

## Double Fire Coil 2x2

This dual spark ignition coil is designed for low-cost applications in 4-cylinder engines.

The advantage of this coil is that the ECU needs only two internal ignition power stages to supply a 4-cylinder engine.

The double fire 2x2 coil benefits from series production ensuring robustness and low cost.



Application	
Spark energy	≤ 70 mJ
Primary current	≤ 8.0 A
Operating temperature range @ outer core	-20 ... 120 °C
Storage temperature range	-40 ... 100 °C
Max. vibration	≤ 200 m/s <sup>2</sup> @ 5 ... 250 Hz

Electrical Data	
Primary resistance with wire	500 mΩ
Secondary resistance	13.3 kΩ
High voltage rise time	≤ 1.9 kV/μs
Max. high voltage @ 1 MΩ    10 pF	≤ 35 kV
Spark current	≤ 70 mA
Spark duration @ 1 kV    1 MΩ	≤ 2.2 ms
Noise suppression	No
Suppression diode / EFU	No
Integrated power stage	No
Ionic current signal	No

Mechanical Data	
Weight	916 g
Mounting	screw fastening

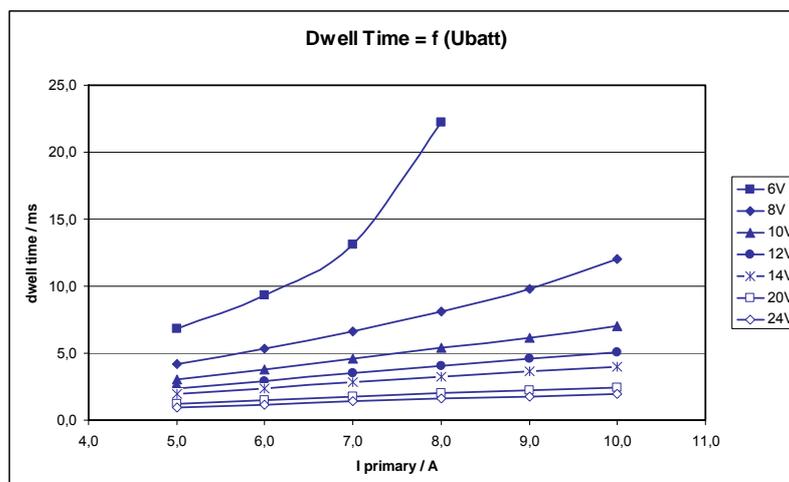
  

Characteristic	
Measured with power stage	IGBT IRG4BC40S (U <sub>ce</sub> = 600 V)

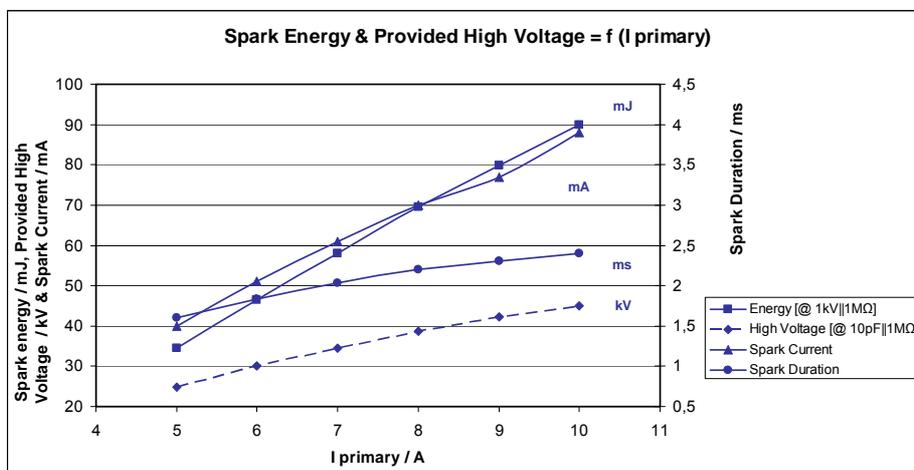
**Characteristic Dwell Time [ms]**

I primary	Ubatt									
	6 V	8 V	10 V	12 V	14 V	16 V	18 V	20 V	22 V	24 V
5.0 A	6.9	4.2	3.0	2.4	1.9	1.6	1.4	1.2	1.1	1.0
6.0 A	9.3	5.3	3.8	2.9	2.4	2.0	1.7	1.5	1.3	1.2
7.0 A	13.1	6.7	4.6	3.5	2.8	2.4	2.0	1.8	1.6	1.4
8.0 A	22.2	8.1	5.4	4.1	3.3	2.7	2.3	2.0	1.8	1.6
9.0 A	-	9.8	6.2	4.6	3.6	3.0	2.6	2.3	2.0	1.8
10.0 A	-	12.0	7.0	5.1	4.0	3.3	2.8	2.5	2.2	2.0

Measured values are without loom resistance. Loom resistance must be less than the primary resistance. The needed dwell time is to be verified through current measurement.


**Characteristic Spark Energy & Provided High Voltage**

	I primary					
	5 A	6 A	7 A	8 A	9 A	10 A
Spark energy [mJ]	34.5	46.5	58.0	69.6	79.9	89.9
Spark duration [ms]	1.6	1.83	2.03	2.2	2.31	2.4
Spark current [mA]	40	51	61	70	77	88
High voltage [kV]	24.9	30	34.5	38.6	42.2	45



### Connectors and Wires

Connector	Bosch Jetronic
Mating connector	D 261 205 289-01
Pin 1	Coil 2 ECU Ignition Driver Stage
Pin 2	U <sub>batt</sub>
Pin 3	Coil 1 ECU Ignition Driver Stage
Various motorsport and automotive connectors are available on request.	
Please specify the required wire length with your order.	

### Application Hint

The coil can be directly mounted on the engine.

Ignition wires are needed to connect the coil with the spark plug, please pay attention that the spark plugs are connected in the correct ignition firing order. Numbers in the offer drawing or on the ignition coil are not the ignition firing order but the cylinders' order.

This coil is only for use with engine control units having two integrated ignition power stages, e.g. IGBT or BIP.

For technical reasons the values of the coils may vary.

Please use only within the specified limit values.

Please find further application hints in the offer drawing (<http://www.bosch-motorsport.com>).

### Part Number

Coil 2x2 **0 221 503 407**

