AiM Infotech

Bosch MS43 GA with PDM MoTec

Release 1.01

Devices

This tutorial explains how to connect Bosch MS43 with PDM MoTec to AiM devices. Supported PDM models are:

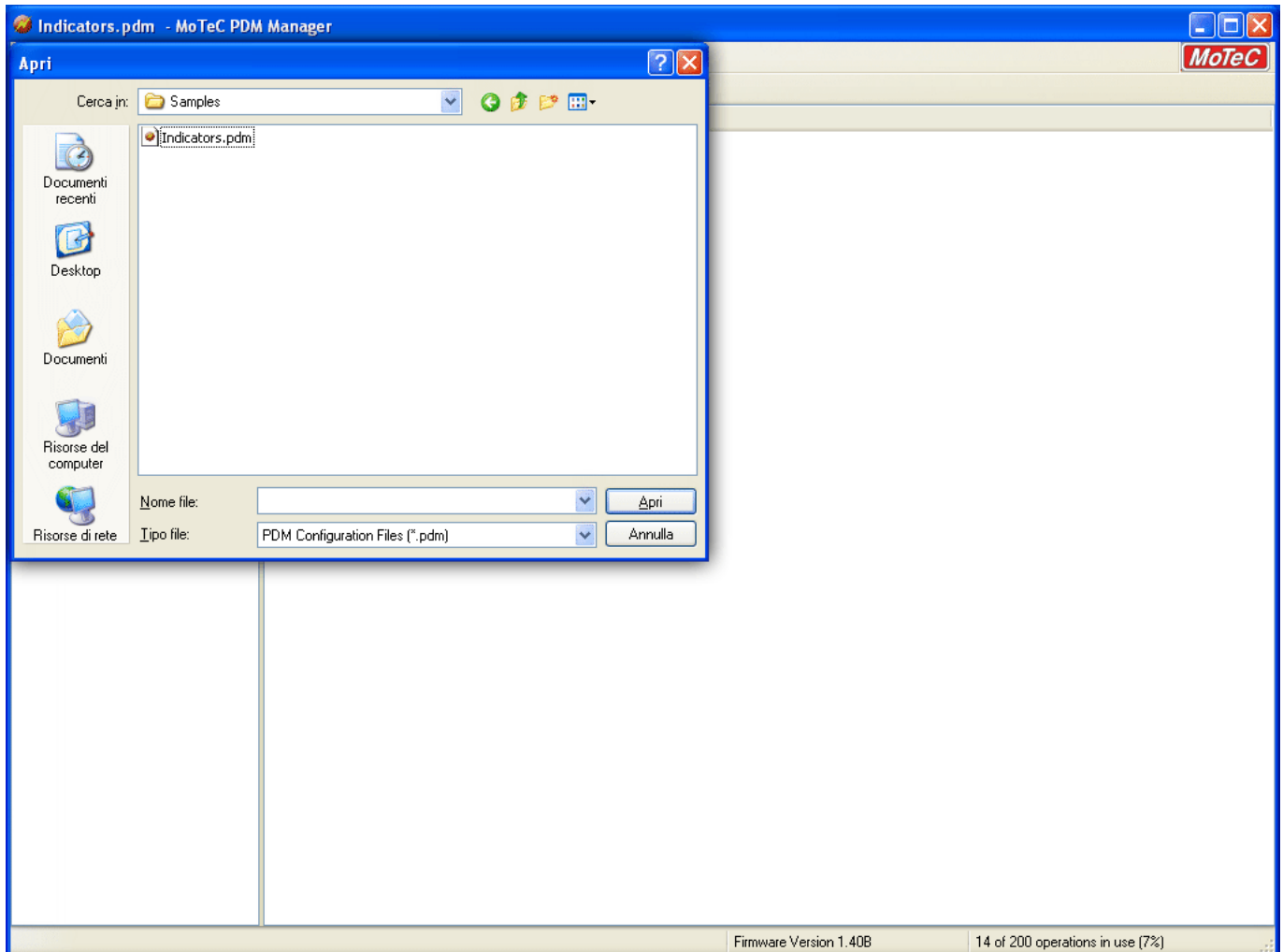- PDM15
- PDM16
- PDM30
- PDM 32

1
Software setup

