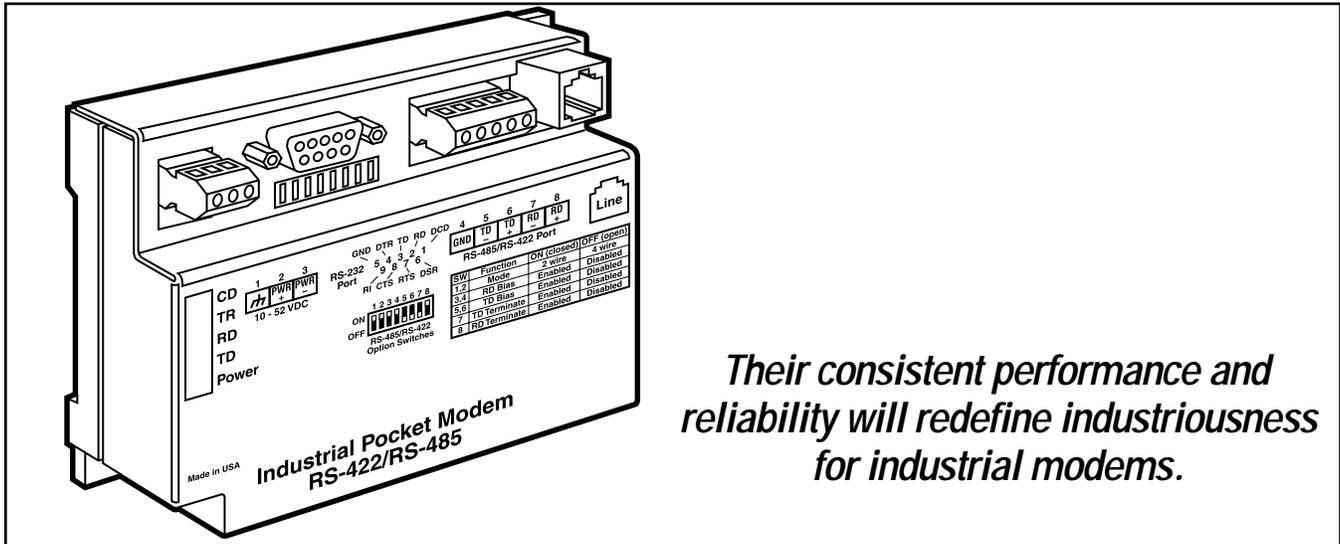


# BLACK BOX®

## NETWORK SERVICES

### INDUSTRIAL POCKET MODEMS



*Their consistent performance and reliability will redefine industriousness for industrial modems.*

### Key Features

- ▶ **Transmit or receive data through harsh conditions at speeds up to 33.6 kbps.**
- ▶ **Connect to any PLC, RTU, or other industrial equipment.**
- ▶ **Mount easily to DIN rails or flat panels.**
- ▶ **Rugged casing and protected circuitry.**
- ▶ **DC powered—no AC adapters required.**
- ▶ **Windows® compatible.**
- ▶ **Compliant with telephone systems around the world.**

You can eliminate the difficulties often encountered with installing office-grade modems in severe environments. Just connect these pocket modems to any programmable logic controller (PLC), remote telemetry unit (RTU), or other industrial equipment. The Industrial Pocket Modems provide the reliability and features you need to get the data through!

Choose from General-Purpose, PLC Self-Dialing, or RS-422/RS-485 models.

All modems are DC powered, which means clunky AC adapters won't cramp your style. Mount them to a DIN rail or flat panel.

#### Generally speaking.

The General-Purpose Industrial Pocket Modem (MD3450A) is designed for electrical enclosures located in harsh environments. It supports all AT commands and S-registers,

enabling it also to be set up as an external modem for any PC. Use it with any telecommunication or dialup networking software to establish dialup connections.

When you need a modem that's tough enough for some of the toughest environments, count on the General-Purpose Industrial Pocket Modem. It handles the hazards of Class I, Division 2 (Zone 2) locations, and it operates in temperature extremes between -30 to +70°C.

#### Alarming news that's good.

In addition to all the features of the General-Purpose Modem, the PLC Self-Dialing version (MD3451A) sports PLC self-dialing capabilities. It automatically dials out based upon an alarm using a PLC coil output.

Once a connection has been established, the PLC's system (programming) port is connected to the central computer at the

other end of the phone link. At this time, the PLC may be polled by the computer as if the computer itself had originated the call.

When the PLC Self-Dialing Industrial Modem connects to the computer, it identifies itself so the computer can run the appropriate I/O driver and interrogate the PLC. The modem works with all brands and models of PLCs.

Locations that don't have PLCs also can originate calls to alert you to low tank levels, temperature conditions, or other alarms—just connect the appropriate alarm contact to the modem's input. When conditions warrant, the Self-Dialing modem will dial the pre-stored number and deliver the ID message to the computer at the receiving end. For example, the modem can be used to report low tank levels with a level switch.

