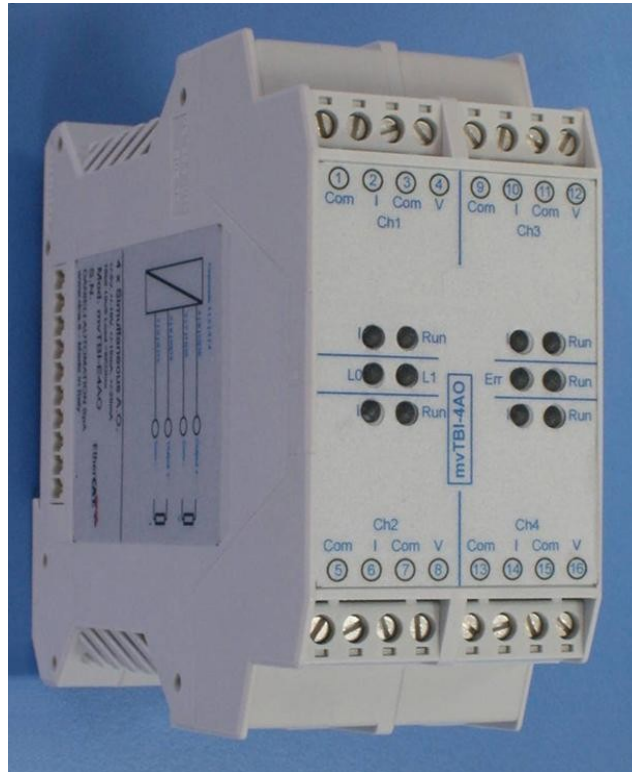


## mvTBI-E4AO

## Analog Output EtherCAT Terminal



### Features

- Fully compatible with EtherCAT protocol
- 4 independent Analog output channels
- Output channels insulated each other
- 16-bit resolution for unipolar outputs
- 16-bit two's complement resolution for bipolar outputs
- Voltage output ranges : 0-5V, 0-10V,  $\pm 5V$ ,  $\pm 10V$
- Current output ranges: 0-20mA, 4-20mA,  $\pm 10mA$ ,  $\pm 20mA$
- 1000 volt isolation
- Simultaneous output update
- Outputs can be disabled by software
- Software configurable (mailbox message)

### Applications

- Process control
- Machine control
- Display meters
- Strip chart recorders
- Proportional valves
- Variable speed motor controllers

### Overview

The **mvTBI-E4AO** Analog Output EtherCAT terminal is a powerful, 16-bit Analog Output module with all of the outputs insulated each other. This terminal provides your EtherCAT system with the capability of outputting voltage or current over any of 4 independent analog output channels. Each channel can be separately configured via software for a variety of voltage or current output operations. The **mvTBI-E4AO** supports simultaneous multichannel output updating.

The **mvTBI-E4AO** supports the following output values:  $\pm 5 V$ ,  $\pm 10 V$ , 0-5 V, 0-10 V, 0-20 mA, 4-20 mA,  $\pm 10 mA$ ,  $\pm 20 mA$ .

The **mvTBI-E4AO** provides isolation up to 1000 volts.

The terminal is factory calibrated to obtain a really thin overall error.

## Hardware Specifications

<b>Number of Channels</b>	4
<b>Isolation</b>	1000 V
<b>Resolution</b>	
Bipolar	16 bits two's complement
Unipolar	16 bits
<b>Accuracy</b>	± 0,1 % FSR max

### Voltage Output Characteristics

Available Ranges	
Bipolar Output	±5V, ±10V
Unipolar Output	0-5V, 0-10V
Load Resistance Range	≥ 5 kΩ

### Current Output Characteristics

Available Ranges	
Bipolar Output	±10mA, ±20mA
Unipolar Output	0-10mA, 0-20mA
Compliance Voltage	14V @20mA
Load Resistance Range	≤ 500 Ω

### Conversion Time

Voltage output	20μsec. typ.
Current output	25μsec. typ.
<i>(Conversion Time is defined as the time required to start a conversion. It is measured from the data availability in ET1100 to analog output end changing).</i>	

### Power Requirements

E-Bus	5V, 130mA typ. with current outputs at full scale
Field	24V ± 5%, 140mA typ. with current outputs at full scale

### Dimensions

Height	99 mm
Width	45 mm
Depth	114,5 mm

### Mounting

On 35mm mounting rail conform to EN 50022

## Environmental Specifications

### Temperature

Operating	0° to 65° C (32° to 149° F)
Non operating	-40° to 85° C (-40° to 185° F)

**Humidity** 20 to 95% RH, non-condensing

### Altitude

Operating	Sea level to 10,000 ft. (3048m)
Non operating	Sea level to 40,000 ft. (12192m)

### Vibration

Operating	5 to 2,000 Hz .015" (.38 mm) peak-to-peak displacement 2.5g (maximum) acceleration,
Nonoperating	5 to 2,000 Hz .030" (.76 mm) peak-to-peak displacement 5.0 g (maximum) acceleration,

### Shock

Operating	30 g peak acceleration 11 msec duration
Nonoperating	50 g peak acceleration 11 msec duration

## EtherCAT Compliance

- IEC 61158-2-12
- IEC 61158-3-12
- IEC 61158-4-12
- IEC 61158-5-12
- IEC 61158-6-12
- EtherCAT Slave Device Description Documentation

## Warranty

The **mvTBI-E4AO** carries a one-year warranty.

## Ordering Information

**mvTBI-E4AO** : 4-Channel Insulated Analog Output Module with following ranges available: 0-5 V, 0-10 V, ±5 V, ±10 V, 0-20 mA, 4-20 mA, ±10 mA, ±20 mA