



# Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering)

*Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio*

Download now

[Click here](#) if your download doesn't start automatically

# Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering)

*Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio*

**Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering)** Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio

Progressive reductions in vehicle emission requirements have forced the automotive industry to invest in research and development of alternative control strategies. Continual control action exerted by a dedicated electronic control unit ensures that best performance in terms of pollutant emissions and power density is married with driveability and diagnostics. Gasoline direct injection (GDI) engine technology is a way to attain these goals.

This brief describes the functioning of a GDI engine equipped with a common rail (CR) system, and the devices necessary to run test-bench experiments in detail. The text should prove instructive to researchers in engine control and students are recommended to this brief as their first approach to this technology. Later chapters of the brief relate an innovative strategy designed to assist with the engine management system; injection pressure regulation for fuel pressure stabilization in the CR fuel line is proposed and validated by experiment. The resulting control scheme is composed of a feedback integral action and a static model-based feed-forward action, the gains of which are scheduled as a function of fundamental plant parameters. The tuning of closed-loop performance is supported by an analysis of the phase-margin and the sensitivity function. Experimental results confirm the effectiveness of the control algorithm in regulating the mean-value rail pressure independently from engine working conditions (engine speed and time of injection) with limited design effort.

 [Download Common Rail System for GDI Engines: Modelling, Ide ...pdf](#)

 [Read Online Common Rail System for GDI Engines: Modelling, I...pdf](#)

**Download and Read Free Online Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio**

---

**From reader reviews:**

**Lydia Sanders:**

In this 21st hundred years, people become competitive in every single way. By being competitive today, people have do something to make them survives, being in the middle of the crowded place and notice by means of surrounding. One thing that sometimes many people have underestimated it for a while is reading. Sure, by reading a e-book your ability to survive improve then having chance to stand up than other is high. In your case who want to start reading a new book, we give you this Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) book as beginner and daily reading e-book. Why, because this book is usually more than just a book.

**Jennifer Games:**

Can you one of the book lovers? If so, do you ever feeling doubt if you find yourself in the book store? Make an effort to pick one book that you find out the inside because don't assess book by its protect may doesn't work is difficult job because you are afraid that the inside maybe not seeing that fantastic as in the outside seem likes. Maybe you answer may be Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) why because the wonderful cover that make you consider with regards to the content will not disappoint you. The inside or content is definitely fantastic as the outside or maybe cover. Your reading 6th sense will directly guide you to pick up this book.

**Anthony Malloy:**

This Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) is fresh way for you who has attention to look for some information mainly because it relief your hunger info. Getting deeper you onto it getting knowledge more you know otherwise you who still having tiny amount of digest in reading this Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) can be the light food for you personally because the information inside that book is easy to get through anyone. These books build itself in the form and that is reachable by anyone, yes I mean in the e-book contact form. People who think that in book form make them feel tired even dizzy this book is the answer. So there isn't any in reading a guide especially this one. You can find actually looking for. It should be here for you. So , don't miss the item! Just read this e-book kind for your better life along with knowledge.

**Karen Morris:**

As a university student exactly feel bored for you to reading. If their teacher expected them to go to the library or to make summary for some publication, they are complained. Just very little students that has reading's heart or real their interest. They just do what the instructor want, like asked to the library. They go to there but nothing reading significantly. Any students feel that studying is not important, boring and also

can't see colorful photographs on there. Yeah, it is to become complicated. Book is very important for you personally. As we know that on this period of time, many ways to get whatever we wish. Likewise word says, many ways to reach Chinese's country. Therefore this Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) can make you feel more interested to read.

**Download and Read Online Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio #NZLKTMRHE35**

## **Read Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) by Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio for online ebook**

Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) by Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio  
Free PDF download, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) by Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio books to read online.

## **Online Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) by Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio ebook PDF download**

**Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) by Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio Doc**

**Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) by Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio Mobipocket**

**Common Rail System for GDI Engines: Modelling, Identification, and Control (SpringerBriefs in Electrical and Computer Engineering) by Giovanni Fiengo, Alessandro di Gaeta, Angelo Palladino, Veniero Giglio EPub**