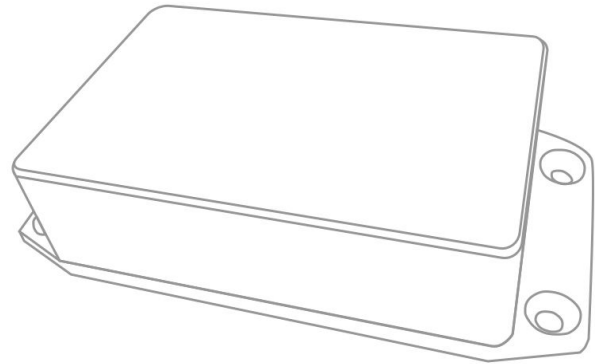


# Input / Output Expander Datasheet

Spring, 2017

## Overview

This external accessory provides the SYRUS GPS tracking device with extra inputs and outputs that can be used in the same way the built-in Input / Outputs are used. This accessory gives the Syrus a total of 7 ground-activated inputs, and 6 open drain outputs. The IO Expander is fully integrated with the Pegasus Gateway and its APIs.

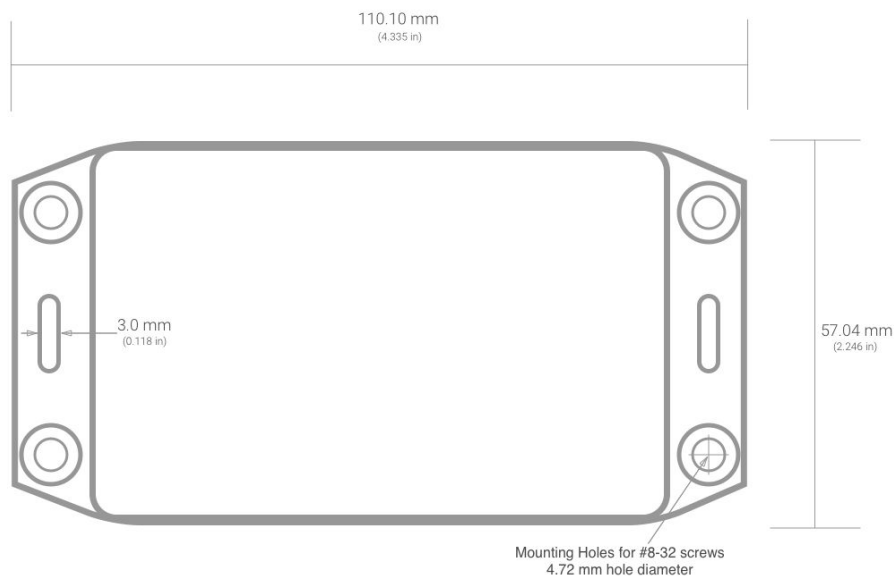


## Features

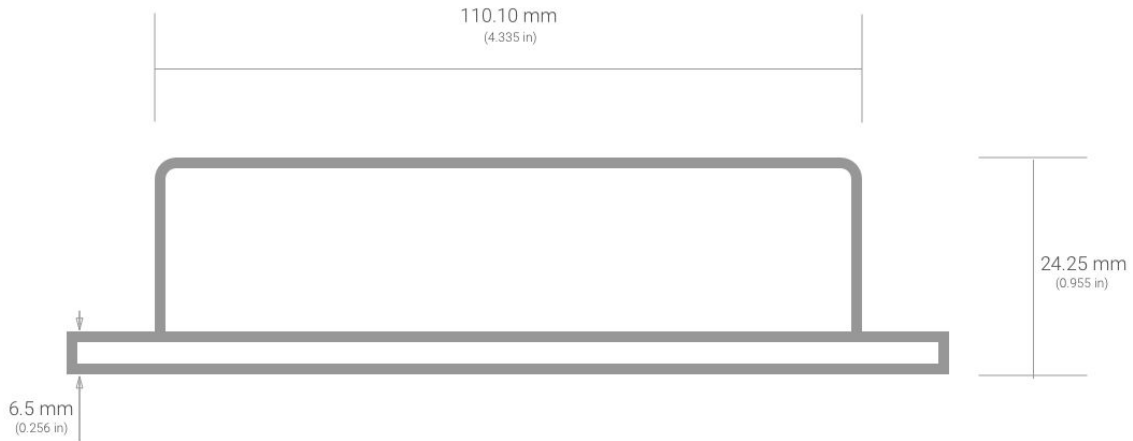
- Four (4) ground-activated inputs
- Four (4) open drain outputs
- ESD (Electrostatic Surge Discharge) protection which supports up to 30V
- Smart protection against short circuits or currents above 1.8A
- Over temperature protection of 165C

## Dimensions

### Top-down View



## Side View



## Safety Precautions

The input/Output Expander accessory has protection against transient voltage spikes and reverse polarity, but a professional installation from a trusted technician is required when working with wiring inside vehicles.

