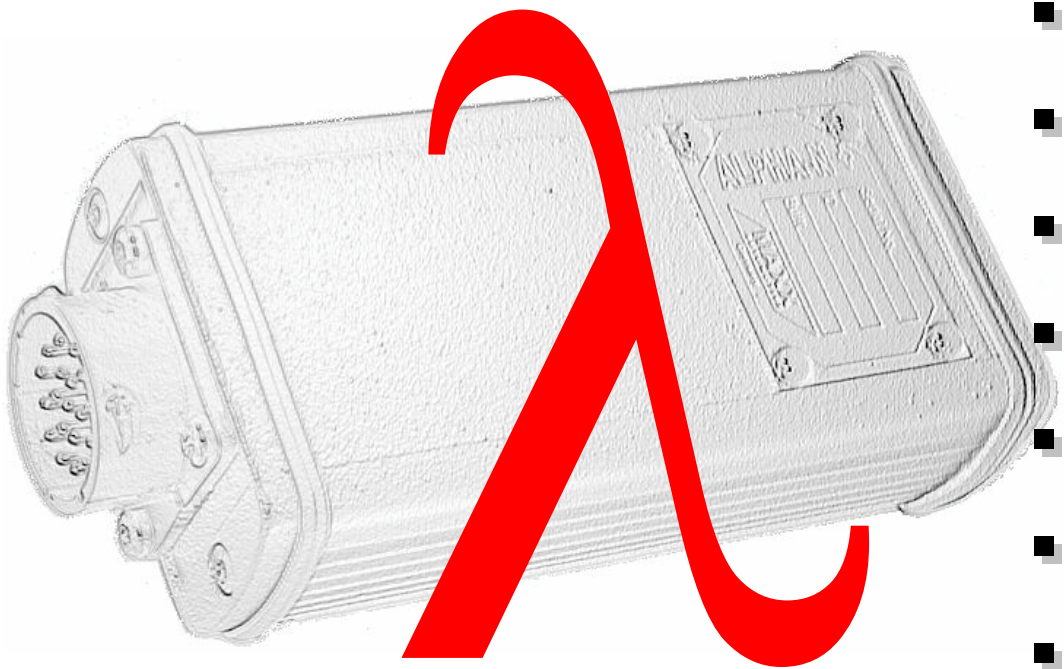


Alpha-N plus



Application Note AN-WB02-AN-000-0-070900E
Interfacing of WBO2 kits

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1 Introduction

NOTE: This document refers to the harness versions:

- **Variant2_103**
- **Variant2_104**
- **Variant2_105**

The Alpha-N plus in standard configuration provides an extra analog input (pin F) which is not used in most applications. Pin F can be found on the AN modules circular interface. Each pin has a small character marking next to it identifying the respective pin.

The standard wiring harness makes pin F externally accessible on pin 3 of the harness connector labeled as X3. Any voltage signal in the range 0-5V (or ratiometric: 0..reference voltage at pin S) may be connected.

This application note describes the connection of the Techedge wideband lambda kits

- **WBO2-2A0**
- **WBO2-2B0**
- **WBO2-2C0**

These devices provide among other signals, a linear wideband lambda signal named WBlin and a simulated narrowband lambda signal named NBsim.

1.1 Narrow-band-signal NBsim

The signal NBsim may be connected to the X3 connector at pin 6 (→ AN input E).

The harness connects this signal via the X3 connector to the Alpha N plus and also to the associated motronic side narrowband lambda input.

In this case it is important to remember that the stock narrowband connector on the engine harness (normally connected to your stock lambda sensor) remains disconnected!

