TECHNICAL DATA

1   bintec R232aw

All products of the R Series provide you with a similar set of functions and differ in terms of the supported interfaces or connection types.

1.1   Delivery size

Your gateway is supplied with the following parts:

- Cable sets/power supply:
    - Ethernet cable
    - ISDN cable
    - Serial cable
    - DSL cable
    - Power supply
- Antennas:
    - two standard antennas
- Bintec Companion CD
- Documentation:
    - **Quick Install Guide** (printed)
    - **User's Guide** (on CD)
    - **Release Notes**, if required
    - Safety Instructions

1.2   General Product Features

The general product features cover performance features and the technical requirements for installation and operation of your gateway.

These features are outlined in the following table:

Feature	Data
Product name	**bintec R232aw**
Dimensions/weight (B x H x D): Dimensions without cables Weight Transport weight (incl. documentation, cabling, packaging)	 189.2 mm x 27 mm x 123.1 mm 550 g approx. 1.2 kg
Memory	32 MB SDRAM, 8 MB Flash-ROM
LEDs	14 (1x power, 4x2 Ethernet, 1x ETH, 1x WLAN, 1x Status, 1x ADSL, 1x ISDN)
Power consumption of equipment	4.7 Watt
Voltage supply	12V DC 800mA EU PSU
Ambient requirements: Storage temperature Ambient temperature Relative humidity Room classification	 -20° to +70°C 0 to 40 °C 10 to 90% non-condensing in operation 5 to 95% non-condensing in storage Operate only in dry rooms.

Feature	Data
Available interfaces:	
ADSL interface	Built-in ADSL modem for Annex A
Serial interface V.24	Built-in, supports the following baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bauds
Ethernet IEEE 802.3 LAN (4 port switch)	Built-in (twisted-pair only), 10/100 Mbps, auto sensing, MDIX
ETH	Additional Ethernet switch port
WLAN interface (antennas)	802.11b and 802.11g with Antenna Diversity
	Data rates of 1-, 2-, 5.5-, 6-, 9-, 11-, 12-, 18-, 24-, 36-, 48-, 54 Mbps
Plugs used:	
Serial interface	3-pole MiniUSB
Ethernet interface	RJ45
ISDN interface	RJ45
ADSL interface	RJ11
SAFERNET^{TM} Security Technology	Community Passwords, PAP, CHAP, MS-CHAP, Access Control Lists, NAT, SIF
Software includes	**BRICKware for Windows BRICKtools for Unix**
Printed documentation included	**Quick Install Guide**
Documentation in PDF format	**User's Guide BRICKware for Windows Software Reference**

Table 1-1:   General product features

Note

Antenna Diversity

The two antennas do not have equal funtion. The one named "Main", "Primary" or "1" (at **R Series** devices the antenna next to the power switch) is used for sending and receiving, the other one only for receiving. The AP (Access point) verifies, which of the two antennas receives the better signal, which is then used for decoding. As the antennas are positionned with a distance of approx. one wave length, the signal quality can differ enormously.

1.3 LEDs

The LEDs on your R Series Gateway indicate the states and the activity of the gateway.

They are arranged as follows:

Figure 1-1: LEDs on **bintec R232aw**

In operational mode the LEDs display the following status information:

LED	Status	Information
PWR	on	Power supply has been connected.
Status	on	The gateway is booting.
	flashing	The gateway is active.
1 to 4	on	The gateway is connected to the Ethernet (100 Mbit/s or 10 Mbit/s respectively).
	flashing	Data traffic via the Ethernet interface (100 Mbit/s or 10 Mbit/s respectively).
WLAN	on	The WLAN module is active.
	flashing	Data traffic via the WLAN interface.

Technical Data

LED	Status	Information
ETH	on	The gateway is connected to the Ethernet.
	flashing	Data traffic via the Ethernet interface.
ADSL	on	ADSL connection is active.
ISDN	on	One B-channel is used.
	flashing	Both B-channels are used.

Table 1-2:   LED status display

1.4   Connections

All connections are located on the rear of the gateway. bintec R232aw offers a 4-port Ethernet switch, an ETH interface, an ISDN interface, an ADSL interface as well as a serial interface.

The connections are arranged as follows:
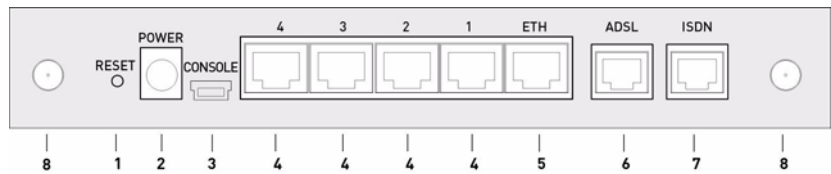
1. Reset	Reset Button	5. ETH	Ethernet interface
2. POWER	Socket for power supply	6. ADSL	ADSL interface
3. CON-SOLE	Serial interface	7. ISDN	ISDN interface
4. 4/3/2/1	10/100 Base-T Ethernet interface	8.	RSMA connection

Figure 1-2: **bintec R232aw** rear

1.5 Pin Assignments

1.5.1 Serial Interface

For connecting a console bintec R232aw provides a serial interface. Baud rates between 1200 and 115200 Bit/s are supported.

