

MAT-8421 Encoding Matrix

1. Definition

The MAT-8421 encoding matrix is a passive device designed for converting decimal signals into BCD codes, according to the truth table from dwg. T0002 rev. 03.

2. Typical Application

An encoding matrix receives decimal signals from a contact disc and converts them to BCD codes, which are then used in digital position indicators and/or digital control systems.

3. Operating Principle

This device consists of a set of diodes assembled in a matrix pattern. It features 33 inputs (corresponding to 33 tap changer positions) and 6 outputs (capable of representing the numbers 1 to 33 in BCD format).

In order to encode a value, one applies a positive DC signal between the input to be encoded and all outputs. This signal is conducted by at least one diode, elevating the voltage at one or more outputs to the input voltage minus each conducting diode's junction potential.

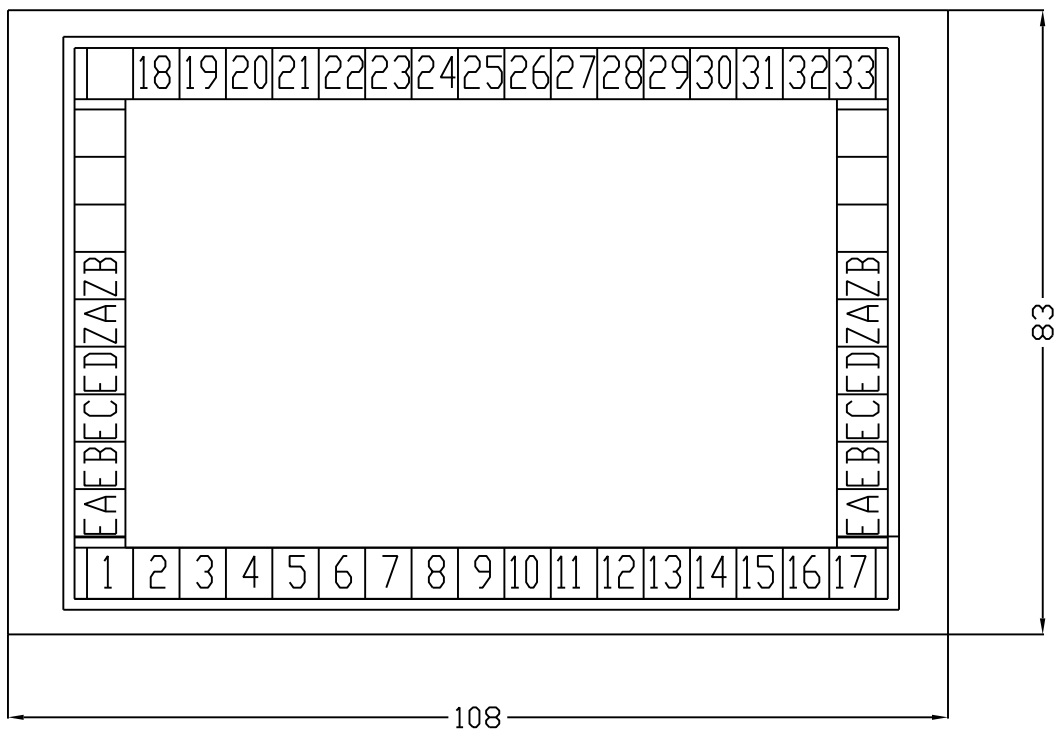
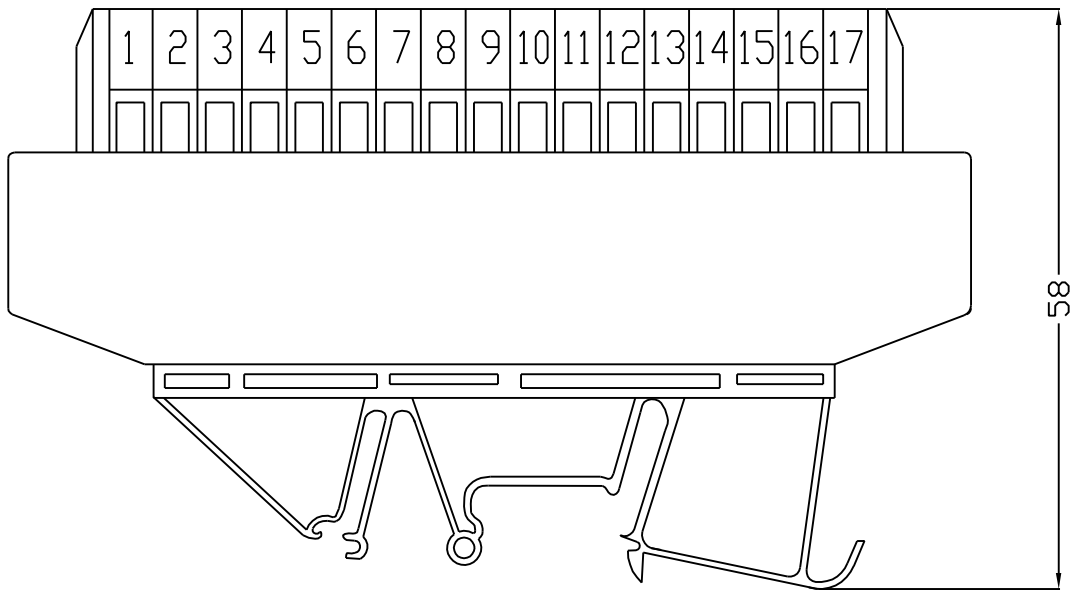
Versions featuring other encodings and/or negative voltages can be manufactured on special order.

4. Specifications

Reverse voltage	1 kV
Absolute maximum average current	1 A
Forward voltage drop	< 1.8 V
Protection/isolation class	II
Overtoltage category	II
Pollution degree	2
Assembly	35 mm DIN rail
Weight	200 g
Operating temperature	-40 to 85 °C
Operating humidity	10 to 90% without condensation

5. Product Photograph

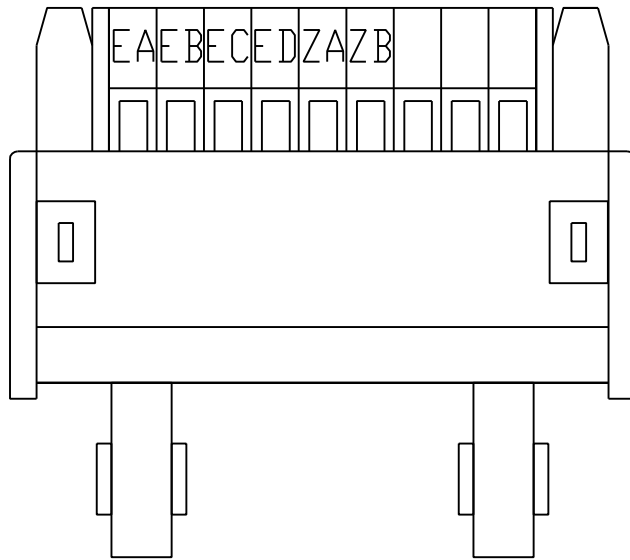






DIMENSIONS IN MM

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

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Projeto conf.	Des. por. N.A.			
Des. conf.	Emit. Depto Data	T0002 REV.03	Alt. num.	Folha
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