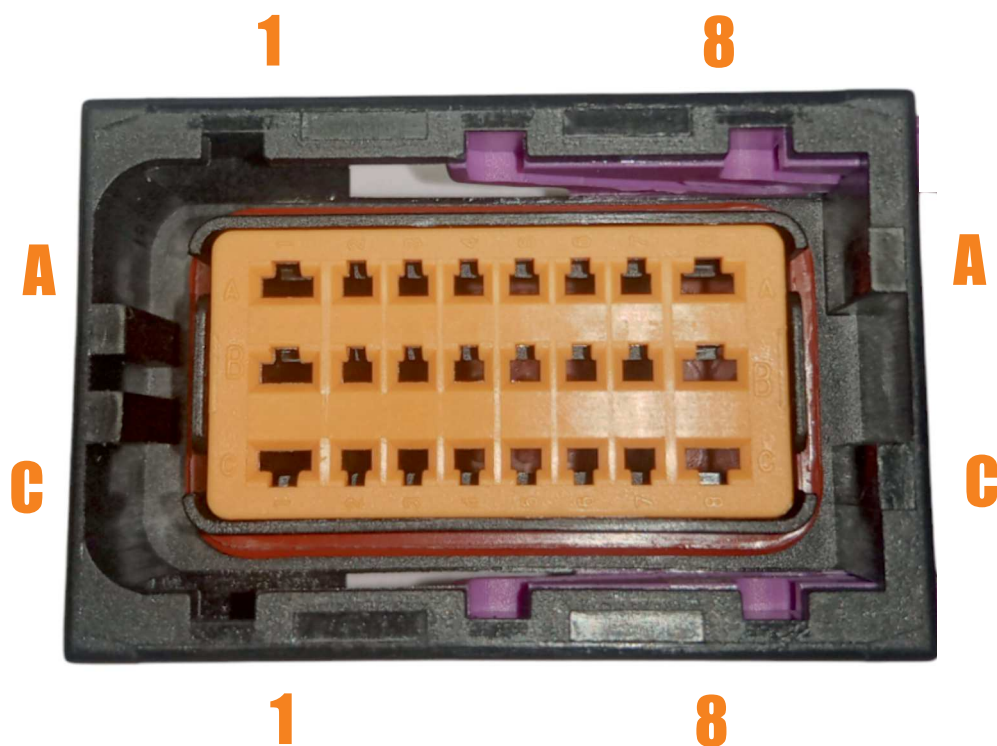


A1 - IGNITION 3
 A2 - IGNITION 6
 A3 - OUT1
 A4 - IDLE1
 A5 - IDLE2
 A6 - VVT1
 A7 - TACHO_OUT
 A8 - VREF
 A9 - WBO_GREEN
 A10 - INJECTOR 6
 A11 - INJECTOR 5
 A12 - GNDA
 A13 - INJECTOR3

B1 - IGNITION 2
 B2 - IGNITION 5
 B3 - LAUNCH_IN
 B4 - FUEL PUMP
 B5 - TABLE SWITCH
 B6 - TPS
 B7 - COOLANT
 B8 - AIR TEMP
 B9 - WBO_BLACK
 B10 - WBO_YELLOW
 B11 - WBO_RED
 B12 - GNDA
 B13 - INJECTOR 2

C1 - IGNITION 1
 C2 - IGNITION 4
 C3 - WBO_WHITE
 C4 - +12 VOLT
 C5 - GND
 C6 - SENSOR GND
 C7 - WBO_GREY
 C8 - VR1+ (VVT2)
 C9 - VR1- / HALL1
 C10 - VR2+ (HALL3)
 C11 - VR2- / HALL2
 C12 - INJECTOR 4
 C13 - INJECTOR 1

RED = With modifications



A1 - IGNITION 8
 A2 - MOTOR OUT A
 A3 - MOTOR OUT B
 A4 - PPS1
 A5 - PPS2
 A6 - VR4+ / EGT IN+
 A7 - SPARE 2
 A8 - IGNITION 7

