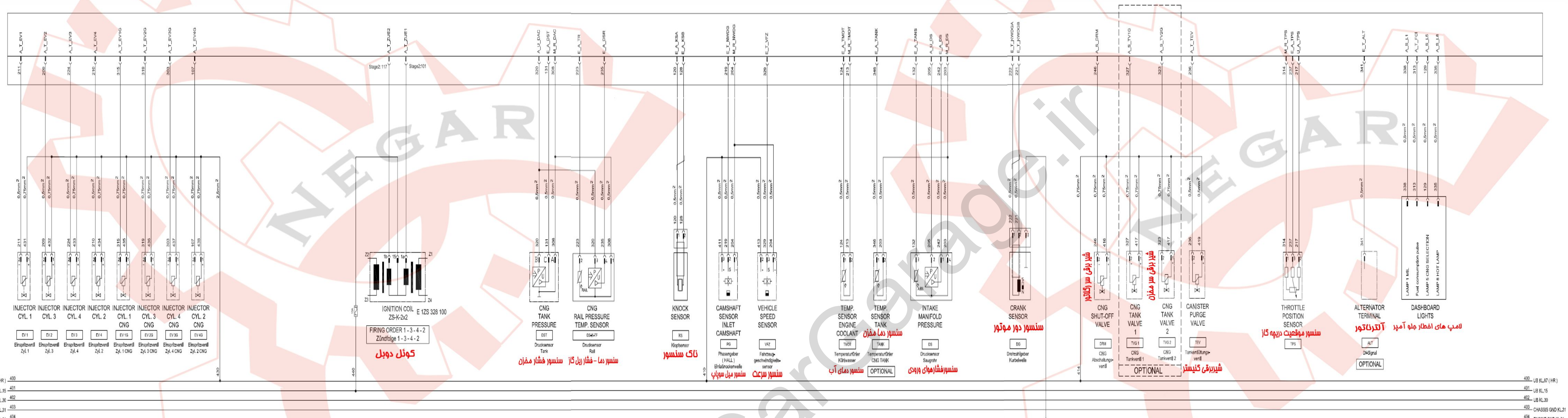


رله اصلی (MAIN RELAY)

مرحله	بررسی	اقدام
۱	بله	به مرحله بعد بروید.
	خیر	رله را تعویض نمایید.
۲	بله	به مرحله بعد بروید.
	خیر	رله را تعویض نمایید.
۳	بله	مسیر سیمها از کانکتور تا ECU را چک کنید. احتمالاً قطعی وجود دارد.
	خیر	رله را تعویض نمایید.

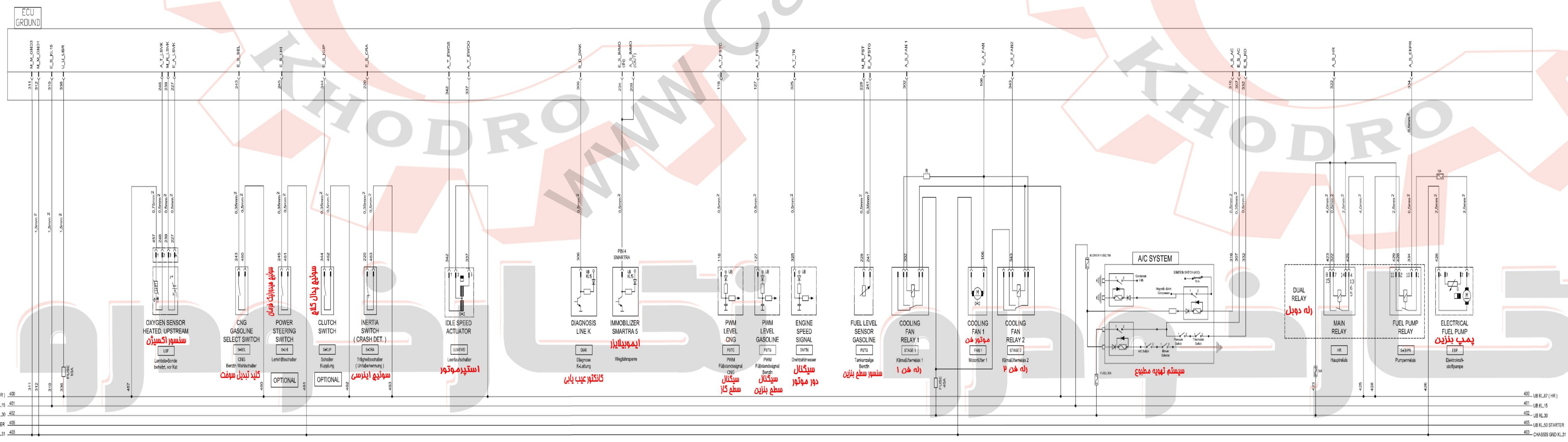


پراید ( بوش 7.4.11 - دوگانه سوز )

