

## BCD Repeater

### 1. Definition

A BCD repeater is a device designed to repeat or duplicate BCD signals arriving from a diode matrix, whose inputs are connected to an on-load tap changer's contact disc.

### 2. Operating Principle

The binary outputs from a diode matrix are connected to relays located in the BCD repeater. Each relay is responsible for representing a single output's logic level. High outputs from the diode matrix (e.g., +24 Vdc) drive the relays, closing them. Low levels leave the contacts open.

Apart from repeating or duplicating the BCD code, this device also isolates the outputs from the diode matrix, which is manufactured with silicon semiconductors.

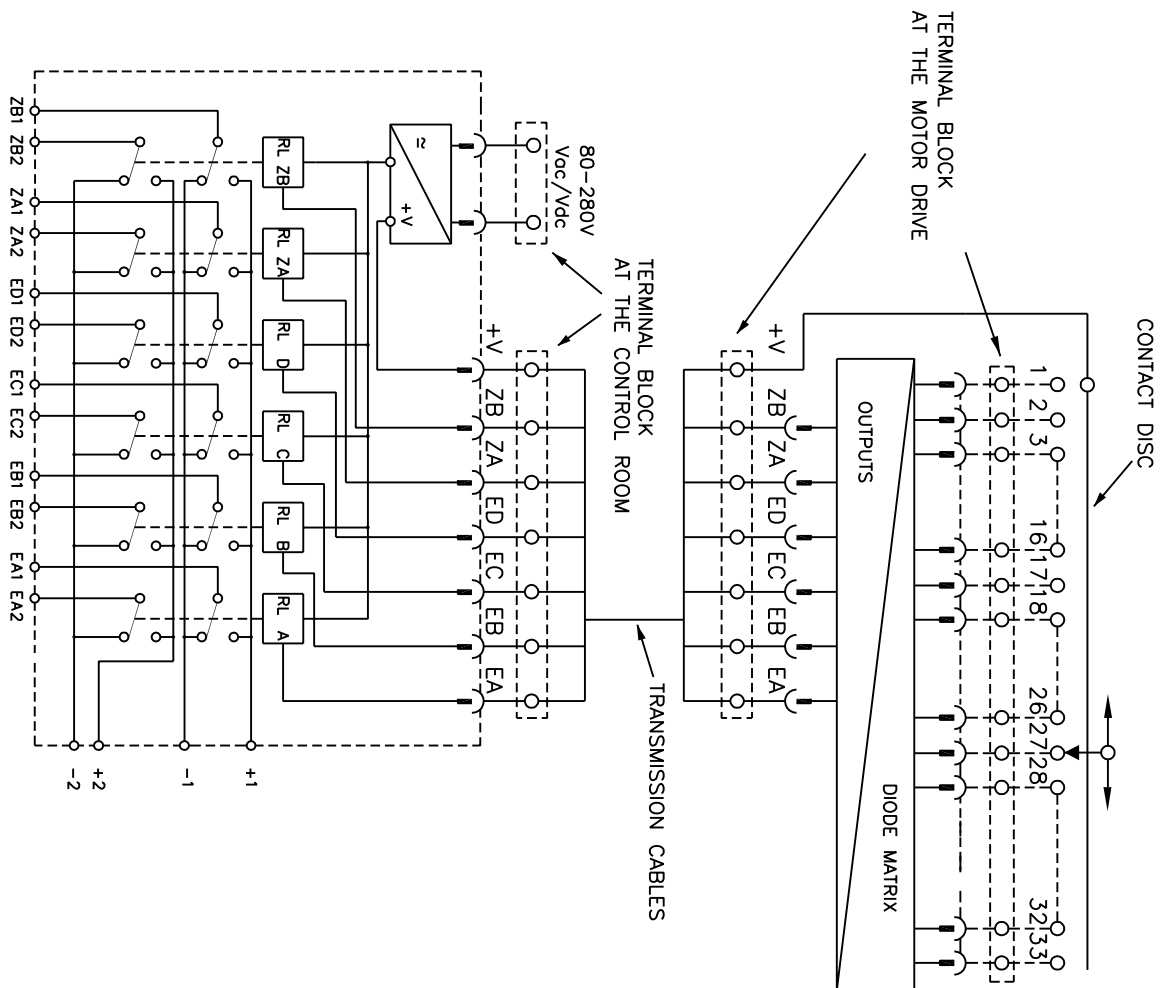
Given that relay contacts are responsible for generating the repeated BCD code, this system is extremely robust to electrical and electromagnetic transients. The BCD repeater's power supply (which is responsible for powering the relay's coils) is also designed to provide appropriate input/output isolation.

