



## MAN eManager M service description

### General information

MAN eManager M enables users to analyse charging and discharging processes in detail with regard to the battery and energy consumption of their battery electric vehicles.

The “Overview” tab summarises the charge level of users’ vehicles and upcoming scheduled departure times, as well as presenting consumption and recuperation analyses for single or multiple vehicles in bar chart form.

In the “History” tab, the user can choose between the battery history and the consumption history, and view the charging and discharging processes for a specific period and selected vehicles.

The battery history contains all battery-related information, such as charging and discharging currents, battery voltage and charging faults, as well as a number of other useful data points for analysing battery behaviour. The history provides full transparency on battery behaviour and possible changes over time.

The consumption history shows the proportional energy consumption broken down by drivetrain, air-conditioning system and auxiliary consumers. The ambient temperature is stored, so the air-conditioning system’s consumption data can be easily interpreted and its consumption reduced for future vehicle operations based on targeted activation. The consumption analysis also indicates the recuperation rate. Recuperation can significantly extend the vehicle’s range, and so enhance energy efficiency.

In addition to historical analyses, MAN eManager M also upgrades the vehicle’s charge management functions (compared to MAN eManager S). As well as showing the battery’s state of charge as a percentage and remaining range in kilometres, it also indicates its data in kilowatt-hours (kWh). It also shows which vehicles are currently driving, and so should be on the road, and which are not. This means users have an overview of their entire fleet at all times, with exact details of the battery state of charge and charging status of each vehicle, and a listing of which vehicles are currently in drive mode.

MAN eManager M can be ordered for the MAN Lion’s City E.

In order for the service to be operational, it is necessary for the vehicle to be contactable via a wireless connection for the requisite configuration.

### Service overview

After MAN eManager M has been successfully activated, the following MAN eManager M services for the MAN Lion’s City E will be available for use:

Vehicle-specific history data is only available as from the date on which the service is ordered. The history extends back a maximum of 12 months.

Functionality/data	MAN Lion's City E
<ul style="list-style-type: none"> <li>• <b>Analysis charts in the “Overview” tab</b> <ul style="list-style-type: none"> <li>• Consumption figures in kWh, totalled and broken down by drivetrain, auxiliary consumers and air-conditioning</li> <li>• Recuperation data</li> <li>• Distance driven in km</li> </ul> </li> </ul> <p>Users can select one or more vehicles and a time period from a minimum of one day to a maximum of 12 months to display the charts</p>	X
<ul style="list-style-type: none"> <li>• <b>HV battery history for charging and discharging processes (“History” tab)</b> <ul style="list-style-type: none"> <li>• Duration of charging/discharging</li> <li>• Display of charging faults and delays in the history</li> <li>• HV battery capacity in km/kWh and HV battery state of charge in % at start of charging/discharging</li> <li>• Amount of energy consumed/discharged in kWh</li> <li>• Charging and discharging currents in amperes (average, min, max)</li> <li>• HV battery voltage in volts (average, min, max)</li> </ul> </li> </ul> <p>Users can select one or more vehicles and a time period from a minimum of one day to a maximum of 12 months back to display the battery history.</p>	X
<ul style="list-style-type: none"> <li>• <b>Consumption history for charging and discharging processes (“History” tab)</b> <ul style="list-style-type: none"> <li>• Duration of charging/discharging</li> <li>• Amount of energy consumed/discharged in kWh</li> <li>• Total consumption in kWh</li> <li>• Consumption figures in kWh, broken down by drivetrain, auxiliary consumers and air-conditioning</li> <li>• Ambient temperature in °C (average, min, max)</li> <li>• Distance driven for discharging processes in km</li> </ul> </li> </ul> <p>Users can select one or more vehicles and a time period from a minimum of one day to a maximum of 12 months back to display the consumption history.</p>	X
<ul style="list-style-type: none"> <li>• <b>Expanded HV battery status information</b> <ul style="list-style-type: none"> <li>• Battery capacity in km and kWh</li> <li>• Battery state of charge in %</li> <li>• Driving status (vehicle on the road)</li> </ul> </li> </ul>	X

### Information on data transfer

All data points in the expanded functionality of MAN eManager M are transmitted to the RIO system every 5 minutes when the ignition is on or in charging mode. The user can view the time stamp in the table at any time to verify that the information displayed is current.

### Technical requirements

To be able to use MAN eManager M, the vehicles must have the following features:

	<b>MAN Lion's City E</b>
Use of a RIO Box (provision of RIO Box not covered by the service T&Cs)	X
VCM (Vehicle Connectivity Manager)	X
ePTM (electric Power Train Manager)	X

User work place equipment:

- Use of an Internet-capable device such as a computer (not provided by RIO) running the Windows 7 operating system or later
- Internet browser (we recommend using the latest version of the following browsers: Google Chrome, Mozilla Firefox, Microsoft Internet Explorer, Microsoft Edge and Apple Safari. We cannot guarantee unrestricted functionality if using other browsers.)