

## Single Fire Coil P50 / P50-M

This single fire coil P50 [1] is a low cost concept designed for direct mounting to the cylinder-head. A high voltage ignition cable can optionally be connected to the secondary output terminal.

The mating ECU must have internal ignition power stages for each single fire coil.

The coil P50-M [2] is specifically for motorsport applications. This coil is operable in higher vibration environments.



Application	
Spark energy	≤ 50 mJ
Primary current	≤ 8.5 A
Operating temperature range @ outer core	-20 ... 140 °C
Storage temperature range	-40 ... 100 °C
Max. vibration	[1] ≤ 400 m/s <sup>2</sup> @ 5 ... 2,000 Hz [2] ≤ 800 m/s <sup>2</sup> @ 5 ... 2,000 Hz

Electrical Data	
Primary resistance with wire	370 mΩ
Secondary resistance	incapable of measurement
High voltage rise time	≤ 3.0 kV/μs
Max. high voltage @ 1 MΩ    10 pF	≤ 35 kV
Spark current	≤ 92 mA
Spark duration @ 1kV    1MΩ	≤ 1.15 ms
Noise suppression	Yes, with spark plug connector
Suppression diode / EFU	Yes
Integrated power stage	No
Ionic current signal	No

Mechanical Data	
Weight	[1] 223 g [2] 265 g
Mounting	pluggable

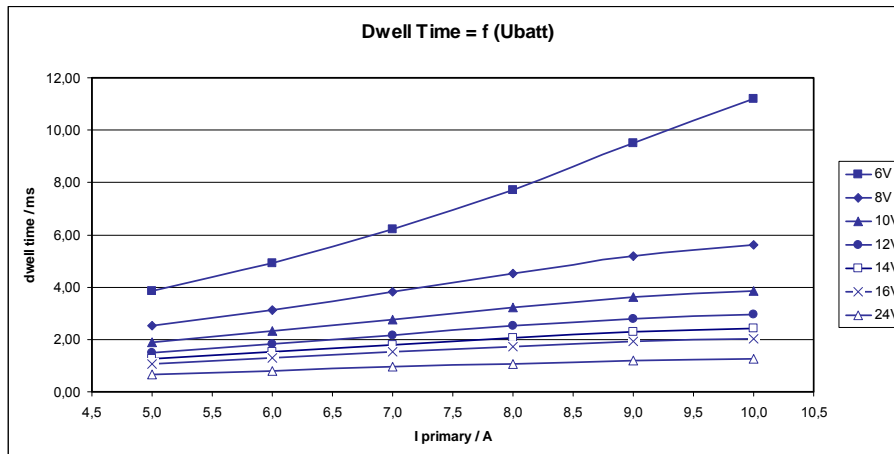
Characteristic	
Measured with power stage	IGBT IRG4BC40S (U <sub>ce</sub> = 600 V)

### Characteristic Dwell Time [ms]

I primary	U <sub>batt</sub>

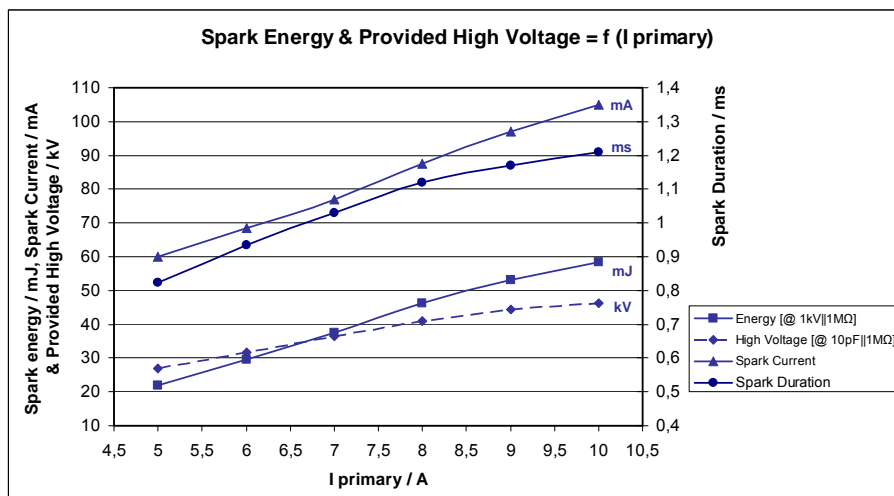
	6 V	8 V	10 V	12 V	14 V	16 V	18 V	24 V	30 V
5.0 A	3.84	2.54	1.90	1.51	1.26	1.07	0.94	0.68	0.53
6.0 A	4.93	3.14	2.33	1.84	1.52	1.30	1.13	0.81	0.63
7.0 A	6.20	3.81	2.76	2.17	1.79	1.53	1.32	0.95	0.74
8.0 A	7.70	4.51	3.21	2.51	2.06	1.74	1.51	1.08	0.84
9.0 A	9.50	5.17	3.62	2.80	2.29	1.93	1.67	1.19	0.93
10.0 A	11.20	5.61	3.87	2.97	2.42	2.04	1.77	1.26	0.98

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 <sub>primary</sub> [A]					
	5 A	6 A	7 A	8 A	9 A	10 A
Spark energy [mJ]	22	29.7	37.5	46.3	53	58.4
Spark duration [ms]	0.82	0.93	1.03	1.12	1.17	1.21
Spark current [mA]	60	68.5	77	87.5	97	105
High voltage [kV]	26.8	31.6	36.4	40.9	44.4	46.3



### Connectors and Wires

Connector	Bosch Compact
Mating connector	D 261 205 335-01
Pin 1	ECU Ignition Driver Stage
Pin 2	Gnd
Pin 3	U <sub>batt</sub>
For spark plugs	ceramic diameter d = 10 mm
Various motorsport and automotive connectors are available on request.	

### Application Hint

During mounting of the spark plug please pay attention that full clamping and proper contacts are made to ensure safe connection between coil and spark plug.

This coil is only for use with engine control units having an integrated ignition power stage, e.g. IGBT IRG4BC40S or BIP.

For technical reasons the values of the coils may vary.

Please only use within specified limit values.

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

### Accessories

Accessory spark plug connector **1 354 489 085**

### Part Number

P50 [1] **0 221 504 001**

P50-M [2] **B 261 208 315-01**  
incl. spark plug connector 1 354 489 085

