

SÍMBOLO	COMPONENTE	PATILLAS	SEÑAL
B2	Bobina DIS.: -. Patillas 1 y 17: cilindros 1 y 4. -. Patillas 17 y 19: cilindros 2 y 3. -. La resistencia de los primarios es de 0,45 a 0,75 Ohm.. -. La resistencia de los secundarios es de 12.000 a 16.000 Ohm..	1, 17 y 19	SE12
BC	Bomba de combustible: -. Presión de 3 bar. (con toma de vacío -0,5 bar.). -. Alimentación de la bomba 12 Vcc..	----	----
EBV	Electroválvula depósito de carbón activo: -. Voltaje de pico de 12 Vpp.. -. Resistencia de la electroválvula aprox. de 25 a 55 Ohm..	22 y 35	SE6
I1	Inyector multipunto de cuatro cilindros: -. La resistencia de cada uno de los inyectores es de 13 a 18 Ohm..	35 y 18	SE2
IM	Potenciómetro de mariposa: -. Entre patillas 16 y 30 voltaje de 4,5 a 5 Vcc. acelerando a fondo. -. Entre patillas 16 y 30 voltaje de 0,25 a 0,3 Vcc. con la mariposa cerrada.	16 y 30	----
MAP	Sensor de presión absoluta MAP: -. Para 800 mmHg., valor de 4,5 a 4,8 Vcc.. -. Para 500 mmHg., valor de 2,4 a 2,6 Vcc.. -. Para 150 mmHg., valor de 0,25 a 0,3 Vcc..	16 y 32	----
MP	Motor de pasos: -. Resistencia inducidos entre 45 y 65 Ohm.. -. Voltaje de pico de 12 Vpp..	2, 3, 20 y 21	SE6
S1	Sensor inductivo de rpm. y pms.: -. La resistencia interna del componente es de 300 a 500 Ohm..	11 y 28	SE11
S4	Sensor de picado de bielas.	16 y 33	SE8
SL	Sonda Lambda: -. Voltaje fluctuante de 0,1 a 1,1. -. Resistencia de la sonda de 5 a 16 Ohm..	12 y 29	SE4
SRA1	Sensor temperatura de refrigerante: -. De 2,2 a 2,8 Vcc. a 20°C.. -. De 0,25 a 0,5 Vcc. a 80°C.. -. La variación en voltaje debe ser progresiva, sin cortes ni alteraciones en su trayectoria lineal. Resistencia del sensor: -. A 0°C., 6.000 a 6.800 Ohm.. -. A 20°C., 2.200 a 2.800 Ohm.. -. A 80°C., 280 a 350 Ohm.	13 y 25	----
SRA2	Sensor de temperatura de aire: -. De 2,25 a 2,8 Vcc. a 20°C.. Resistencia del sensor: -. A 0°C., 6.000 a 7.000 Ohm.. -. A 20°C., 2.200 a 2.800 Ohm.. -. A 80°C., 250 a 380 Ohm.. -. La variación en voltaje debe ser progresiva, sin cortes ni alteraciones en su trayectoria lineal.	16 y 31	----
VEL	Sensor de velocidad de vehículo: -. Valor de 0 Vcc. ó 12 Vcc. de forma intermitente dependiendo de la velocidad del vehículo.	16 y 27	SE5

# System Description

## General

The Magneti Marelli 8P /8F /6F /6R are fuel injection and ignition control systems. The control systems evaluate signals from various sensors and adjust the fuel metering and ignition accordingly.

These systems are very similar. One important difference is that while the 8P and 8F are multi-point systems, the 6F and 6R are mono-point systems. Another is that the 6R has a single ignition coil as opposed to the other systems that have double ignition coils. Some systems are equipped with a double relay instead of separate main and fuel pump relays. The pin numbering of these relays differs which can cause problems when localising faults.

**Note:** in order to increase the pressure in the fuel system the pump relay is activated for a certain period after the ignition is switched on. This period varies between systems and car models. If the period is very long, the Multi-Tester plus/pro may indicate an error in a static test of the pump relay signal even if it is correct. When the engine stops the main relay remains activated for a certain period. If a static test is initiated during this period and the ignition is not on, an error is reported because the Multi-Tester plus/pro interprets an activated main relay as the ignition being on.

