

QUICK START INSTALLATION GUIDE

SMARTTRACK GLOBAL HEADLESS FLEET CONTROLLER

Part No.: 16602

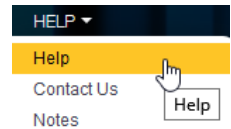
Important Note

For the latest specifications and configuration information, download the SmarTrack® Product Manual by following these instructions using your web browser:

You must be an existing registered SmarTrack® web portal user to access this information.

1. Go to SmarTrackglobal.com and log into the web portal (existing users only).
2. Visit the Help section.
3. Download the SmarTrack product manual as required, found under the 'Downloads' list on the right-hand side.

If you have difficulties logging in or downloading, please contact your company's internal SmarTrack® product administrator first. If you still experience issues, email smartracksupport@rct-global.com.



Overview

The following installation guide is to assist the installer of the SmarTrack Global Headless kits. It includes a list of the kit contents, as well as a basic guide on the mounting and connection of each item. The SmarTrack Global Headless kit includes different hardware compared to a normal SmarTrack Global kit and requires different wiring on machines.

Installation Guide

Kit Contents

Part No.	Description	Qty
11505 or 15847	Controller SmarTrack® Global	1
11265 or 11266	Loom Universal SmarTrack Global	1
10284 or 15905	Dual Antenna with SMA and SMA-R Connectors and Adhesive Base	1
2600	Switch Head Key Stay Put L/H	1
9476	Body With 1 x N/O Contact	1
10977	Label Bypass SmarTrack	1
15844	SmarTrack Boost Converter	1

Mounting of Hardware

Caution

- Disconnect the battery before commencing any work.
- Ensure best practice wiring methods are used especially when splicing wires—always splice/solder and heat shrink or tape all wiring connections.
- Do not make poor wiring connections by twisting wires together.
- Do not use 'snap locks' to splice wires.

SmarTrack Global Controller

1. The SmarTrack Global controller can be installed in a horizontal or vertical position under the instrument panel or in a convenient location allowing the harness to reach desired connection points.
2. The controller can be mounted via two 6 mm diameter holes with centres being 102 mm apart. Careful consideration should be given to the location of these holes before drilling to ensure adequate accessibility to the electrical connections located on the controller.
3. Do not mount the controller on or near any source of heat, vibration, or electrical interference such as a motor or engine. Do not mount the controller opposite an exhaust or muffler system.

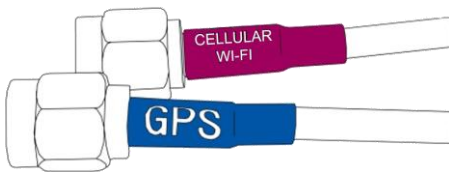
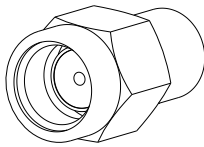
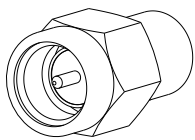
Display Unit

