

• **Many design available:**

Decimal to binary

Decimal to BCD

Decimal to Gray

or according to customer specifications

up to 32 inputs

Optional LED for status indication

• **Wide range of applications :**

PLC interface

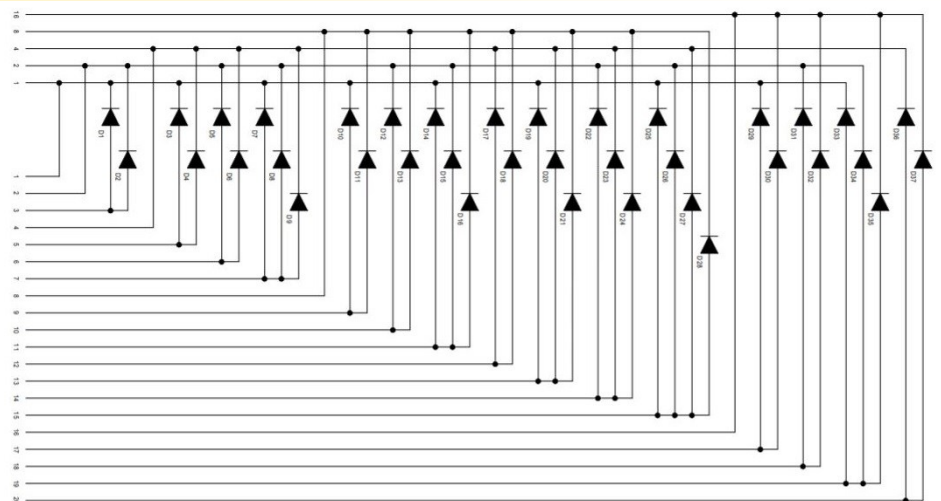
Button keyboard encoding

Simple logical function



The diode matrix module MDL107 is made for classic functions of digital input encoding it is distinguished by its great adaptability to the constraints of each application : encoding type (binary, gray, bcd). The diodes reference may be adapted to users specific needing.

| Decimal number | Binary Code |    |    |    | Gray Code |    |    |    |
|----------------|-------------|----|----|----|-----------|----|----|----|
|                | B4          | B3 | B2 | B1 | G4        | G3 | G2 | G1 |
| 0              | 0           | 0  | 0  | 0  | 0         | 0  | 0  | 0  |
| 1              | 0           | 0  | 0  | 1  | 0         | 0  | 0  | 1  |
| 2              | 0           | 0  | 1  | 0  | 0         | 0  | 1  | 1  |
| 3              | 0           | 0  | 1  | 1  | 0         | 0  | 1  | 0  |
| 4              | 0           | 1  | 0  | 0  | 0         | 1  | 1  | 0  |
| 5              | 0           | 1  | 0  | 1  | 0         | 1  | 1  | 1  |
| 6              | 0           | 1  | 1  | 0  | 0         | 1  | 0  | 1  |
| 7              | 0           | 1  | 1  | 1  | 0         | 1  | 0  | 0  |
| 8              | 1           | 0  | 0  | 0  | 1         | 1  | 0  | 0  |
| 9              | 1           | 0  | 0  | 1  | 1         | 1  | 0  | 1  |
| 10             | 1           | 0  | 1  | 0  | 1         | 1  | 1  | 1  |
| 11             | 1           | 0  | 1  | 1  | 1         | 1  | 1  | 0  |
| 12             | 1           | 1  | 0  | 0  | 1         | 0  | 1  | 0  |
| 13             | 1           | 1  | 0  | 1  | 1         | 0  | 1  | 1  |
| 14             | 1           | 1  | 1  | 0  | 1         | 0  | 0  | 1  |
| 15             | 1           | 1  | 1  | 1  | 1         | 0  | 0  | 0  |



**Feature, implantation and wiring**

- Symmetrical DIN rail mounting according to EN50022
- Wiring on spring terminal blocs (1.5mm<sup>2</sup> section)
- Protection rating IP20 + conformal coating
- LED for inputs status indication in option
- customer number assignment for specific diodes or schema
- Great EMC protection
- Surge protection 24Vdc to 400Vdc in option

**Applications**

- Keyboard interface for PLC
- Discrete logical function
- Alarms grouping

**Version and order code:**

**MDL107-Binaire-ee** : ee up to 32 inputs, binary coding

**MDL107-Gray-ee** : ee up to 32 inputs, gray coding

**MDL107-BCD-ee** : ee up to 32 inputs, BCD coding

**MDL107-xxx** : following specific user schema

diodes type RR264M-400 in standard ( 1A - 400V )

other type of diodes possible on request

- Option :
- /TVS** with transient voltage suppression diodes (rated operating voltage to be defined)
  - /A** LED for indication of inputs status