B1 - INJECTOR 8/VR3+
 B2 - CAN LOW
 B3 - CAN HIGH
 B4 - SPARE 1
 B5 - OUT3 (OPTIONAL)
 B6 - VR4- / EGT IN-
 B7 - BARO
 B8 - BOOST

C1 - INJECTOR 7 / VR3-
 C2 - TPS1
 C3 - TPS2
 C4 - DIGITAL_IN3
 C5 - DIGITAL_IN4
 C6 - ANALOG IN10
 C7 - VVT2
 C8 - OUT2

Bosch LSU 4.9 WBO:

+12 VOLT : kapcsolt tápfeszültség

GND: test

GNDA: Nagyáramú test (mindegyiket be kell kötni, min. 1.5mm² kábel!!!)

VREF: referencia feszültség (+5V) szenzorokhoz

SENSOR GND: szenzor test

INJECTOR x : injector kimenet X

IGNITION x : gyújtás kimenet hagyományos vagy logikai trafóhoz (kiépítés függő)

IDLE1 : 3A-es kapcsolható kimenet

IDLE2 : 3A-es kapcsolható kimenet

VR1+ : Főtengely VR szenzor +

VR1- / HALL1 : Főtengely VR szenzor - / Hall 1

VR2+ : Veztengely VR szenzor +

VR2- / HALL2 : Veztengely VR szenzor - / Hall 2

VR3+ : 3. VR szenzor + (Opcionális)

VR3- / HALL3 : 3. VR szenzor - / Hall 3 (Opcionális)

VR4+ : 4. VR szenzor + (Opcionális)

VR4- / HALL4 : 4. VR szenzor - / Hall 4 (Opcionális)

LAUNCH IN : rajtprogram gomb (testre aktív!)

TABLE SWITCH : programváltó kapcsoló bemenet (testre aktív!)

TACHO OUT : Fordulatszámérő kimenet

FUEL PUMP: benzinpumpa relé kimenet

AIR TEMP : levegőhőmérséglet szenzor

COOLANT : vízhőmérséglet szenzor

TPS : folytószelep-poti bemenet

TPS1 - TPS2 : Elektromos folytószeleppotik bemenetei

PPS1 - PPS2 : Pedál szenzor analóg bemenetei

OUT1: 3A kapcsolható kimenet

WBO xxxxx : Bosch LSU 4.9 lambda szonda

VVT1: 3A kapcsolható kimenet

VVT2: 3A kapcsolható kimenet

OUT2 : 5A kapcsolható kimenet

BOOST : 5A kapcsolható kimenet

OUT3: 5A kapcsolható kimenet (Opcionális)

ANALOG_IN15: Analóg bemenet

ANALOG_IN10: Analóg bemenet

BARO: Analóg bemenet

DIGITAL_IN3 : Digitális bemenet (testre aktív!)

DIGITAL_IN4 : Digitális bemenet (testre aktív!)

MOTOR OUT A: Elektromos folytószelep motor +

MOTOR OUT B: Elektromos folytószelep motor -

SPARE X : Tartalék

CAN LOW - CAN HIGH : CAN BUS



- 1 - RED
- 2 - YELLOW
- 3 - WHITE
- 4 - GREY
- 5 - GREEN
- 6 - BLACK

The injectors and coils need to connect to the ecu in sequence.

