INSTALLATION & CONNECTION

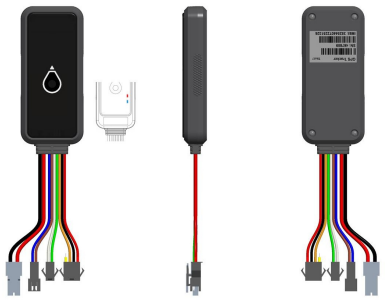
TK417 Wiring Guide

Power, ACC, relay and modular accessory integration for vehicle deployment projects.

This guide is designed as the installation-focused companion to the TK417 datasheet and user manual. It explains the standard 9-pin harness logic, option-dependent I/O assignment, and practical commissioning checks for field installation, OEM integration and channel deployment.

9-PIN HARNESS | 9–48 VDC | ACC INPUT | BUILT-IN RELAY | BLE / WI-FI / LBS | MODULAR ACCESSORIES

PRODUCT HARDWARE



NETWORK
Global 4G LTE Cat1

POSITIONING
GPS / BDS / GLONASS + Wi-Fi / LBS

MECHANICAL
97 × 40 × 15.5 mm · 55 g

BACKUP BATTERY
200 mAh disconnect support

What this guide covers

INSTALLER QUICK SCOPE

1. Standard harness mapping

Permanent power, ground and ACC sense connections for the baseline TK417 vehicle installation.

2. Relay control concept

How the built-in relay pair is used inside approved immobilization workflows and validation steps before handover.

3. Accessory option logic

How PIN 4–7 can be reassigned for serial / GPIO, SOS, external battery, iButton, BLE or temperature monitoring options.

4. Commissioning checklist

Bench test and in-vehicle checks for power-up, GNSS reporting, ACC transitions, relay response and option validation.

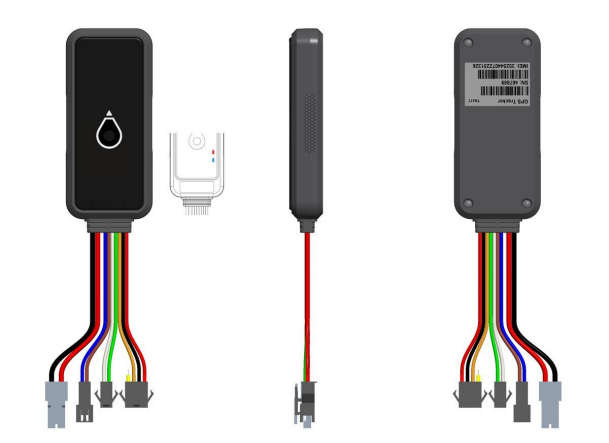
Typical deployment fit

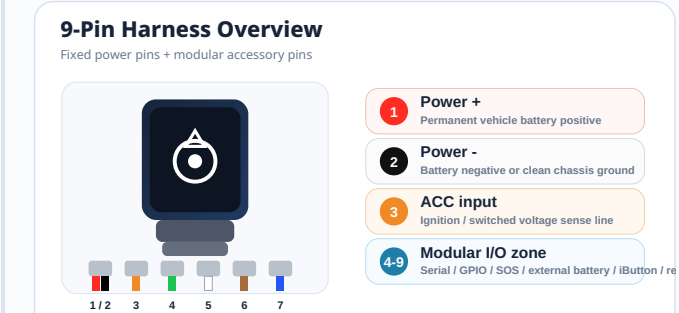
One wiring platform can support different commercial projects when the correct harness and option set are selected in advance.

Fleet Management | Rental Security | Cold Chain Monitoring | Driver ID | OEM / Integration | Telematics Projects

1. Standard Harness & Pin Assignment

INSTALLATION REFERENCE





Actual connector bundle appearance may vary slightly by harness set, market SKU and project BOM. Always verify ordered accessory configuration before installation.

PIN	WIRE COLOR	DEFAULT FUNCTION / INSTALLER NOTE
1	Red	Power +. Connect to permanent vehicle battery positive through suitable fuse protection.
2	Black	Power -. Connect to battery negative or a clean, stable chassis ground point.
3	Orange	ACC input. Connect to ignition / switched line so the platform can detect vehicle on/off state.
4	Green	Serial or GPIO, depending on ordered hardware configuration.
5	White	Serial or GPIO, depending on ordered hardware configuration.
6	Brown	SOS by default, or reassigned for external battery, GPIO or iButton according to option set.
7	Blue	SOS by default, or reassigned for external battery, GPIO or iButton according to option set.
8	Red	Relay lead. Used together with PIN 9 for remote cut-off / restore workflow.
9	Black	Relay lead. Pair with PIN 8; confirm vehicle-side cut-off design before final installation.

Important: PIN 4–7 are the modular zone. In official TK417 accessory mapping, SOS, external battery, iButton, BLE / Beacon and temperature probe options can reuse these pins, so the physical harness must match the function set enabled for the project.

Fixed pins

PIN 1 / 2 / 3 are the baseline power and ACC connections used in virtually every standard vehicle installation.