## Summary – Car Models

The following car models are equipped with Magneti Marelli 8P /8F /6F /6R:

Manufacturer	Type	Engine	System
Alfa Romeo	33	1.4	8F
Alfa Romeo	145	1.3	8F
Alfa Romeo	146	1.4	8F
Citroën	ZX	1.6	8P
Citroën	ZX	1.8	8P
Citroën	ZX	2.0	8P
Citroën	Xantia	2.0	8P
Fiat	Cinquecento SX	0.9	6F
Fiat	Ducato	2.0	8P
Fiat	Panda	0.9	6F
Fiat	Panda	1.0	6F
Fiat	Panda	1.1	6F

Manufacturer	Type	Engine	System
Fiat	Punto	1.1	6F
Fiat	Punto	1.3	8F
Fiat	Tipo	1.8	8F
Peugeot	106		8P
Peugeot	306	1.8	8P
Peugeot	306	2.0	8P
Peugeot	405	1.6	8P
Peugeot	405	1.8	8P
Peugeot	405	2.0	8P
Renault	Twingo	1.3	8P

Please check the workshop manual to verify if the actual car is equipped with a system described in this manual.

## Sensors and signals

- Air temperature sensor – measures the temperature of the air ingested.
- Coolant temperature sensor.
- Crankshaft sensor – measures rotation speed and indicates the top dead center.
- Lambda sensor – measures the oxygen content of the exhaust gases (only certain systems).
- Manifold air pressure sensor (MAP) – measures the pressure in the induction pipe.
- Throttle potentiometer – measures the throttle's angle.

## Control functions

- Control of injection valve(s).
- Control of tank ventilation (only certain systems).
- Control of idle speed.
- Ignition advance control.

Interface – Signal Locations

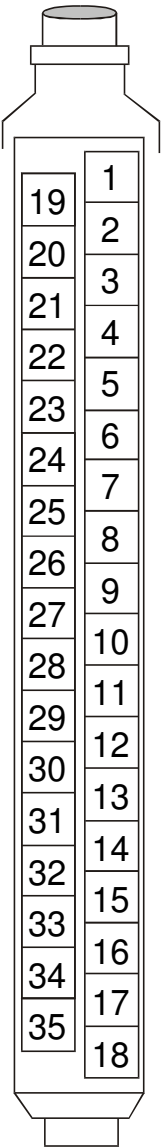
System Magneti Marelli

1. Ignition pulse to ignition amplifier, cylinder 1 & 4
2. Control signal to idle speed regulator
3. Control signal to idle speed regulator
4. Control signal to main relay
5. Engine speed signal to revolution counter\*
6. Control signal to engine control lamp\*
7. Not connected
8. AC\*
9. AC\*
10. Diagnosis
11. Signal from crankshaft sensor
12. Ground from lambda sensor
13. Signal from coolant temperature sensor
14. Power to throttle potentiometer and manifold air pressure sensor
15. Diagnosis
16. Ground to sensor
17. Ground
18. Control signal to injection valve(s)
19. Control signal to ignition coil, cylinder 2 & 3
20. Control signal to idle speed regulator
21. Control signal to idle speed regulator
22. Control signal to tankventilation
23. Control signal to fuel pump relay / engine speed signal
24. AC\*
25. Not connected
26. Status signal from automatic gear box\*
27. Signal from speedometer\*
28. Signal from crankshaft sensor
29. Signal from lambda sensor
30. Signal from throttle potentiometer
31. Signal from air temperature sensor
32. Manifold air pressure sensor
33. Knock sensor\*
34. Ground
35. Power from main relay

\* Only certain models

**Note:** Connector viewed from below.

Wiring harness  
8P, 8F, 6F, 6R



# Wiring Diagram Magneti Marelli

This wiring diagram is an example. Check in the relevant workshop manual for the diagram of the car you are working with.