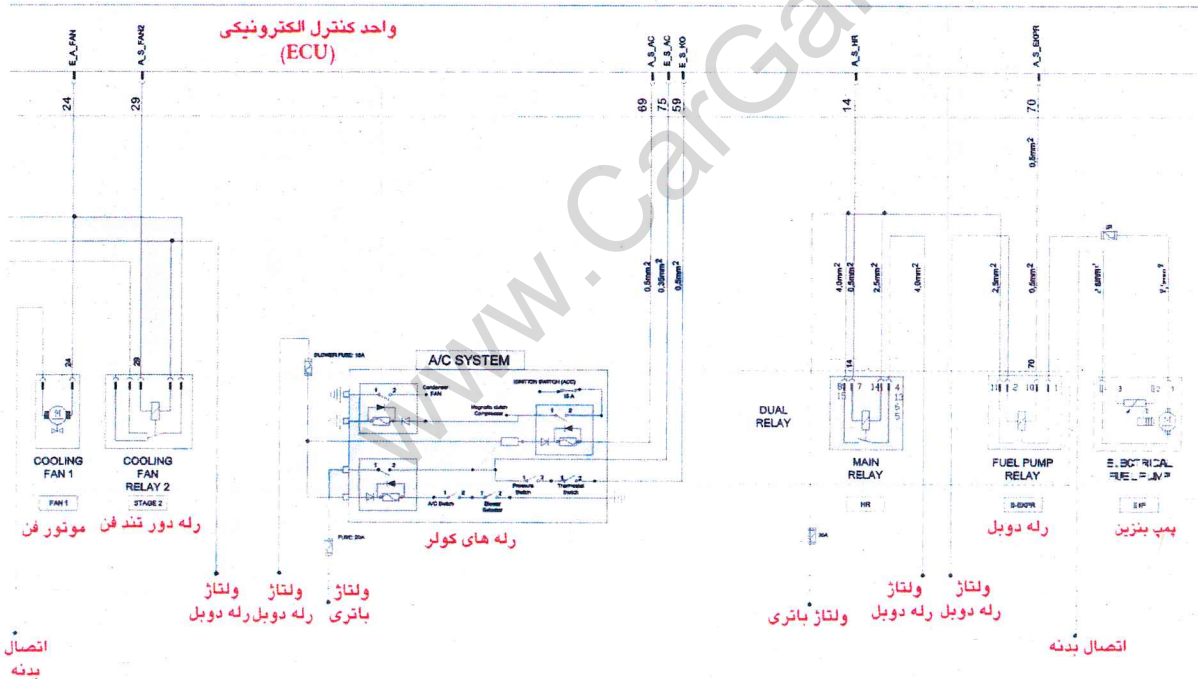
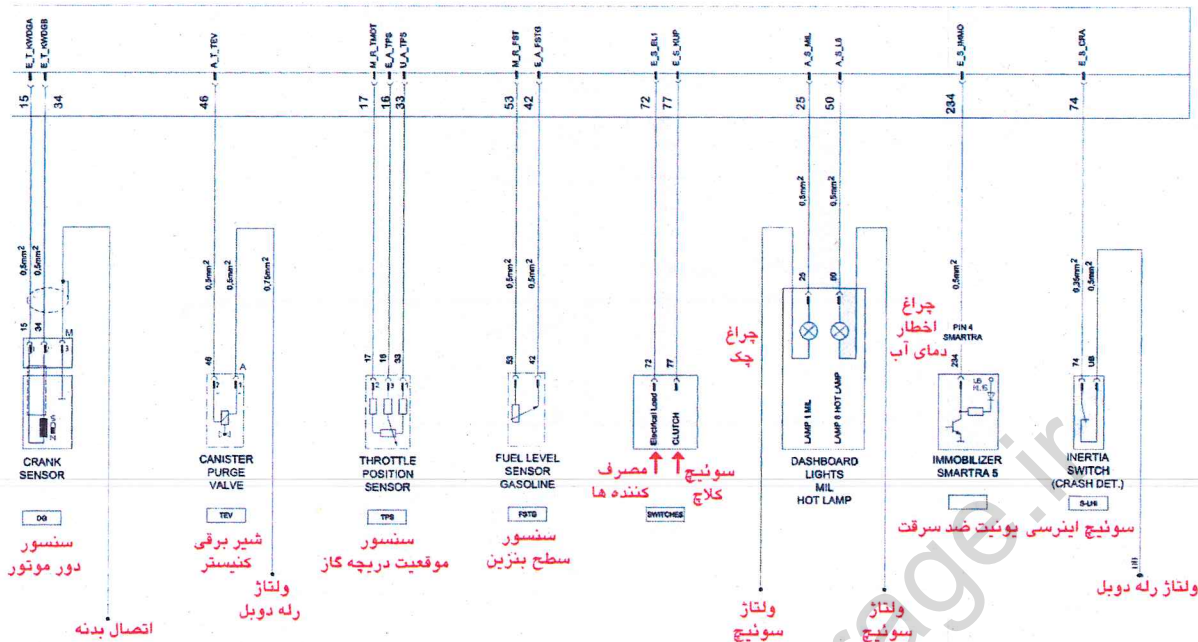