Flexible interface pins

PIN 4 / 5 are used as serial or GPIO depending on the configured hardware option and system integration scope.

Accessory pins

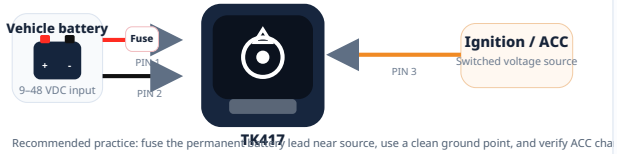
PIN 6 / 7 are SOS by default, but can also be repurposed for external battery, iButton or other option-specific integrations.

2. Common Wiring Schemes

PRACTICAL INSTALLATION PATTERNS

Basic vehicle power wiring

Use permanent battery feed on PIN 1, ground on PIN 2 and ignition sense on PIN 3.



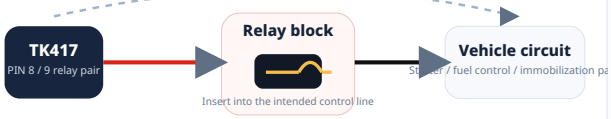
Recommended practice: fuse the permanent battery lead near source, use a clean ground point, and verify ACC cha

Use this as the baseline installation when deploying TK417 for tracking, ACC detection and routine platform reporting.

Relay cut-off integration

Remote cut-off / restore command

TK417 includes a built-in relay; the relay pair is used for approved immobilization workflows.



Recommended practice: apply the relay to the approved low-current immobilization design for the target vehicle an

The relay pair supports remote intervention scenarios. Use only the intended immobilization design for the vehicle class and local compliance requirement.

Accessory option mapping

PIN 4–7 are reused by different option sets, so harness BOM confirmation is essential before installation

Official accessory combinations include SOS, external battery, iButton, Bluetooth / Beacon and temperature or humidity probe options. Not every option is active at the same time, because several functions reuse PIN 4–7.

OPTION	PIN USE	INTEGRATION NOTE
SOS button	PIN 6 / 7	Default user-input option for emergency triggering or panic-button deployment.
External battery	PIN 6 / 7	Used when extended backup support is required beyond the built-in battery.
iButton	PIN 6 / 7	Driver identification / authorization option for fleet and rental control projects.
BLE / Beacon	Project-specific	Use when TK417 is configured as a BLE gateway or for Bluetooth-based extension logic.
Temp / RH probe	PIN 4 / 5 / 6 / 7	Official accessory note indicates this probe occupies four modular pins, so confirm the dedicated harness before production rollout.

3. Installation, Commissioning & Troubleshooting

DEPLOYMENT CHECKLIST

Pre-installation checklist

- Confirm the project BOM: standard harness only, or harness with SOS, external battery, iButton, BLE or temperature probe option.
- Verify the target vehicle voltage is within the supported 9–48 VDC input range and that a suitable fused permanent feed is available.
- Bench-check power-up, SIM / network registration, platform profile, APN settings and time-to-first-report before vehicle installation.
- Prepare the exact immobilization design in advance if remote relay control is part of the scope.

Vehicle installation checklist

- Connect PIN 1, PIN 2 and PIN 3 first, then validate live power and ACC changes on the platform.
- Route the harness away from sharp edges, high heat zones and moving mechanical components.
- Mount the tracker in a concealed and dry location while preserving workable RF conditions for GNSS / cellular operation.
- Only connect option accessories after the base tracker is online and reporting correctly.

Handover validation

- Confirm first fix / first report, live location updates and historical breadcrumb generation on the target platform.
- Cycle vehicle ignition and verify ACC status transitions, alert logic and reporting cadence changes as expected.
- Test relay response and restoration in a controlled environment before vehicle release.
- Validate each installed accessory option: SOS trigger, external battery reading, driver ID event or temperature / humidity data capture.

ISSUE	TYPICAL CHECK
No power-up	Recheck PIN 1 / 2 polarity, fuse, permanent battery feed and ground integrity.
No ACC events	Verify PIN 3 is connected to a genuine switched ignition source, not a constant feed.
Relay not behaving as expected	Confirm the vehicle-side immobilization design and ensure the installed harness matches the intended relay workflow.
Accessory not detected	Review whether the ordered option set uses PIN 4–7 differently from the standard harness assumption.
Weak tracking quality	Review installation location, shielding and local signal environment before changing reporting logic.

Document control note

This Wiring Guide is intended as a practical installation companion for TK417 technical resources. Because TK417 uses modular 9-pin I/O and option-dependent harness assignments, the final wiring for mass deployment should always be aligned with the exact hardware BOM, sales confirmation and project integration scope.

Related technical resources

RELEASE PACK STRUCTURE

Datasheet

Use for product positioning, commercial overview, dimensions, key specs and option summary.

Wiring Guide

Use for installer training, harness assignment, relay logic and accessory connection planning.

User Manual

Use for operating logic, platform functions, command behavior, firmware and maintenance reference.

Protocol / Integration

Use for server parsing, message integration, platform docking and OEM software implementation.