

### Overview

#### DESCRIPTION

The Sauer-Danfoss Automotive Controller MCE124A allows a vehicle to be driven like a car. The Controller outputs a current to the hydrostatic transmission EDC proportional to the engine speed.

The Controller also provides an all range anti stall function.

#### FEATURES

- Propel speed control proportional to the acceleration pedal potentiometer.
- Anti stall function.
- Available with enclosure.
- Reverse polarity and short circuit protected.
- Withstands vibration and shock.

#### ORDERING INFORMATION

Controller	Supply voltage [V <sub>DC</sub> ]	Type	Id. No.
MCE124A1001	24	2 x Control Handle	314104

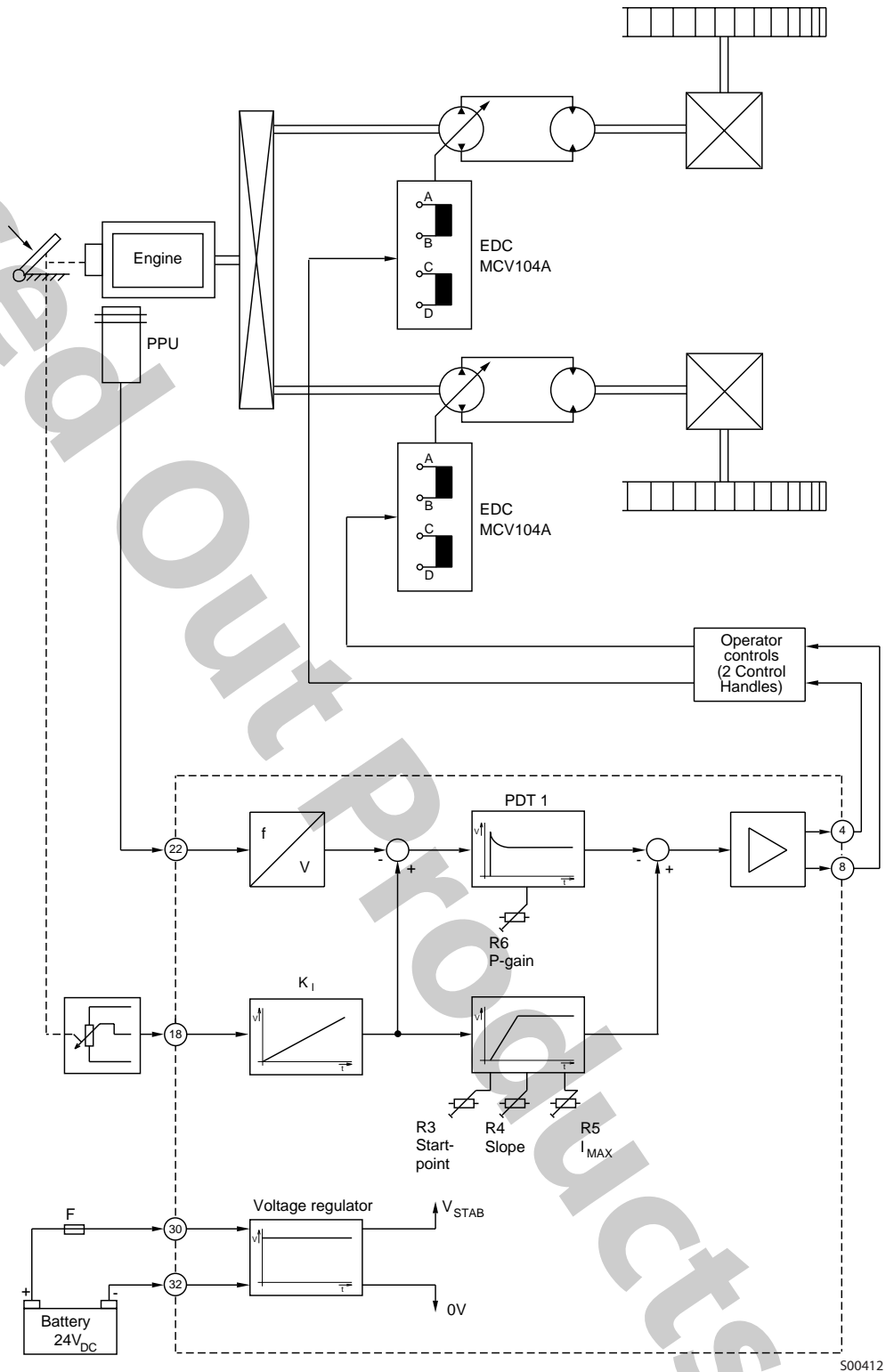
#### TECHNICAL DATA

Supply voltage:	24V <sub>DC</sub>
Ripple:	≤ 10%
Power load:	750 mA ± 10 mA
Frequency range startpoint:	1200 Hz - 2800 Hz
Max. input frequency:	6500 Hz

© 2001, Sauer-Danfoss

Sauer-Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Sauer-Danfoss reserves the right to alter its products without prior notice. This also applies to products already ordered provided that such alterations can be made without subsequent changes being necessary in specifications already agreed. All trademarks in this material are properties of the respective companies. Sauer-Danfoss and the Sauer-Danfoss logotype are trademarks of the Sauer-Danfoss Group. All rights reserved.