### 3. Electrical Characteristics

Power supply	80 – 265 V <sub>cc</sub> /V <sub>ca</sub>
Power supply / other terminals isolation	1500 V, 50/60 Hz, 1 min.
Input signals / other terminals isolation	1500 V, 50/60 Hz, 1 min.
Terminals / ground isolation	2000 V, 50/60 Hz, 1 min.
Consumption	≤ 4 W
Operating temperature	-40 to 85 °C
Operating humidity	10 to 90% without condensation

### 4. Product Photograph



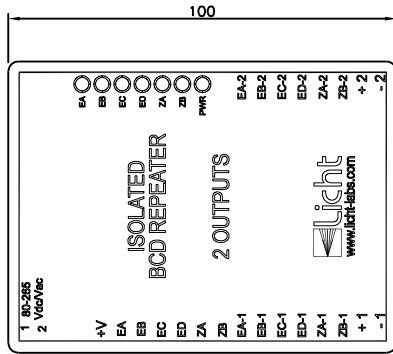


Top Changer Position	Closed Relays				Units			
	ZA	ZB	ZC	ZD	EA	EB	EC	ED
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
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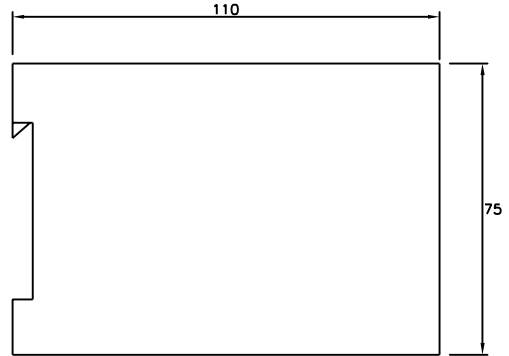


Aceito Cont. Qualid.	Aceito Produção:	DECIMAL/BCD ISOLATED CONVERTER	Escala Ref.	
Projeto Conf.	Des. Por. MANENGE		Alt. Num.	Folha
Des. Conf.	Emit. Depto Data.	BCD/2 x RL 0001/rev.0 - 25/02/99	1/1	
LICHT E. ELETRÔNICA				