ECU Motronic M 7.4.11-NG  
MEGA MOTORS

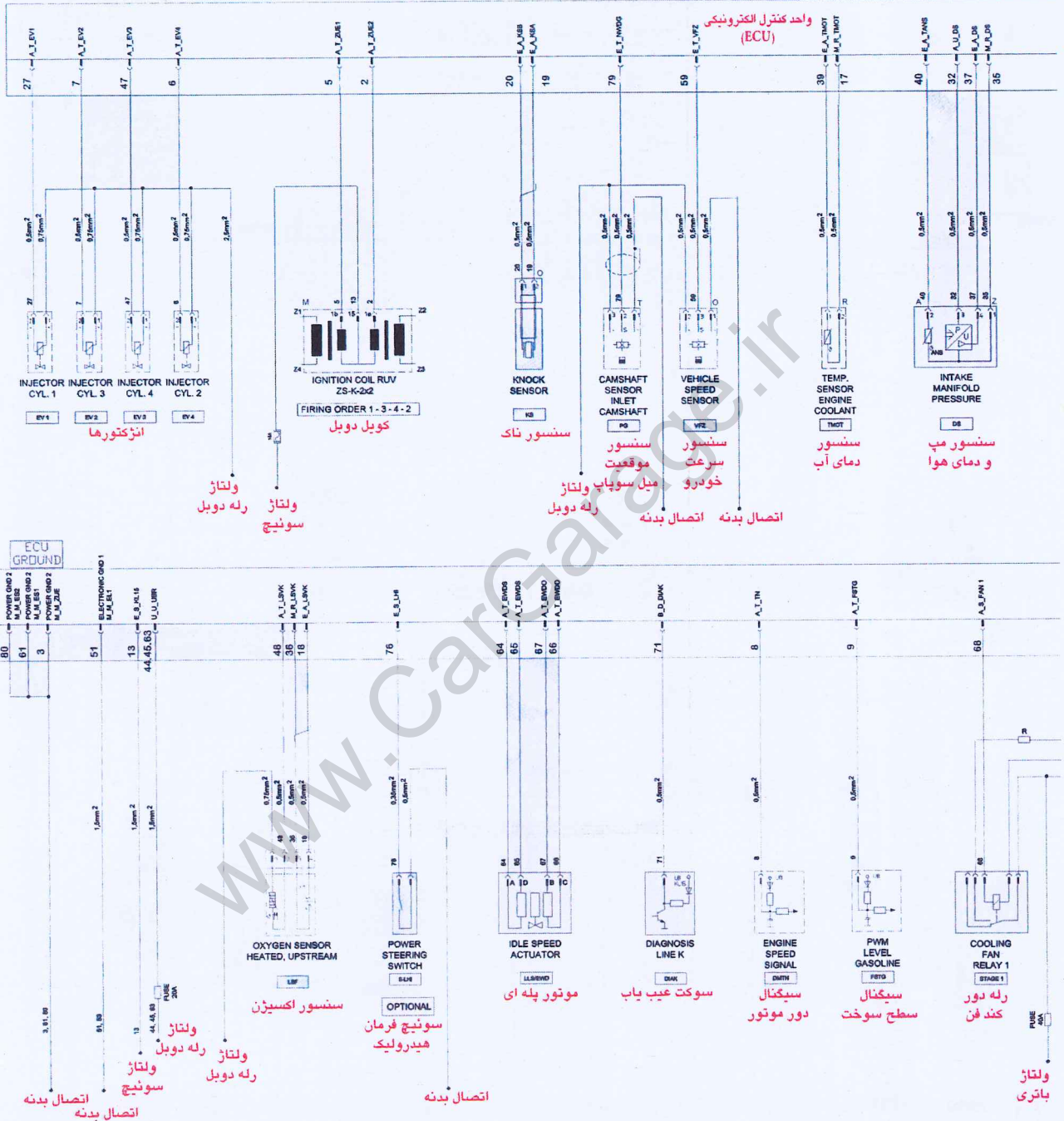
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---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



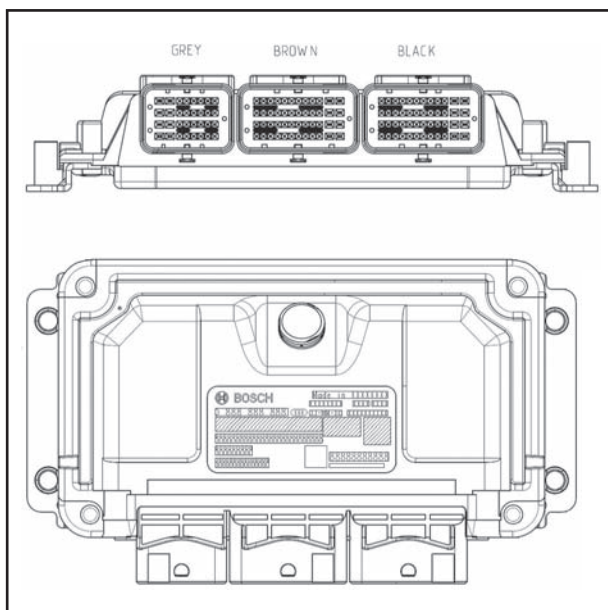
سیستم انژکتور پراید بوش بنزینی (Bosch 7.9.7.1)



سیستم انژکتور پراید بوش بنزینی (Bosch 7.9.7.1)