1. This kit does not include a display or display cable and is pre-programmed.

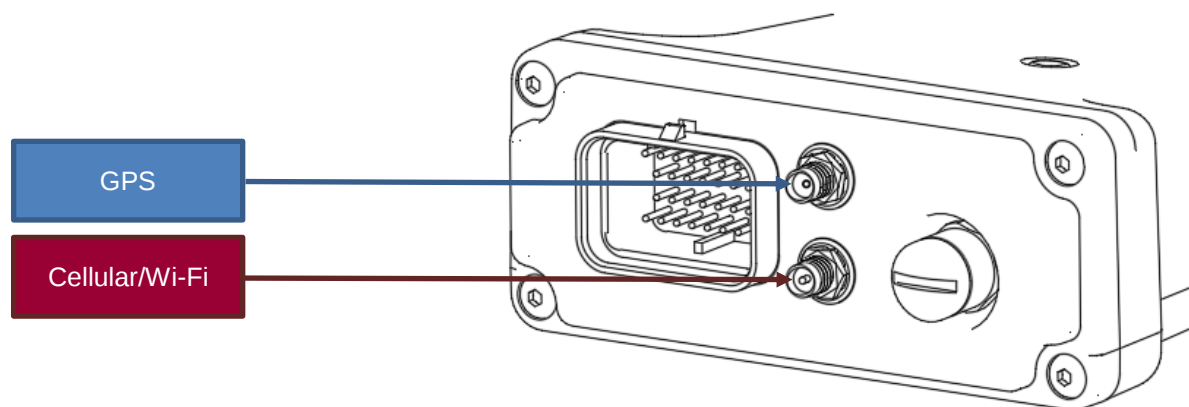
Antenna

1. The antenna should be installed on a horizontal plane with the adhesive side facing the ground, ideally on top of the machine and clear of electrical devices such as flashing lights.
2. The body or panels of the machine should not obscure the antenna.
3. The antenna must be no closer than one metre (~3 ft 4 in) to the 11505 or 15847 controller.
4. Any excess antenna cable should be coiled up (no less than 100 mm [~4 in] in diameter) and secured at least one metre (~3 ft 4 in) or more away from the controller, where possible.
5. The antenna connectors are different so take care to mate the correct plug.
6. Tighten using an SMA finger wrench (RCT part number 10472). Do not over-tighten - FINGER TIGHT ONLY.

Antenna Lead Plug Identification

Antenna Plugs	Cellular/Wi-Fi Radio	GPS
		

Identification of Antenna Lead Connections on Fleet Controller



Impact Sensor

1. This kit does not include an impact sensor.

Harness

1. Check the latest SmarTrack® product manual for all maximum voltage and frequency thresholds before making any wiring connections to power sources.
2. Refer to the wiring table in drawing 742r on page 6 to wire up the control unit.
3. It is recommended that the wiring loom be installed alongside the OEM engine wiring, ensuring that it is secured at regular intervals. This will provide protection from heat and abrasion, and any other excess damage that may occur with extended machine operation.
4. When securing the loom to the OEM engine wiring, ensure that the loom is away from moving machine parts which could lead to loom damage and avoid proximity to sources of high current and/or high voltage.

Bypass Key

The bypass key should be mounted in an accessible location within the operator's compartment area. This will allow for ease of use if the bypass key is required.

Constant Supply Connection

 Caution

The constant battery supply voltage cannot exceed 60 Vdc. The constant battery supply voltage will need to be connected to a DC-DC converter if installed on a machine with a battery that is a higher voltage than 48 Vdc. E.g. a lithium-ion 80 Vdc battery-powered machine will require a DC-DC converter to reduce the constant battery supply voltage. Refer to the maximum input voltage table on page 5.

The SmarTrack system requires a constant power and ground source. The controller requires a positive voltage connection greater than 12 V and no greater than 60 V.

Installation on 12 V Diesel/Gas Machines

When fitting SmarTrack to machines with internal combustion engines and a 12-volt electrical system, RCT recommends the installation of the SmarTrack Boost converter, part number 15844. The boost converter has been specifically designed to compensate for extra low voltage while cranking. The converter has a bypass circuit and only boosts the voltage when it drops below 10 volts.

SmarTrack Boost Converter Wiring Connections (12 V machines only)

Wire Colour	Connection
Red	Connect to a fused battery supply
Black	Connect to battery negative
Red/Black	Connect to SmarTrack loom battery supply wire
Black	Connect to SmarTrack loom battery ground wire