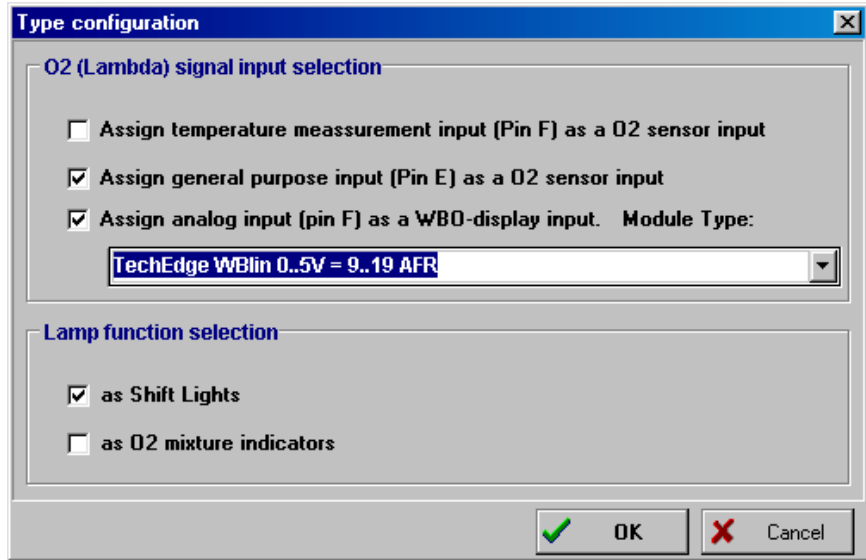
In this way, it is possible to retain the stock lambda (0..1V) control without having to use an additional narrowband sensor. If the stock lambda sensor is to be used, then pin 6 of the X3 connector should not be connected.

1.2 Wide-band-signal WBlin

The WBlin signal is fed to pin 3 of the X3 connector (→ AN input F).

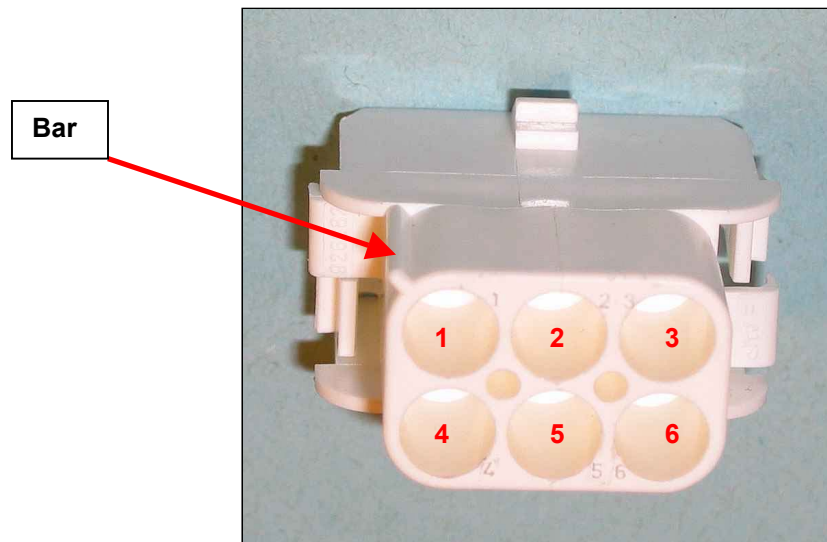
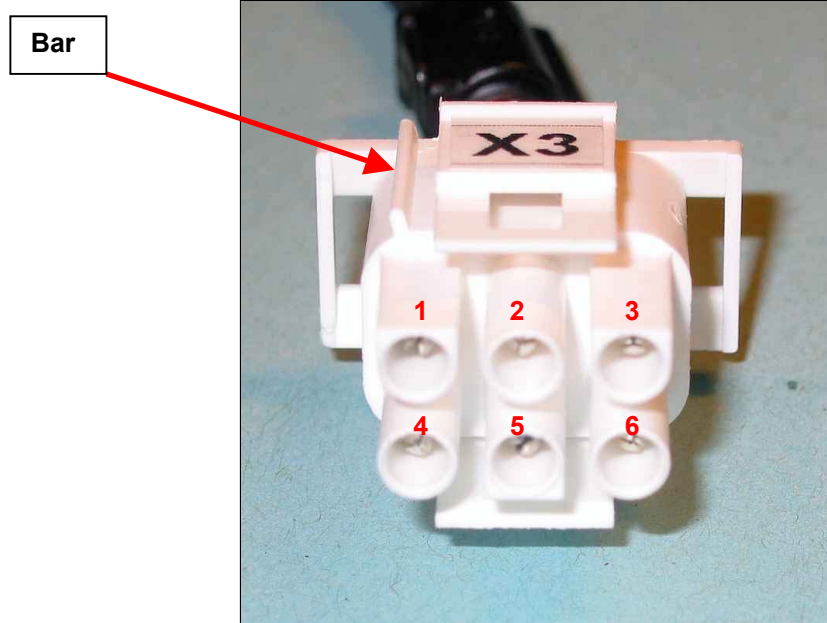
The WBlin signal does not influence the fueling in any way. It is connected to the Alpha N plus as a means to display and log AFR (Air Fuel Ratio) or lambda on a laptop.