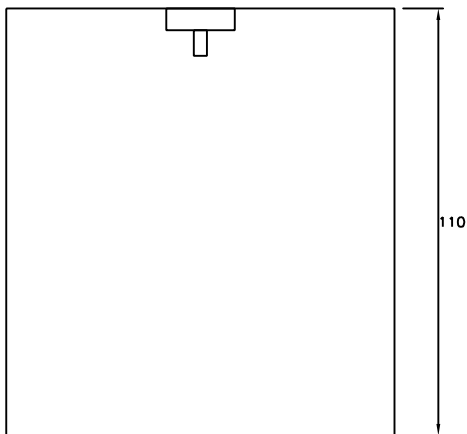
FRONT VIEW



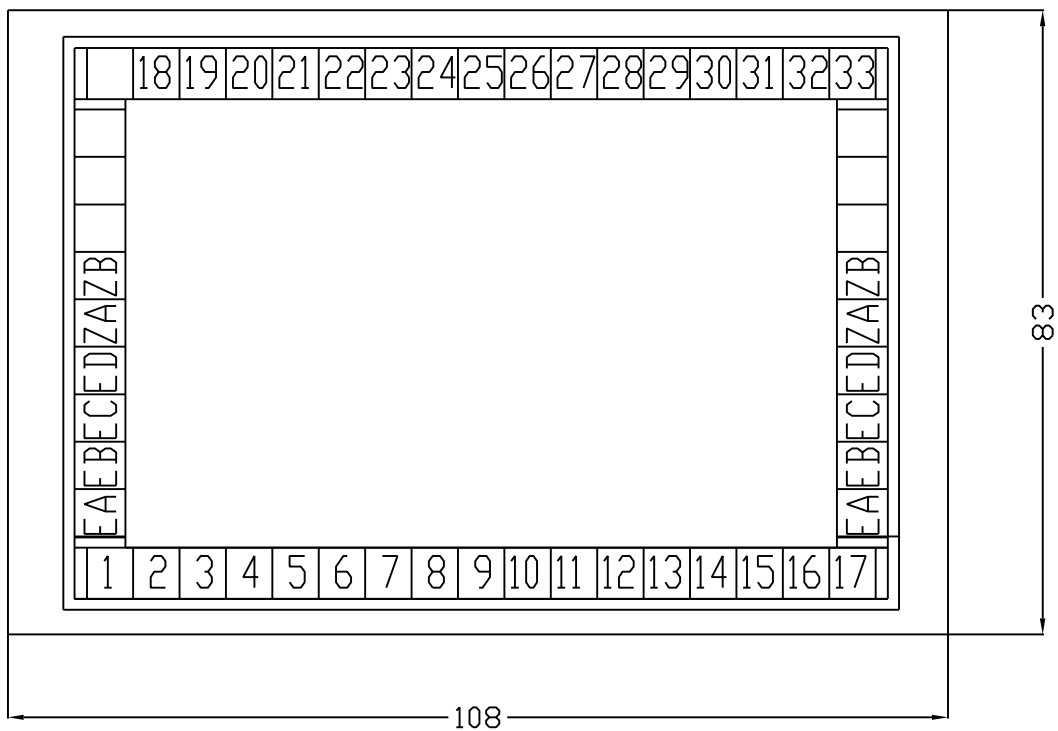
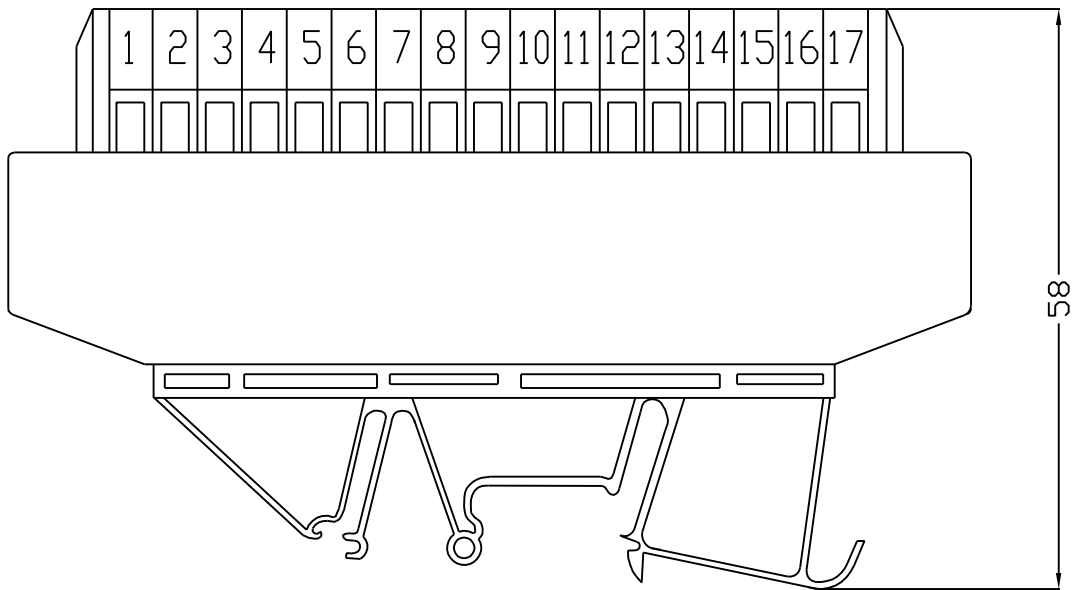
SIDE VIEW