PDM MoTec is normally correctly set via software but it is strongly recommended to check it following these steps:
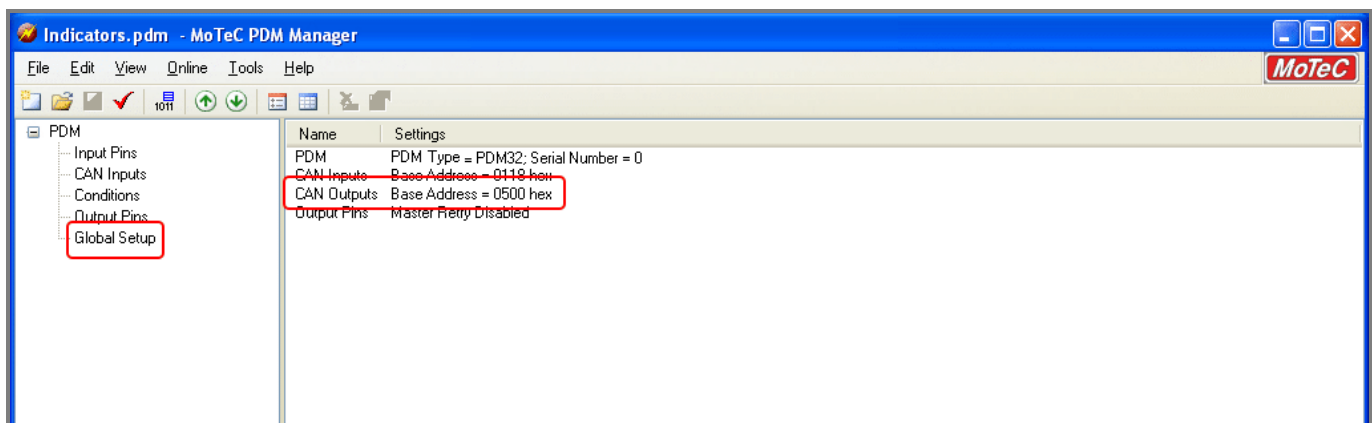
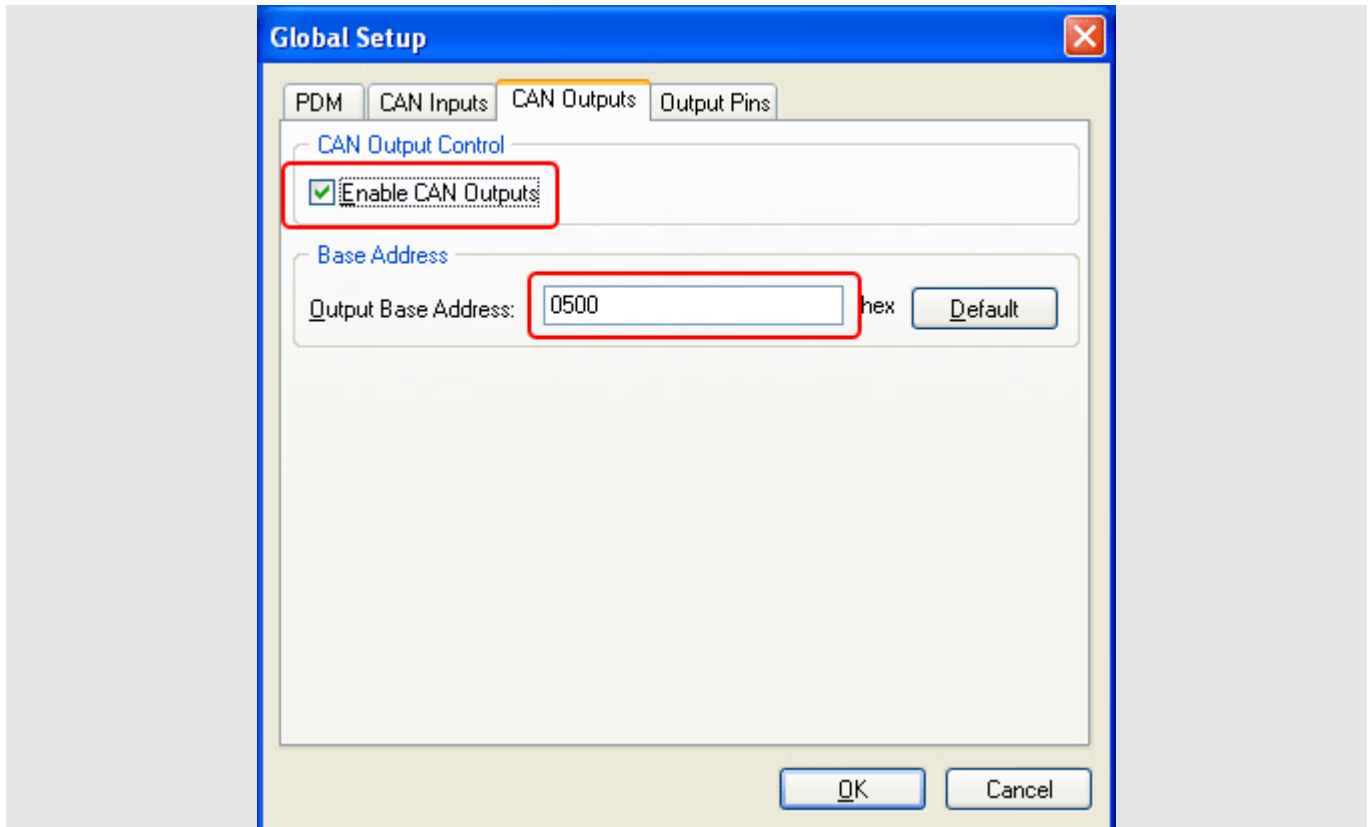Run MoTec PDM Manager software and click "File –> Open"