To view lambda or AFR, select „Settings“ -> „Type configuration“ -> click „Assign analog input (pin F) as a WBO-display input.



1.3 The Alpha-N connector X3

The bar at the AMP-connector shows pin 1:

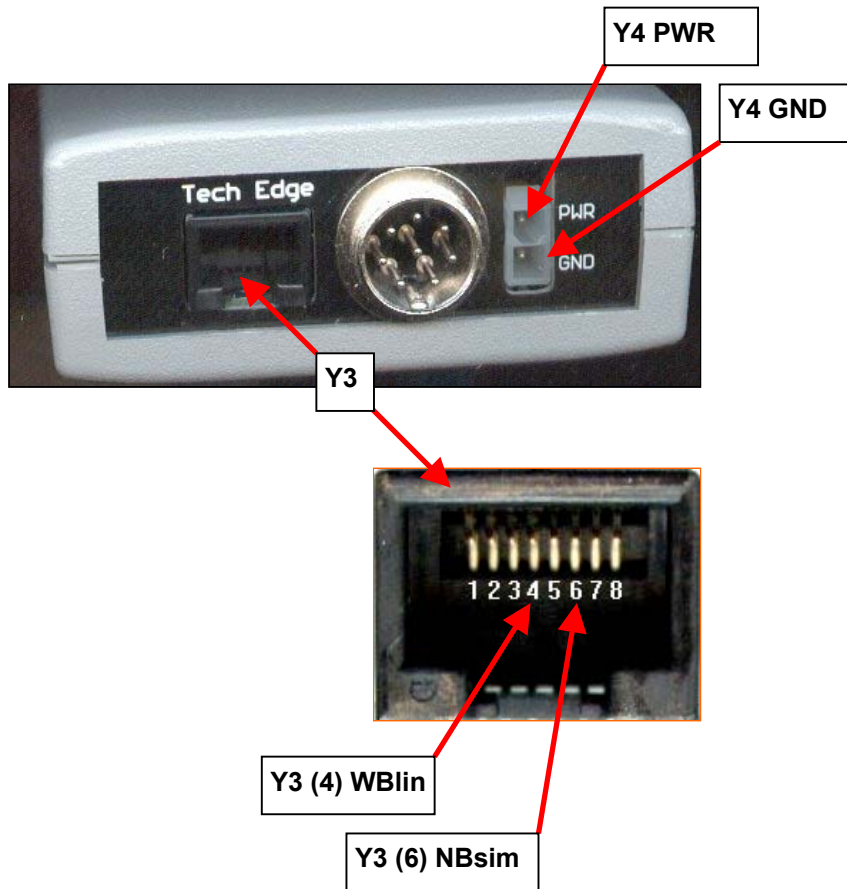


