable thru this to ensure a tight water resistant connection to the compactor controls.

SNAP ON CURRENT SENSOR: The supplied current sensor snaps open and is clamped around one of the incoming electrical power leads to the motor starter in the compactor control panel. The current sensor wire leads are butt spliced to the belden cable using the pre-attached crimp connectors on the current sensor.

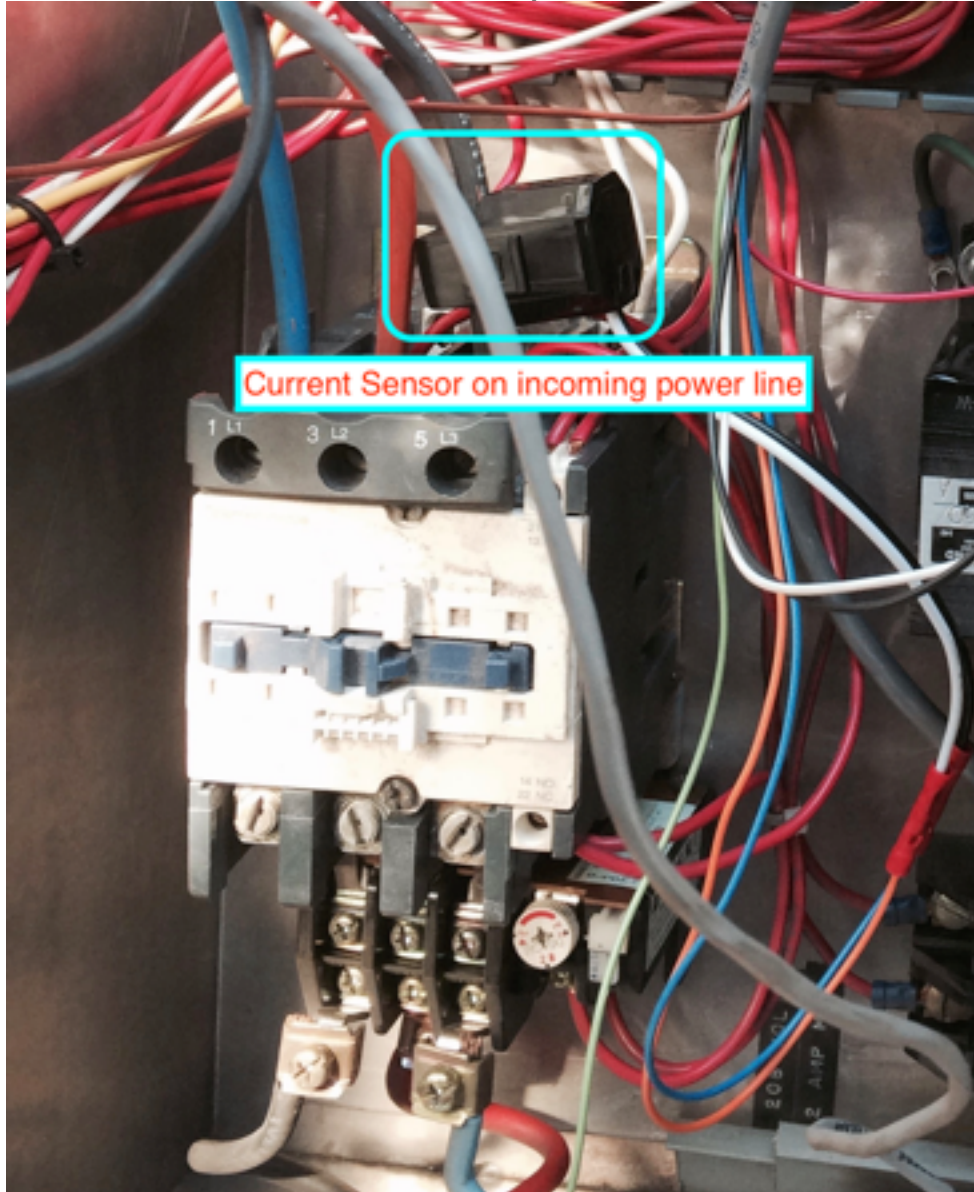
BUTT SLICERS: The supplied current sensor wire leads are butt spliced to the orange and blue wires in the multi-conductor cable using the supplied crimp connectors on the current sensor.

SPADE CONNECTORS: The supplied crimp on spade connectors are connected to the terminal end of the multi-conductor cable in the compactor control panel and used to connect the power hot, neutral and panel ground.



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RCC STATUS LIGHTS: OK CONDITION

VCC: ON = RCC has power. DS10
DS8 LINK = on board modem has power.
DS7 M PS = optional remote modem has power.