The interface is connected through a 5-pole MiniUSB socket:
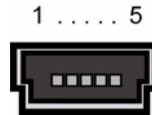
Figure 1-3: 5-pole MiniUSB socket

The pin assignment of the socket is as follows:

Pin	Function
1	not used
2	Rx
3	GND
4	not used
5	Tx

Table 1-3:   Pin assignment of the serial socket

1.5.2 Ethernet Interface

bintec R232aw offers an Ethernet interface with integrated 4-port switch for LAN connection. It can be used to connect single PCs as well as additional switches. Furthermore, the gateway is equipped with a fifth Ethernet interface.

An RJ45 socket is used for connecting:

Figure 1-4: Ethernet 10/100Base-T interface (RJ45 socket)

The Ethernet sockets have the following pin assignment

Pin	Function
1	TD +
2	TD -
3	RD +
4	Not used
5	Not used
6	RD -
7	Not used
8	Not used

Table 1-4:   RJ45 socket for LAN connections

1.5.3   ADSL Interface

The ADSL interface is connected using a RJ11 socket. The supplied cable combines the RJ11 plug required by most ADSL splitters and the RJ11 plug required by the gateway.

Only the inner pins are used for the ADSL connection:

1 2 3 4

Figure 1-5: ADSL interface (RJ11)

The ADSL interface has the following pin assignment:

Pin	Function
1	Not used
2	a
3	b
4	Not used

Table 1-5:   ADSL interface (RJ11 socket)

1.5.4   ISDN Basic Rate Interface

bintec R232aw provides an ISDN S_0 interface, which can be used, e.g., for backup purposes.

A RJ45 socket is used for connecting:

1 8
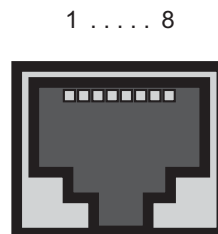
Figure 1-6: ISDN S_0 interface (RJ45 socket)

The ISDN interface (RJ45 socket) has the following pin assignment:

Pin	Function
1	Not used
2	Not used
3	Send (+)
4	Receive (+)
5	Receive (-)
6	Send (-)
7	Not used
8	Not used

Table 1-6:   RJ45 socket for ISDN connection

1 bintec R232aw

1 bintec R232bw

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1.1 Delivery size

Your gateway is supplied with the following parts:

■ Cable sets/power supply:
  – Ethernet cable
  – ISDN cable
  – Serial cable
  – DSL cable
  – Power supply

■ Antennas:
  – two standard antennas

■ Bintec Companion CD

■ Documentation:
  – **Quick Install Guide** (printed)
  – **User's Guide** (on CD)
  – **Release Notes**, if required
  – Safety Instructions

1.2 General Product Features

The general product features cover performance features and the technical requirements for installation and operation of your gateway.

These features are outlined in the following table:

Feature	Data
Product name	**bintec R232bw**
Dimensions/weight (B x H x D):	
Dimensions without cables	189.2 mm x 27 mm x 123.1 mm
Weight	550 g
Transport weight (incl. documentation, cabling, packaging)	approx. 1.2 kg
Memory	32 MB SDRAM, 8 MB Flash-ROM
LEDs	14 (1x power, 4x2 Ethernet, 1x ETH, 1x WLAN, 1x Status, 1x ADSL, 1x ISDN)
Power consumption of equipment	4.7 Watt
Voltage supply	12V DC 800mA EU PSU
Ambient requirements:	
Storage temperature	-20° to +70°C
Ambient temperature	0 to 40 °C
Relative humidity	10 to 90% non-condensing in operation 5 to 95% non-condensing in storage
Room classification	Operate only in dry rooms.

Feature	Data
Available interfaces:	
ADSL interface	Built-in ADSL modem for Annex B
Serial interface V.24	Built-in, supports the following baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bauds
Ethernet IEEE 802.3 LAN (4 port switch)	Built-in (twisted-pair only), 10/100 Mbps, auto sensing, MDIX
ETH	Additional Ethernet switch port
WLAN interface (antennas)	802.11b and 802.11g with Antenna Diversity
	Data rates of 1-, 2-, 5.5-, 6-, 9-, 11-, 12-, 18-, 24-, 36-, 48-, 54 Mbps
Plugs used:	
Serial interface	3-pole MiniUSB
Ethernet interface	RJ45
ISDN interface	RJ45
ADSL interface	RJ11
SAFERNET^{TM} Security Technology	Community Passwords, PAP, CHAP, MS-CHAP, Access Control Lists, NAT, SIF
Software includes	**BRICKware for Windows BRICKtools for Unix**
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Table 1-1:   General product features

Note

Antenna Diversity

The two antennas do not have equal funtion. The one named "Main", "Primary" or "1" (at **R Series** devices the antenna next to the power switch) is used for sending and receiving, the other one only for receiving. The AP (Access point) verifies, which of the two antennas receives the better signal, which is then used for decoding. As the antennas are positionned with a distance of approx. one wave length, the signal quality can differ enormously.

