



AiM User Guide

Kit for EVO4, Solo and SoloDL on BMW S1000RR

Release 1.06





1

Models and years

This user guide explains how to install AiM Solo and SoloDL on BMW S1000RR and how to connect EVO4 and SoloDL to the Engine Control Unit (ECU) of the bike. Supported models and years are:

- BMW S1000RR 2009-2014
- BMW S1000RR 2015
- BMW S1000RR HP4 from 2013

Warning: for these models/years AiM recommends not to remove the stock dash. Doing so will disable some of the bike functions or safety controls. AiM Tech srl will not be held responsible for any consequences that may result from the replacement of the original instrumentation cluster.

2

Kit content and part number

An installation kit with bracket and ECU interface cable is available for Solo/SoloDL while a connection cable is available for EVO4.

2.1 Kit for SoloDL and bracket for Solo

SoloDL installation kit is shown here below; part number is: **V0256923CS**.



The kit includes:

- 1 bracket (1)
- 1 8x45 pan head Allen screw (2)
- 1 toothed washer (3)
- 2 4x10 Allen screws with countersunk head (4)
- 1 rubber loose piece (5)
- 1 distance piece (6)
- 1 AiM interface cable for BMW S1000RR (7)

AiM cable (7) and bracket (1) can also be bought separately as spare parts.

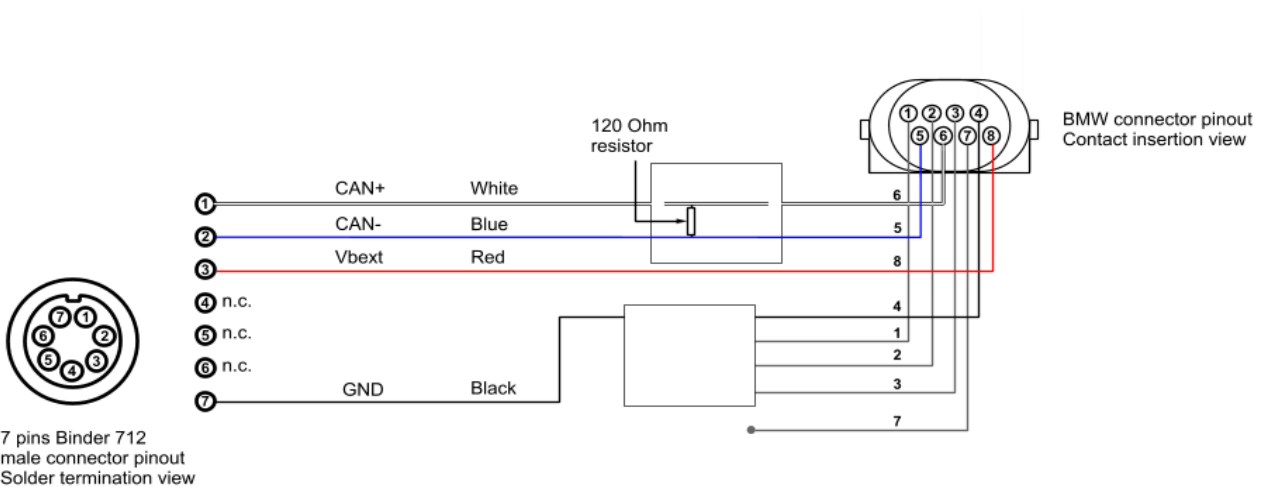
- SoloDL cable for BMW S1000RR: **V02569230**
- Solo/SoloDL bracket for BMW S1000RR: **X46KSBMWS1**

2.2 AiM cable for SoloDL

BMW S1000RR cable for SoloDL is shown below; its part number is: **V02569230**.



The image below shows the cable construction scheme.