FIELD INSTALLATION TOOLS REQUIRED:

ELECTRIC DRILL with 1/4" (6mm) MASONRY DRILL BIT FOR MOUNTING SCREWS
STEP DRILL BIT OR HOLE PUNCH FOR STRAIN RELIEF PLUG ON COMPACTOR
CONTROL ENCLOSURE (if punch outs are not available on the compactor control enclosure)
PHILLIPS HEAD SCREW DRIVER-MEDIUM AND SMALL
WIRE STRIPPER & CONNECTOR CRIMPER
VOLT METER
SMART PHONE (FOR TESTING SIGNAL STRENGTH and accessing SmartTrash Application)

<u>STATUS LED DS1 MODEM SIGNAL STRENGTH AND STATUS</u>	
Code: # of 1 second blinks = type of data, 2 second delay, # of .3 s second blinks = data, 3 second delay, restart.	
MODEM RSSI SIGNAL STRENGTH:	1 - 1 SECOND BLINK FOLLOWED BY SHORT 0.3 SECOND BLINKS. SHORT 0.3 SECOND BLINKS ARE SIGNAL STRENGTH 1 or 2 flashes = Weak Signal 3 to 5 Flashes = Adequate to Good Signal
CONNECTED TO THE SERVER:	8 - 1 SECOND BLINK FOLLOWED BY SHORT 0.3 SECOND BLINKS. SHORT 0.3 SECOND BLINKS ARE TYPE OF CONNECTION TO THE SERVER 1 flash = Primary IP address 2 Flashes = Backup IP address 5 Flashes = URL address

INSTALLATION INSTRUCTIONS:

- 1. POWER UP THE UNIT FOR A TEST:** CONNECT THE UNIT TO THE COMPACTOR CONTROL PANEL POWER SUPPLY. TEMPORARILY PLACE IN THE PLANNED INSTALLATION LOCATION FOR AT LEAST A MINUTE. POWER UP THE UNIT BEFORE PERMANENTLY MOUNTING IT AND LET IT MAKE A CONNECTION TO THE NETWORK TO SEE IF THERE IS SUFFICIENT SIGNAL STRENGTH FOR THE CELLULAR MODEM. **PLEASE WAIT UNTIL THE STATUS LIGHT SHOWS SIGNAL STRENGTH. THIS CAN TAKE UP TO 5 MINUTES).** IF THE UNIT HAS PROPERLY REGISTERED ON THE CELLULAR NETWORK IT WILL SEND DATA TO THE SMARTTRASH® APPLICATION SERVER. PLEASE CHECK ON YOUR SMART PHONE USING THE SMARTTRASH.COM SERVER LINK TO SEE IF THIS TEST IS SUCCESSFUL THEN YOU CAN GO AHEAD MOUNT THE UNIT AND COMPLETE THE INSTALLATION. IF YOU ARE CONCERNED ABOUT THE SIGNAL PLEASE CALL 1-415-292-5400 AND ASK FOR ASSISTANCE. THEY



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WILL CHECK THE SMARTTRASH® DATABASE TO SEE IF THE UNIT IS TRANSMITTING ITS STATUS DATA PROPERLY.

2. **MOUNT THE UNIT:** MOUNT THE UNIT. USING THE ENCLOSURE AS A TEMPLATE MARK THE SCREW LOCATIONS AND DRILL PILOT HOLES. BE SURE NOT TO OVERTIGHTEN THE SCREWS AS THEY CAN BREAK THRU THE PLASTIC STOPS AND RUIN THE ENCLOSURE.
3. **COMPLETE CONNECTING THE MULTI-CONDUCTOR CABLE TO THE COMPACTOR CONTROL PANEL AS DESCRIBED ABOVE:**
4. **RUN THE COMPACTOR A THREE OF TIMES BEFORE CONTACTING SMARTTRASH.** CALL 1-415-292-5404 AND ASK FOR DATA INTEGRITY TEST.
5. DO NOT LEAVE THE SITE BEFORE REQUESTING THE TEST AND FILLING OUT THE ATTACHED MONITOR INSTALL FORM. THE FORM CAN BE SCANNED AND EMAIL TO INFO@SMARTTRASH.COM OR FAXED TO 1-415-292-5410 AT A LATER TIME.





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INSTALLATION TROUBLESHOOTING:

1. **NO DIR INPUT SIGNAL:** CHECK THE DIR INPUT CONNECTIONS FOR CONTINUITY WITH YOUR MULTIMETER. IF CONTINUITY IS OK DETERMINE THE DIR INPUT VOLTAGE STATE WHEN THE COMPACTOR IS SHUT OFF AND THEN START THE COMPACTOR. OBSERVE THE VOLTAGE READING AT START AND WATCH THE VOLT METER UNTIL THE RAM REVERSES FROM THE FULLY EXTENDED POSITION TO THE FULLY RETRACTED POSITION. THERE SHOULD BE A VOLTAGE CHANGE WHEN THE RAM RETRACTS. IF THERE IS NO VOLTAGE CHANGED THEN THE COMPACTOR ENERGY CURVE DATA CAN NOT BE COLLECTED.
2. **NO E_RUN_DATA SIGNAL:** CHECK TO THE AC VOLTAGE BEING GENERATED AT THE CURRENT SENSOR CONNECTIONS AT THE SMARTTRASH MONITOR. THE VOLTAGE SHOULD BE BETWEEN 1 TO 7 VOLTS. IF NOTHING CHECK THE CONNECTIONS. IF OVER 7 VOLTS PLEASE NOTIFY SMARTTRASH SO THEY CAN CHANGE THE UNIT CONFIGURATION BY ADJUSTING THE CURRENT SENSOR SENSITIVITY DOWN TO 2 OR 1.