

# XTRA.IO EXTENDER

The Xtra.IO Extender is an addition to the De Haardt Xtra.Safety system. It is mounted on the vehicle as an extender for all Xtra.Safety Transponder types. The Xtra.IO Extender will add multiple programmable and remote controllable inputs and outputs to the Xtra.Safety system. You or your track software supplier can implement unlimited and unique functions to your track and karts. Even autonomous programmable functions without external software are possible.

**CPU:**

State of the Art ARM processor  
Easy firmware upgrade

**Xtra Communication:**

Pass-Through De Haardt Network

**Custom functions:**

BASIC interpreter

**Inputs:**

4 Digital inputs  
1 Analog input  
1 Digital counter input

**Outputs:**

4 Digital outputs  
1 Relay output for galvanic isolated contact switching

**Serial Communication:**

Bi-directional TTL serial communication interface

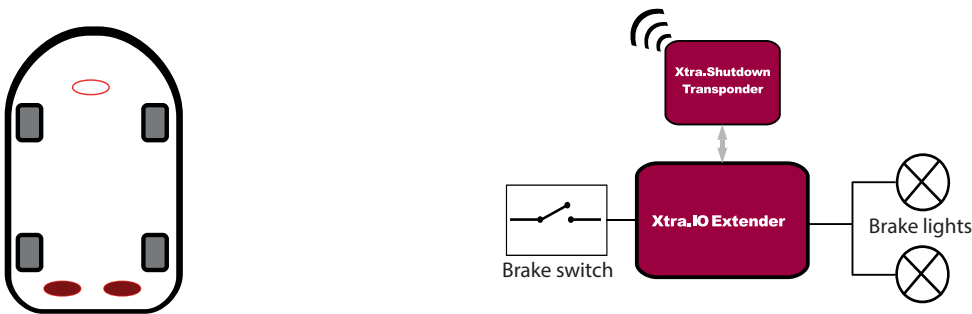
**Mounting:**

Mounting / Tie wrap holes



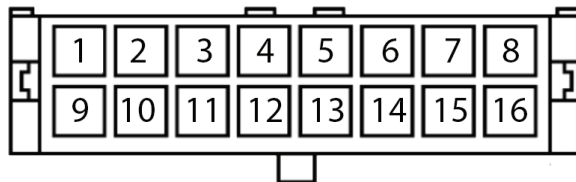
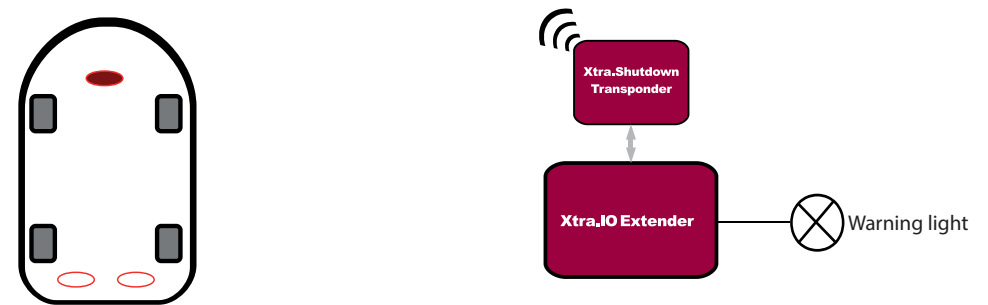
## Brake Light Example

The Xtra.IO Extender can be setup to function as a special function brake light. Like a normal brake light they will light up when the brake paddle is pressed. When a driver gets a penalty or e.g. when the heat time is over the brake light could blink as warning lights.



## Emergency Light Example

When there's an accident on the track a light on the kart's steering wheel could light up to inform the driver.



- |                                  |                           |
|----------------------------------|---------------------------|
| 1. Not connected                 | 9. Ground                 |
| 2. Serial communication transmit | 10. Relay common          |
| 3. Serial communication receive  | 11. Relay normally-open   |
| 4. Analog input                  | 12. Digital counter input |
| 5. Digital output 3              | 13. Digital output 4      |
| 6. Digital output 1              | 14. Digital output 2      |
| 7. Digital input 3               | 15. Digital input 4       |
| 8. Digital input 1               | 16. Digital input 2       |

## Specifications of the Xtra.IO Extender

COMMUNICATION:	Serial TTL level at 9600 baud
POWER:	Powered through Xtra.Transponder
ANALOG INPUT:	0 – 25.5 volt
DIGITAL INPUT:	detects short to ground (max. 100 volt)
DIGITAL COUNTER:	2 – 5 volt
DIGITAL OUTPUT:	Open collector output (to ground), max. 1A, 30V DC*
RELAY OUT:	Galvanic isolated contacts (NO), max. 120mA, 400V DC

\* Use suppresor diode on inductive load