JR PROPO

TE SENSOR — Operation Manual
TELEMETRY SENSOR SERIES — DMSS / XBus / TE

TLS1-ISW
Kill Switch with Rotation Sensor

Thank you for purchasing this JR product.

To allow correct and safe use of this product, be certain to read this operation manual.

*This product is exclusively for use with products that incorporate the TL logo.

[About the TL Logo]
This logo is only included on products that support the JR Telemetry System. (bi-directional communications)

Features

- Ignition kill switch and regulator for gasoline (petrol) engines.
- The power supply can be turned on and off from the transmitter. So the ignition can be turned on prior to engine start, and turned off to stop the engine. Provides a stable power supply to your ignition unit.
- By using the fail safe, it is possible to automatically kill the engine if RF signal is lost for more than five seconds.
- This is a hybrid device, compatible with both XBus & PWM protocols.
- A 5mm LED can be installed in the fuselage, giving an ignition on or off indication. The pulse signal can be visibly checked referring to the LED on the unit.
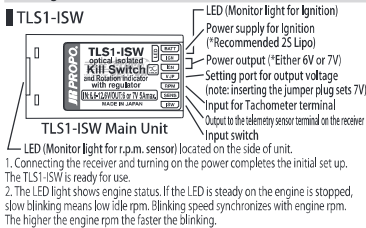
Product Contents
● TLS1-ISW /Sensor Main Unit ●LED unit for monitor ●LED holder
●Connecting cable x 3 ●Jumper plug
●Operation Manual (this document)

Specifications

Product Number:	TLS1-ISW
(Kill Swich)	
Input voltage:	DC6.6V-12.6V(LiPo 2S~3S)
Output voltage:	DC 6.0V or 7.0V
	※Voltage can be selected using a jumper plug.
	6V is selected without the jumper installed.
Current output:	4.0A (continous) /5.0A(maximam)
(Rotation Sensor)	
Detection System:	Motor pulse sensing system
Detection range:	500rpm-50,000rpm
Rated voltage:	4.8V
Operating Voltage:	4.0V - 8.5V
Weight:	12g
Size:	15X25X47mm

Configuration

■ TLS1-ISW

TLS1-ISW Main Unit

- LED (Monitor light for Ignition)
- Power supply for Ignition (*Recommended 2S Lipo)
- Power output (*Either 6V or 7V)
- Setting port for output voltage (note: inserting the jumper plug sets 7V)
- Input for Tachometer terminal
- Output to the telemetry sensor terminal on the receiver
- Input switch
- LED (Monitor light for r.p.m. sensor) located on the side of unit.

1. Connecting the receiver and turning on the power completes the initial set up. The TLS1-ISW is ready for use.
2. The LED light shows engine status. If the LED is steady on the engine is stopped, slow blinking means low idle rpm. Blinking speed synchronizes with engine rpm. The higher the engine rpm the faster the blinking.

For your safety, be sure to observe the following points

In order to protect against injury to users or third parties, or damage to property, please observe the following.

The information is divided and explained using the following symbols.

⚠	"Caution Items" are explained using this indication.
❗	"Obligatory Items" are explained using this indication.
🚫	"Prohibited Items" are explained using this indication.

⚠ If the product is used with a voltage other than the rated voltage, it will cause misdetection or damage to the systems.

⚠ Be sure to securely mount the sensor. The sensor may be damaged if it is free to move.

⚠ Be sure to securely fix the all harness. If the harness becomes tangled or cut, it may cause an accident.

⚠ Pay adequate attention to the remaining battery amount during flights. If the remaining battery amount becomes low, there may be cases where incorrect readings occur.

🚫 Do not disassemble or modify this product.

🚫 Do not get the product wet or damage may occur.

🚫 Do not use the product in environments where condensation occurs.

🚫 During storage, be sure to disconnect the battery from the connecting terminals.

❗ Do not use any component which has been damaged, included wires or connectors.

Operation of the Ignition Switch and Cautions

1. Be sure to bind the transmitter and receiver before use.
2. Refer to the figure on the right to connect the TLS1-ISW unit.
*For XBus connection with XBus compatible receivers: Connect the XBus port of the receiver and the ISW port of this product.
The default ID is "05". If necessary, use the XBus setup function of the transmitter to change the ID.
*For operation using non-XBus compatible receivers (PWM): Connect the receiver port to control the ignition switch to the ISW port of this product.
*Be sure not to power the ignition and receiver using the same battery as RF noise may occur.