2 Wiring of the TechEdge

2.1 WBO2-2A0

2.1.1 Table

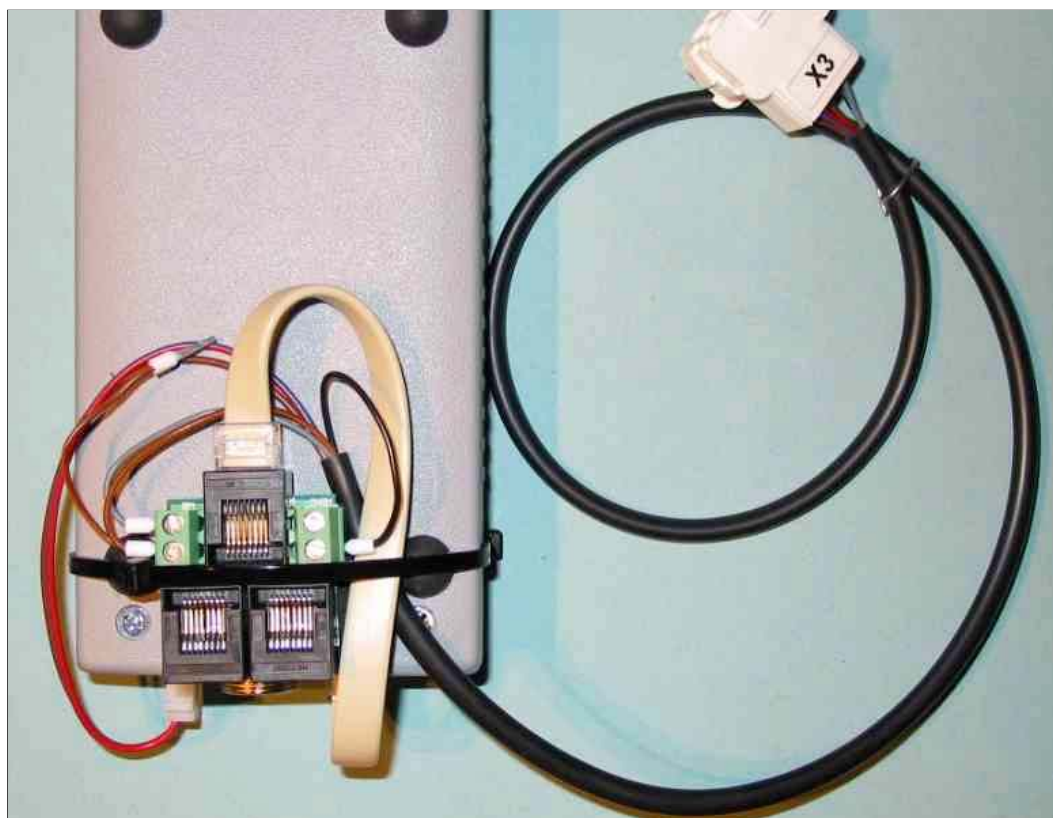
Alpha-N connector	Pin	Description	TechEdge connector	Pin
X3	1	Supply (power) +	Y4	PWR
X3	2			
X3	3	WBlin	Y3	4
X3	4	Supply (power) Gnd	Y4	GND
X3	5			
X3	6	NBsim	Y3	6



