

# Lumenition<sup>®</sup>

## ENGINE MANAGEMENT SYSTEMS



### EM Kits and Option Packs

### Product Options and Descriptions

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# Lumenition Engine Management System

## EMP Kits & Option Pack Descriptions

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# Lumenition Engine Management System

## EMP Kits & Option Pack Descriptions

### Introduction

Lumenition Engine Management Packs have been created to offer all of the parts required to convert a vehicle to electronic ignition and / or fuel injection under a few simple product codes. The heart of the system is the tried and tested Lumenition C-series ECU's (the "Blue" ECU's) together with one of two harness options

### Engine Management Pack (EMP) Descriptions

Autocar's aim has been to offer one-stop-shop where one main EMP pack and (if required) two or three option packs will provide everything needed for 4 or 6 cylinder engine operation.

There are several types of Engine Management pack identified in the Application Table on page 3, which are as follows:

4 or 6 cylinder engines.

The number of cylinders makes some difference to the engine management components required and the contents of each pack reflect this.

#### Ignition Only or Ignition & Fuel Control

Both options are catered for on 4 and 6 cylinder engines

#### Distributor Working or Distributorless.

Two type of ignition management are offered EMP range for 4 and 6 cylinder vehicles.

**Distributor working** retains the existing distributor for engine timing and spark distribution. Timing will be by an Optrononic optical switch (please check an Optrononic fitting kit is available for the distributor fitted to the vehicle) or a suitable hall effect switch fitted in the distributor

**Distributorless** working uses a crank sensor to time the engine and coil pack to managed by the ECU to distribute the spark. A separate Crank sensor and toothed trigger wheel is available as an option pack, as are the coil packs.

#### Flying Lead or Fully Connectorised Harness

Lumenition's **Flying Lead Harness** consists of an ECU mating connector pre-terminated with colour coded wires ready for assembly into a custom harness. Power and Earth feeds need to be added and the harness wrapped and terminated before use. All necessary connectors and full instructions are included in the pack.

Lumenition's **Fully Connectorised Harness** is a professionally manufactured loom complete with all connectors and loom relays. All that is required is to plug it into the ECU, route the wiring around the vehicle and plug up the engine sensors.

### Option Packs

Complimenting the main Engine Management Packs are the Option Packs. These provide all the additional items required for Engine management installation where those components do not already exist on the vehicle.

The EMP and the EMK option packs are sold as a product and cannot be split up. Individual components can be ordered but will not have the same price discounts applied as for the full packs.

The following pages detail the Engine Management Pack Application Table, Recommended Retail Prices and the complete contents of each kit. Technical specifications are contained in Lumenition' Engine Management Guide.

# Lumenition Engine Management System

## EMP Kits & Option Pack Descriptions

### System Kits & Option Packs Application Table

Engine Type				Harness Type		Available Option Packs				
No. of Cyl	Type.	Distributor Working	Distributor - less	Flying Lead	Full Harness	Engine Sensor Pack EMK101	Crank Pack EMK102	CEC Coil EMK103	4 Cyl Coil pack EMK104	6 Cyl Coil Pack EMK105
4	Ignition Only	<input checked="" type="checkbox"/>		EMP001	EMP101	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
			<input checked="" type="checkbox"/>	EMP002	EMP102	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
	Ignition & Fuel	<input checked="" type="checkbox"/>		EMP004	EMP104	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
			<input checked="" type="checkbox"/>	EMP006	EMP106	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
6	Ignition Only	<input checked="" type="checkbox"/>		EMP001	EMP101	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
			<input checked="" type="checkbox"/>	EMP003	EMP103	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	Ignition & Fuel	<input checked="" type="checkbox"/>		EMP005	EMP105	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
			<input checked="" type="checkbox"/>	EMP007	EMP107	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>

### System Component Trade and Retail Prices

No. of Cylinders	Harness Type	Management Type	Trigger Type	Code	RRP Ex VAT	RRP Inc Vat
4	Short Harness	Ignition	Distributor Working,	EMP001	£ 404.26	£ 475.00
			Distributorless,	EMP002	£ 441.70	£ 519.00
		Ign. & Fuel	Distributor Working,	EMP004	£ 569.36	£ 669.00
			Distributorless,	EMP006	£ 603.40	£ 709.00
	Full Harness	Ignition	Distributor Working,	EMP101	£ 450.21	£ 529.00
			Distributorless,	EMP102	£ 484.26	£ 569.00
Ign. & Fuel	Ign. & Fuel	Distributor Working,	EMP104	£ 714.04	£ 839.00	
		Distributorless,	EMP106	£ 731.60	£ 859.00	
6	Short Harness	Ignition.	Distributor Working,	EMP001	£ 404.26	£ 475.00
			Distributorless,	EMP003	£ 484.26	£ 569.00
		Ign. & Fuel	Distributor Working,	EMP005	£ 603.04	£ 709.00
			Distributorless,	EMP007	£ 645.96	£ 759.00
	Full Harness	Ignition	Distributor Working,	EMP101	£ 450.21	£ 529.00
			Distributorless,	EMP103	£ 577.87	£ 679.00
Ign. & Fuel	Ign. & Fuel	Distributor Working,	EMP105	£ 739.57	£ 869.00	
		Distributorless,	EMP107	£ 765.11	£ 899.00	
Option Packs	Engine Sensors			EMK101	£ 72.34	£ 85.00
	Crank Sensor & Trigger Wheel			EMK102	£ 46.81	£ 55.00
	CEC Coil			EMK103	£ 25.53	£ 30.00
	4 cylinder Coil & Harness			EMK104	£ 59.57	£ 70.00
	6 cylinder Coil & Harness			EMK105	£ 110.64	£ 130.00
	Cal600C Software			EMK106	£ 46.81	£ 55.00