Load a configuration file

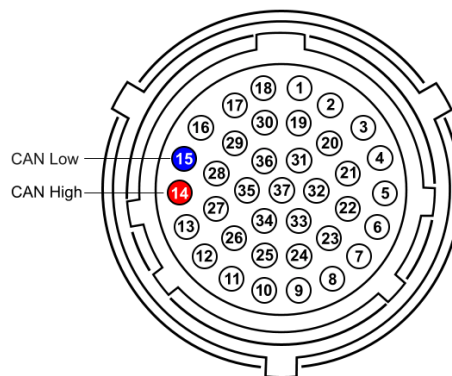Click "Global setup" and then double click "CAN Outputs"

"Enable CAN Output" checkbox should be checked and "Output Base Address" set on "0500" hex.

2
Wiring connection

Bosch MS43 GA with PDM MoTec features a bus communication protocol based on CAN on the 37 pins Deutsch connector shown here below. Bottom of it is connection scheme.

Deutsch pin	Pin function	AiM cable
14	CAN High	CAN+
15	CAN Low	CAN-

3
AiM device configuration

Before connecting the ECU to AiM device set this up using AiM Race Studio software. The parameters toselect in the device configuration are:

- ECU manufacturer "Bosch"
- ECU Model "MS43_GA_with_MoTec_PDM (Beta Ver)"

4
Available channels

Channels received by AiM devices connected to "Bosch" "MS43_GA_with_MoTec_PDM (Beta Ver)" protocol are.

ID	CHANNEL NAME	FUNCTION
ECU_1	MS43_RPM	RPM
ECU_2	MS43_SPEED	Vehicle speed
ECU_3	MS43_WH_SPD_FL	Front left wheel speed
ECU_4	MS43_WH_SPD_FR	Front right wheel speed
ECU_5	MS43_WH_SPD_RL	Rear left wheel speed
ECU_6	MS43_WH_SPD_RR	Rear right wheel speed
ECU_7	MS43_TPS	Throttle position sensor
ECU_8	MS43_MAP_BE_T1	Manifold air pressure before throttle 1
ECU_9	MS43_MAP_BE_T2	Manifold air pressure before throttle 2
ECU_10	MS43_MAP_AF_T1	Manifold air pressure after throttle 1
ECU_11	MS43_MAP_AF_T2	Manifold air pressure after throttle 2
ECU_12	MS43_AIR_P	Air pressure
ECU_13	MS43_WATER_P	Water pressure
ECU_14	MS43_CRANK_P	Crank pressure
ECU_15	MS43_OIL_P	Oil pressure
ECU_16	MS43_BRAKE_F_P	Front brake pressure
ECU_17	MS43_BRAKE_R_P	Rear brake pressure
ECU_18	MS43_FUEL_P1	Fuel pressure 1
ECU_19	MS43_FUEL_P2	Fuel pressure 2
ECU_20	MS43_FUEL_USED	Used fuel
ECU_21	MS43_ECT	Engine coolant temperature
ECU_22	MS43_OIL_T	Oil temperature
ECU_23	MS43_FUEL_T	Fuel temperature
ECU_24	MS43_AIR_T	Intake air temperature

