

Analog output module

AO

M3-34B

8 analog outputs: 4x(4 – 20 mA), 4x(0 – 10VDC)

- ▶ 16-bit analog converter
- ▶ Each channel is optically isolated

General specifications

Outputs per module	8
Output type	4x current, 4 – 20 mA 4x voltage, 0 – 10VDC
Analog ground type	Isolated from CPU electronics
Connection	Removable terminal block
Connection type	Tension clamp
Terminal block part number	069-621010
Terminal wire size (UL 1059)	18 – 22 AWG
Test point	All connections
Module size	1 rack slot (0.75"/19 mm)
Bus power required (5 VDC)	0.26 mA
Isolation rating	500 VDC
Operating temperature	
Horizontal installation	0 – 50°C
Vertical installation	0 – 45°C
Storage temperature	-25 – 85°C
Humidity	5 – 95% non-condensing



Minimum hardware revision	0, A
Minimum firmware revision	1.02
Minimum operating system revision	5.00.90
Documentation number: 950-533402-004	

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Performance specifications

Current outputs

Parameter	Value
Output range	4 – 20 mA
Output resolution	16-bit
Full range calibration error ^{1,2}	0.025% of range
Offset calibration error at 0 V ^{1,2}	0.025% of range
Linearity error (full range) ^{1,2}	0.073% of range
Output slew rate	10 V/ μ sec
Max output current	20 mA/channel
Update rate (all channels)	1250 Hz

1. Errors are at 25°C.

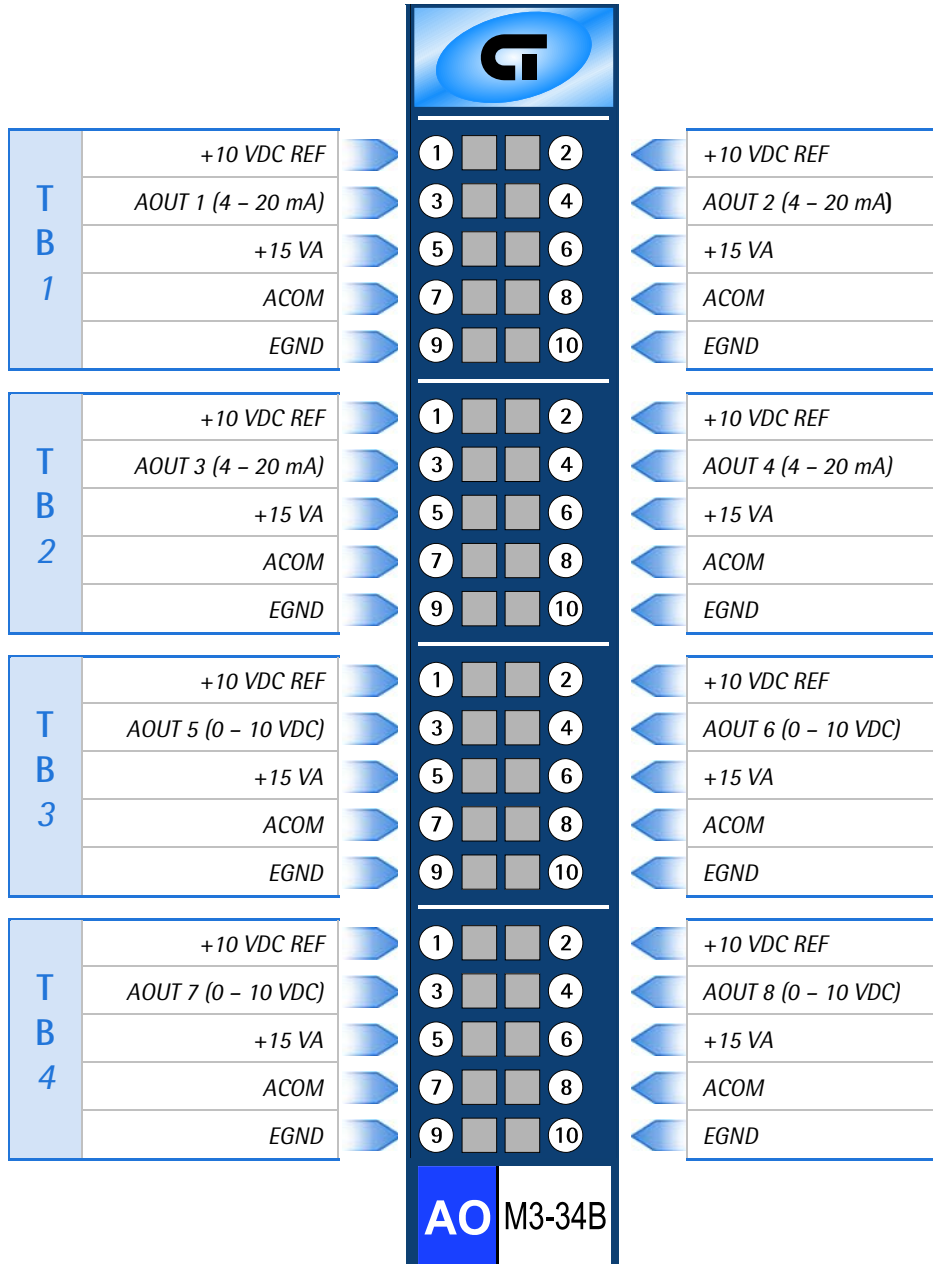
2. Errors are double across full ambient temperature range of 0 – 50°C.

