Ignition Coil C90i-pro

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BOSCH
Invented for life

- Max. 40 kV
- Max. 90 mJ
- Max. 5.0 kV/µs
- Especially developed for Turbo-GDI engines
- Max. 15,000 1/min

This single fire coil was developed for the use e.g. in GDI (turbocharged) high performance engines. It is designed for direct cylinder head mounting.
The main benefits of this high performance coil are its high energy capability and a very good provided high voltage.

Application

Spark energy	≤ 90 mJ
Primary current	≤ 16 A
Operating temperature range outer core	0 to 160°C
Storage temperature range	-40 to 100°C
Max. vibration	≤ 480 m/s² at 50 to 2,000 Hz

Technical Specifications

Mechanical Data

Length	168 mm
Weight w/o wire	250 g
Mounting	screw fastening

Electrical Data

Primary resistance	185 mΩ
Secondary resistance	Incapable of measurement
High voltage rise time	≤ 5.0 kV/µs
Max. high voltage at 1 MΩ ‖ 10 pF	≤ 40 kV
Spark current	≤ 160 mA
Spark duration at 1 kV ‖ 1 MΩ	≤ 1.1 ms
Noise suppression	Inductive
Suppression diode / EFU	Internal
Ionic current measurement	+

Characteristic

Measured with power stage	IGBT IRG4BC40S (Uce=600 V)

Connectors and Wires

Connector	On request
Mating connector	On request
Pin 1	U_{batt} red
Pin 2	ECU ignition power stage blue
Pin 3	Engine GND black

Wire length	100 cm
Wire size	AWG 20/22
For spark plugs	Ceramic diameter d = 10 mm

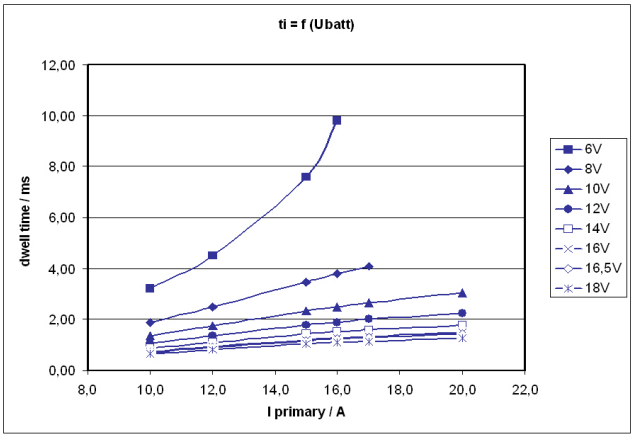
Various motorsport and automotive connectors are available on request.

Please specify the required wire length and the length of the spark plug connector with your order

Characteristic dwell times [ms]

U_{batt}	I primary					
	10 A	12 A	15 A	16 A	17 A	20 A
6 V	3.2	4.5	7.6	9.8		
8 V	1.88	2.49	3.47	3.79	4.10	
10 V	1.35	1.76	2.34	2.51	2.67	3.05
12 V	1.06	1.35	1.77	1.89	2.00	2.24
14 V	0.87	1.11	1.43	1.52	1.60	1.79
16 V	0.74	0.93	1.20	1.28	1.34	1.49
16.5 V	0.71	0.90	1.15	1.23	1.29	1.43
18 V	0.64	0.81	1.03	1.10	1.15	1.27

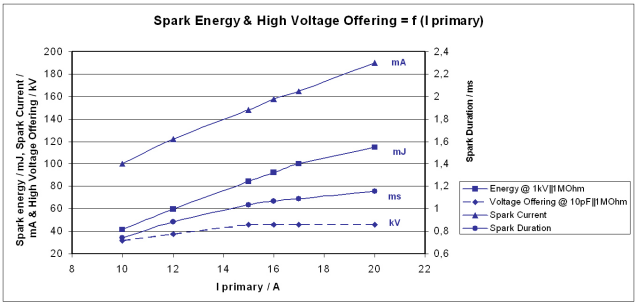
Measured values are without loom resistance. Loom resistance must be less than the primary resistance. The needed dwell time is to be verified through current measurement



Dwell time

Spark energy and provided high voltage

I prim.	Spark energy	-duration	-current	Hi voltage
10 A	41.4 mJ	0.74 ms	100 mA	31.6 kV
12 A	59.5 mJ	0.882 ms	122 mA	37.4 kV
15 A	84.4 mJ	1.034 ms	148 mA	45.7 kV
16 A	92.6 mJ	1.07 ms	158 mA	46 kV
17 A	100 mJ	1.09 ms	165 mA	46 kV
20 A	115 mJ	1.16 ms	190 mA	46 kV



Spark energy

Installation Notes

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 regard the specified limit values (see “Electrical Data”).

