



# Danfoss MCW101A Time Proportional Level Controller User Manual

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## Danfoss MCW101A Time Proportional Level Controller



## Specifications

- **Model:** MCW101A or B

- **Operating Voltage:** 12 Volt Model: 11 to 15
- **Vdc, 24 Volt Model:** 22 to 30 Vdc
- **Supply Current:** 0.6 amps maximum, not including output current to the valve
- **Maximum Voltage Drop (3 amp load current):** 3.5 Vdc
- **Current Output:** 3 amps, maximum
- **Reverse Polarity Protection:** 200 Vdc, maximum
- **Short Circuit Protection:** Full, with 0.5 ohm maximum resistance

## Product Usage Instructions

### Description

The MCW101 Time Proportional Level Controller provides automatic transverse-axis control on paving, curbing, and trenching machines by switching an on/off solenoid. It senses the difference between setpoint and actual slope with respect to a gravity reference and provides control signals to reduce errors.

### Features

- Hot Side Switching for MCW101A and Ground Side Switching for MCW101B
- Internal grade/slope switch for MCW101A and external left/right side switch for MCW101B
- Deadband adjustment: multiple turn trim potentiometer for MCW101A and single turn trim potentiometer for MCW101B

### Connection Diagrams

See the typical wiring diagrams below for connecting the MCW101A and MCW101B:

### FAQ

- **Q: How do I order accessories for the MCW101?**
  - **A:** You can specify the model number (MCW101A or B) and voltage (12 or 24 Vdc) when ordering accessories like the Q625A or MCQ101 Remote Setpoint.
- **Q: What is the operating voltage range for the MCW101?**
  - **A:** The operating voltage range is 11 to 15 Vdc for the 12 Volt model and 22 to 30 Vdc for the 24 Volt model.
- **Q: How can I get customer service support in North America?**
  - **A:** You can contact Danfoss (US) Company Customer Service Department at 3500 Annapolis Lane North Minneapolis, Minnesota 55447.
  - **Phone:** (763) 509-2084,
  - **Fax:** (763) 559-0108.

## DESCRIPTION

The MCW101 Time Proportional Level Controller provides automatic transverse-axis control on paving, curbing and trenching machines by switching an on/off solenoid. Together with the Q625A or MCQ101 Remote Setpoint Unit it senses the difference between setpoint and actual slope with respect to a gravity reference and provides

control signals to reduce either plus or minus errors.

Two modules are housed in the case of the Controller. The slope sensing module electromagnetically measures the deviation between a gravity reference and the equipment it is mounted on. The amplifier module accepts the signal from the sensor and produces a voltage output to drive solenoid valves which, on a typical paving machine, operate lift cylinders to position the tow point of a floated screed. Within the amplifier’s proportional band, the percent of time the output is on is proportional to slope error.

The MCW101A and B are the same with three exceptions: First, the “A” unit is switched on the hot side while the “B” unit is switched on the ground side. Second, the “A” has an internal grade/slope switch and the “B” has an external left/right side switch. Third, on the “A” model the deadband adjustment is a multiple-turn trim potentiometer, while on the “B” model it is a single-turn trim potentiometer.

**FEATURES**

- Rugged aluminum housing
- Adjustable headbands varies the sensitivity
- RUN/STANDBY switch permits the operator to switch to manual control
- Dual clockwise/counterclockwise tilt lamps show deviation from setpoint in RUN and STANDBY modes.
- Proportional output suitable for driving on-off solenoids
- Reverse polarity and short circuit-protected
- Moisture and corrosion resistant
- Withstands vibration and shock
- Accepts remote slope setpoint
- Models for both 12 and 24 Volt systems

**ORDERING INFORMATION**

**SPECIFY**

1. Model Number MCW101A or B.
2. Voltage, 12 or 24 Vdc
3. Accessories

**TABLE A.**

ORDER NUMBER	VOLTAGE	TYPE OF OUTPUT
MCW101A1023	12 Vdc	Hot Side Switching
MCW101A1031	24 Vdc	Hot Side Switching
MCW101B1006	12 Vdc	Ground Side Switching
MCW101B1014	24 Vdc	Ground Side Switching

**ACCESSORIES**

1. Q625A or MCQ101, Remote Setpoint
2. KW01015, two-foot coiled cable for power and output
3. KW01001, two-foot coiled cable for panel-mount Remote Setpoint

