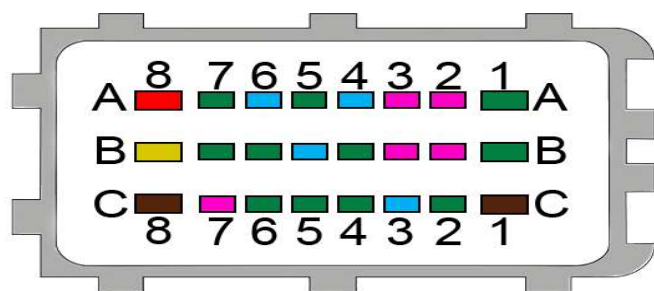
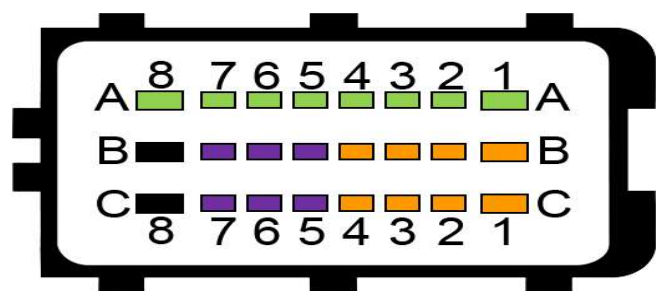


SPARK EMS Premium V2 PINOUT



BLACK CONNECTOR		
	I/O	FUNCTION
A1=	OUT	INJECTOR OUTPUT.1 (14A)
A2=	OUT	INJECTOR OUTPUT.5 (14A)
A3=	OUT	INJECTOR OUTPUT.2 (14A)
A4=	OUT	INJECTOR OUTPUT.6 (14A)
A5=	OUT	INJECTOR OUTPUT.3 (14A)
A6=	OUT	INJECTOR OUTPUT.7 (14A)
A7=	OUT	INJECTOR OUTPUT.4 (14A)
A8=	OUT	INJECTOR OUTPUT.8 (14A)
B1=	D.OUT	IGNITION OUTPUT.0 (+5V TTL)
B2=	D.OUT	IGNITION OUTPUT.1 (+5V TTL)
B3=	D.OUT	IGNITION OUTPUT.2 (+5V TTL)
B4=	D.OUT	IGNITION OUTPUT.3 (+5V TTL)
B5=	X.OUT	P259.2 OUTPUT (1A) 4K7 12v Pull-Up
B6=	X.OUT	P259.7 OUTPUT (1A) 4K7 12v Pull-Up
B7=	X.OUT	P259.4 OUTPUT (1A) 4K7 12v Pull-Up
B8=	PGND	POWER GND
C1=	D.OUT	IGNITION OUTPUT.7 (+5V TTL)
C2=	D.OUT	IGNITION OUTPUT.6 (+5V TTL)
C3=	D.OUT	IGNITION OUTPUT.5 (+5V TTL)
C4=	D.OUT	IGNITION OUTPUT.4 (+5V TTL)
C5=	X.OUT	P259.3 OUTPUT (1A) 4K7 12v Pull-Up
C6=	X.OUT	P259.6 OUTPUT (1A) 4K7 12v Pull-Up
C7=	X.OUT	P259.5 OUTPUT (1A) 4K7 12v Pull-Up
C8=	PGND	POWER GND

