

Ignition Coil C90i-E8

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Invented for life



- ▶ Max. 40 kV
- ▶ Max. 90 mJ
- ▶ Max. 5.0 kV/μs
- ▶ Fits to spark plugs with a ceramic diameter of 8 mm
- ▶ 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 C90i-E8 provides the possibility of ionic current measurement. For this single fire coil the customer can define the length of the spark plug connector. 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/s ² at 50 to 2,000 Hz

Technical Specifications

Mechanical Data

Length	80 to 225 mm
Weight w/o wire	< 270 g

Mounting	Screw fastening
Fits to spark plugs with a ceramic diameter of 8 mm	

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 and 1 kΩ resistance
Suppression diode / EFU	Internal

Characteristic

Measured with power stage	IGBT IRG4BC40S (U _{ce} =600 V)
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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
Pin 4	Ionic current signal white
Wire length	100 cm
Wire size	AWG 20/22

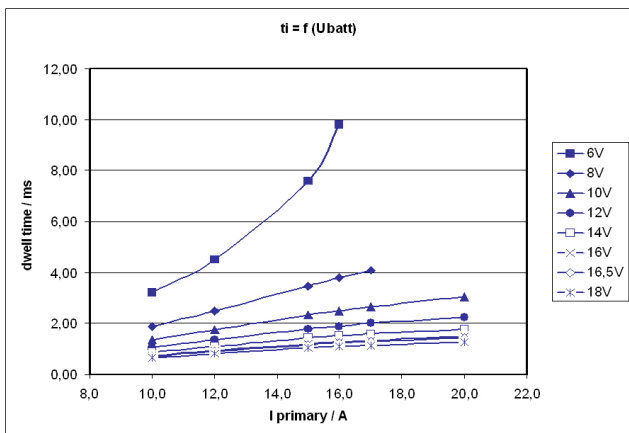
Various motorsport and automotive connectors are available on request.

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

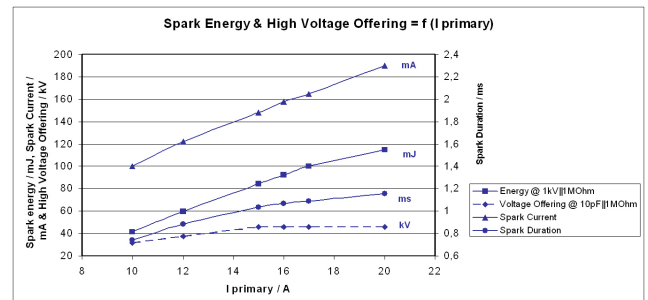


Dwell time

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 I_{prim} = 16 A may reduce the lifetime.

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

In case of ignition-caused malfunctions, please use screened sensor wires.

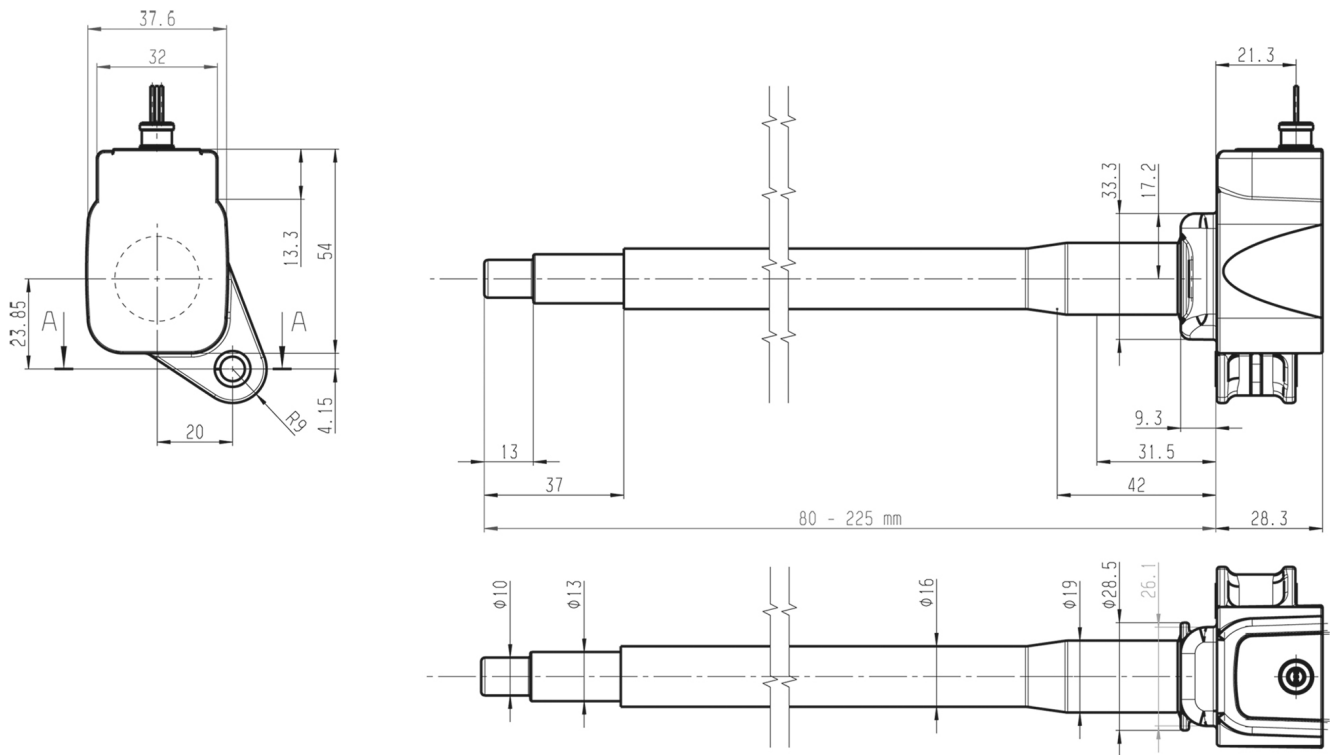
Ordering Information

Ignition Coil C90i-E8

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

Order number **F 02U V01 368-01**

Dimensions



Represented by:

Europe:
 Bosch Engineering GmbH
 Motorsport
 Robert-Bosch-Allee 1
 74232 Abstatt
 Germany
 Tel.: +49 7062 911 9101
 Fax: +49 7062 911 79104
 motorsport@bosch.com
 www.bosch-motorsport.de

North America:
 Bosch Engineering North America
 Motorsport
 38000 Hills Tech Drive
 Farmington Hills, MI 48331-3417
 United States of America
 Tel.: +1 248 876 2977
 Fax: +1 248 876 7373
 motorsport@bosch.com
 www.bosch-motorsport.com

Latin America:
 Robert Bosch Ltda
 Motorsport
 Av Juscelino Kubitscheck de
 Oliveira 11800
 Zip code 81460-900
 Curitiba - Parana
 Brasilia
 Tel.: +55 41 3341 2057
 Fax: +55 41 3341 2779

Asia-Pacific:
 Bosch Engineering Japan K.K.
 Motorsport
 18F Queen's Tower C, 2-3-5 Minato Mirai
 Nishi-ku, Yokohama-shi
 Kanagawa 220-6218
 Japan
 Tel.: +81 45 650 5610
 Fax: +81 45 650 5611
 www.bosch-motorsport.jp

Australia, New Zealand and South Africa:
 Robert Bosch Pty. Ltd
 Motorsport
 1555 Centre Road
 Clayton, Victoria, 3168
 Australia
 Tel.: +61 (3) 9541 3901
 motor.sport@au.bosch.com