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Alpha-N plus

2.1.2 Usage with the adapter cable

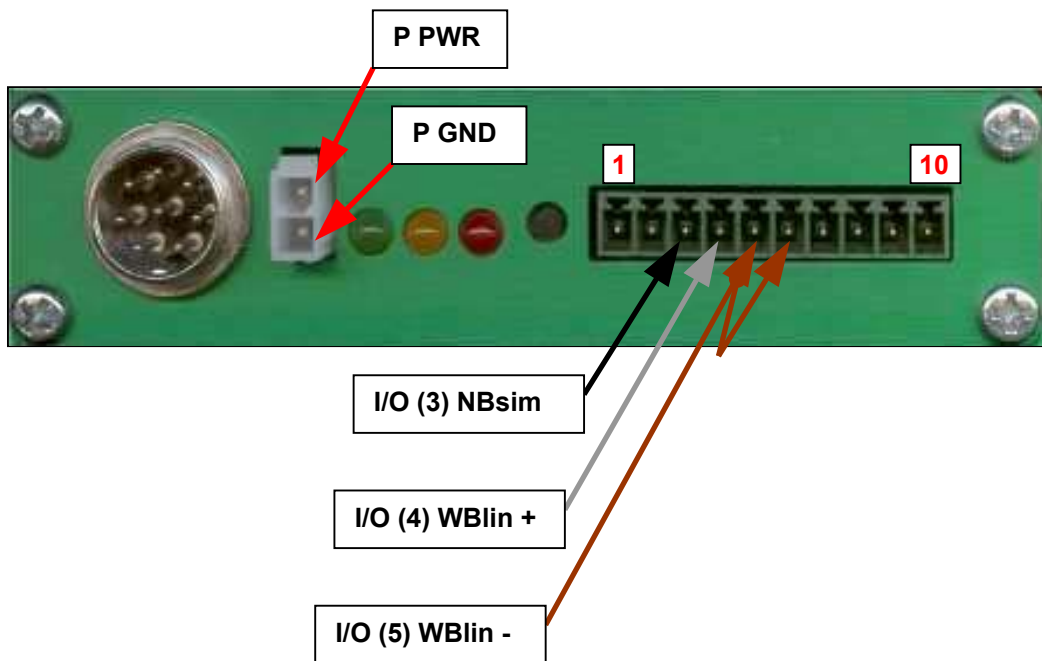


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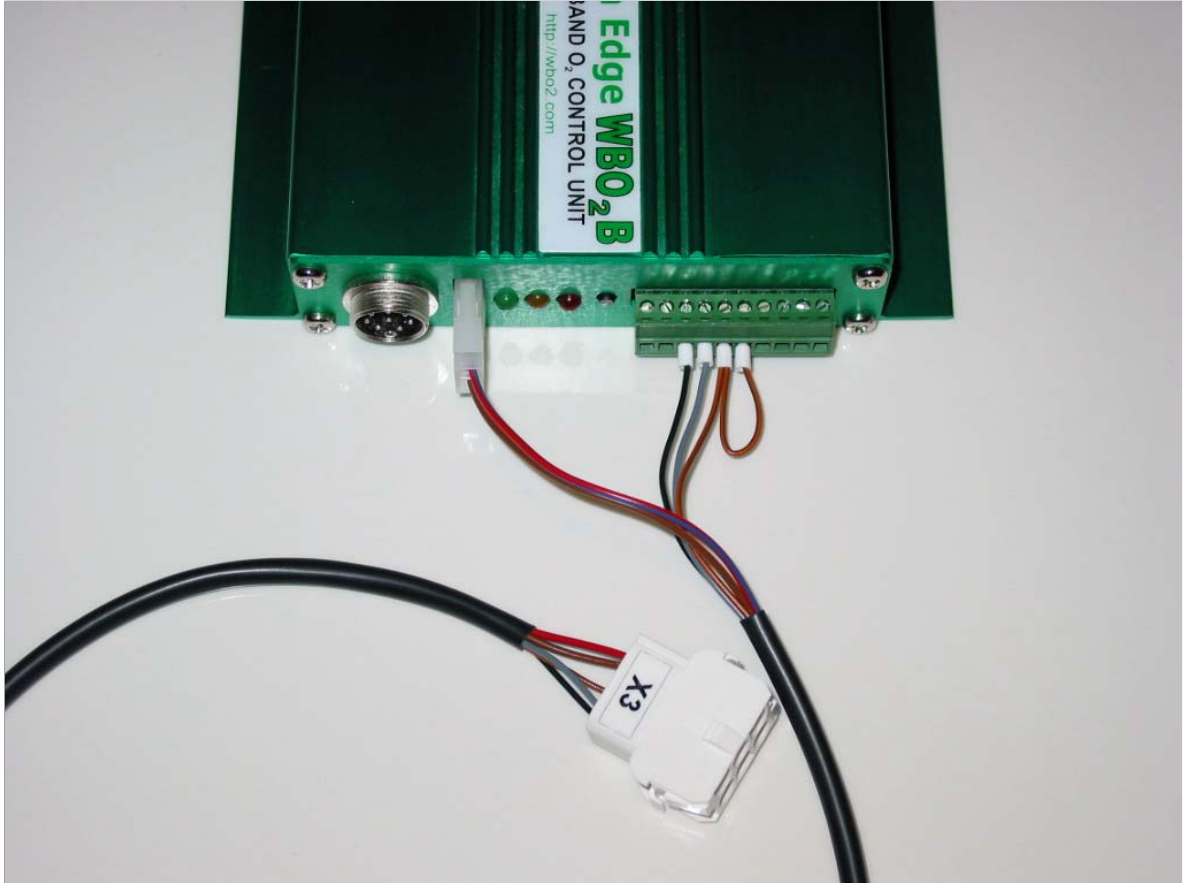
2.2 WBO2-2B0