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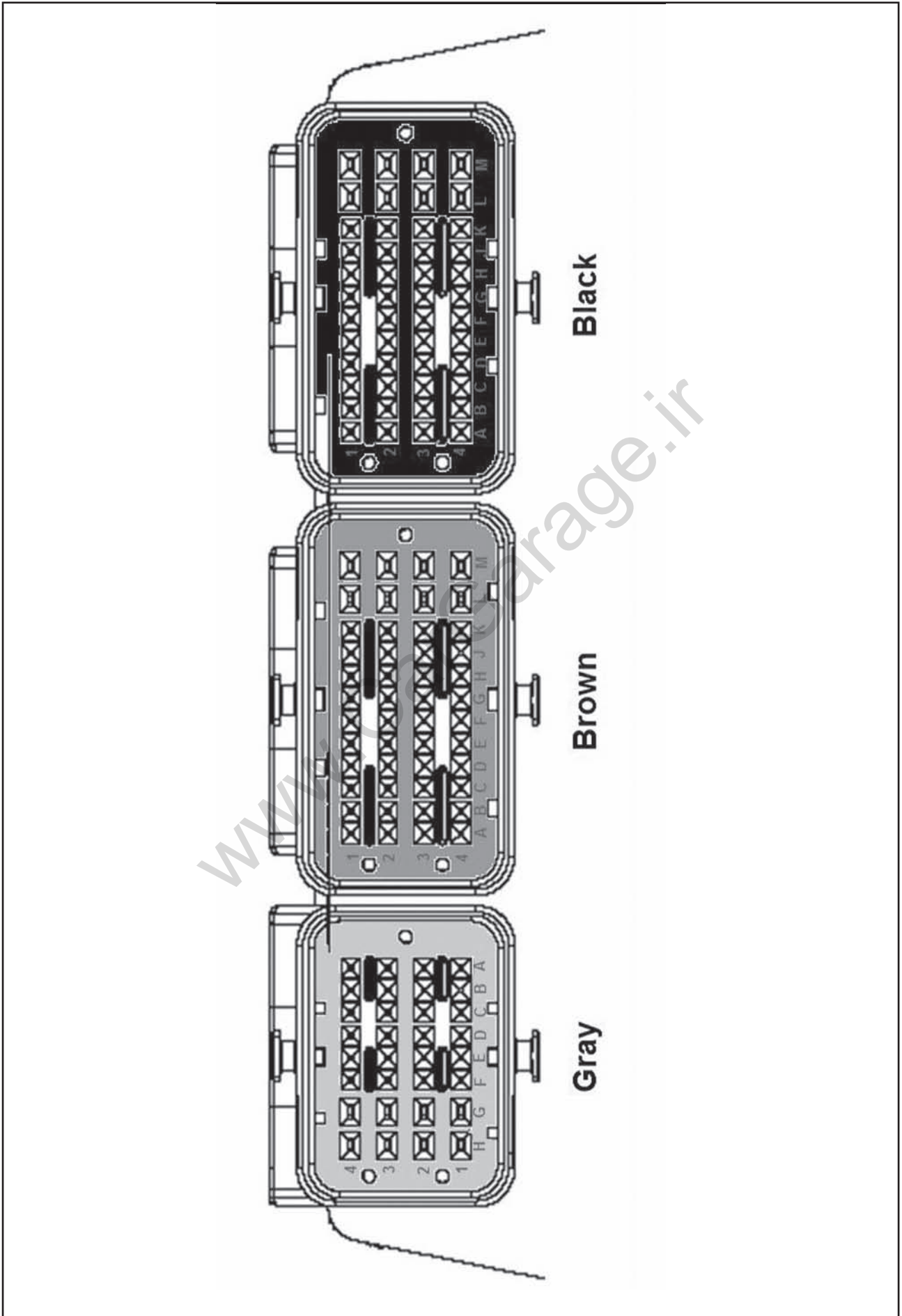


#### ۱-۱-۱-۷ مشخصات کلی واحد کنترل الکترونیک ECU در

##### سیستم بوش

- سیستم پاشش سوخت: MPFI (Full Sequential)
- نوع ECU: M.۷.۴.۱۱NG
- سیستم عیب یابی قابل نصب: OBD II و K-line
- سیستم پردازش: ۱۶ Bits
- ساعت (Clock): ۲۴ MHz
- حافظه: Flash Memory = ۷۶۸ KB جهت برنامه و داده های
- کالیبراسیون و RAM = ۳۲KB





PIN	ASSIGNMENT	FUNCTION
101	A-T-ZUE1	OUTPUT IGNITION COIL CYL. 1+4
102		
103		
104		
105	E-A-FAN	FAN DIAGNOSTICS
107	A-T-EV4G	OUTPUT INJECTION VALVE #4 CNG
108		
109		
111	A-S-L4	RESERVE
112		
113		
114		
115		
116	A-T-FSTG	TANKLEVEL CNG (PWM)
117	A-T-ZUE2	OUTPUT IGNITION COIL CYL. 2+3
118		
119	A-S-L3	RESERVE
120	E-A-KSA	ACTUAL SIGNAL KNOCK SENSOR +
121	A-S-L6	RESERVE
122		
123		
124	E-A-TMOT	ACTUAL SIGNAL TEMP. SENSOR ENGINE COOLANT
125		
126		
127	A-T-FSTG	TANKLEVEL GASOLINE (PWM)
128	E-A-KSB	ACTUAL SIGNAL KNOCK SENSOR -
129	A-S-L5	DASHBOARD LAMP 5 CNG SELECTION
130		
131	E-A-DST	ACTUAL SIGNAL CNG TANK PRESSURE
132	E-A-TANS	ACTUAL SIGNAL TEMP. SENSOR AIR

