



AiM Sports Channels Setup Guide

PREPARED FOR THE SPEC E46 COMMUNITY BY;
JAMES CLAY, PETER KRAUSE, JAMES COLBORN

GUIDE TO SETTING UP AIM CHANNELS ON YOUR SPEC E46

This guide consolidates all conversations and, with the help of experts in the field, the following has been tested by Peter Krause. It's important to note that this isn't an exhaustive list of inputs (channels) but the ones felt to be most important to the majority of Spec E46 drivers.

INPUT CHANNEL TABLE

Input (Channel)	AiM Solo	AiM Solo DL	AiM MXL2 MXG
GPS Speed	✓	✓	✓
GPS Longitudinal G Force	✓ (GPS calculated)	✓ (GPS calculated + accelerometer)	✓ (GPS calculated + accelerometer)
GPS Latitudinal G Force	✓ (GPS calculated)	✓ (GPS calculated + accelerometer)	✓ (GPS calculated + accelerometer)
RPM	✗	✓	✓
Throttle Position	✗	✓	✓
Steering Position	✗	✓	✓
Coolant Temperature	✗	✓	✓
Oil Temperature	✗	✓	✓
Oil Pressure	✗	✗	✓
Fuel Pressure	✗	✗	✓
Fuel Level <small>Adaptor needed if stock cluster not in place¹</small>	✗	✓	✓
All Four Wheel Speeds	✗	✓	✓
Brake Switch	✗	✓	✓
Brake Pressure	✗	✗	✓
Optional Additional Sensors	✗	✗	✓
Connection to SmartyCam HD	✗	✓	✓

NOTE: Additional sensor and module options for MXL2|MXG include, fuel pressure, Lambda (A|F ratio) module, linear suspension sensors, brake and tire temperature sensors. CANBUS will also provide additional data such as check engine or ABS usage indicator signals.

INPUT SOURCE CONFIGURATION GUIDE

Color Code	Description	Comments Setup
	Built In Unit	Turn the unit on and these channels will be logged
	CAN Connection to Vehicle	Data provided by SE46 ECU (setup instruction below)
	Separate AiM Sensor Required	Separate sensor needed to log this data channel
	Plug & Play	Connect to Solo DL/MXL2/MXG for power and data

¹ <http://store.bimmerworld.com/fuel-level-sender-adaptor-p1689.aspx>

CANBUS CONNECTION INSTRUCTIONS FOR SPEC E46

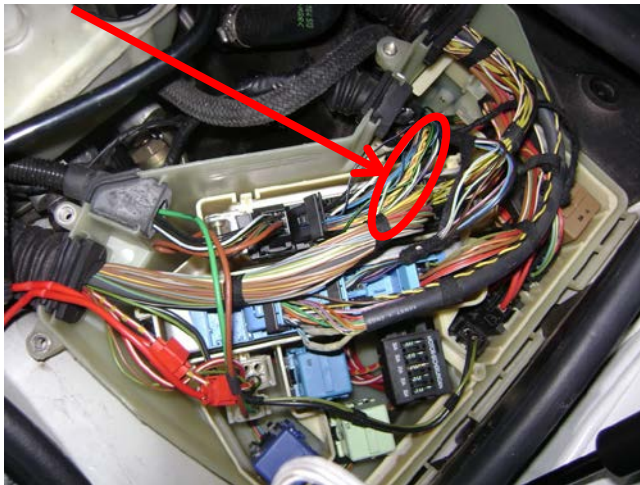
The best guide is AiM Sportline's factory guide under the protocol (set of instructions sent to the logger) "BMW_Mini" at the following webpage;

http://www.aim-sportline.com/download/ecu/stock/bmw/4_BMW_OBDII-ISO9141-2+BMWMINI_101_eng.pdf

It is IMPORTANT TO NOTE that NO OBD-II plug-in information is available. You MUST connect to CAN.

There are two places to connect the AiM Solo DL, MXL2 or MXG harness to the car's twisted pair of CAN wires that run between the ECU (under the fuse box) cover to the instrument cluster.

The first is at the ECU. The yellow/red (CAN+) and yellow/brown (CAN-) are shown in the harness here:



It is VERY important not to CUT the wires of the twisted pair, and only unwind them enough to strip back the insulation enough to wrap the AiM Sportline CAN wire around the bare wire. Soldering with rosin core solder or using proper crimp terminal splices are the only correct way to do this.

See Figure 3 below. (Porsche CAN illustrated, not the same color codes)

The second option for picking up the yellow/red, yellow/brown twisted pair is under the dash, above the dead pedal in Figure 2 here (photo courtesy Ryan Flaherty and Autosport Labs)



Fig 2

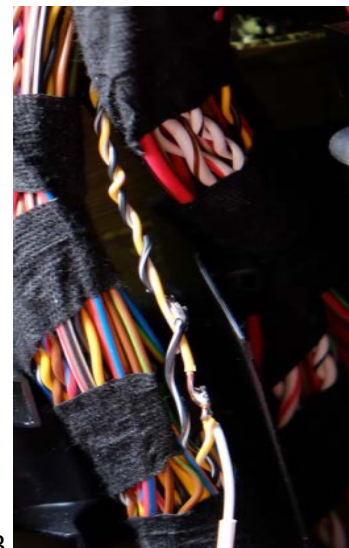


Fig 3

ABOUT THE CONTRIBUTORS

James Clay, BimmerWorld

<http://www.bimmerworld.com> | (540) 674-3991 | info@bimmerworld.com

James Clay is the President and Founder of BimmerWorld, a premier North American BMW performance facility. BimmerWorld Racing drives development and keeps our company on the cutting edge of BMW performance, which we make available for customers from street to professional race teams through the most knowledgeable staff in the market.

Clay and BimmerWorld are at the forefront of the developing Spec E46 class and have been involved since the beginning building the very first car. BimmerWorld is an official AiM Sports dealer and offer a wide range of AiM systems and accessories for your Spec E46 build.

Peter Krause, Krause & Associates LLC

<http://www.peterkrause.net> | (919) 740-1871 | peter@peterkrause.net

Krause & Associates LLC, with offices in Durham, North Carolina and on the campus of Virginia International Raceway, focuses on supplying, using and leveraging the latest GPS-based data and video logging equipment for objective high performance and racing driver analysis. An authorized value added dealer for MoTeC, AiM Sports, Video VBOX, Race-Keeper and Traqmate, Peter Krause has accumulated over thirty years of professional instruction and coaching experience. With the miniaturization, ease of use and economy of the latest technological offerings, Krause & Associates sole business is working with drivers and educating amateur and entry-level professional drivers in their practical use in order to go faster, safer, right now!

James Colborn

<http://www.jamescolborn.com> | colbornjames@hotmail.com

James Colborn is a club racer in the Spec E46 series. James has driven a variety of cars and spent the last five years competing in the PRO3 Championship in the Pacific Northwest. James is also a proud (extended) member of the BimmerWorld Racing Team and has competed in both professional and club racing with the highly successful BMW team. James has partnered with AiM Sports for the past couple of years to increase the awareness of data acquisition and has a passion for using data to help racers find improvements in their driving.