2.2.1 Table

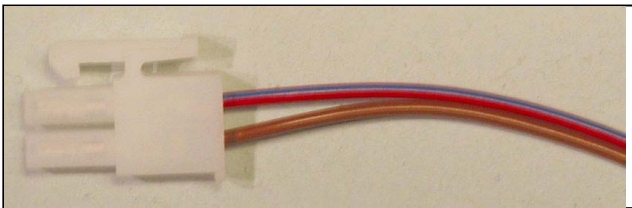
Alpha-N		Description	TechEdge	
connector	pin		connector	pin
X3	1	Supply (power) +	P	PWR
X3	2			
X3	3	WBlin +	I/O	4
X3	4	Supply (power) Gnd	P	GND
X3	5	WBlin - / GND	I/O	5 / 6
X3	6	NBsim	I/O	3



2.2.2 Usage with the adapter cable



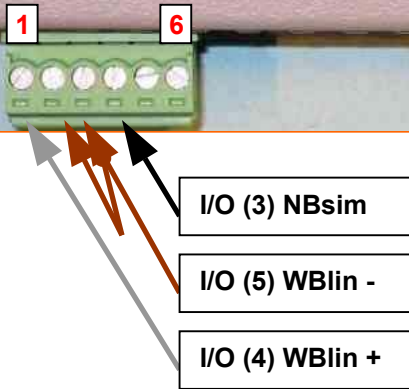
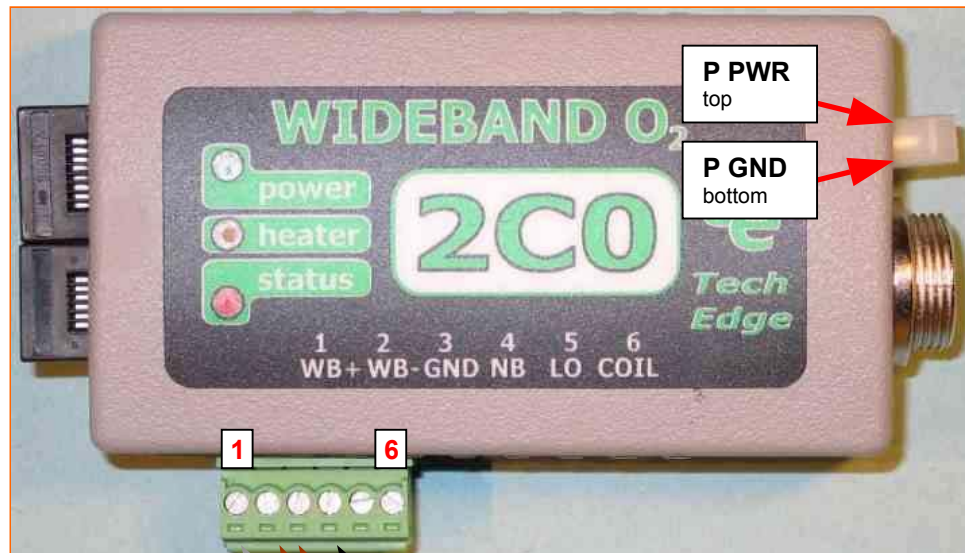
PWR connector



