

MR267

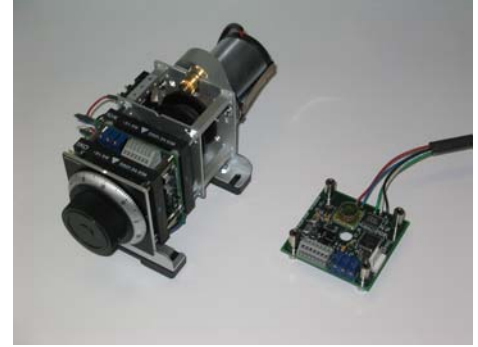
4-20mA Controller for Motorized Potentiometers

MICRONOR
automation components

Product

The MR267 provides a 4-20mA Current Loop Controller (CLC) option for Micronor's line of motorized potentiometers. The CLC option can be supplied as part of any configuration of Micronor's MR200 series Modular Cam Switch System and MPxx Series Motor Pots. Motor pot options include:

- 1-turn or 10-turn potentiometers, 1 or more
- Pot ratings from 2W to 170W, composite or wirewound
- Time periods from 5 seconds to 24 hours
- Cam switch channels from 0 to 24
- Electro-mechanical or optical switches
- Single and dual programmable cams
- Open, closed or heavy duty (NEMA 4/4X) enclosures
- DIN-rail mount, panel mount, etc.



Picture shows a Micronor MPP-series DIN-Rail Mountable Motor Pot with the MR267 CLC option installed. An uninstalled MR267 Control Board is shown next to the unit.

Features

- Four selectable modes of operation:
 - Mode 1: Standard 4-20mA current loop control
 - Mode 2: 0-20mA current loop control
 - Mode 3: 0-2.5V voltage control
 - Mode 4: Control via external potentiometer
- Quick connections via WAGO CAGE-CLAMP® Wiring Strip
- Available as control option on Micronor's full range of motorized potentiometers



Applications & Installation

Motorized Potentiometers are used in a variety of industrial automation and process control applications. They are simple to use. Easy to set-up. No computers required. No software programs to write. Easy to maintain. Never obsolete.

The on-board potentiometer(s) provide absolute positional feedback information or function as the variable resistor in an analog control or bridge circuit. A motorized potentiometer provides a smooth uniform ramp throughout its timing cycle. Rotary limit switches are programmed (via the cams) to electrically control events (or provide status) at pre-set stages. Applications include ramping up the field current of a DC motor or controlling the start-up of a generator.

It can be very expensive to automate older control systems with manual-controlled potentiometers, rheostats or rotary cam switches. Using commonly available 4–20mA loop control, the MR267 offers a simple and inexpensive solution.



You can cost-effectively automate as well as remotely control systems with manual potentiometers, rheostats or rotary cam switches with a MR267-based motor pot solution. All major industrial automation control manufacturers offer 4-20mA loop control outputs.

To install and operate a Micronor Motor Pot with MR267 CLC option for Mode 1 operation:

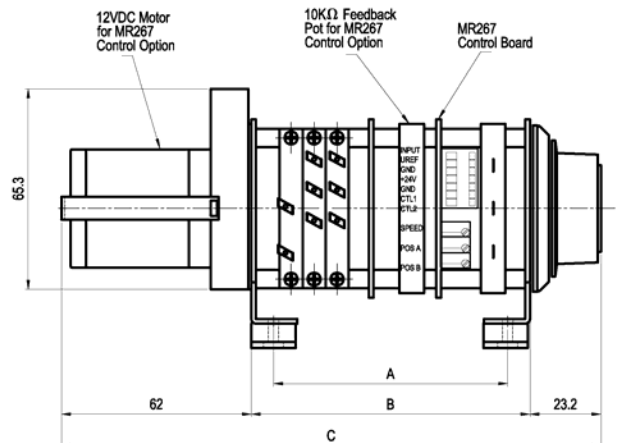
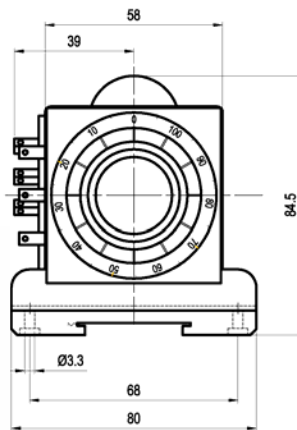
1. Connect power (+24V DC), ground and 4-20mA control signal to the MR267 control board.
2. Wire the USER potentiometer(s) to the analog control circuit(s).
3. Program the cams and connect the limit switches relative to each step in the process.
4. Start issuing process commands via the 4-20mA current loop!

Specifications Subject To Change Without Notice

Position Input Current	4mA to 20mA -25mA min., +25mA max.	Normal signal input (position) Signals ≤ 4mA or less are interpreted as 0 position. Signals ≥ 20mA are interpreted as 20mA signal.
Position Input Voltage	0 to 2.5V -1V min., +5V max.	Normal signal input (position) Voltages with appropriate current limits
Input Burden	130Ω max.	2.6V at 20mA input
Reference Load	5kΩ min.	Maximum current draw from 2.5V reference is 1mA
Position Accuracy	0.5% of full scale	
Position Resolution	0.25% typical	
Speed (SPEED)	5s to 25s	Adjustment range via SPEED trimpot for a 5s-specified time period. Actual range depends on user-specified time period (Txs) and associated motor gearing.
Offset Range (POS A)	0% to 52%	Relative to full scale set via POS A trimpot
Span (POS B)	15% to 300%	Adjustment via POS B trimpot When adjusted to 15%, pot will reach only 15% of full scale (20mA input). When adjusted to 300% pot will reach full scale at approx. 8mA input.
Supply Voltage	20V to 26V DC	
Supply Current		When the motor has reached position, the current consumption is reduced to a standby current. During a typical move, the current draw is approximately 200mA. Start and stop peaks may reach the peak maximum. Recommended power supply is 24VDC at 400mA.
Standby	< 35mA	
Running	200mA typical	
Peak	500mA max.	
Temperature		
Operating	-10°C to +65°C	
Storage	-25°C to +75°C	

**Reference Drawing For
MPP Series DIN-Rail Mount
Motor Pot With MR267
CLC Option**
(Other Motor Pot Configurations
Are Available)

Switch	A	B	C
2	76.5	91	176.2
3	84.5	99	184.2
4	92.5	107	192.2
5	100.5	115	200.2
6	108.5	123	208.2



MR267 MPP41 02 G 02 T30s 24V R1=1K0

MPP41 Series Motor Pot with MR267 Option
(To add this option to *any* Micronor motor pot configuration, simply add the prefix 'MR267' to the technical specification.)

No. of Cam Switches, 2-6

Time Period in Seconds

No. of Resistors and Resistance Value, R1...R5

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Related Items (data sheets also available on www.micronor.com):

- All MR200 Series Modular Cam Switch System configurations
- All MPxx Series Motor Pot configurations

For additional technical information, contact Micronor and request:

- MR267 User Guide