## **TECHNICAL DATA**

- **ELECTRICAL**

### **OPERATING VOLTAGE**

- **12 Volt Model:** 11 to 15 Vdc
- **24 Volt Model:** 22 to 30 Vdc

### **SUPPLY CURRENT**

0.6 amps maximum, not including output current to the valve

### **MAXIMUM VOLTAGE DROP (3 amp load current)**

- 3.5 Vdc

- **CURRENT OUTPUT**

- 3 amps, maximum

- **REVERSE POLARITY PROTECTION**

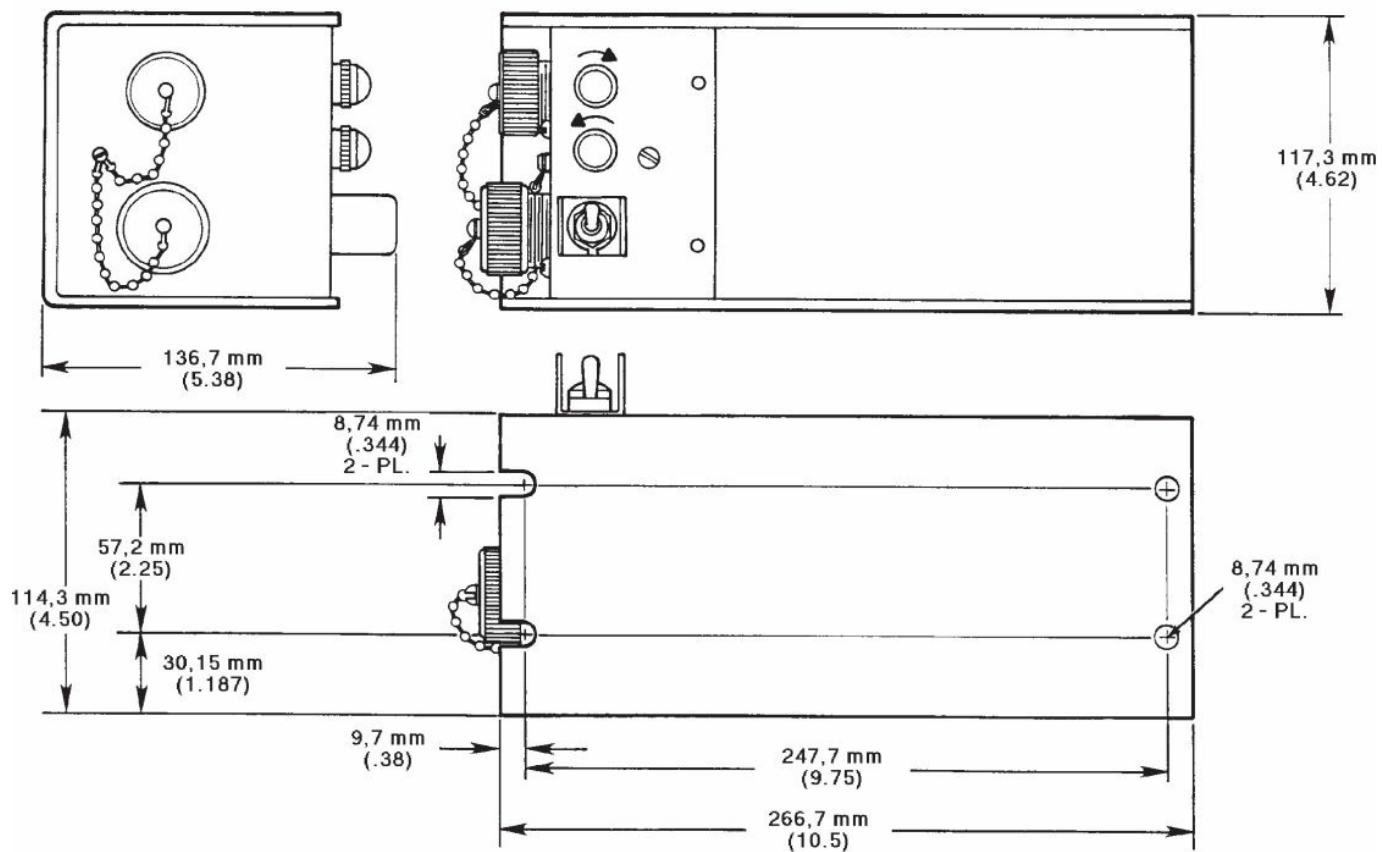
- 200 Vdc, maximum

- **SHORT CIRCUIT PROTECTION**

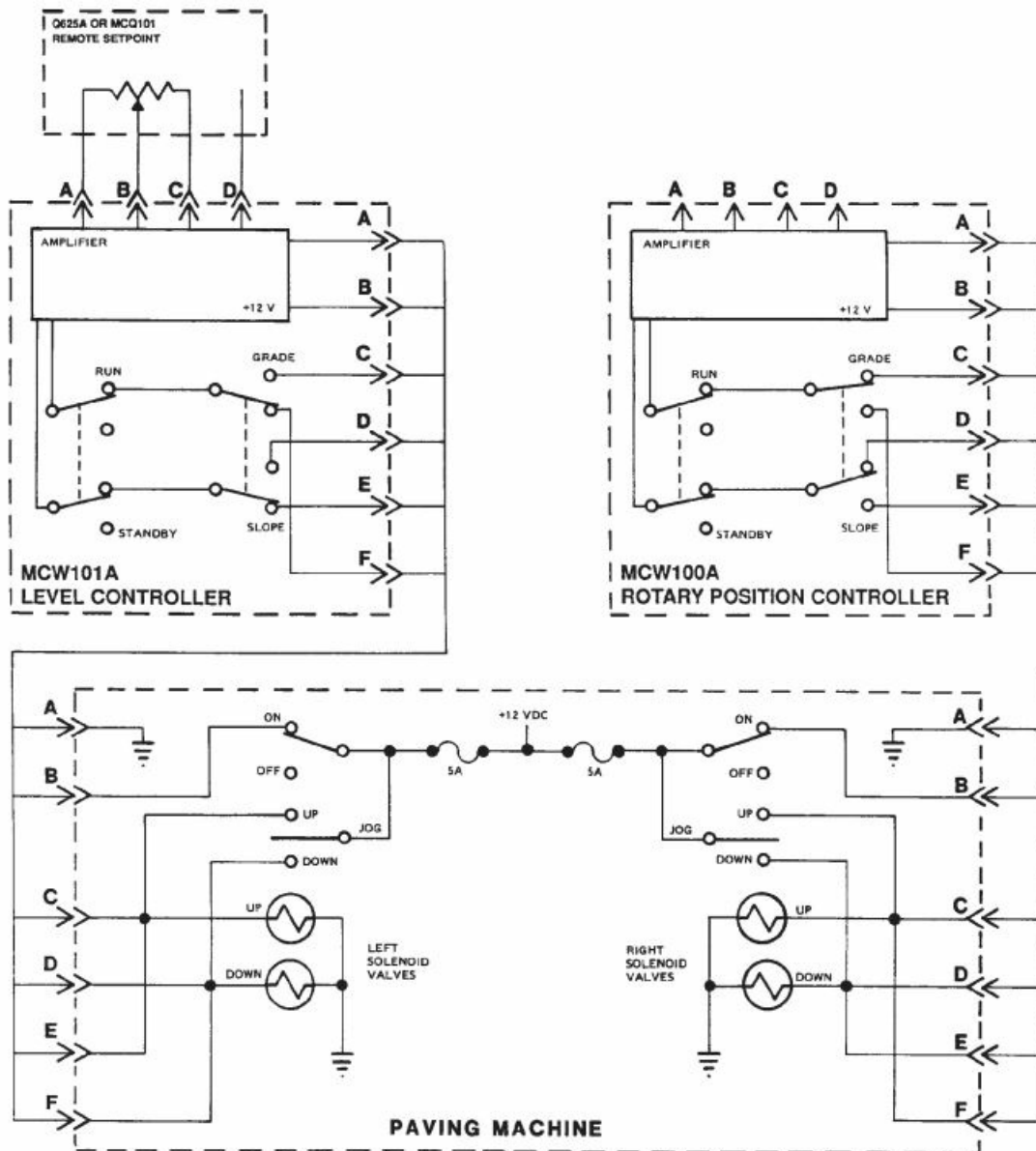
- Full, with 0.5 ohm maximum resistance