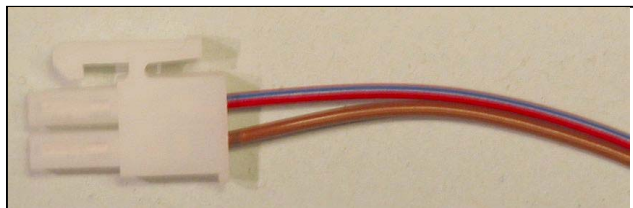
2.3 WBO2-2C0

2.3.1 Table

Alpha-N		Description	TechEdge	
connector	pin		connector	pin
X3	1	Supply (power) +	P	PWR
X3	2			
X3	3	WBlin +	I/O	1
X3	4	Supply (power) Gnd	P	GND
X3	5	WBlin - / GND	I/O	2 / 3
X3	6	NBsim	I/O	4

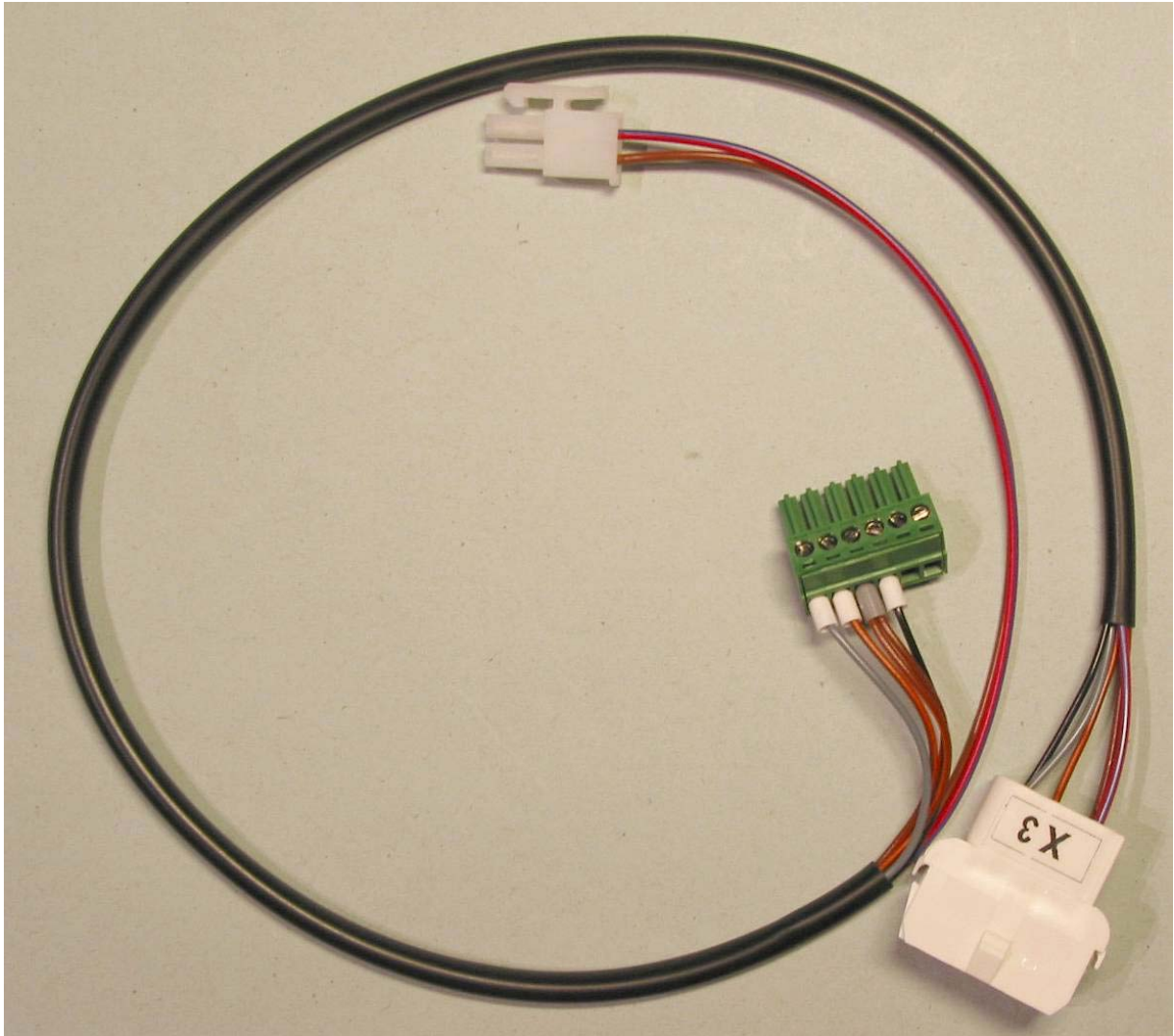


PWR connector



2.4 Adapter cables

The WBO2 adapter cables are NOT part of an Alpha-N kit and must be purchased separately.