1.3   LEDs

The LEDs on your R Series Gateway indicate the states and the activity of the gateway.
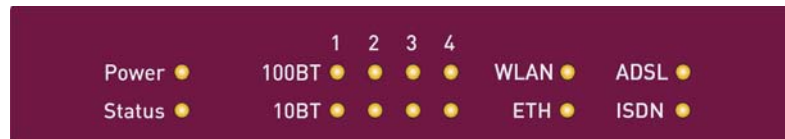
They are arranged as follows:

Figure 1-1: LEDs on **bintec R232bw**

In operational mode the LEDs display the following status information:

LED	Status	Information
PWR	on	Power supply has been connected.
Status	on	The gateway is booting.
	flashing	The gateway is active.
1 to 4	on	The gateway is connected to the Ethernet (100 Mbit/s or 10 Mbit/s respectively).
	flashing	Data traffic via the Ethernet interface (100 Mbit/s or 10 Mbit/s respectively).
WLAN	on	The WLAN module is active.
	flashing	Data traffic via the WLAN interface.

LED	Status	Information
ETH	on	The gateway is connected to the Ethernet.
	flashing	Data traffic via the Ethernet interface.
ADSL	on	ADSL connection is active.
ISDN	on	One B-channel is used.
	flashing	Both B-channels are used.

Table 1-2:   LED status display

1.4   Connections

All connections are located on the rear of the gateway. bintec R232bw offers a 4-port Ethernet switch, an ETH interface, an ISDN interface, an ADSL interface as well as a serial interface.

The connections are arranged as follows:
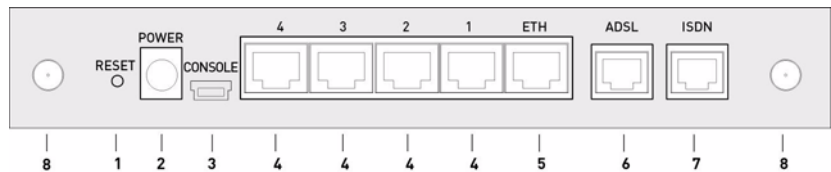
1. Reset	Reset Button	5. ETH	Ethernet interface
2. POWER	Socket for power supply	6. ADSL	ADSL interface
3. CON-SOLE	Serial interface	7. ISDN	ISDN interface
4. 4/3/2/1	10/100 Base-T Ethernet interface	8.	RSMA connection

Figure 1-2: **bintec R232bw** rear

1.5   Pin Assignments

1.5.1   Serial Interface

For connecting a console bintec R232bw provides a serial interface. Baud rates between 1200 and 115200 Bit/s are supported.

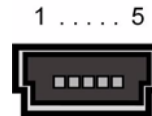The interface is connected through a 5-pole MiniUSB socket:

Figure 1-3: 5-pole MiniUSB socket

The pin assignment of the socket is as follows:

Pin	Function
1	not used
2	Rx
3	GND
4	not used
5	Tx

Table 1-3:   Pin assignment of the serial socket

1.5.2   Ethernet Interface

bintec R232bw offers an Ethernet interface with integrated 4-port switch for LAN connection. It can be used to connect single PCs as well as additional switches. Furthermore, the gateway is equipped with a fifth Ethernet interface.
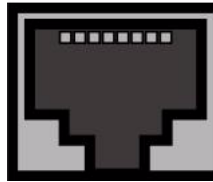
An RJ45 socket is used for connecting:

Figure 1-4: Ethernet 10/100Base-T interface (RJ45 socket)

The Ethernet sockets have the following pin assignment

Pin	Function
1	TD +
2	TD -
3	RD +
4	Not used
5	Not used
6	RD -
7	Not used
8	Not used

Table 1-4:   RJ45 socket for LAN connections

1.5.3   ADSL Interface

The ADSL interface is connected using a RJ11 socket. The supplied cable combines the RJ45 plug required by most ADSL splitters and the RJ11 plug required by the gateway.

Only the inner pins are used for the ADSL connection:

Figure 1-5: ADSL interface (RJ11)

The ADSL interface has the following pin assignment:

Pin	Function
1	Not used
2	a
3	b
4	Not used

Table 1-5:   ADSL interface (RJ11 socket)

1.5.4   ISDN Basic Rate Interface

bintec R232bw provides an ISDN S_0 interface, which can be used, e.g., for backup purposes.
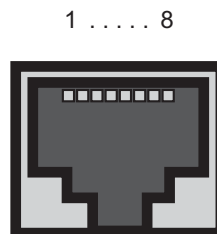
A RJ45 socket is used for connecting:

Figure 1-6: ISDN S_0 interface (RJ45 socket)

The ISDN interface (RJ45 socket) has the following pin assignment:

Pin	Function
1	Not used
2	Not used
3	Send (+)
4	Receive (+)
5	Receive (-)
6	Send (-)
7	Not used
8	Not used

Table 1-6:   RJ45 socket for ISDN connection

1 bintec R232bw