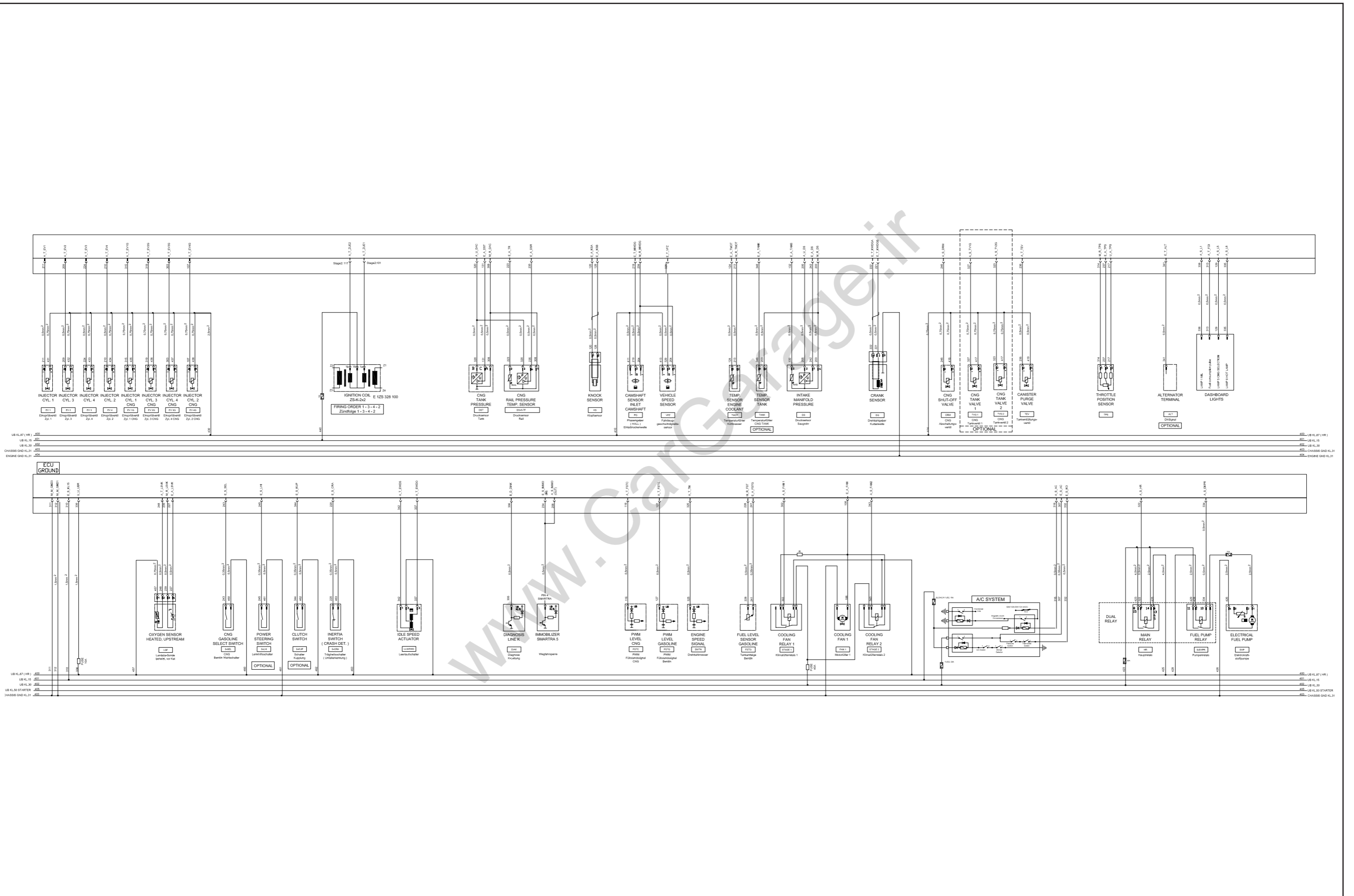
1	9	CONNECTOR LEFT ( CHAMBER 100 )	17	25
2	10		18	26
3	11		19	27
4	12		20	28
5	13		21	29
6	14		22	30
7	15		23	31
8	16		24	32

PIN	ASSIGNMENT	FUNCTION
201		
202		
203	M-R-DS	GROUND INTAKE MANIFOLD PRESSURE
204	M-R-NWDG	GROUND PHASE SENSOR CAMSHAFT
205	A-U-DS	SENSOR POWER SUPPLY INTAKE MANIFOLD PRESSURE
206		
207		
208	A-S-IMMO	IMMOBILIZER K-LINE (OUT)
209	A-T-EV2	OUTPUT INJECTION VALVE #2
210	A-T-EV4	OUTPUT INJECTION VALVE #4
211	A-T-EV1	OUTPUT INJECTION VALVE #1
212		
213	M-R-TMOT	GROUND TMOT
214		
215		
216		
218	A-U-TPS	SENSOR POWER SUPPLY TPS
219	E-T-NWDG	ACTUAL SIGNAL PHASE SENSOR INLET CAMSHAFT
220	E-S-CRASH	INERTIA SWITCH CRASH SENSOR
221	E-T-KWDGB	ACTUAL SIGNAL #B CRANKSHAFT SENSOR
222	E-T-KWDGA	ACTUAL SIGNAL #A CRANKSHAFT SENSOR
223	E-A-TR	ACTUAL SIGNAL TEMP. SENSOR CNG RAIL
224	A-T-EV3	OUTPUT INJECTION VALVE #3
225		
226		
227	E-A-LSVK	OXYGEN SENSOR UPSTREAM
228	M-R-FSTG	GROUND FUEL LEVEL SENSOR
229		
230		
231		
232		
233		
234	E S IMMO	IMMOBILIZER K-LINE (IN)
235	E-A-DSR	CNG RAIL PRESSURE
236	A-T-TEV	OUTPUT FUEL CANISTER PURGE VALVE
237	E-A-TPS	THROTTLE POSITION SENSOR
238		
239	M-R-LSVK	GROUND OXYGEN SENSOR UPSTREAM
240		
241		
242	E-A-DS	ACTUAL SIGNAL INTAKE MANIFOLD PRESSURE
243	E-S-SEL	CNG/GASOLINE SELECT SWITCH
244		
245	E-S-LHI	POWER STEERING SWITCH
246	A-S-DRM	OUTPUT CNG SHUT-OFF VALVE
247		
248	A-T-LSVK	HEATING OXYGEN SENSOR UPSTREAM