3. The TLS1-ISW offers two types of operation.
Select which operation is to be applied according to the following and set up the transmitter.
3-1: Single flip mode
The power supply of the ignition unit can be turned on and off by using the switch.
Setup method: Select a toggle switch and a channel for turning on and off the kill switch. Set the channel's travel adjust to 0% and +100%.
Confirm that the LED for monitoring is switched between being on and off using the switch.
*To turn the ignition unit on, you must turn the switch off and then on after the power supply is activated.
*To exchange the directions for ON and OFF of the switch, reverse the channel to change the values to "-100, 0".
3-2: Double action mode
To turn the ignition switch off, you must toggle the switch twice. This is a safety feature, to avoid stopping the engine unintentionally. Flipping the switch once will not stop the engine.
Setup method: The setup is done using the same method as single flip mode. Confirm that the LED for monitoring is switched between being on and off using the switch.
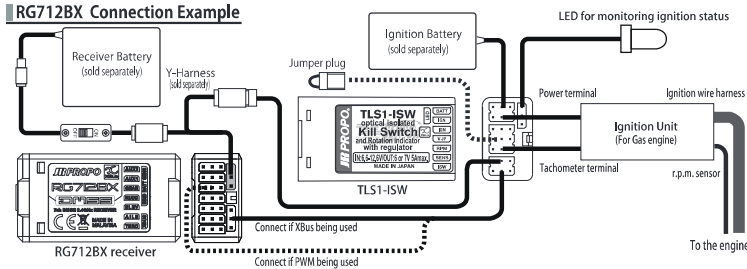
Installation Method

1. Refer to the following figure to connect the devices. Use the holder to locate the LED in a location where the LED is visible from outside the model.
   → Be certain to securely fix the devices to prevent accidental dislocation due to vibration.
   The LED for monitoring lights only when the power supply for both the ignition unit and the receiver are connected.
2. The jumper plug for changing the power supply voltage for the ignition unit is normally not used. Insert the plug when you want to set the voltage to 7V.
   → For operation at 7V, the battery voltage for the ignition unit should not be less than 7.4V.
3. When using a tachometer, connect the tachometer terminal to "RPM". You must also connect "SENS" to the port for telemetry.
   → When connecting two or more sensors, use either a Y Harness or an adaptor for a telemetry sensors for the connection. Be sure not to make a connection directly with a pickup sensor of the engine.
4. If using other XBus products (for example, the JR AXIS gyro), use a Y Harness, etc. to split the XBus signal from the receiver and connect the TLS1-ISW unit in this manner (not via the AXIS).

▌RG712BX Connection Example

Expanding the Fail Safe Function

DMSS transmitters and receivers offer a fail safe function. When the signal is lost for 0.5 sec, the device enters fail safe state. If this product is connected, the engine will be stopped as outlined below.

You can configure this product to cut the engine when a signal has not been received for a predefined time (3 to 5 sec) after entering fail safe.

Setup method

Set the number of seconds for waiting before cutting the engine by changing the setting value for fail safe.

1. Change the switch's travel adjust as below.

	travel adjust	(F.S. POS)
Waiting time: 3 sec	+120%	(≈+205)
4 sec	+130%	(≈+222)
5 sec	+140%	(≈+240)

Operate the switch and confirm that the value is correctly set.

2. Set up the fail safe function.
Enter the fail safe screen on your transmitter and memorize the required switch value as above.

3. Return the value of the travel adjust to the original setting.

4. Turn off the transmitter and confirm that the fail safe function works and cuts the engine after the set time passes.

Using a Tachometer

If your ignition unit has a compatible rpm output, this can be connected to the 'rpm IN' terminal.

DMSS transmitter support

Be sure your transmitter supports the use of this sensor. Please refer to the below list:

Supported transmitters (using latest firmware as of January 2015)

XG6	◎	Supported
XG7	◎	Supported
XG8	◎	Supported
XG11	◎	Supported
11Xzero	○	Requires a system version update (The TG2.4XP module is necessary)
XG14/14E	◎	Supported
28X	◎	Supported

If the version is earlier than the version described above, you must carry out a version update.
Download the appropriate Zip file from the URL given below.
Please carry out the update following the manual included in the Zip file.

■ For further questions or enquiries please contact your local dealer or JR distributor in your country.

http://www.jrpropo.com