



**Installation Instruction
for BED-108/2
Simplex RS-485 Distributor Unit**



INTRODUCTION

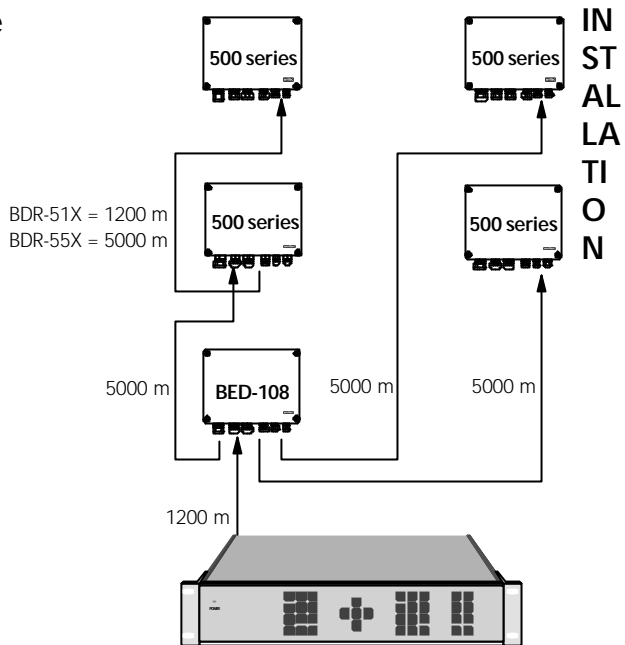
The BED-108/2 is a distribution unit made for use with simplex RS-485 or RS-422 signals.

The BED-108/2 can be used in connection with all Ernitec camera stations series BDR-5XX and BDR-9XX.

The following shows an application for BED-108/2:

Combined Star and Daisy chain configuration. Using the BED-108/2 it is possible to change a Daisy chain configuration to a Star configuration or to a combination of both.

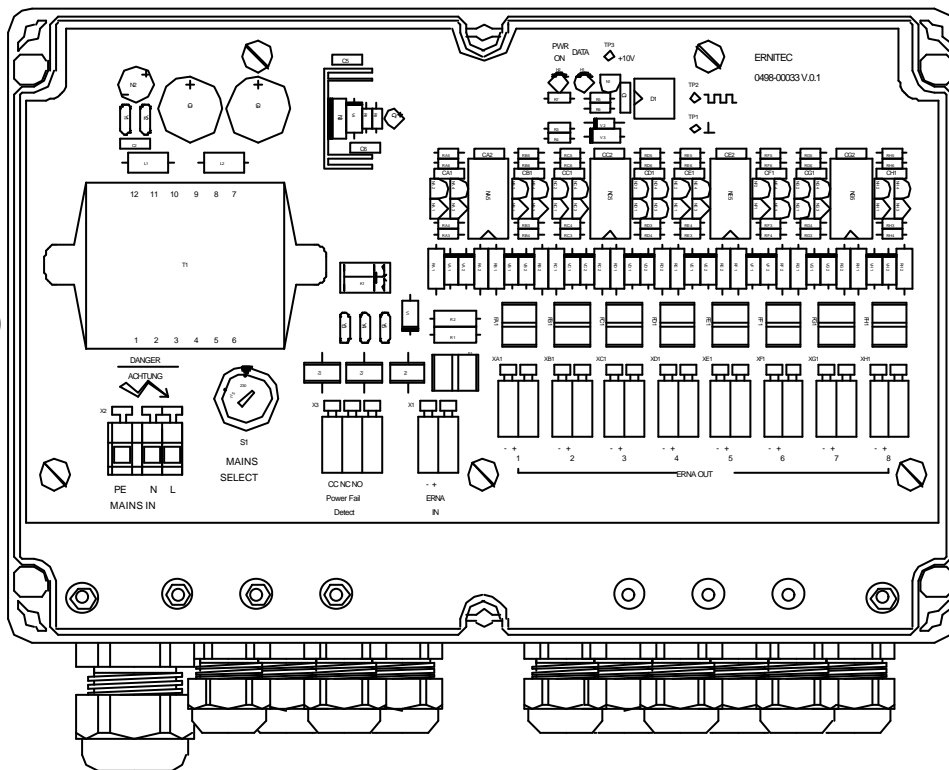
BED-108/2 can also be used as a repeater or as a booster for the camera stations BDR-51X or BDR-91X which are normally working up to 1200 m. Using the BED-108/2 transmission distance up to 5000 m can be achieved.