# Lumenition Engine Management System

## EMP Kits & Option Pack Descriptions

### System Pack Contents

4 Cylinder Engines, Ignition only Distributor Working.

<b>EM Kit Contents</b>	<i>EMP001 Flying Lead Harness</i>	<i>EMP101 Full Connector Harness</i>
C400 Distributor Ign. only ECU	1	1
CEM Ignition Amplifier	1	1
WH171 Adaptable loom	1	
AK008 Pin connector kit	1	
AK009 Socket connector kit	2	
WH143 Ignition only harness		1
LR183 loom relay		1
Recommended Retail Prices Ex Vat	£ 404.26	£ 450.21
Recommended Retail Prices Inc Vat	£ 475.00	£ 529.00
Dealer Price	£ 323.20	£ 360.00

#### Available Option Packs:

EMK101, Engine Sensor pack  
EMK103, CEC coil

4 Cylinder, Ignition only, Distributorless,

<b>EM Kit Contents</b>	<i>EMP002 Flying Lead Harness</i>	<i>EMP102 Full Connector Harness</i>
C410 Distributorless only ECU	1	1
CEM Ignition Amplifier	2	2
WH171 Adaptable loom	1	
AK008 Pin connector kit	2	
AK009 Socket connector kit	1	
AK013 2 way timer connector kit	1	
WH143 Ignition only harness		1
LR183 loom relay		1
CFK002 Crank sensor loom, Ford type		1
Recommended Retail Prices Ex Vat	£ 441.70	£ 484.26
Recommended Retail Prices Inc Vat	£ 519.00	£ 569.00
Dealer Price	£ 352.80	£ 387.20

#### Available Option Packs:

EMK101, Engine Sensor pack  
EMK102, Crank Sensor Pack  
EMK104, 4 Cyl. Coil Pack

# Lumenition Engine Management System

## EMP Kits & Option Pack Descriptions

### 4 Cylinder Ignition & Fuel Distributor Working,

<b>EM Kit Contents</b>	<i>EMP004 Flying Lead Harness</i>	<i>EMP104 full Connector Harness</i>
C451 Distributor Ign & Fuel ECU	1	1
CEM Ignition Amplifier	1	1
WH171 Adaptable loom	1	
AK008 Pin connector kit	1	
AK009 Socket connector kit	2	
AK013, 2 way timer connector kit	6	
WH162 Ignition only harness		1
LR183 loom relay		2
Recommended Retail Prices Ex Vat	£ 569.36	£ 714.04
Recommended Retail Prices Inc Vat	£ 669.00	£ 839.00
Dealer Price	£ 455.20	£ 571.20

#### **Available Option Packs:**

EMK101, Engine Sensor pack  
EMK102, Crank Sensor Pack  
EMK104, 4 Cyl. Coil Pack

### 4 Cylinder Ignition & Fuel, Distributorless.

<b>EM Kit Contents</b>	<i>EMP006 Flying Lead Harness</i>	<i>EMP106 Full Connector Harness</i>
C460 Distributorless only ECU	1	1
CEM Ignition Amplifier	2	2
WH171 Adaptable loom	1	
AK008 Pin connector kit	2	
AK009 Socket connector kit	1	
AK013 2 way timer connector kit	7	
WH162 Ignition & Fuel Harness		1
LR183 loom relay		2
CFK002 Crank sensor loom, Ford type		1
Recommended Retail Prices Ex Vat	£ 603.40	£ 731.60
Recommended Retail Prices Inc Vat	£ 709.00	£ 859.00
Dealer Price	£ 482.40	£ 584.80

#### **Available Option Packs:**

EMK101, Engine Sensor pack  
EMK102, Crank Sensor Pack  
EMK104, 4 Cyl. Coil Pack

# Lumenition Engine Management System

## EMP Kits & Option Pack Descriptions

6 Cylinder, Ignition only, Distributor Working.

<b>EM Kit Contents</b>	<i>EMP001 Flying Lead Harness</i>	<i>EMP101 Full Connector Harness</i>
C400 Distributor Ign. only ECU	1	1
CEM Ignition Amplifier	1	1
WH171 Adaptable loom	1	
AK008 Pin connector kit	1	
AK009 Socket connector kit	2	
WH143 Ignition only harness		1
LR183 loom relay		1
Recommended Retail Prices Ex Vat	£ 404.26	£ 450.21
Recommended Retail Prices Inc Vat	£ 475.00	£ 529.00
Dealer Price	£ 323.20	£ 360.00

