DIVA2 FAMILY

take off to a new horizon

MDB/ BDV - Monitor / v2

Malfunctions in vending machines or payment systems are often due to errors in the interfaces (communication protocols) of the devices. Thereby disturbances can be very sporadic occur. And be poorly reproducible.
To get to the bottom of the problems, the communication must be Recorded with the error situation. In the case of errors that occur Infrequently, long-term records must be installed.

To record the interfaces you need an analyzer.
Most of the devices require a PC with the appropriate Software.
Besides a few analyzers specifically designed for the MDB interface, there are also universal analyzers on the market.
A good tool is offered by the company www.iftools.com. The device *msb-rs232* can directly record RS232 communication. Additionally there is a script for MDB, so that the MDB telegrams are directly visible.

For most vending interfaces a level conversion to RS232 has to be done. For this purpose we offer the *MDB/BDV Monitor*: a hardware box that can convert MDB and executive hardware to RS232.
This document describes the application

Hug-Witschi supports you in analyzing the traces and, if necessary, contacts the vending machine or payment system manufacturer directly.
This means that you do not need detailed knowledge of the interface protocols. Only a basic understanding is required, as well as technical know-how in electronics and PC-SW.

Common protocols

With level converter:

- MDB
- BDV
- Executive

Applicable without level converter:

- CCI

Application

- All types of vending machines with MDB, BDV or Executive interface
- Payment systems with MDB
- Coffee machines with CCI protocol

The MDB/ BDV monitor for recording executive and BDV is designed to be used with a DIVA/ DIVA2 system. In contrast, MDB can be recorded on any system.

Ordering coordinates:

Art.Nr.:	HW.02.000.01	HW.02.003.02
Description:	MDB / BDV Monitor	BDV/Exe Cable to MDB/BDV Monitor

HUG–WITSCHI AG
ELECTRONIC ENGINEERING
Auriedstrasse 10 - CH-3178 Bösingen
phone +41 (0) 31 740 44 44 - fax +41 (0) 31 740 44 45
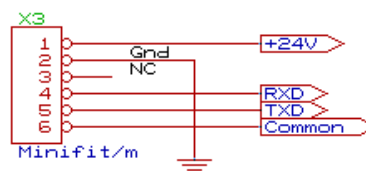info@hugwi.ch - www.payment-technology.com

Technical data

■ Anodized aluminium housing with the dimensions 65 x 103 x 36.5mm

■ Supply (payment system supply) 24VDC, Umax = 42VDC via Automat

■ 2 x 10-pin Molex MiniFit connectors for the BDV and executive signals

■ 1 x 6-pin Molex-Minifit connector for the MDB signals

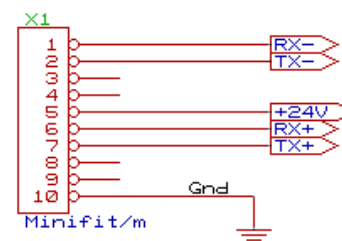■ 1 x 9-pin D-SUB socket for the RS-232 analyzer

Wiring diagram

Pin assignment of connector **MDB**

MDB-Stecker

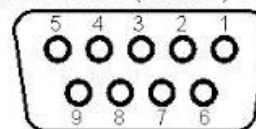Assignment of the **BDV-Exe** connector:
Slave + master

BDV-Stecker
Master

Pin Assignment **Monitor RS 232**
D-SUB w:
■ Signal (RX) -> Pin 2
■ Signal (TX) -> Pin 3

Sub-D Buchse (weiblich) 9 Pole
Sicht auf die Steckkontakte

Ordering coordinates:

Art.no.: HW.03.003.26
Name: MDB universal cable

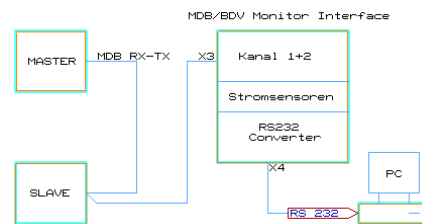**HUG-WITSCHI AG**
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A P P L I C A T I O N   N O T E

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Block diagram signal detection

<u>Wiring for MDB</u>:
the MDB/BDV monitor is connected in parallel to the vending machine or payment system.
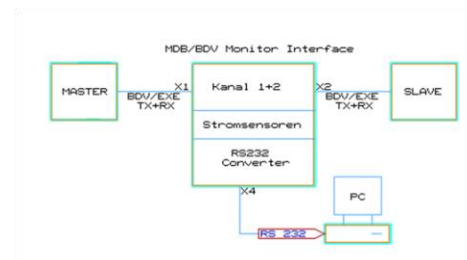You need the cable HW.01.003.26 and a free plug at the free connector at the MDB Master System.

<u>Wiring for BDV / Executiv</u>:
the MDB/BDV monitor is connected to the interface in series.
Connector Slave = Automat: disconnect from DIVA2 and plug in here.
Master = DIVA2 via cable HW.02.003.02
Connection of the msb-rs232 analyzer to the PC via USB
(not as drawn here)

<u>Adjust trigger threshold</u> (BDV and Executive only)

There are 2 trimmers on the interface print, one for each channel. To find the optimal trigger threshold, first turn the Cermet trimmer counterclockwise with a small screwdriver until the Analyzer Tool characters are clearly visible.
Then turn the trimmer just further so that no more signals appear. Then turn the trimmer clockwise again to the middle of this trigger range. The trimmer closest to the MiniFit connector (VMI, Master) is responsible for the RX line of the BDV/Currentloop!

Scope of delivery
- MDB / BDV Monitor
- Cable individual

Order desired analyzer directly from the manufacturer online

Ordering coordinates:

Art.no.: HW.03.003.26
Name: MDB universal cable

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