**Technical specification of standard diodes**

Type RR264M-400  
 maxi reverse voltage : 400V  
 direct current : 1A  
 switching time : < 100us  
 reverse current : 10uA @ 400V  
 forward voltage : 1.1V @ 0.7Adc

**OPTION TVS ( surge protection)**

voltage input limiter : from 30Vdc to 400 Vdc bidirectional  
 limiter type "transil diode" : 600 W (10 / 1000 us)

**ENVIRONMENT**

Operating temperature: -25 to 60 °C  
 Storage temperature: -40 to +85 °C  
 Humidity: 85 % non condensing

Protection rating: (following : EN 60 529) IP 20

Weight: 150 g.

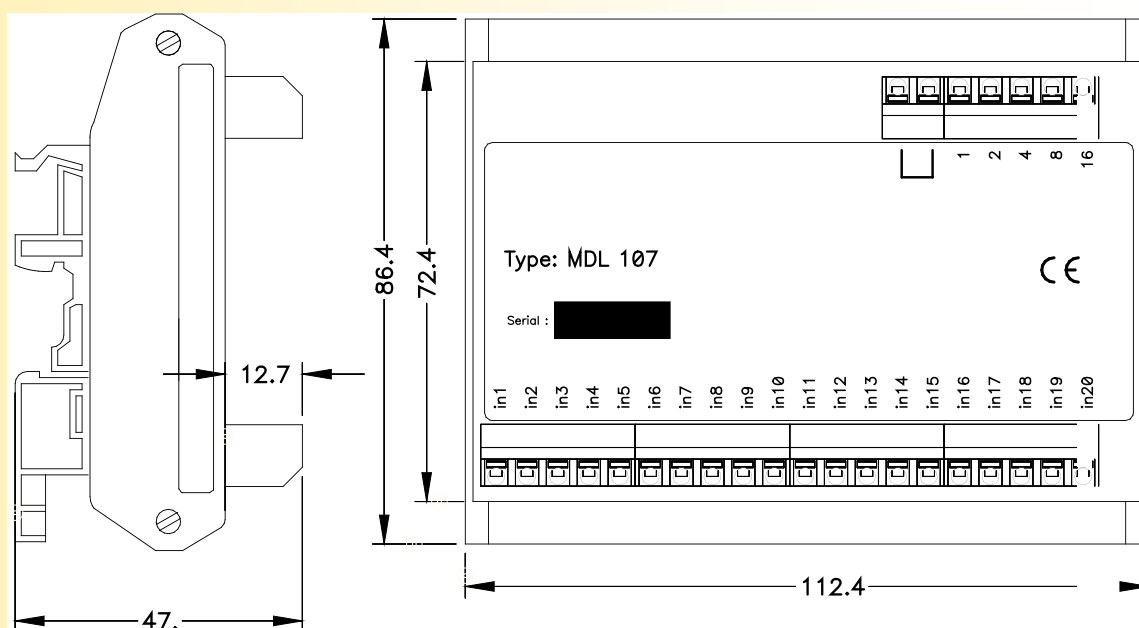
MTBF (MIL HDBK 217F) > 6 000 000 Hrs @ 25°C  
 Life time > 500 000 Hrs @ 30°C

**Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE**

| Immunity standard for industrial environments<br>EN 61000-6-2 |                         | Emission standard for industrial environments<br>EN 61000-6-4 |
|---------------------------------------------------------------|-------------------------|---------------------------------------------------------------|
| EN 61000-4-2 ESD                                              | EN 61000-4-8 AC MF      | EN 55011<br>group 1<br>class A                                |
| EN 61000-4-3 RF                                               | EN 61000-4-9 pulse MF   |                                                               |
| EN 61000-4-4 EFT                                              | EN 61000-4-11 AC dips   |                                                               |
| EN 61000-4-5 CWG                                              | EN 61000-4-12 ring wave |                                                               |
| EN 61000-4-6 RF                                               | EN 61000-4-29 DC dips   |                                                               |

**WIRING AND OUTLINE DIMENSIONS:**

Version  
 20 input  
 binary output  
 without LEDs



Version  
 21 input  
 BCD output  
 With LEDs

