



mBC083

INTRINSIC SAFETY BARRIER BUS CONVERTER



- Rugged XP/DIP cast aluminum enclosure with glass window
- Safe at-a-glance viewing of device and network status
- Fully isolated Modbus RTU RS-485 Network
- Evaluated to US/Canada standards FM 3600, CSA-22.2, UL 60079, IEC 60529, 61010-11
- FM/CSA¹ for Class I Div 1 & 2 Groups C & D, Class II & III Div 1 & 2 Groups E, F & G²
- IECEx/ATEX¹ Zones 1 & 2, 21 & 22 provides IS circuit Zone 0, 20 Gas IIB, Dust IIIC²
- Brazil NCC/INMETRO¹ Certified
- Up to 1640' (500m) cable length on the Modbus 485 network
- Up to 1000' (305m) cable length on the IS single-wire sensor bus

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 (or time multiplexed sensor channels) 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 hazard/condition monitoring for shaft speed, bearing temperatures, belt tracking, motor temperature, machine vibration and storage temperature in grain processing, feed, milling, bulk materials handling, and general industrial applications.

NOTES: ¹For details, see Certificates (Cert.) referred to in Specifications next page. ²See operating Environment Characteristics next page. Not for use in Mines.

MBC083 DS 0123

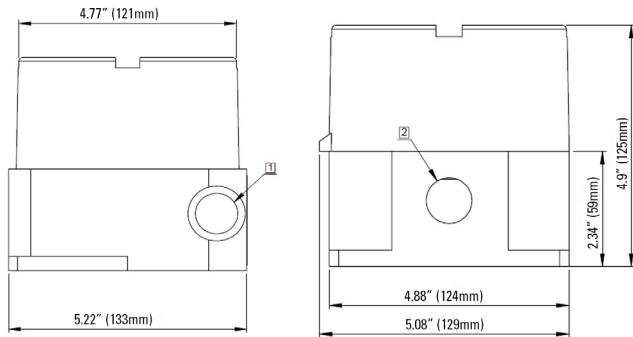
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mBC083 Dimensional Drawing



Cast aluminum enclosure with glass window.

Allow 8" (20cm) clearance from front cover to access electronics

- 1. (2) x 3/4" NPT Thread
- 2. (1) x 1/2" NPT Thread

SPECIFICATIONS	DESCRIPTION	CHARACTERISTIC
IS SENSOR BUS	Voltage Current Communications	5 VDC 130 mA, electronically limited Single Wire Bus
DC POWER SUPPLY	Voltage Current	18 to 28 VDC 90 mA @ 24 VDC maximum
COMMUNICATION	Standard Input Load Termination	RS485 differential isolated 96 kΩ, 1/8 load standard 120 Ω balanced line
ENVIRONMENT	Temperature Relative Humidity Ingress Protection	-40°F to +131°F (-40°C to +55°C) 0 to 95% non-condensing Type 4X, IP66
HAZARDOUS LOCATIONS RATINGS	FM (ANSI-UL/IEC/NEMA) CSA IECEX (IEC) ATEX (EN) INMETRO	Cert. FM18US0212X Cert. FM18CA0101X Class I Divisions 1 & 2 Groups C & D T6 Class II, III Divisions 1 & 2 Groups E, F & G T6 Cert. IECEx FMG13.0041X Ex db[ia ga] IIB T6 Gb, Ex tb[ia da] IIIC T65°C Db Cert. FM13ATEX0095X Ex II 2(1)GD, CE 2809 Cert. NCC 19.0038X

Ordering details (Refer to HMC018 Data Sheet for HAZMON-In-A-Box Installation Kit):

P/N 11630 replacement IS Bus Converter, MBC083 - FM/CSA/ATEX/IEC Certified

P/N 12106 replacement Internal Electronics assembly

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