Box Installation

The BED-108/2 should be mounted at a suitable location where mains are available.

The box should be mounted on a plane surface to avoid distortion resulting in possible leakage.



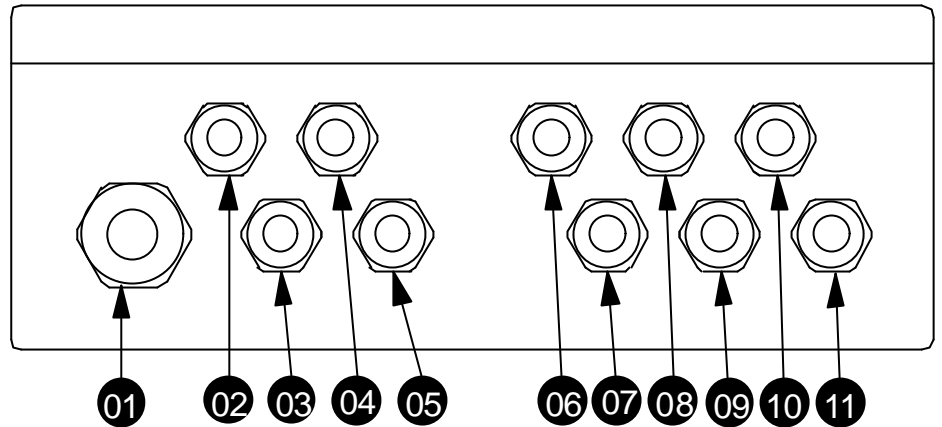


Figure 2.1-1, BED-108/2 RS-485 Distribution

If the box is mounted on a concrete or similar surface, use rawplugs and galvanised roundheaded 1" screws such as no. 8 (ø4.1 x 25 mm).

If the box is mounted on a wooden surface, use galvanised roundheaded 3/4" screws no. 8 (ø4.1 x 19mm) or similar.

When mounted outside, the box should be fixed with the cable glands pointing down.

Cable connections

It is of utmost importance that all cable connections are carried out, exactly as described, in order to avoid malfunction or damage to the camera station or the connected equipment. All cables to and from the camera station are fed through the cable glands. Choose an appropriate size gland for the actual cable and tighten the glands when all cables are connected.

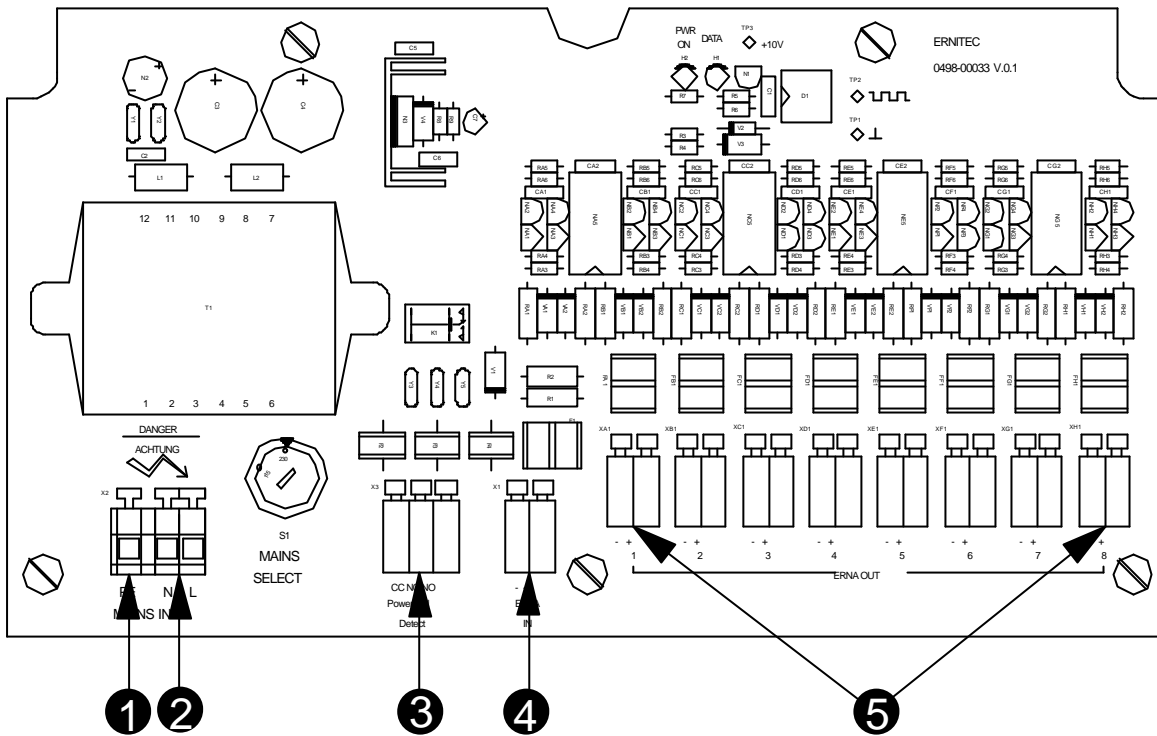
The choice of cable is important to the optimal function of the camera station.