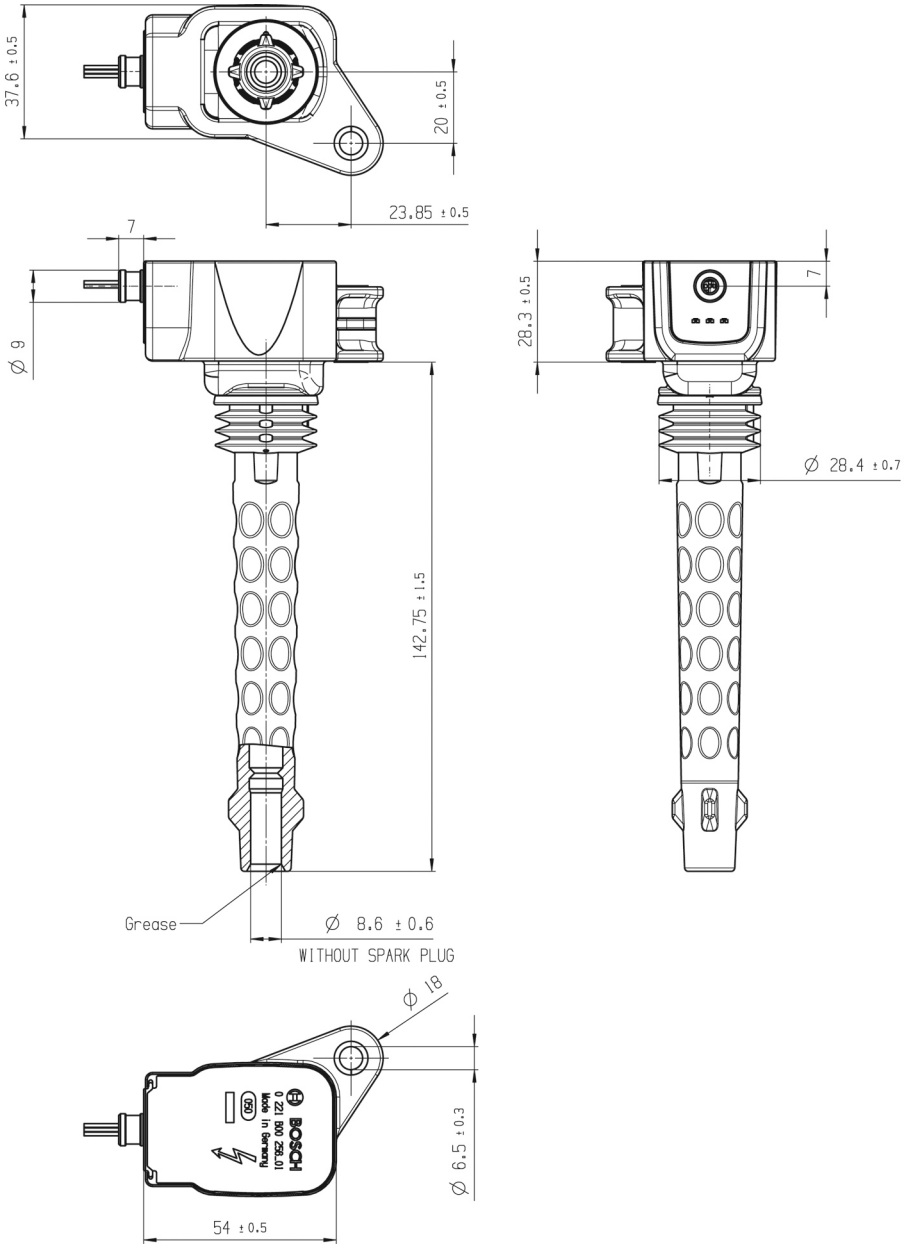
Usage above Iprim = 16 A may reduce the lifetime.

Please find further application hints in the offer drawing at our homepage.

Ordering Information

Single Fire Coil C90i-pro
Order number **0 221 B00 256-01**

Dimensions



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