ECU_25	MS43_EXH_T1	Exhaust temperature 1
ECU_26	MS43_EXH_T2	Exhaust temperature 2
ECU_27	MS43_GEAR_T1	Gearbox temperature
ECU_28	MS43_LAMBDA_T1	Lambda 1 temperature
ECU_29	MS43_LAMBDA_T2	Lambda 2 temperature
ECU_30	MS43_LAMBDA1	Lambda 1
ECU_31	MS43_LAMBDA2	Lambda 2
ECU_32	MS43_LAMB_CTR1	Lambda control 1
ECU_33	MS43_LAMB_CTR2	Lambda control 2
ECU_34	MS43_INJ_TIME1	Injection time 1
ECU_35	MS43_INJ_TIME2	Injection time 2
ECU_36	MS43_IGN_ANG	Ignition angle
ECU_37	MS43_GEAR	Engaged gear
ECU_38	MS43_STEER_ANG	Steering angle
ECU_39	MS43_YAW_RATE	Yaw rate
ECU_40	MS43_TC_ACTIVE	Traction control active
ECU_41	MS43_LONG_ACC	Longitudinal acceleration (X axis)
ECU_42	MS43_LATE_ACC	Lateral acceleration (Y axis)
ECU_43	MS43_VERT_ACC	Vertical acceleration (Z axis)
ECU_44	MS43_MAP_POS	Manifold air pressure position
ECU_45	MS43_ECU_BATT	ECU battery supply
ECU_46	PDM_BATT_VOLT	Battery supply
ECU_47	PDM_GLOB_ERR	Global error outputs:

- 0 = no error;
- 1 = Error outputs

ECU_48	PDM_TOT_CURR	Total current
ECU_49	PDM_OUTPUT_S1	Output status**
ECU_50	PDM_OUTPUT_S2	Output status**
ECU_51	PDM_OUTPUT_S3	Output status**
ECU_52	PDM_OUTPUT_S4	Output status**
ECU_53	PDM_OUTPUT_S5	Output status**
ECU_54	PDM_OUTPUT_S6	Output status**
ECU_55	PDM_OUTPUT_S7	Output status**

ECU_56	PDM_OUTPUT_S8	Output status**
ECU_57	PDM_OUTPUT_S9	Output status**
ECU_58	PDM_OUTPUT_S10	Output status**
ECU_59	PDM_OUTPUT_S11	Output status**
ECU_60	PDM_OUTPUT_S12	Output status**
ECU_61	PDM_OUTPUT_S13	Output status**
ECU_62	PDM_OUTPUT_S14	Output status**
ECU_63	PDM_OUTPUT_S15	Output status**
ECU_64	PDM_OUTPUT_S16	Output status**
ECU_65	PDM_OUTPUT_S17	Output status**
ECU_66	PDM_OUTPUT_S18	Output status**
ECU_67	PDM_OUTPUT_S19	Output status**
ECU_68	PDM_OUTPUT_S20	Output status**
ECU_69	PDM_OUTPUT_S21	Output status**
ECU_70	PDM_OUTPUT_S22	Output status**
ECU_71	PDM_OUTPUT_S23	Output status**
ECU_72	PDM_OUTPUT_S24	Output status**
ECU_73	PDM_OUTPUT_S25	Output status**
ECU_74	PDM_OUTPUT_S26	Output status**
ECU_75	PDM_OUTPUT_S27	Output status**
ECU_76	PDM_OUTPUT_S28	Output status**
ECU_77	PDM_OUTPUT_S29	Output status**
ECU_78	PDM_OUTPUT_S30	Output status**
ECU_79	PDM_OUTPUT_S31	Output status**
ECU_80	PDM_OUTPUT_S32	Output status**

**Output status codes:
- 0 = OFF
- 1 = ON
- 2 = Current error
- 4 = Fault error