Example:

If your firing order is 1-5-3-6-2-4

Ignition1 and Injector1 out to cylinder 1

Ignition2 and Injector2 out to cylinder 2

Ignition3 and Injector3 out to cylinder 3

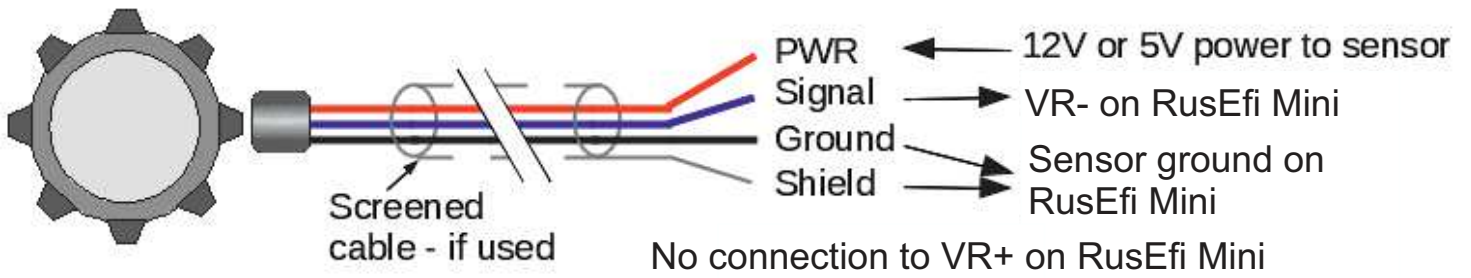
Ignition4 and Injector4 out to cylinder 4

Ignition5 and Injector5 out to cylinder 5

Ignition6 and Injector6 out to cylinder 6

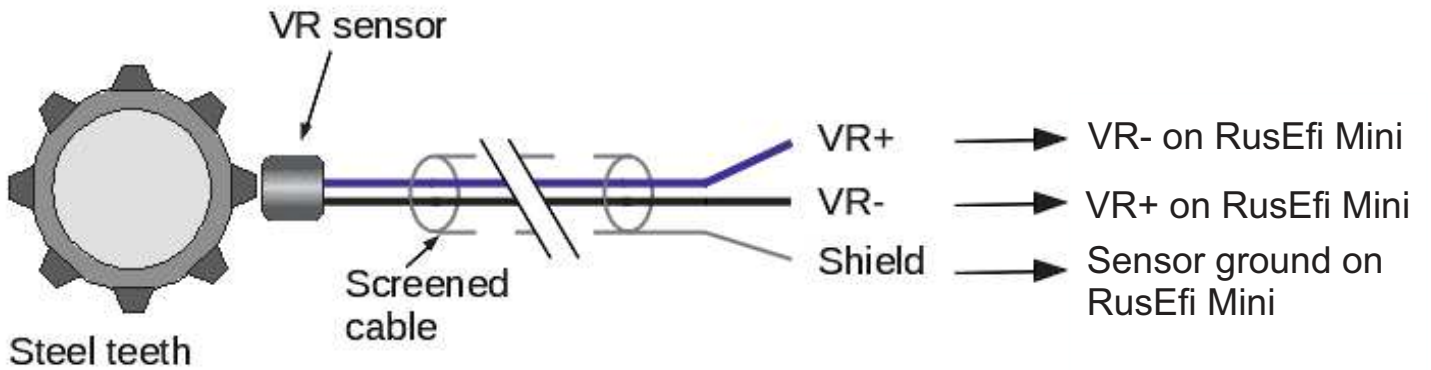
You can choose the correct firing order in TunerStudio

HALL szenzor:



HALL pull-up resistors inside the box

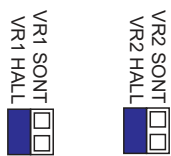
VR szenzor:



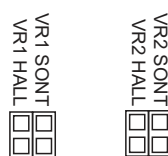
Some installs may find it necessary to install a "shunt" resistor between VR+ and VR- to reduce the signal voltage at higher RPMs. A 1/4W resistor is sufficient and values in the range of 1k to 10k. 10k is recommended for 60-2 wheels.