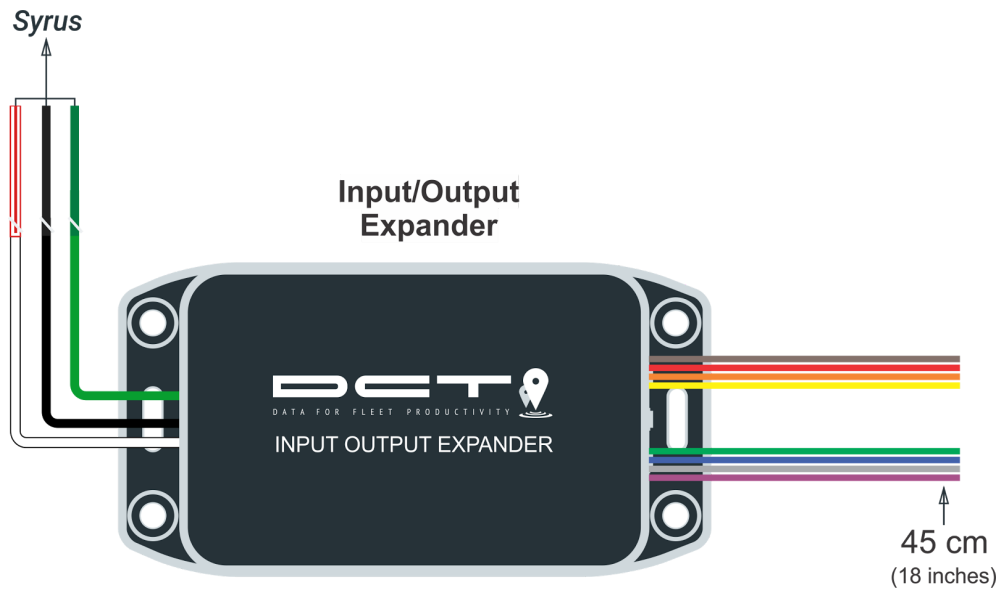
## Installation

Follow the pinout guide below and connect all cables of the temperature sensor as follow

Accessory Pinout					
PIN		Color	Name	I/O	Description
1		Green	VIN	IN	Main Power: 12 Volts - 32 Volts. Connect directly to Syrus green cable
2		Black	GND	GND	Connect directly to Syrus ground cable from harness (Brown cable on Syrus 3, and black cable on Syrus 2)
3		White	1-wire	IN/OUT	1-wire communication cable with Syrus. Connect directly to Syrus 1-wire cable (red/white color)

Extended Inputs		
	Color	Name
	Brown	Input 1 [Active: 0V to 2V, Inactive: 2.5V to 30V or Open]
	Red	Input 2 [Active: 0V to 2V, Inactive: 2.5V to 30V or Open]
	Orange	Input 3 [Active: 0V to 2V, Inactive: 2.5V to 30V or Open]
	Yellow	Input 4 [Active: 0V to 2V, Inactive: 2.5V to 30V or Open]

Extended Outputs		
	Color	Name
	Green	Output 1 [Active: 0V, Inactive: Open or pull-up voltage - Max: 30V]
	Blue	Output 2 [Active: 0V, Inactive: Open or pull-up voltage - Max: 30V]
	Gray	Output 3 [Active: 0V, Inactive: Open or pull-up voltage - Max: 30V]
	Violet	Output 4 [Active: 0V, Inactive: Open or pull-up voltage - Max: 30V]



## FAQ

*How long can I extend the 1-wire cable to install inside a cabin?*

The 1-wire cable from the Syrus to the input/output expander can be extended up to **20 meters**. Make sure you use the same cable gauge or a thicker gauge when extending this cable. Consider using a twisted cable like UTP CAT5e.