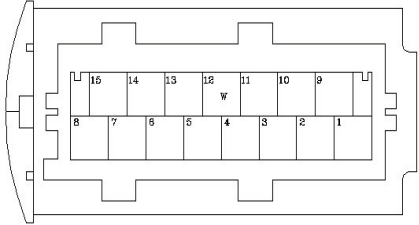
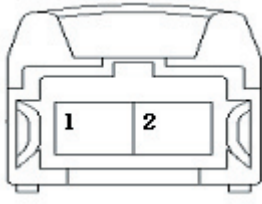
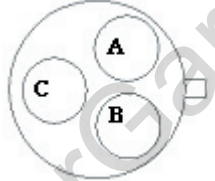
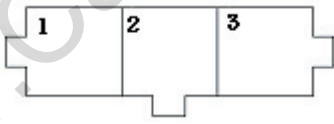
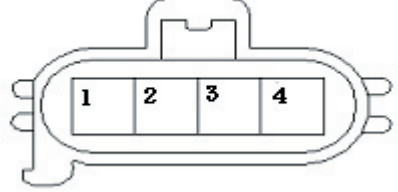
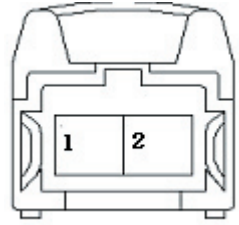
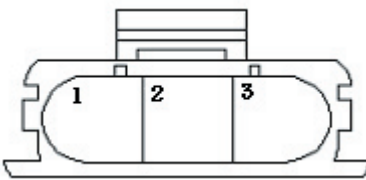
1	13	CONNECTOR MID ( CHAMBER 200 )	25	37
2	14		26	38
3	15		27	39
4	16		28	40
5	17		29	41
6	18		30	42
7	19		31	43
8	20		32	44
9	21		33	45
10	22		34	46
11	23		35	47
12	24		36	48

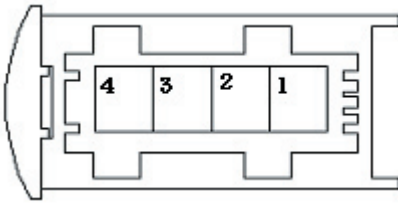
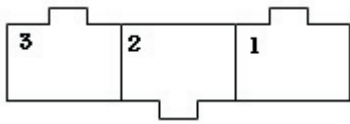
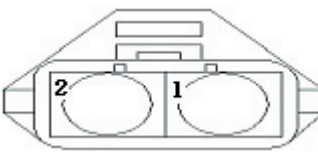
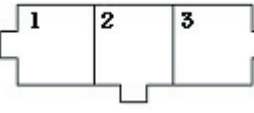
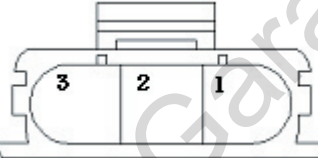
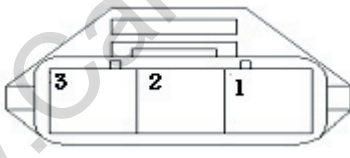
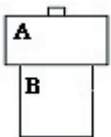

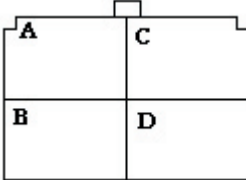
PIN	ASSIGNMENT	FUNCTION
301	A-S-L2	RESERVE
302	A-T-FAN1	COOLING FAN (LOW SPEED)
303	A-T-EV3G	OUTPUT INJECTION VALVE #3 CNG
304		
305		
306	B-D-DIAK	DIAGNOSIS LINE K
307	E-S-AC	A/C SWITCH INPUT
308	M-R-DAC	GROUND CNG PRESSURE
309		
310	E-S-KL15	IGNITION SWITCH KL15
311	M-M-GND3	GROUND 3
312	M-M-GND1	GROUND 1
313	A-T-FCI	FUEL CONSUMPTION
314	M-R-TPS	GROUND THROTTLE POSITION SENSOR
315	A-T-EV1G	OUTPUT INJECTION VALVE #1 CNG
316	A-S-AC	OUTPUT A/C COMPRESSOR RELAY
317		
318		
319	A-T-EV2G	OUTPUT INJECTION VALVE #2 CNG
320	A-U-DAC	SENSOR SUPPLY CNG PRESSURE
321		
322	A-S-HR	OUTPUT MAIN RELAY 1 AND 2
323	A-S-TV2G	OUTPUT CNG TANK VALVE 2
324		
325	A-T-TN	OUTPUT ENGINE SPEED SIGNAL
326		
327	A-S-TV1G	OUTPUT CNG TANK VALVE1
328		
329	E-T-VFZ	VEHICLE SPEED SENSOR
330		
331		
332	E-S-KO	ACTUAL SIGNAL COMPRESSOR READY
333		
334	A-S-EKP	OUTPUT FUEL PUMP RELAY
335	A-S-L8	DASHBOARD LAMP 8 HOT LAMP
336	U-U-UBR	POWER SUPPLY UBR FROM MAIN RELAY
337	A-T-EWDO	ISA (OPEN COIL)
338	A-S-L1	DASHBOARD LAMP 1 MIL
339		
340		
341	E-T-ALT	ALTERNATOR TERMINAL (OPTION)
342	A-T-EWDS	ISA (CLOSE COIL)
343	A-S-FAN2	COOLING FAN RELAY (HIGH SPEED)
344	E-S-KUP	CLUTCH SWITCH (OPTION)
345		
346	E-A-TANK	ACTUAL SIGNAL TEMP. SENSOR TANK CNG (OPTION)
347	M-M-GND2	GROUND 2
348	M-M-GND4	GROUND 4