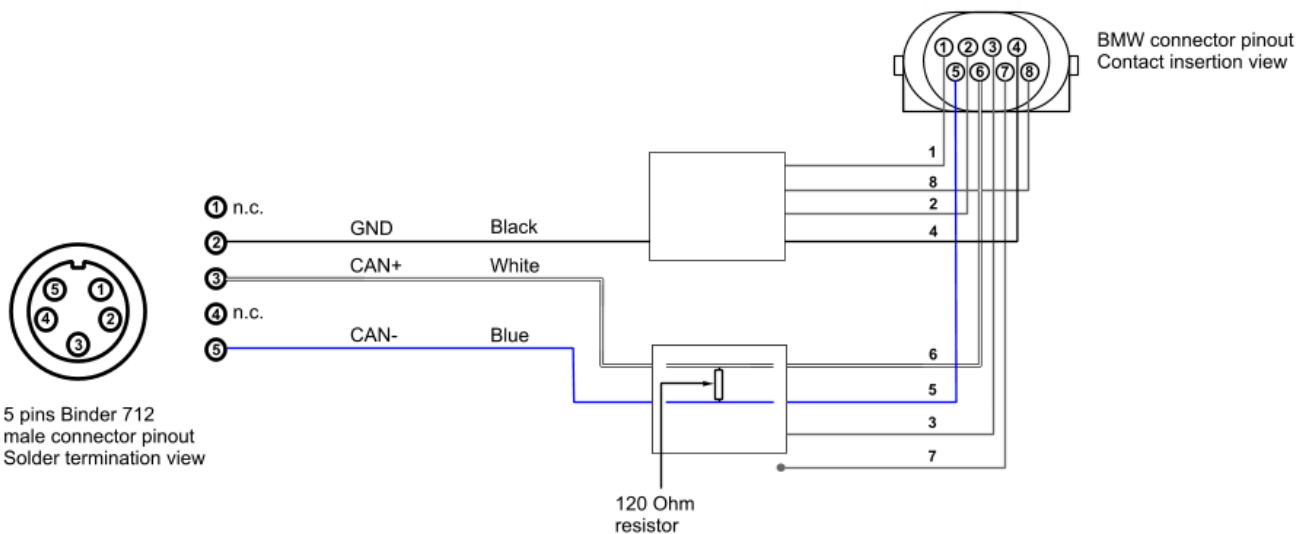


2.3 AiM cable for EVO4

BMW S1000RR cable for EVO4 is shown below; its part number is: **V02563200**.



The image below shows the cable construction scheme.



3

Installation and connection

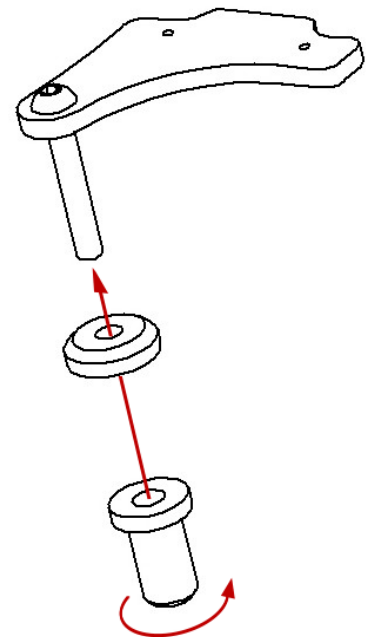
Here you find the instructions to install Solo and SoloDL and to connect EVO4 and SoloDL to your BMW S1000RR bike ECU. EVO4 cable is long enough to allow installation of the logger under the bike seat.

3.1

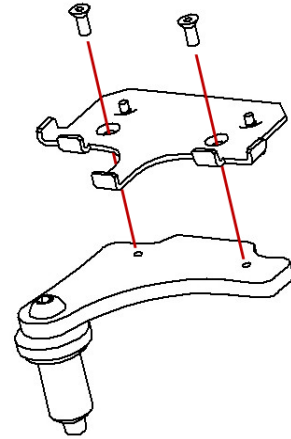
Installation of Solo and SoloDL

To install Solo/SoloDL on your BMW S1000RR:

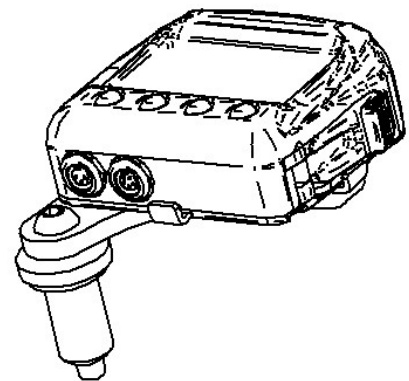
Screw the rubber loose piece on the bolt inserting the distance piece.



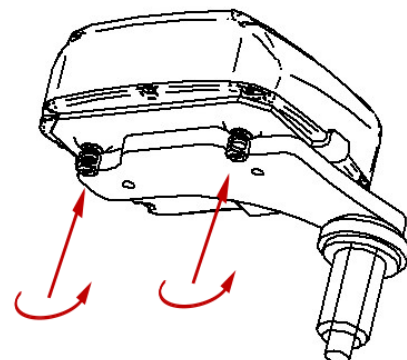
Fix Solo/SoloDL bracket to the adapter bracket for BMW S1000RR using the two countersunk screws.