### **BLOCK DIAGRAM**

- **BLOCK DIAGRAM – High Side Switching**

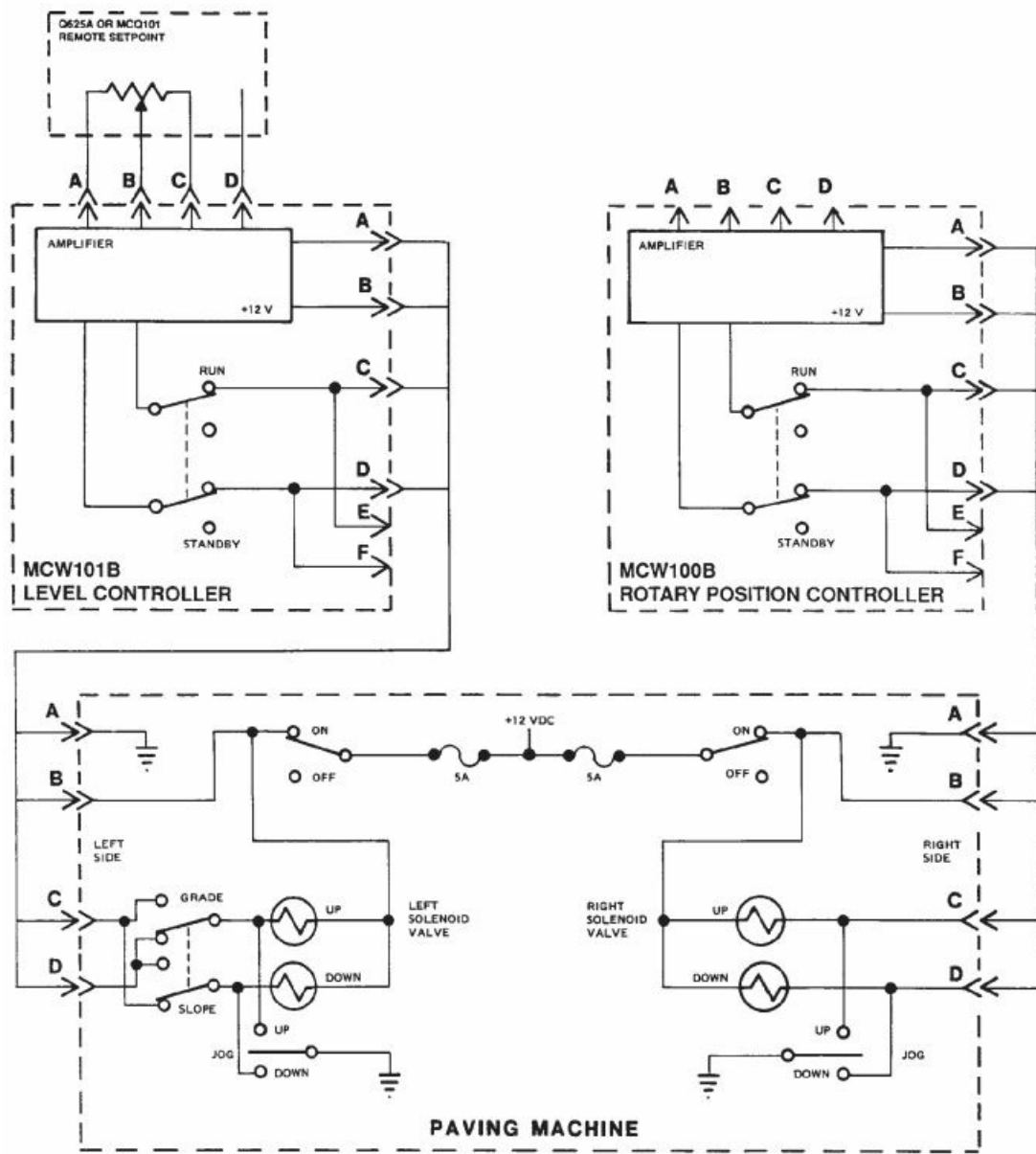


## DIMENSIONS



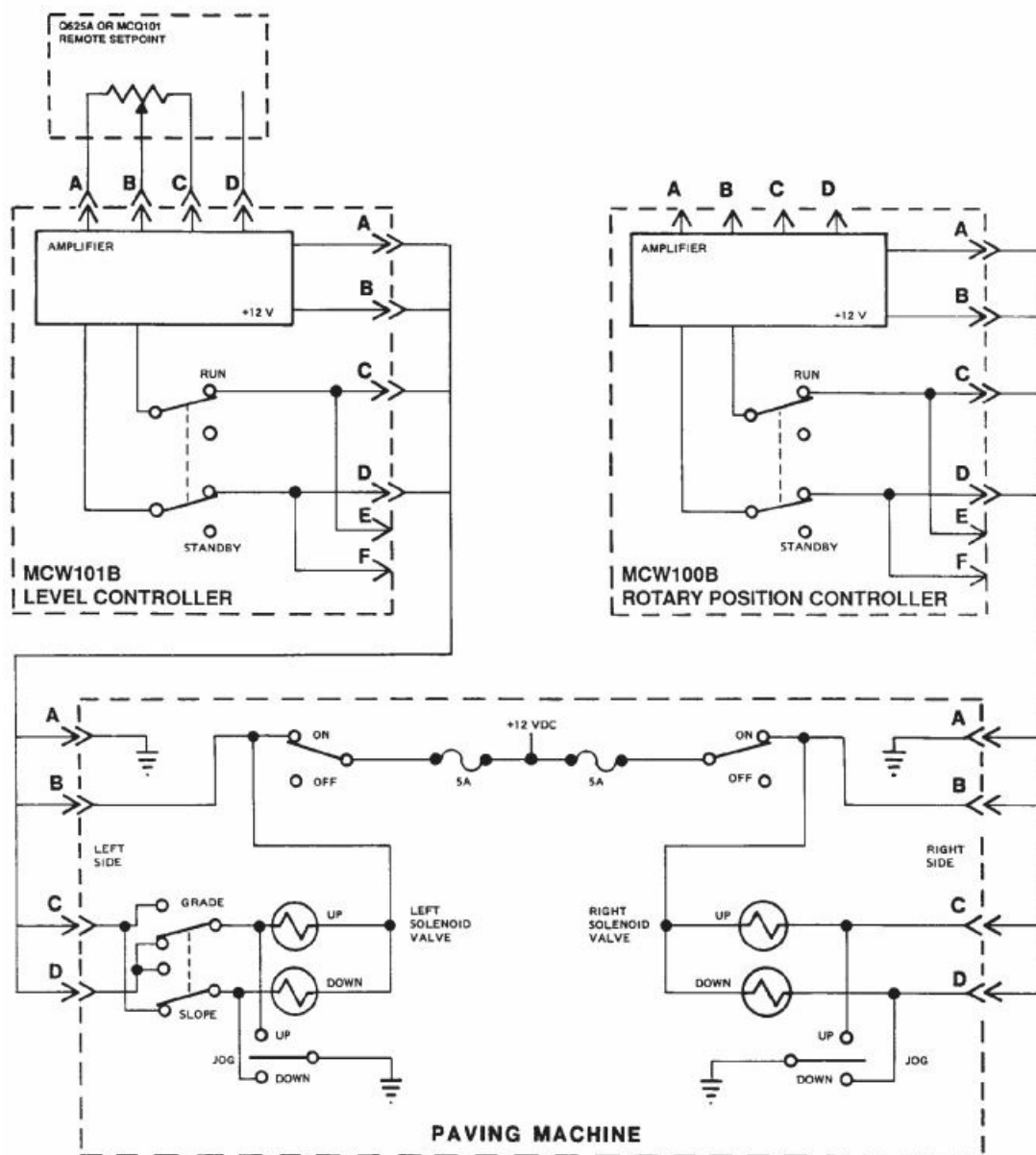
## CONNECTION DIAGRAM

- CONNECTION DIAGRAM MCW101A



Typical Wiring Diagram for the MCW101A Level and MCW100A Rotary Position Control. Level and Rotary Position Controllers May Be Interchanged.

- **CONNECTION DIAGRAM MCW101B**



Typical Wiring Diagram for the MCW101B Level and MCW100B Rotary Position Control. Level and Rotary Position Controllers May Be Interchanged.

## CUSTOMER SERVICE

### NORTH AMERICA ORDER FROM

- Danfoss (US) Company
- Customer Service Department 3500 Annapolis Lane North Minneapolis, Minnesota 55447
- **Phone:** (763) 509-2084
- **Fax:** (763) 559-0108

## DEVICE REPAIR

For devices in need of repair or evaluation, include a description of the problem and what work you believe needs to be done, along with your name, address and telephone number.

## RETURN TO




## EUROPE

### ORDER FROM

- Danfoss (Neumünster) GmbH & Co.
  - Order Entry Department Krokamp 35 Postfach 2460
  - D-24531 Neumünster Germany
  - **Phone:** 49-4321-8710
  - **Fax:** 49-4321-871-184
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## Documents / Resources

	<p><a href="#">Danfoss MCW101A Time Proportional Level Controller</a> [pdf] User Manual MCW101A Time Proportional Level Controller, MCW101A, Time Proportional Level Controller, Proportional Level Controller, Level Controller, Controller</p>
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## References

- [User Manual](#)

### [Manuals+](#), [Privacy Policy](#)

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