1	13	CONNECTOR RIGHT ( CHAMBER 300 )	25	37
2	14		26	38
3	15		27	39
4	16		28	40
5	17		29	41
6	18		30	42
7	19		31	43
8	20		32	44
9	21		33	45
10	22		34	46
11	23		35	47
12	24		36	48

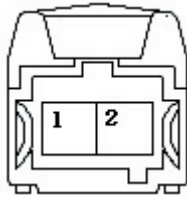
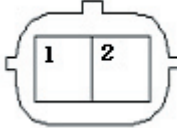
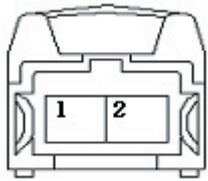
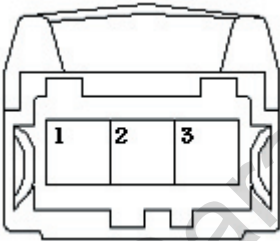
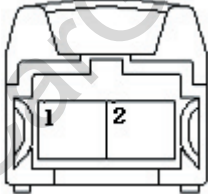
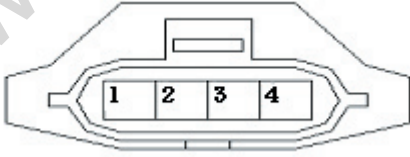
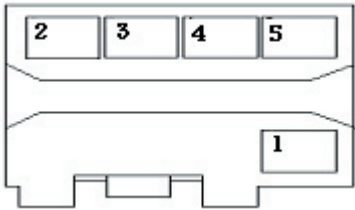
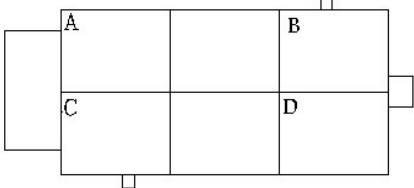





وظیفه پایه	تعداد پایه	شکل کانکتور دسته سیم	قطعه
به نقشه شماتیک مراجعه کنید.	۱۵		رله دابل (Double Relay)
۱ → +۱۲V ۲ → SIG	۲		شیر برقی رگولاتور (Regulator Solenoid Valve)
A → GND B → +۵V C → SIG	۳		سنسور فشار مخزن گاز (CNG Tank Pressure)
۱ → GND ۲ → +۱۲V ۳ → SIG	۳		سنسور سرعت خودرو (Vehicle Speed Sensor)
۱ → GND ۲ → Temp SIG ۳ → +۵V ۴ → Pressure SIG	۴		سنسور فشار داخل مانیفولد و دمای هوای ورودی (MAP Sensor)
۱ → +SIG ۲ → -SIG	۲		سنسور کوبش (Knock Sensor)
۱ → SIG ۲ → +۱۲V ۳ → SIG	۳		شیر برقی دور آرام (Idle Speed Actuator)

<p>۱ → +۱۲V ۲ → -SIG ۳ → GND ۴ → + SIG</p>	۴		سنسور اکسیژن (Sensor Oxygen)
<p>۱ → SIG ۲ → SIG ۳ → GND</p>	۳		سنسور دور موتور (Crankshaft Sensor)
<p>۱ → +۱۲V ۲ → SIG</p>	۲		شیر برقی کنیستر (Canister Purge Valve)
<p>۱ → +۱۲V ۲ → SIG</p>	۳		سوئیچ ثقلی (Inertia Switch)
<p>۱ → GND ۲ → SIG ۳ → +۱۲V</p>	۳		سنسور موقعیت میل سوپاپ (Camshaft Sensor)
<p>۱ → SIG(1,4) ۲ → +۱۲V ۳ → SIG (2,3)</p>	۳		کویل جرقه زنی (Ignition Coil)
<p>A → SIG B → +۱۲V</p>	۲		سوئیچ پدال کلاچ (Clutch Switch)
<p>۴ → GND ۵ → GND ۷ → SIG ۱۶ → +۱۲V</p>	۱۶		کانکتور عیب یاب
<p>A → +۱۲V B → SIG D → +۱۲V</p>	۴		رله های فن خنک کننده (دور پایین و دور بالا)