TOP VIEW



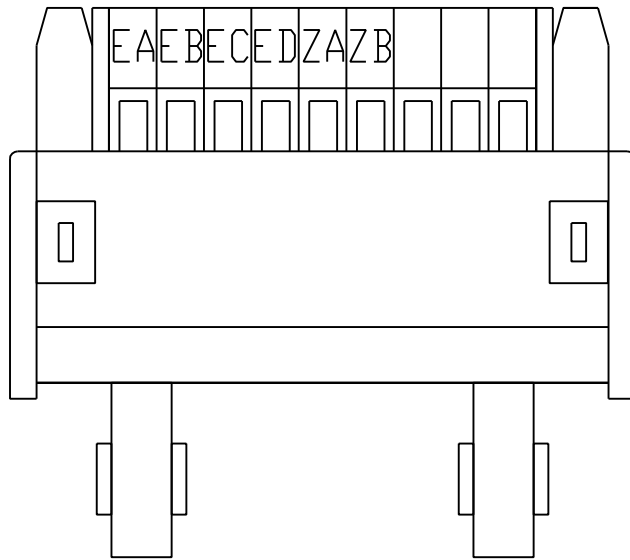
Aceito Cont. Qualid.	Aceito Produção:	BCD REPEATER HOUSING DIAGRAM	Escala Ref.	
Projeto Conf.	Des. Por.			
Des. Conf.	Emit. Depto Data.		Alt. Num.	Folha
LICHT E. ELETRÔNICA				1/1





DIMENSIONS IN MM

CABLE CROSS SECTION  $\leq 2,5 \text{ MM}^2$

Acceito Cont. Qualid.	Aceito producao	DIODE MATRIX EXTERNAL DIMENSIONS DIAGRAM	Escala Ref.	
Projeto conf.	Des. por. N.A.			
Des. conf.	Emit. Depto Data	T0002 REV.03	Alt. num.	Folha num.
LICHT E. ELETRONICA				1/2



TAP CHANGER POSITION	OUTPUT STATES								DISPLAY
	TENS				UNITS				
	ZA	ZB	ZC	ZD	EA	EB	EC	ED	
1					█				1
2						█			2
3							█		3
4								█	4
5					█				5
6						█			6
7							█		7
8					█			█	8
9						█			9
10	█								10
11	█				█				11
12	█					█			12
13	█						█		13
14	█				█			█	14
15	█					█			15
16	█						█		16
17	█				█				17
18	█					█		█	18
19	█						█		19
20		█							20
21		█			█				21
22		█				█			22
23		█					█		23
24		█			█			█	24
25		█				█			25
26		█					█		26
27		█			█				27
28		█				█		█	28
29		█					█		29
30	█	█							30
31	█	█			█				31
32	█	█				█			32
33	█	█			█				33

 OUTPUT HIGH  
 OUTPUT LOW

DIODE MATRIX MOD. 8421 1kV/1A – REVERSE VOLTAGE: 1 kV  
 MAX. DIRECT CURRENT: 1 A

Acceito Cont. Qualid.	Aceito producao	DIODE MATRIX EXTERNAL DIMENSIONS DIAGRAM	Escala Ref.	
Projeto conf.	Des. por. N.A.			
Des. conf.	Emit. Depto Data	T0002 REV.03	Alt. num.	Folha
LICHT E. ELETRONICA				2/2