Figure 2.2-1, Cable glands lay-out

The following table shows how the cable glands are intended to be used:

No.	Size	Description
1	PG 16	Mains input cable
2	PG 9	Power failure cable
3	PG 9	RS-485 input cable
4	PG 9	RS-485 output cable 1
5	PG 9	RS-485 output cable 2
6	PG 9	RS-485 output cable 3
7	PG 9	RS-485 output cable 4
8	PG 9	RS-485 output cable 5
9	PG 9	RS-485 output cable 6
10	PG 9	RS-485 output cable 7
11	PG 9	RS-485 output cable 8

The BED-108/2 Simplex RS-485 Distribution Unit must be used with a 3 wire mains connection and an earthed power outlet.



All electronic equipment can emit or be sensitive to induced electromagnetic noise, which can be conducted by the connected wires or transmitted as electromagnetic fields.

Electromagnetic noise can cause malfunction or damage to the equipment. The BED-108/2 are tested and fulfils the following EMC standards:

- EN 50081-1 (Emmision)**
- EN 50130-4 (Immunity)**

These standards covers equipment placed in an industrial environment. The BED-108/2 fulfils the following safety standards:

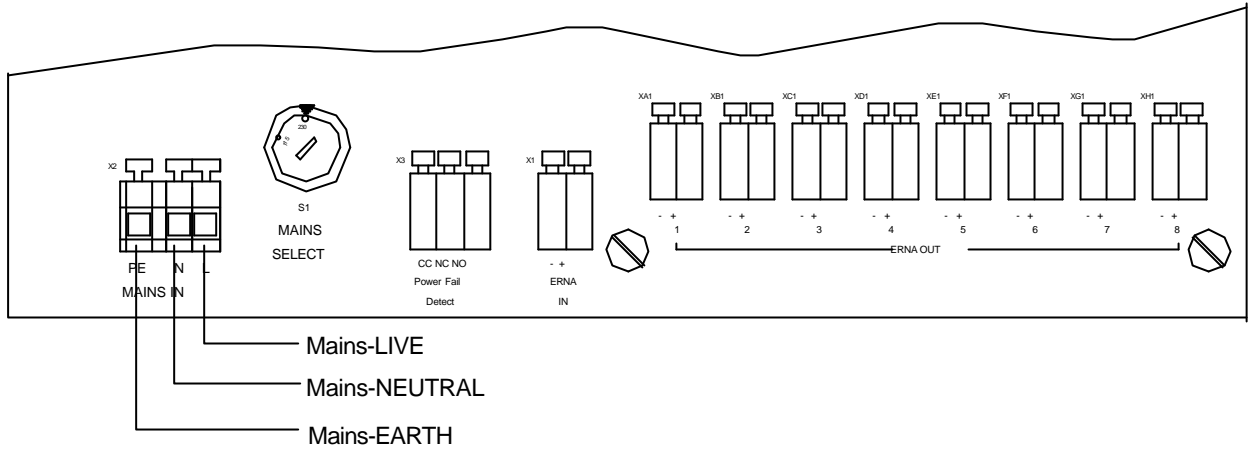
EN 60950
BED-108/2 Layout

The BED-108/2 has been designed for easy installation and set-up. Figure 2.3-1 shows the layout of the Simplex RS-485 Distribution Unit.