<p>۱ → SIG ۲ → GND</p>	۲		سنسور دمای آب (Water Temperature Sensor)
<p>۱ → +۱۲V ۲ → SIG</p>	۲		انژکتور گاز (CNG Injector)
<p>۱ → +۱۲V ۲ → SIG</p>	۲		انژکتور بنزین (Gasoline Injector)
<p>۱ → GND ۲ → +۵V ۳ → SIG</p>	۳		سنسور وضعیت دریچه گاز (Throttle Position Sensor)
<p>۱ → +۱۲V ۲ → SIG</p>	۲		شیر برقی مخزن گاز
<p>۱ → GND ۲ → Temp SIG ۳ → +۵V ۴ → Pressure SIG</p>	۴		سنسور فشار و دمای ریل سوخت گاز
<p>۱ → Antenna ۲ → SIG ۳ → +۱۲V ۴ → GND ۵ → Antenna</p>	۵		سیستم ضد سرقت (Immobilizer)
<p>A → Pump SIG B → GND C → Gage SIG D → GND</p>	۴		پمپ سوخت
<p>به نقشه شماتیک مراجعه کنید.</p>	۱۲۸		ECU (Bosch)

max	min	signal	plausible	Description	ECU PIN
P339A	P339B	P339B	P339C	Circuit malfunction CNG Tank valve 1	pin 327
P339D	P339E		P339F	Circuit malfunction CNG Tank valve 2	pin 323
P3380	P3381			Circuit malfunction shut OFF valve at PRM	pin 246
P0335				Reference mark (crankshaft sensor) misalignment	pin 222
P0121				Error throttle potentiometer signal	pin 237
P3366	P3367			CNG Rail pressure error or not plausible	pin 235
P3386	P3387			CNG Rail pressure sensor voltage error	pin 235
P0483				Engine fan relay 'OUT' malfunction	pin 106
P0262	P0261	P0201		Gasoline injector 1 (cylinder 1)	pin 211
P0265	P0264	P0202		Gasoline injector 2 (cylinder 3)	pin 209
P0268	P0267	P0203		Gasoline injector 3 (cylinder 4)	pin 224
P0271	P0270	P0204		Gasoline injector 4 (cylinder 2)	pin 210
P3389	P3390	P3388		CNG injector 1 (cylinder 1)	pin 315
P3392	P3393	P3391		CNG injector 2 (cylinder 3)	pin 319
P3395	P3396	P3394		CNG injector 3 (cylinder 4)	pin 303
P3398	P3399	P3397		CNG injector 4 (cylinder 2)	pin 107
P2177	P2178			multiplicative mixture adaptation factor	
P2181	P2182			multiplicative mixture adaptation factor for CNG	
P0463	P0462	P0461		Gasoline Tank level sensor signal	pin 241
P0032	P0031			Circuit malfunction of heater O2-sensor upstream	pin 248
P2521	P2520	P2519		Circuit malfunction of A/C compressor relay	pin 316
P0629	P0628	P0627		Circuit malfunction of Gasoline fuel pump relay	pin 334
P032A				ECU internal circuit knock control zero test	
P032B				ECU internal circuit knock control offset	
P032C				ECU internal circuit knock control test pulse	
P0328	P0327	P0325		Knock sensor signal (range check only active in part load)	128&120
P0704				clutch pedal signal not plausible	pin 344
P334A				CNG internal leakage of PRM through shut OFF valve	
P334B				CNG internal leakage through tank valve	
P0507	P0506			Idle speed control out of range (blocked actuator/leakage)	
P0508	P0509			General Circuit malfunction idle speed actuator	342&337
P0103	P0102	P0101		Engine main-load sensor (MAP)	pin 242
P1176	P0133	P2231	P0134	O2-sensor signal upstream cat.	pin 227
P0480				Circuit malfunction fan control low	pin 302
P0481				Circuit malfunction fan control high	pin 343
P0335				Signal engine speed sensor	pin 222
P304A	P304B			CNG leak from low pressure system	
P304C	P304D			CNG leak from high pressure system	
P0219				critical engine speed detected	
P2187	P2188			additive mixture adaptation factor	
P2191	P2192			additive mixture adaptation factor for CNG	
P0533	P0532	P0530	P0531	AC pressure sensor signal	pin 332
P0340				general phase sensor signal fault	pin 219
P0343	P0342	P0341		electrical fault phase sensor signal	pin 219
P3383	P3384	P3382		ptng_w natural gas tank pressure value not plausible	pin 131
P3144	P3145	P3146	P3147	Circuit malfunction ignition coil, cylinder1-4	pin 101
P3148	P3149	P3150	P3151	Circuit malfunction ignition coil, cylinder2-3	pin 117
P0110			P0114	intake air temperature circuit malfunction	pin 132
P0112	P0113	P0114		intake air temperature sensor electrical fault	pin 132
P0459	P0458	P0444		Circuit malfunction purge control valve	pin 236
P0115			P0116	engine temperature sensor circuit malfunction	pin 124
P0117	P0118	P0116		engine temperature sensor electrical fault	pin 124
P336B	P336C	P336D	P336E	CNG Rail temperatur sensor	pin 223
P0563	P0562	P0560		battery voltage	pin 336
P0501				vehicle speed signal malfunction	pin 329
P1270				Circuit malfunction idle speed actuator opening coil	pin 337
P1271				Circuit malfunction idle speed actuator closing coil	pin 342