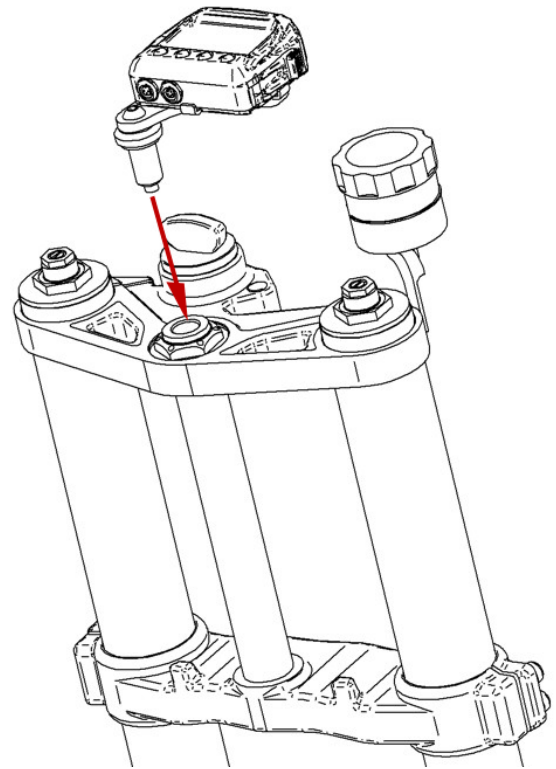
Hook Solo/SoloDL to its bracket.



Fix it using the screws already inserted rear on the same bracket.

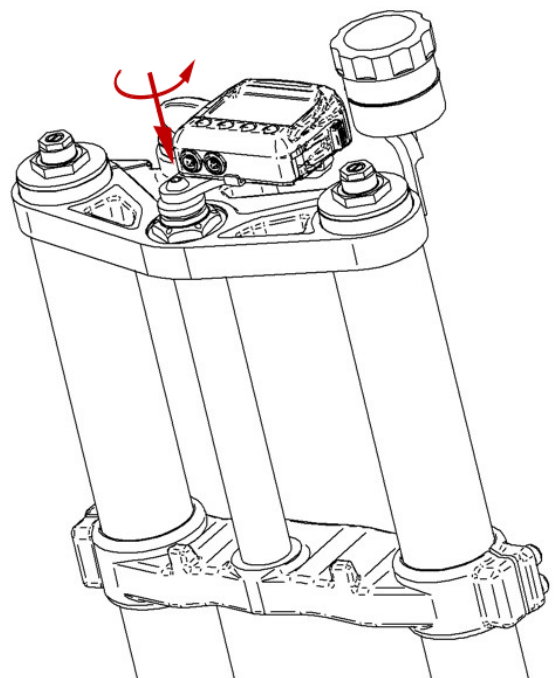


Insert the loose piece in the handle bar hinge until the distance piece abuts the hinge.



Tighten the central screw on the hinge so that this last grips.

If necessary unscrew and replace – slightly moving it – the brake liquid pan.



3.2

Connection of SoloDL and EVO4 to the bike ECU

To connect EVO4 and SoloDL to the ECU of the bike use the connector you find under the bike tail shown below.

Open the bike tail.

Please note: if your bike has an anti-theft alarm system unplug its connector, if not just remove the connector cup. In the image here on the right the connector has been unplugged.



The image on the right shows the connector in detail.



Connect AiM wiring to BMW wiring as highlighted on the right.



If you have installed an AiM **EVO4** logger take the cable to the logger.

If you have installed an AiM **SoloDL** logger make the cable pass along the saddle frame indicated in the image here on the right.

Assemble SoloDL cable to the bike original wiring making it pass between the fuel tank and the chassis as in the image here on the right.

Please avoid positions where the cable would be exposed to direct heat.

Connect the cable to SoloDL as here on the right.



4

Configuring with Race Studio 2

Before connecting the bike ECU to EVO4/SoloDL set these last up using AiM Race Studio 2 software. The parameters to select in the logger configuration are:

- ECU Manufacturer: "BMW"
- ECU Model:
 - "BIKE_S1000RR" for BMW S1000RR 2009-2014 and BMW S1000RR HP4 from 2013
 - "BIKE_S1000RR_2015" for BMW S1000RR 2015

5

Available channels

Channels received by SoloDL and EVO4 connected to BMW bikes changes according to the selected protocol.