**BLOCK DIAGRAM**



S00412

**THEORY OF OPERATION**

**General**

The Automotive Controller MCE124A does in conjunction with a hydrostatic transmission two major functions:

1. Automotive control of the hydrostatic transmission.
2. Anti stall features.

**Automotive Function**

The Automotive Controller generates depending on the voltage signal of the acceleration pedal potentiometer an output current (see figure 1), which controls the vehicle speed.

**Anti Stall Function**

The mechanical coupling between the acceleration pedal potentiometer and the pedal or the injection pump lever creates a fixed proportion between the RPM increase of the engine and voltage increase of the acceleration pedal potentiometer.

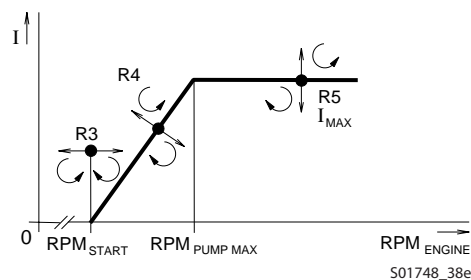
The desired value of the Controller is the acceleration voltage and the converted engine RPM is the actual value.

In reference to the adjustable anti stall control parameter, the Controller will reduce the voltage signal of the automotive curve, if the actual value is less than the desired value (see figure 2).

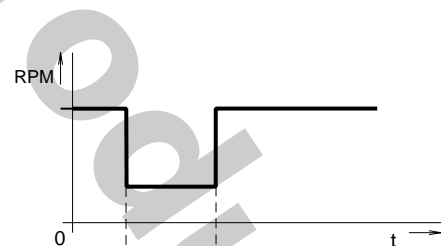
The anti stall function works over the entire automotive range. The control characteristic of the anti stall function is shown in figure 3.

**OPERATION DIAGRAMS**

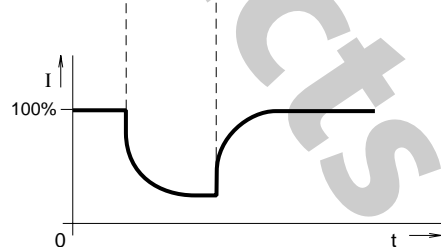
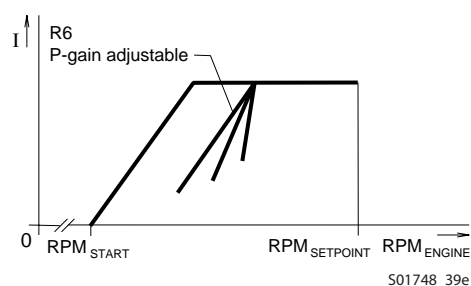
**Figure 1: Automotive control parameters**