Voltage outputs

Parameter	Value
Output range	0 V to +10 V
Output resolution	16-bit
Full range calibration error ^{1,2}	0.025% of range
Offset calibration error at 0 V ^{1,2}	0.025% of range
Linearity error (full range) ^{1,2}	0.073% of range
Output slew rate	10 V/ μ sec
Max output current	5 mA/channel
Update rate (all channels)	1250 Hz

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Terminal block connections



Note

1. Max total current for all 10 VDC REF and +15 VA connections is 25 mA per module.

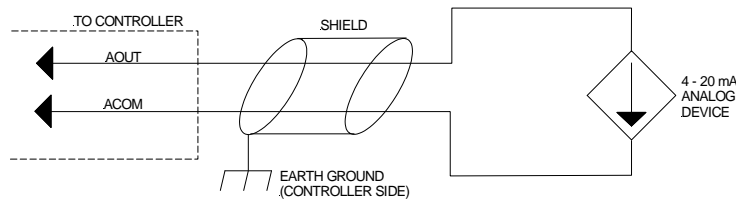
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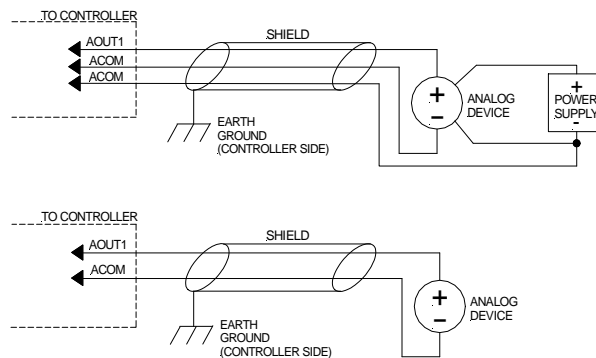
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Application Information

Current outputs



Voltage outputs



Notes

1. Shield grounds must be terminated on the controller side of the cable.
2. When an analog device is powered via an external power source, it may be necessary to tie the ground of this power source to the module's analog common (ACOM) to limit common mode voltages.
3. Insertion and/or removal of I/O modules should be done with all power removed. Failure to do so may lead to damaged electronics and/or incorrect I/O states.
4. Incorrect I/O connections may lead to damaged electronics and/or incorrect I/O states.
5. For register and programming information, refer to the appropriate controller Applications Guide.
6. The information and illustrations contained herein are the property of Control Technology Corporation and are subject to change without notice. Data based on $V_S = 24 \text{ VDC}$ @ 25°C unless otherwise noted. For additional information and/or updates, visit www.ctc-control.com. Copyright © 2007-2013 Control Technology Corporation. All Rights Reserved.
7. V_S refers to the voltage supply of the controller.