

# mBC083

## INTRINSICALLY SAFE ATEX BUS CONVERTER



- Rugged XP cast aluminum enclosure with glass window
- Safe at-a-glance viewing of device and network status
- Fully isolated Modbus RTU RS-485 Network
- The mBC083 is FM approved for approval standards 3610 & 3615
- CSA/UL for Class I, Groups C & D, Div 1 & 2, Class II & III, Groups E, F & G, Div 1 & 2
- ATEX Zones 0, 1, 2, 20, 21 & 22
- IECEx Zones 0, 1, 2, 20, 21 & 22
- Up to 1640' cable length on the Modbus 485 network
- Up to 1000' cable length on the I.S. single-wire sensor bus

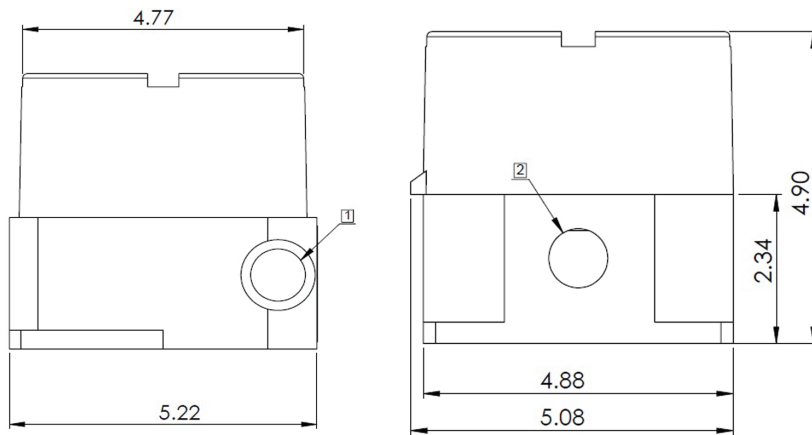
### Product Description

The mBC083 Intrinsically Safe Bus Converter is an industrial device mounted in a rugged, cast aluminum enclosure complete with a glass cover for easy viewing of the device status indicators. The mBC083 is used to connect up to 32 single-wire bus sensors to a Modbus 485 RTU compatible PLC or HMI system. The Modbus RTU network is fully isolated improving noise immunity and eliminating voltage drop issues. A complete diagnostic and configuration system is included with the Modbus RTU interface. Configuration of the single-wire sensors can be accomplished over the Modbus 485 RTU bus. On command, the bus converter will automatically acquire the sensor serial numbers for easy setup.

### Typical Applications

Facilities monitoring for shaft speed, bearing temperatures, belt tracking, motor temperature and vibration in grain processing, feed, milling, bulk materials handling, and general industrial applications.

# mBC083 INTRINSICALLY SAFE ATEX BUS CONVERTER



Cast aluminum enclosure with glass window.

1. (2) x 3/4" NPT Thread
2. (1) x 1/2" NPT Thread
3. All dimensions in inches
4. Allow 8" clearance from front cover to access electronics

Specifications	Description	Characteristic
IS Sensor Bus	Voltage	5 VDC
	Current	160 mA, electronically limited
	Communications	Single-Wire Bus
DC Power Supply	Voltage	18 to 28 VDC
	Current	90 mA @ 24 VDC maximum
Communication	Standard	RS485 differential isolated
	Input Load	96 kΩ, 1/8 load standard
	Termination	120 Ω balanced line
Environment	Temperature	-40°F to +131°F (-40°C to +55°C)
	Relative Humidity	0 to 95% non condensing
Hazardous Locations Ratings	CSA/UL	Class I, Groups B, C & D, Divisions 1 & 2
		Class II, III, Groups E, F & G, Divisions 1 & 2
		Type 4X, IP66/67, -40°C ≤ Ta ≤ +55°C
	IECEX	IECEXFMG13.0041X
		Ex d[ia Ga] IIC T4 Gb
		Ex tb[ia Da] IIIC T135°C Db
	ATEX	FM13ATEX0095X
		II 2GD
		Ex d[ia Ga] IIC T4 Gb
		Ex tb[ia Da] IIIC T135°C Db
		CE 1725

MBC083 DS A01

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