(continued from page 1)

With its auto-answer function, you also can use the PLC Self-Dialing Industrial Pocket Modem for two-way operation. The unit is user-configurable—just use the supplied CD-ROM.

Meeting high standards also is what this modem is all about. It's rated for UL® 508, CSA, and CE approvals. Find out today what the experts already know!

**More connections—and more power to you.**

The RS-422/RS-485 Industrial Pocket Modem (MD3452A) also features the basic functions of the General-Purpose Industrial Pocket Modem and includes an RS-422/RS-485 port. This additional port supports 4-wire full-duplex communication to RS-422 devices and party-line operation to 2- or 4-wire RS-485 equipment.

This modem can be connected to existing multi-drop devices and directly to industrial inputs and outputs.

The RS-422/RS-485 Industrial Pocket Modem is powered directly from a 48-VDC source.

An included CD-ROM enables you to configure the unit.

**They're built like (think) tanks.**

The rugged casing and protected circuitry keep the Industrial Pocket Modems working under conditions that will cause office-grade modems to fail. Face it, industrial applications are demanding. But our modems handle temperature extremes, power spikes, and other threats.

**All in the family.**

Our modems contain an industrial version of the same modem chip set found in PC internal modems. They support a full set of AT commands and protocols, plus they are fully compatible with Windows®.

**The get-along gang.**

These modems are compliant with telephone systems around the world. So why not simplify your industrial communications and improve your bottom line? Choose BLACK BOX® Industrial Pocket Modems!

# Specifications

**Approvals:** CE

**Command Modes:** All AT and S-register commands, including Class 1 & 2 fax commands

**Data Compression:** V.42 bis, MNP® 5

**Distance:** MD3452A: Up to 0.5 mi. (0.8 km) maximum

**Electrical Safety:**

AS/NZS3260-1993;  
Cenelec: EN61010-1 (IEC1010);  
CSA: C22.2/14;  
IEC: 950;  
UL® 508

**EMC Immunity:** EN50082-1 (IEC801-2, 3, 4)

**EMI Emissions:**

AS/NZS3458-1995;  
Cenelec: EN55022;  
FCC: Part 15, ICES-003, Class A

**Error Correction:** V.42, MNP 2-4

**Fax Standards:** Group III

**Flammability:** UL® 94V-0 materials

**Hazardous Locations:**

Cenelec: EN50021 (EEx nA II T4);  
Class I, Division 2, Groups A, B, C, D (Zone 2);  
CSA: C22.2/213-M1987;  
UL® 1604

**Modem Standards:** ITU: V.34+, V.34, V.32 bis, V.32, V.23, V.22, V.21;  
Bell: 212A, 103

**Mounting:** DIN rail or panel

**Operating Environment:**

Temperature: -22 to +158°F (-30 to +70°C);  
Humidity: 5 to 95% (noncondensing)

**Operation:** MD3452A only:  
RS-422: 4-wire full duplex;  
RS-485A: 2- or 4-wire party-line operation

**Protocol:** Asynchronous

**Ringer Equivalency:** 0.3

**RS-232 Leads Supported:** TX, RX, CTS, RTS, DCD, DTR, DSR, RI, GND

**Speed:** Fax: Up to 14.4 kbps;  
Line: Up to 33.6 kbps;  
RS-232 port: Up to 115.2 kbps

**Surge Withstand:** IEEE 472 (ANSI C37.90)

**Telecomm Certifications:**

ACA: TS 001-1997, TS 002-1997;  
FCC: Part 68;  
Industry Canada:  
CS03-8, CTR21 (98/482/EC)

**Vibration:** IEC68-2-6

**Interface:** All: RS-232;  
MD3452A only: Also has RS-422/RS-485

**Connectors:** All: (1) DB9 F;  
MD3450A-MD3451A: (2) RJ-11;  
MD3452A: (1) RJ-11, (1) 5-screw terminal block

**Indicators:** LEDs: CD (carrier detected on phone line), TR (host connected and ready), RD (data coming from serial port), TD (data sent from serial port), Power

**Power:** MD3450A-MD3451A: 10-30 VDC, 65 mA directly from 12- or 24-VDC power source;  
MD3452A: 10-52 VDC, 65 mA directly from 48-VDC power source

**Size:** 3.6 x 12.2 x 8.1 cm

**Weight:** 0.2 kg

## MD3451A and MD3452A include:

- (1) 6-ft. (1.8-m) DB9 male/female cable.
- (1) CD-ROM
- Users' manual



Black Box offers the best warranty program in the industry—Fido Protection®. For more information, request **FaxBack 22512**.

## Ordering Information

ITEM	CODE
Industrial Pocket Modems	
General-Purpose .....	MD3450A
PLC Self-Dialing .....	MD3451A
RS-422/RS-485 .....	MD3452A
<i>You may also want to order cable...</i>	
DB9 Extension Cable .....	EDN12H-0010-MF