Ignition Supply Connection

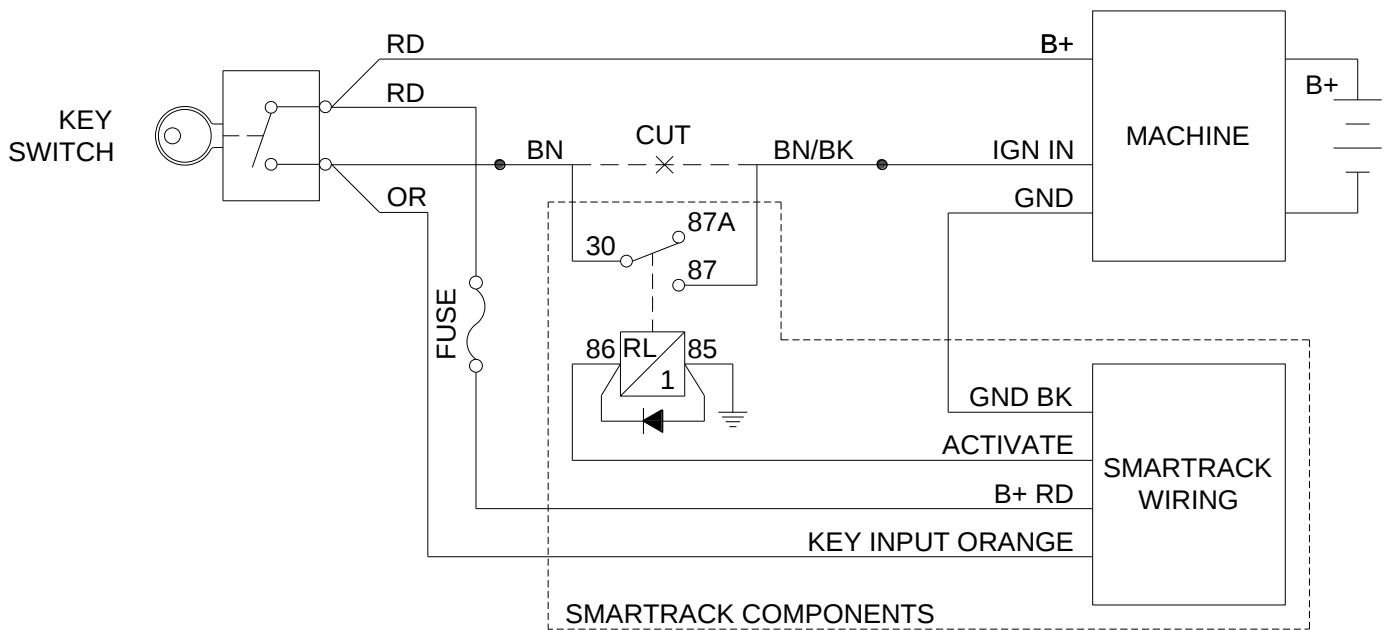
 Caution

The ignition input cannot exceed 100 Vdc. Refer to the maximum input voltage table on page 5.

The SmarTrack® system supports latching and momentary inputs to wake the system for use. Latching inputs typically utilise a key switch or ignition switch. Momentary inputs can also be used to wake the SmarTrack system, such as from a horn, seat, or dead man switch. These need to be a rising positive voltage greater than 4 V. A falling signal to ground will not work.

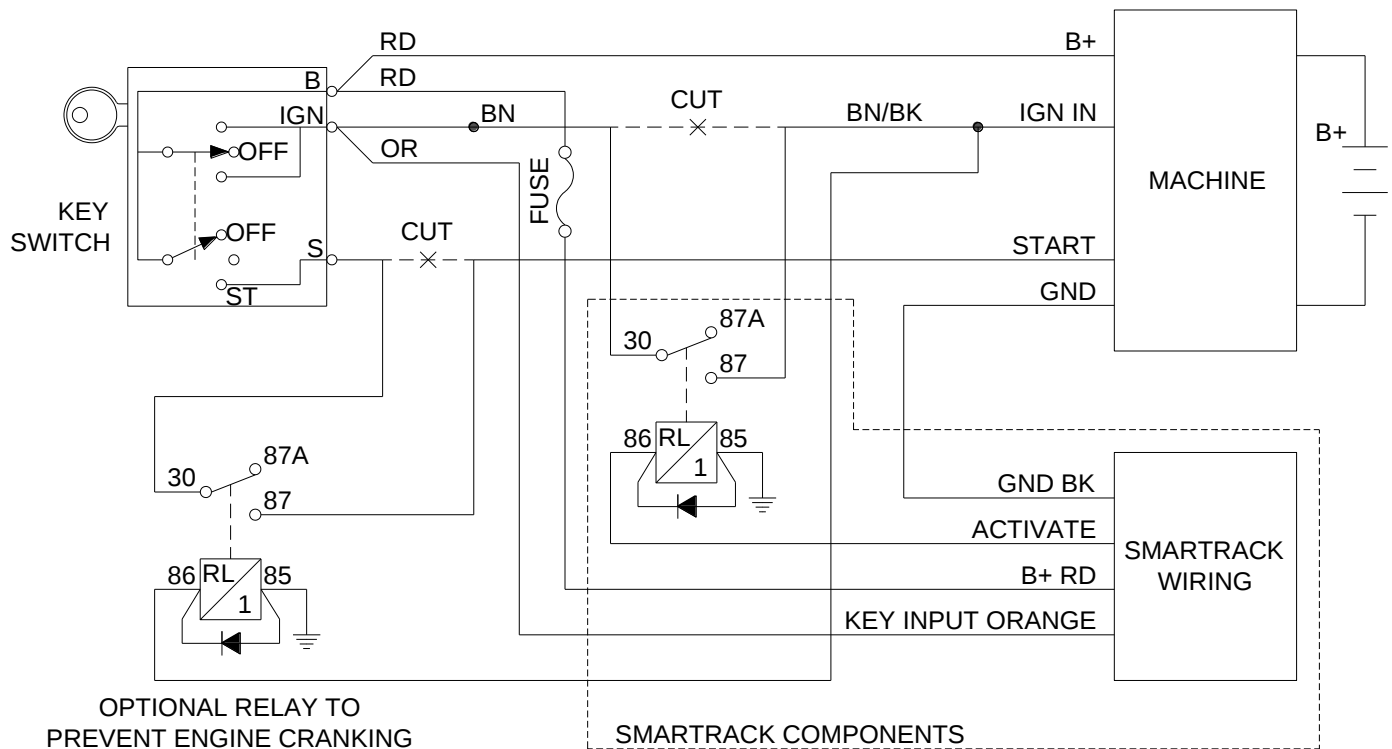
Connect the ORANGE ignition sense wire to the ignition switch as shown, or other “wake” source. By default, the system is configured for latching (ignition switch) and rising positive signal when on.