This picture shows the adapter harness for a TE-2C0 kit.
For other TE kits harnesses are similar.

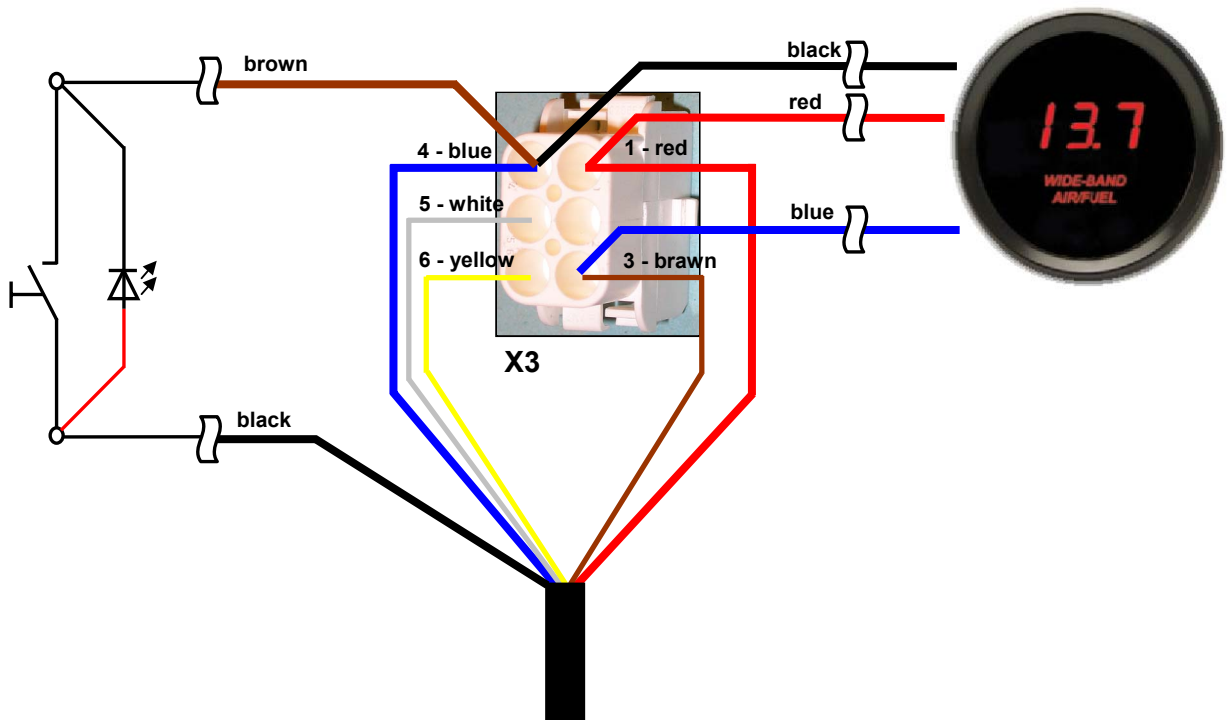
3 Wiring of the Innovate

3.1 LC-1

3.1.1 Pin Table

Alpha-N		Description	TechEdge	
connector	Pin		Wire colour	function
X3	1	Supply (power) +	red	12V
X3	2			
X3	3	WBlin	brown	Analog out 2
X3	4	Supply (power) Gnd	blue	GND heater
X3	5		white	GND electronics
X3	6	NBsim	yellow	Analog out 1

3.1.2 Connection of the DB gauge



4 Notes

Alpha-N plus Application Note AN-WB02-AN-000-0-070900E

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