### **Available Option Packs:**

EMK101, Engine Sensor pack  
EMK103, CEC coil

6 Cylinder, Ignition only, Distributorless.

<b>EM Kit Contents</b>	<i>EMP003 Flying Lead Harness</i>	<i>EMP103 Full Connector Harness</i>
C410 Distributorless only ECU	1	1
CEM Ignition Amplifier	3	3
WH171 Adaptable loom	1	
AK008 Pin connector kit	3	
AK009 Socket connector kit	1	
AK013 2 way timer connector kit	1	
WH143 Ignition only harness		1
WH152, 6 Cyl Distributorless Adaptor		1
LR183 loom relay		1
CFK002 Crank sensor loom, Ford type		1
Recommended Retail Prices Ex Vat	£ 484.26	£ 577.87
Recommended Retail Prices Inc Vat	£ 569.00	£ 679.00
Dealer Price	£ 387.20	£ 461.60

### **Available Option Packs:**

EMK101, Engine Sensor pack  
EMK102, Crank Sensor Pack  
EMK105, 6 Cyl. Coil Pack

# Lumenition Engine Management System

## EMP Kits & Option Pack Descriptions

### 6 Cylinder, Ignition & Fuel, Distributor Working

<b>EM Kit Contents</b>	<i>EMP005 Flying Lead Harness</i>	<i>EMP105 Full Connector Harness</i>
C451 Distributor Ign & Fuel ECU	1	1
CEM Ignition Amplifier	1	1
WH171 Adaptable loom	1	
AK008 Pin connector kit	1	
AK009 Socket connector kit	2	
AK013 2 way mini timer connector kit	8	
WH155 6 cyl. Ign & Fuel Harness		1
LR183 loom relay		1
Recommended Retail Prices Ex Vat	£ 603.04	£ 739.57
Recommended Retail Prices Inc Vat	£ 709.00	£ 869.00
Dealer Price	£ 482.80	£ 591.20

#### **Available Option Packs:**

EMK101, Engine Sensor pack  
EMK103, CEC coil

### 6 Cylinder Ignition & Fuel, Distributorless.

<b>EM Kit Contents</b>	<i>EMP007 Flying Lead Harness</i>	<i>EMP107 Full Connector Harness</i>
C660 Distributorless Ign & Fuel ECU	1	1
CEM Ignition Amplifier	3	3
WH171 Adaptable loom	1	
AK008 Pin connector kit	3	
AK009 Socket connector kit	1	
AK013 2 way mini timer connector kit	9	
WH152, 6 Cyl Distributorless Adaptor		1
WH155, 6 Cyl Ign. & Fuel Harness		1
LR183 loom relay		2
CFK002 Crank sensor loom, Ford type		1
Recommended Retail Prices Ex Vat	£ 645.96	£ 765.11
Recommended Retail Prices Inc Vat	£ 759.00	£ 899.00
Dealer Price	£ 516.00	£ 612.00

#### **Available Option Packs:**

EMK101, Engine Sensor pack  
EMK102, Crank Sensor Pack  
EMK105, 6 Cyl. Coil Pack

# Lumenition Engine Management System

## EMP Kits & Option Pack Descriptions

### EMK Engine Management System Option Pack Contents

EMK101, Engine Sensor Option Pack	Qty
ATS001, Air temperature sensor	1
WTS001, Water temperature sensor	1
TPS002, Throttle position sensor	1
MK004, TPS mounting kit	1
Recommended Retail Prices Ex Vat	£ 72.34
Recommended Retail Prices Inc Vat	£ 85.00
Dealer Price	£ 57.60

EMK104, 4 Cylinder Coil Option Pack	Qty
CEC004, 4 cylinder distributorless coil	1
AK012, Connector for Coil pack	1
WH167, Wiring harness, 4 turret coil	1
Recommended Retail Prices Ex Vat	£ 59.57
Recommended Retail Prices Inc Vat	£ 70.00
Dealer Price	£ 47.20

EMK102, Crank Sensor Option Pack	Qty
CPS001, Crank position sensor	1
MTW001 Multi-tooth trigger wheel	1
Recommended Retail Prices Ex Vat	£ 46.81
Recommended Retail Prices Inc Vat	£ 55.00
Dealer Price	£ 36.80

EMK105, 6 Cylinder Coil Option Pack	Qty
CEC006, 6 cylinder distributorless coil	1
AK012, Connector for Coil pack	1
WH168, Wiring harness, 6 turret coil	1
Recommended Retail Prices Ex Vat	£ 110.64
Recommended Retail Prices Inc Vat	£ 130.00
Dealer Price	£ 88.00

EMK103, CEC Coil Option Pack	Qty
CEC constant energy coil	1
Recommended Retail Prices Ex Vat	£ 25.53
Recommended Retail Prices Inc Vat	£ 30.00
Dealer Price	£ 20.00

EMK106, Calibration Software pack	Qty
CAL600C, single ECU calibration Software	1
WH169, ECU to PC communication cable	1
Recommended Retail Prices Ex Vat	£ 46.81
Recommended Retail Prices Inc Vat	£ 55.00
Dealer Price	£ 36.80