XTRA.SENSOR

User Manual

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Safety

All De Haardt's products are designed as supplement to make karting safer, but cannot replace safe track procedures. If equipment fails, the normal operating procedure must still be adequate to safely operate the track.
This document has been written with great care. However, the manufacturer cannot be held responsible, either for any errors occurring in this publication or for their consequences.

Table of Contents

Getting started

This manual provides one with all the information needed to install and use the Xtra.Sensor.

The Xtra.Sensor is a product that can be used for loop detection. Depending on the Xtra.Beacon configuration, several functions can be performed such as controlling go-kart speed and lap-timing. The Xtra.Sensor is powered through the Xtra.Transponder and therefore no batteries are required. The Xtra.Sensor is a supportive product that could result in less dangerous situations on the track. The Xtra.Sensor is designed as supplement to make karting safer but cannot replace safe track procedures.

1.1 What is in the box

Before proceeding, make sure the box contains the following items:

1. **Xtra.Sensor**

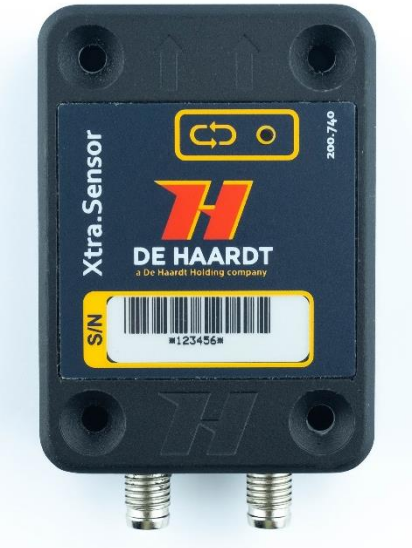

Figure 1 - Xtra.Sensor

2. **De Haardt network cable(optional)**

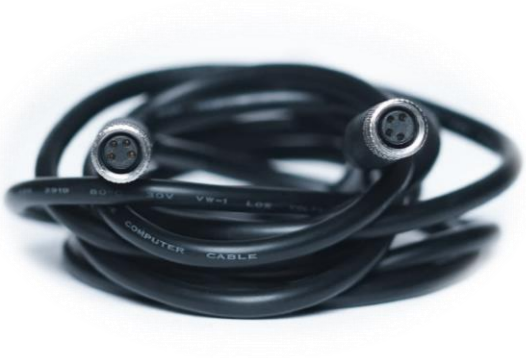

Figure 2 – De Haardt network cable

1.2 Mounting

Each go-kart requires its own Xtra.Sensor. It is essential that the Xtra.Sensor is installed according to the descriptions below, otherwise performance problems or even damage can be expected.
The most important rules of installation are:

- The maximum distance between the loop antenna and the housing of the Xtra.Sensor is 20 cm.
- For best performance the Xtra.Sensor must be mounted flat on the go-karts plastic floor plate in line with the driving direction (printed arrow points to the driving direction). Metal floor plates may reduce performance.
- For the best performance keep the Xtra.Sensor as far away as possible from tubes, iron or other electric conducting materials as well as the go-karts high current conducting cables.

The Xtra.Sensor can be fixated using 4 plastic screws or cable tie.

1.3 Connecting

This chapter describes how to connect the Xtra.Sensor. The Xtra.Sensor must be connected to a Xtra.Transponder through a network port. The Xtra.Sensor has two identical network ports. This makes it possible to chain multiple De Haardt products into the De Haardt network. The network ports are normally protected with a rubber cap. This rubber cap has to be removed before the network cable can be attached. Connect one side of the network cable to the network port of the Xtra.Transponder followed by connecting the other side of the network cable to any network port of the Xtra.Sensor.

It is recommended to install the Xtra.Sensor on a single go-kart first and verify correct operation before installing it on other go-karts.

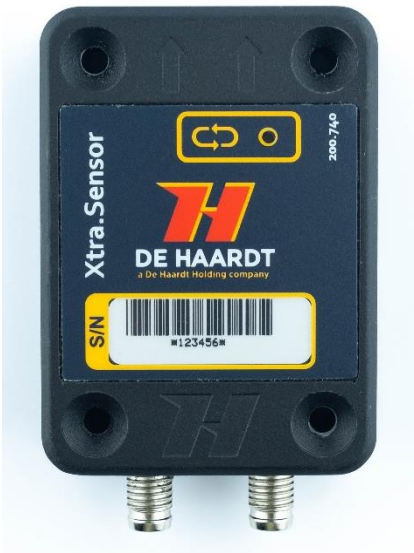

Figure 3 - Xtra.Sensor

Check the polarization before fitting the connector!

Keep unplugged connectors (both sockets and plugs) completely dry and clean. Never expose them to water, fuel, oil, chemicals or any kind of dirt!

Make 100% sure that vibration CANNOT loosen the network connection as this can cause several problems like bad functioning of the system, corrosion of the network plug and socket, etc..

The Xtra.Sensor is compatible with all De Haardt transponders.

2 Technical specifications

This chapter describes the technical specifications of the Xtra.Sensor.

2.1 Specification overview

Description	Min	Typical	Max	Unit
Operational temperature	-10		55	°C
Operation voltage	3		24	V
Input current*	4	5	25	mA
Radio Range safety band**		20		cm
Radio frequency 1		125		kHz
IP code	IP65			

*Ambient temperature 20°C.

** The environment is of great influence on the achieved range.

2.2 Water and dust resistance

The Xtra.Sensor is rated as an IP65 device.

De Haardt cannot be held responsible for water damage when:

- An network cable other than the one supplied is used.

3 Support

For support, one can contact the support department of De Haardt by email: support@de-haardt.com