5.1

"BMW" "BIKE_S1000RR" protocol

Channels received by SoloDL and EVO4 connected to "BMW" "BIKE_S1000RR" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	S1_RPM	RPM
ECU_2	S1_THROTTLE	Throttle
ECU_3	S1_GEAR	Gear Sensor
ECU_4	S1_NEUTRAL	Neutral sensor
ECU_5	S1_WATER_TEMP	Engine cooling temperature
ECU_6	S1_SEL_MAP	Selected map
ECU_7	S1_CHK_ENGINE	Engine check
ECU_8	S1_SPEED_F	Front wheel speed sensor
ECU_9	S1_HAND_THRT	Manual Throttle
ECU_10	S1_SPEED_R	Rear wheel speed sensor
ECU_11	S1_INTK_AIR_T	Intake air temperature
ECU_12	S1_YAW_RATE	Yawing rate
ECU_13	S1_ROLL_RATE	Rolling rate
ECU_14	S1_ACC_LATER	Horizontal Accelerometer
ECU_15	S1_ACC_VERTIC	Vertical Accelerometer
ECU_16	S1_TC_INTERV	Traction Control Intervention
ECU_17	S1_TC_OFF	Traction Control in OFF State (alarm)
ECU_18	S1_CLUTCH_SW	Clutch Switch



ECU_19	S1_SIDE_STAND	Side stand
ECU_20	S1_BRK_FR_SW	Front Brake
ECU_21	S1_BRK_RR_SW	Rear Brake
ECU_22	S1_ACC_LONGIT	Longitudinal Accelerometer
ECU_23	S1_OIL_PRESS_SW	Oil pressure switch
ECU_24	S1_EWS_CTRL	Immobilizer Control
ECU_25	S1_BRK_FAIL	Brake malfunction (Error)
ECU_26	S1_ABS_OFF	ABS in off State (alarm)
ECU_27	S1_MAP_MENU	Map selection menu
ECU_28	HP4_TC_SEL	Traction control selection
ECU_29	HP4_LAUNCH	HP4 Launch control switch
ECU_30	HP4_POT_R	HP4 Rear potentiometer
ECU_31	HP4_POT_F	HP4 Front potentiometer
ECU_32	HP4_BANKING	HP4 Banking angle
ECU_33	HP4_R_SPEED	HP4 Rear wheel Speed
ECU_34	HP4_BIKE_SPD	HP4 Bike speed
ECU_35	HP4_F_SPEED	HP4 Front wheel speed
ECU_36	HP4_ACC_LON	HP4 Longitudinal acceleration

Technical note: note all data channels outlined in the ECU template are validated for each manufacturer model or variant; some of the outlined channels are model and year specific, and therefore may not be applicable. Channels labelled HP4, for example are only available on BMW S1000RR HP4 2013-2014 bikes.

5.2

"BMW" "BIKE_S1000RR_2015" protocol

Channels received by SoloDL and EVO4 connected to "BMW" "BIKE_S1000RR_2015" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	RPM	RPM
ECU_2	TPS	Throttle position sensor
ECU_3	BANKING	Banking
ECU_4_	ENG_TEMP	Engine temperature
ECU_5	INJ_FUEL_ml	Fuel injection in ml
ECU_6	OIL_LEV_SW	Oil level switch
ECU_7	GEAR	Engaged gear
ECU_8	ASC_ON	Anti spin control on
ECU_9	MIL	Malfunctioning indication lamp
ECU_10	SPD_REAR	Rear wheel speed
ECU_11	SPD_FRONT	Front wheel speed
ECU_12	LIFT_OFF	Lift control off
ECU_13	ASC_TRQ_REDUCT	Torque reduction for anti spin control intervention
ECU_14	ASC_%TYREGRIP	Tyre grip % for anti spin control intervention
ECU_15	WHE_MOM_ACTUAL	Wheel torque actual
ECU_16	WHE_MOM_REDUCT	Wheel torque reduction
ECU_17	TPS_HAND	Throttle position sensor by hand
ECU_18	LAUNCH_CTRL	Launch control
ECU_19	TC_LEV	Traction control level
ECU_20	MOM_TOT_REDUCT	Total torque reduction
ECU_21	ABS_ON	ABS on
ECU_22	BRAKE_P_FRONT	Front brake pressure
ECU_23	BRAKE_P_REAR	Rear brake pressure
ECU_24	YAW_RATE	Yaw rate



ECU_25	LAT_ACC	Lateral accelerometer
ECU_28	ACCZ	Vertical acceleration
ECU_29	FRONT_DAMPmm	Front dampers travel in mm
ECU_30	REAR_DAMPmm	Rear dampers travel in mm
ECU_31	R_REBOUND_SET	Rear rebound set
ECU_32	R_BUMP_SET	Rear bump set
ECU_33	F_REBOUND_SET	Front rebound set
ECU_34	F_BUMP_SET	Front bumpset
ECU_35	INTAKE_AIR_T	Intake air temperature

Technical note: note all data channels outlined in the ECU template are validated for each manufacturer model or variant; some of the outlined channels are model and year specific, and therefore may not be applicable.