Typical Battery Electric Power Wiring



Ref: Drawing 678h

Typical Internal Combustion Power Wiring



Ref: Drawing 678h

Recommended Fuse	
12 Vdc	5 A
24 Vdc	3 A
48 Vdc	2 A

Description of Work Inputs

⚠ Caution

The work inputs cannot exceed certain voltages for each input. Refer to maximum input voltage table on page 5.

⚠ Caution

Any contact of the 'Signal Ground' wires to a positive source will cause irreparable damage to the device.

The below table can be used in conjunction with drawing 742r (following). Refer to the product manual for all input specification ratings. This controller is pre-programmed to suit these inputs. If the machine cannot be made to work with the below pre-configured inputs, please contact SmarTrack® Support for guidance.

Work Inputs	Meaning / Function	IC Pickup Example	Be Pickup Example	Reports On
Work 1 (Pin 1)	Detects Activity / Movement	FWD Solenoid (must be a positing input when traction is engaged) Max 33 Vdc	Fwd engaged (must be a positive input when traction is engaged) Max 33 Vdc	Utilisation
Work 2 (Pin 3)	Detects Activity / Movement	REV Solenoid (must be a positing input when traction is engaged) Max 33 Vdc	Reverse engaged (must be a positing input when traction is engaged) Max 33 Vdc	Utilisation
Work 3 (Pin 5)	Detects Activity / Movement	Optional (must be a positing input when traction is engaged) Max 60 Vdc	Optional (must be a positing input when traction is engaged) Max 60 Vdc	Utilisation

Work Inputs	Meaning / Function	IC Pickup Example	Be Pickup Example	Reports On
Signal Ground (Pins 2, 4, 6)	Signal Ground	Connect at least one corresponding signal ground (negative). All signal ground wires are common.	Connect at least one corresponding signal ground (negative). All signal ground wires are common.	

Maximum Input Voltage

Wire / Input	Constant Supply Wire (Red)	Ignition Input (Orange)	Work Input 1 (Blue)	Work Input 2 (Blue / Red)	Work Input 3 (Blue / Yellow)	Seat Input (Grey)	Seat Belt Input (Green / Red)
Absolute Maximum Voltage	60 Vdc	100 Vdc	33 Vdc	33 Vdc	60 Vdc	33 Vdc	33 Vdc

System Test

After successfully completing the hardware installation, you must power the system up for the first time. The system is pre-programmed, so no commissioning is required.

1. Connect the battery.
2. Turn the ignition on to wake the system from sleep.
3. Observe the LEDs on the controller. They should be flashing green whilst the ignition is on; blue when attempting to communicate with the server; white when connecting to the server and sending data; and red when the ignition is off and it has finished communicating.

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