**Figure 3: Step response of the anti stall controller**

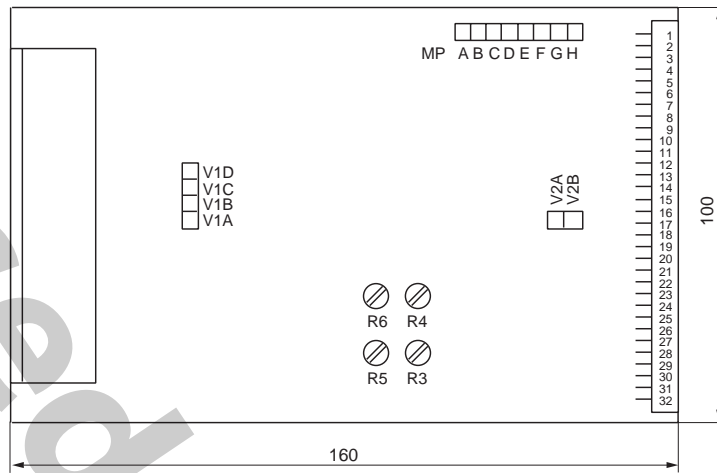


**Figure 2: Output current reduction**



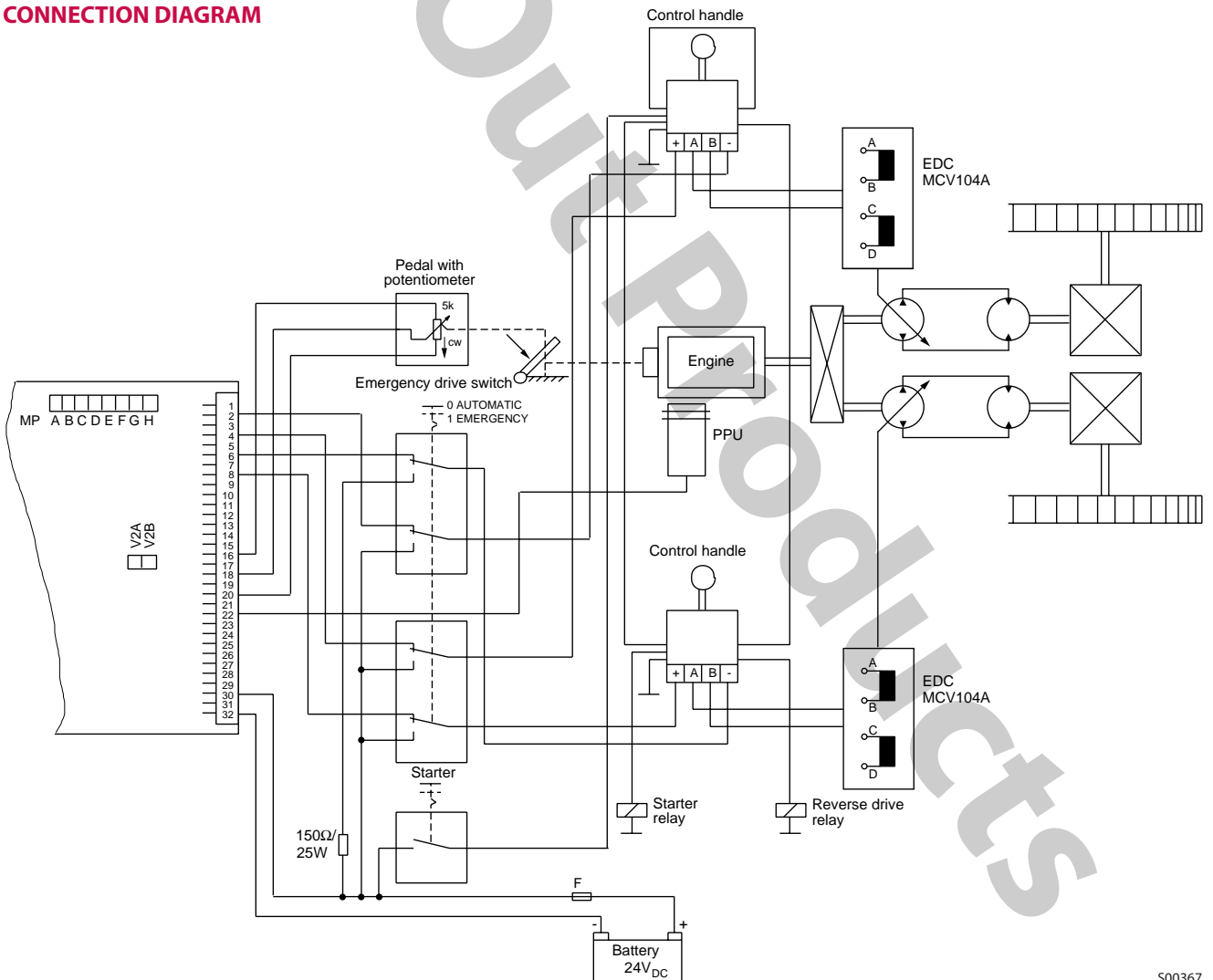
S01748\_08e

**DIMENSIONS**



S00250

**CONNECTION DIAGRAM**



S00367

## OUR PRODUCTS

Hydrostatic transmissions  
Hydraulic power steering  
Electric power steering  
Closed and open circuit axial piston pumps and motors  
Gear pumps and motors  
Bent axis motors  
Orbital motors  
Transit mixer drives  
Planetary compact gears  
Proportional valves  
Directional spool valves  
Cartridge valves  
Hydraulic integrated circuits  
Hydrostatic transaxles  
Integrated systems  
Fan drive systems  
Electrohydraulic controls  
Digital electronics and software  
Electric motors and inverters  
Sensors

## Sauer-Danfoss Hydraulic Power Systems – Market Leaders Worldwide

Sauer-Danfoss is a comprehensive supplier providing complete systems to the global mobile market.

Sauer-Danfoss serves markets such as agriculture, construction, road building, material handling, municipal, forestry, turf care, and many others.

We offer our customers optimum solutions for their needs and develop new products and systems in close cooperation and partnership with them.

Sauer-Danfoss specializes in integrating a full range of system components to provide vehicle designers with the most advanced total system design.

Sauer-Danfoss provides comprehensive worldwide service for its products through an extensive network of Authorized Service Centers strategically located in all parts of the world.

Sauer-Danfoss (US) Company  
2800 East 13th Street  
Ames, IA 50010, USA  
Phone: +1 515 239-6000, Fax: +1 515 239-6618

Sauer-Danfoss (Neumünster) GmbH & Co. OHG  
Postfach 2460, D-24531 Neumünster  
Krokamp 35, D-24539 Neumünster, Germany  
Phone: +49 4321 871-0, Fax: +49 4321 871-284

Sauer-Danfoss (Nordborg) A/S  
DK-6430 Nordborg, Denmark  
Phone: +45 7488-4444, Fax: +45 7488-4400

Sauer-Danfoss (US) Company  
3500 Annapolis Lane North  
Minneapolis, MN 55447, USA  
Phone: +1 763 509-2084, Fax: +1 763 559-0108