GRAY CONNECTOR		
	I/O	FUNCTION
A1=	A.IN	EGT(-) SENSOR INPUT
A2=	D.IN	INPUT.1 (PULL-UP 2K7 +5V)
A3=	D.IN	INPUT.0 (PULL-UP 2K7 +5V)
A4=	VR/HALL	INLET CAM SENSOR INPUT
A5=	A.IN	LSU4.2 - LSU 4.9 WBO2.CELL
A6=	VR/HALL	WHEEL SPEED SENSOR INPUT
A7=	A.IN	CLT SENSOR INPUT
A8=	PWR	(+12V) POWER INPUT
B1=	A.IN	LSU4.2 - LSU 4.9 WBO2.HEATER
B2=	D.IN	INPUT.3 (PULL-UP 2K7 +5V)
B3=	D.IN	INPUT.2 (PULL-UP 2K7 +5V)
B4=	A.IN	KNOCK.1 SENSOR INPUT
B5=	VR/HALL	EXHAUST CAM SENSOR INPUT
B6=	A.IN	LSU4.2 - LSU 4.9 WBO2.PUMP(-)
B7=	A.IN	IAT SENSOR INPUT
B8=	S.OUT	(+5V) SUPPLY OUTPUT
C1=	SGND	SENSOR GND
C2=	A.IN	EGT(+) SENSOR INPUT
C3=	VR/HALL	CRANK SENSOR INPUT
C4=	A.IN	KNOCK.2 SENSOR INPUT
C5=	A.IN	LSU4.2 - LSU 4.9 WBO2.PUMP(+)
C6=	A.IN	TPS SENSOR INPUT
C7=	D.IN	INPUT.7 (PULL-UP 2K7 +5V)
C8=	GND	ECU GND

MUST READ BEFORE INSTALLATION IMPORTANT !

PWR : Operating Voltage Range (+8V) - +36V) - SUPPLY SHOULD BE GIVEN BY SUPPORTING IT WITH A RELAY.

GND : ECU GND MUST BE CONNECTED TO THE CASE OF THE CAR.

SGND : ALL SENSOR CHASSIS MUST BE CONNECTED TO THIS PIN.

PGND : IT SHOULD BE CONNECTED TO THE CAR FRAME INDEPENDENTLY FROM GND AND SGND.

VR/HALL : IT IS THE TRIG SENSOR INPUT. IT MAY BE VR OR HALL.

A.IN : IT IS A GENERAL ANALOG SENSOR INPUT.

D.IN : IT IS A GENERAL DIGITAL SWITCH INPUT.

S.OUT : TRIGGER ETC. IT IS THE SENSOR SUPPLY. IT CAN OUTPUT MAXIMUM +5V 250mA.

T.OUT : ONLY TPS IT IS THE SENSOR SUPPLY. IT CAN OUTPUT MAXIMUM +5V 10mA.

OUT : N.CH IS MOSFET OUTPUT. IT IS NEGATIVE. IT WORKS WITH MAXIMUM 14A CURRENT.

X.OUT : N.CH IS MOSFET OUTPUT. IT IS NEGATIVE. IT WORKS WITH MAXIMUM 1A CURRENT.

D.OUT : P.CH MOSFET OUTPUT. IT IS POSITIVE. IT WORKS WITH MAXIMUM 25mA CURRENT.

AUX Konnektör							
16	15	14	13	12	11	10	9
8	7	6	5	4	3	2	1

USB	
2	1
3	4

AUX CONNECTOR		
	I/O	FUNCTION
1=	X.OUT	P259.0 OUTPUT (1A)
2=	X.OUT	P259.1 OUTPUT (1A)
3=	D.OUT	CAN-L Optional 120R Bridge
4=	D.OUT	CAN-H Optional 120R Bridge
5=	D.OUT	DBW MODULE SIGNAL OUT
6=	D.IN	INPUT.5 (PULL-UP 2K7 +5V)
7=	D.IN	INPUT.6 (PULL-UP 2K7 +5V)
8=	GND	ECU GND
9=	OUT	S259.1 OUTPUT (14A)
10=	X.OUT	Stepper Idle.D/S259.6 (1A)
11=	OUT	S259.2 OUTPUT (14A)
12=	X.OUT	Stepper Idle.C/S259.5 (1A)
13=	OUT	SPECFET.5 (14A)
14=	X.OUT	Stepper Idle.A/S259.3 (1A)
15=	OUT	SPECFET.6 (14A)
16=	X.OUT	Stepper Idle.B/S259.4 (1A)

USB CONNECTOR		
	I/O	FUNCTION
1=	-	NOT USED
2=	D.OUT	USB (D-)
3=	D.OUT	USB (D+)
4=	GND	ECU GND

JUMPER CONFIGURATION