Jumpers inside the FFG_RusEfi:

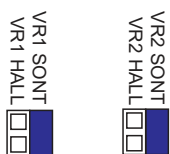
For hall sensor:



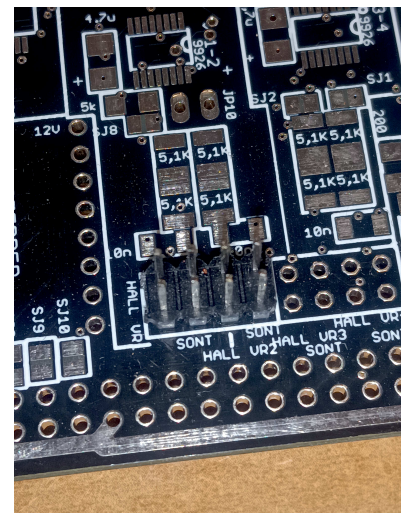
For VR sensor:



For VR sensor with sонт resistor:



The internal sонт resistor is 2,2kohm



Csatlakozó megnevezés	Processzor láb			Csatlakozó megnevezés	Processzor láb	
Injector 1	PB15			IDLE1	PD9	
Injector 2	PB14			IDLE2	PD12	
Injector 3	PB12			OUT1	PD10	
Injector 4	PB13			OUT2	PD11	
Injector 5	PA8			OUT3	PC9	
Injector 6	PE7			VVT1	PE9	
Injector 7	PE13			VVT2	PD8	
Injector 8	PE10			BOOST	PC7	
Ignition 1	PE2			FUEL PUMP	PE11	
Ignition 2	PE3			CAN RX	PD0	
Ignition 3	PC13			CAN TX	PD1	
Ignition 4	PE6			SPI1 MOSI	PB5	
Ignition 5	PE4			SPI1 MISO	PB4	
Ignition 6	PE5			SPI1 SCK	PB3	
Ignition 7	PE0			SPI3 MOSI	PC12	SD CARD
Ignition 8	PB9			SPI3 MISO	PC13	
MAP	PA3			SPI3 SCK	PC10	
TPS	PA2			TACHO_OUT	PD13 vagy PD15	
TPS1	PC1			HB_Sense	PC5	
TPS2	PC4					
PPS1	PC3					
PPS2	PA7					
BATTERY	PA4					
COOLANT	PA1					
AIR TEMP	PA0					
O2	PB0					
BARO	PA5					
ANALOG_IN10	PC0					
EGT	PB1					
TABLE SWITCH	PB8					
LAUNCH_IN	PD14					
DIGITAL_IN3	PE14					
DIGITAL_IN4	PC6					
VR1	PD3					
VR2	PD4					
VR3	PE8					
VR4	PE12					

DBW Settings:

Electronic Throttle Body

File View Help

Electronic Throttle Body
<https://rusefi.com/s/etb>

Disable ETB if engine is stopped	true
Disable ETB Motor	false
H-Bridge #1 function	Throttle 1
H-Bridge #2 function	None
PWM Frequency(Hz)	800
Minimum ETB position(%)	3.00
Maximum ETB position(%)	95
Jam detection error max(%)	10
Jam detection timeout period(sec)	0.00

ETB H-Bridge Hardware

Two-wire mode	false
H-Bridge Hardware No1	
No1 Direction #1	PA15
No1 Direction #2	PB11
No1 Control	PB10
No1 Disable	PD15
H-Bridge Hardware No2	
No2 Direction #1	NONE
No2 Direction #2	NONE
No2 Control	NONE
No2 Disable	NONE

ETB Idle

ETB idle maximum angle(%)	10
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PID settings

pFactor	9.0000
iFactor	130.0000
dFactor	0.0960
pid min	-100
pid max	100
iTermMin	-30
iTermMax	30

PID Autotune
First step: calibrate TPS and hit 'Burn'

Auto Calibrate ETB 1

Auto Calibrate ETB 2

Second step

Start ETB PID Autotune

Stop ETB PID Autotune

Allows disabling the ETB when the engine is stopped. You may not like the power draw or PWM noise from the motor, so this lets you turn it off until it's necessary.

Burn Close