Figure 2.3-1, BED-108/2 Layout

Description	
No.	BED-108/2
1	Earth connection
2	Mains connection
3	Mains failure connection
4	RS-485 input

5 | 8 RS-485 outputs



Mains connection

Connect the mains lead to the terminal block X2.
Refer to figure 2.3.1.-1.

Figure 2.3.1-1, Mains connection

Make sure that each terminal is connected to the corresponding terminal of the mains outlet (i.e. Phase to Phase, Neutral to Neutral and Ground to Ground). Otherwise malfunction or even damage to the camera station will occur.

For specification of mains, refer to *Specifications*

RS-485 (ERNA Camera control) input connection

The ERNA signal is connected to terminal X1, refer to figure 2.3.1-1.

It is important that the polarity of the connection is correct, otherwise it will not be possible to get control.

Note, the ERNA input is galvanic separated from the rest of the circuit in order to avoid ground loop problems, therefore:

DO NOT CONNECT THE SCREEN FROM THE CABLE TO THE CAMERA STATION GROUND!

RS-485 (ERNA Camera control) output connection

The ERNA output signal is connected to the terminals XA1 to XH1, refer to figure 2.3.1-1.

Power failure connection

If an alarm in connection with power failure is necessary, the connection can be made to terminal X3. Potential free contacts are provided for a normal open or normal closed operation.

SPECIFICATIONS

Specifications						
Description	Parameter	Min.	Typ	Max.	Unit	Note
Inputs	Mains (115/230VAC), 45-60Hz				VAC	+/- 10%
	ERNA, RS-422 or simplex RS-485	2		10	V _{pp}	
	Impedance	108	120	132	Ohm	
	Current	8			mA	
Outputs	ERNA (PCM) (8x)		10		V _{pp}	
	Load impedance		120		Ohm	

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	Power failure	Relay				Potential free contacts
	Transmission distance			5	km	using 0.6 mm solid copper twisted pair standard telephone cable @ 25 °C
General	Power consumption			11	VA	
	Temperature range	-20		55	°C	
	Relative humidity				95	%
	EMC/EMI	EN 50081-1 EN 50130-4				
	Safety	EN 60950				
	Enclosure	IP 65				ABS box
	Dimensions	240 x 160 x 90			mm	
	Weight				1,2	Kg



Drilling pattern for box (*not to scale*)

HEAD OFFICE: ERNITEC A/S, HØRKÆR 24, P.O. BOX 720, DK-2730 HERLEV, DENMARK
 TELEPHONE: +45 44 92 30 00, TELEFAX: +45 44 92 72 82,
 UK OFFICE: ERNITEC UK GERRARD HOUSE, WORTHING ROAD, EAST PRESTON, WEST SUSSEX BN16 1AW, ENGLAND
 TELEPHONE: 01903 772 727, TELEFAX: 01903 772 707
 GERMAN OFFICE: ERNITEC GmbH., STORMARNRING 28, 22145 STAPELFELD, GERMANY
 TELEPHONE: 040 675625 0, TELEFAX: 040 675625 25
 FRENCH OFFICE: ERNITEC FRANCE, PARC PEREIRE, 95 RUE PEREIRE, BAT D, 78100 SAINT GERMAIN EN LAYE, FRANCE
 TELEPHONE: 00 33 1 39 21 12 00, TELEFAX: 00 33 1 39 21 12 95
 JAPAN OFFICE: ERNITEC JAPAN LTD., 8-16 GAKUEN-HIGASHIMACH, 1-CHOME KODAIRA-SHI, TOKYO 187, JAPAN
 TELEPHONE: 0423 466290, TELEFAX: 0423 465646

