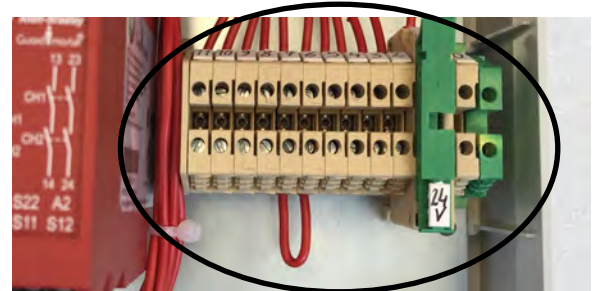
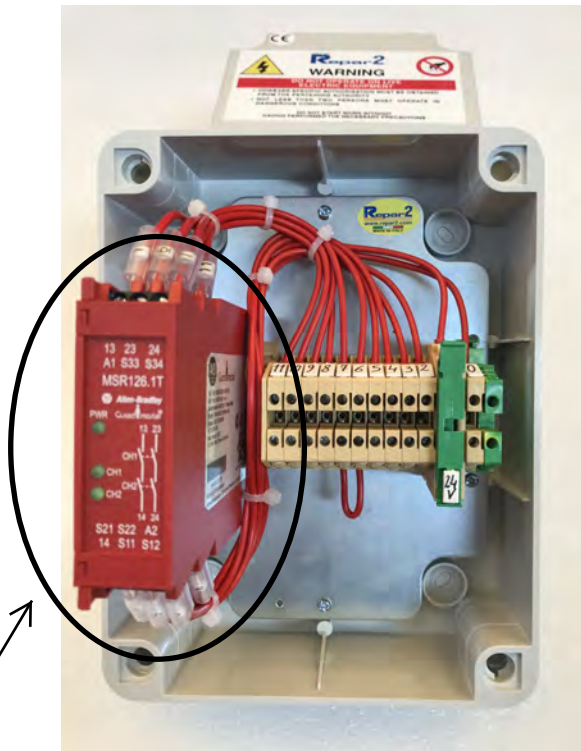


## MODULO DI SICUREZZA- SAFETY MODULE



**Terminal board**

**MODULO DI SICUREZZA-SAFETY MODULE**

*Il 31.12.2011 la norma EN 954-e' scaduta .*

*La norma EN 954-1 e' stata sostituita definitivamente dalla norma EN ISO 13849-1.*

*Cosa cambia con le nuove norme?*

*La nuova norma EN ISO 13849-1:*

*introduce il concetto di **PerformanceLevel(PL)** quale indicatore del livello di affidabilità di una funzione di sicurezza, contiene inoltre indicazioni di affidabilità relative alla determinazione dei livelli di sicurezza. Vi è una serie di altri fattori importanti che devono essere considerati in fase di progetto per ottenere la conformità secondo la norma EN ISO 13849-1 ed in accordo alla Direttiva Macchine. Tra questi, sono compresi: "MTTF", "**Copertura diagnostica**", architettura del sistema (struttura) e Common Cause Failure (guasti di causa comune).*

*Il PL necessario per una determinata funzione di sicurezza deve essere determinato in base alla valutazione del rischio e ottenuto mediante la scelta di un'architettura adeguata, l'impiego di componenti idonei e di sufficiente **copertura diagnostica**.*

**PER GARANTIRE LA COPERTURA DIAGNOSTICA REPAR2 PRODUCE UN BOX**

**(VEDI FOTO) ,NEL QUALE E' PRESENTE UN MODULO DI SICUREZZA DI CONTROLLO MICRO,UNA COMODA MORSETTIERA PER COLLEGARE PIU' MICRO IN BASE AL NUMERO DI PROTEZIONI PRESENTI SULLA MACCHINA .**

### **Vedi schema allegato:**

The standard EN 954-31.12.2011 has expired.

The EN 954-1 has definitely been replaced by EN ISO 13849-1.

What changes with the new rules?

The new EN ISO 13849-1:

introduces the concept of **Performance Level (PL)** as an indicator of the reliability of a safety function, it also contains indications of reliability concerning the determination of safety levels. There are a number of other important factors that should be considered in the design stage to achieve compliance in accordance with EN ISO 13849-1 and in accordance with the Machinery Directive. Among these are included: "MTTF", "**Diagnostic Coverage**", the system architecture (structure) and Common Cause Failure (common cause failures).

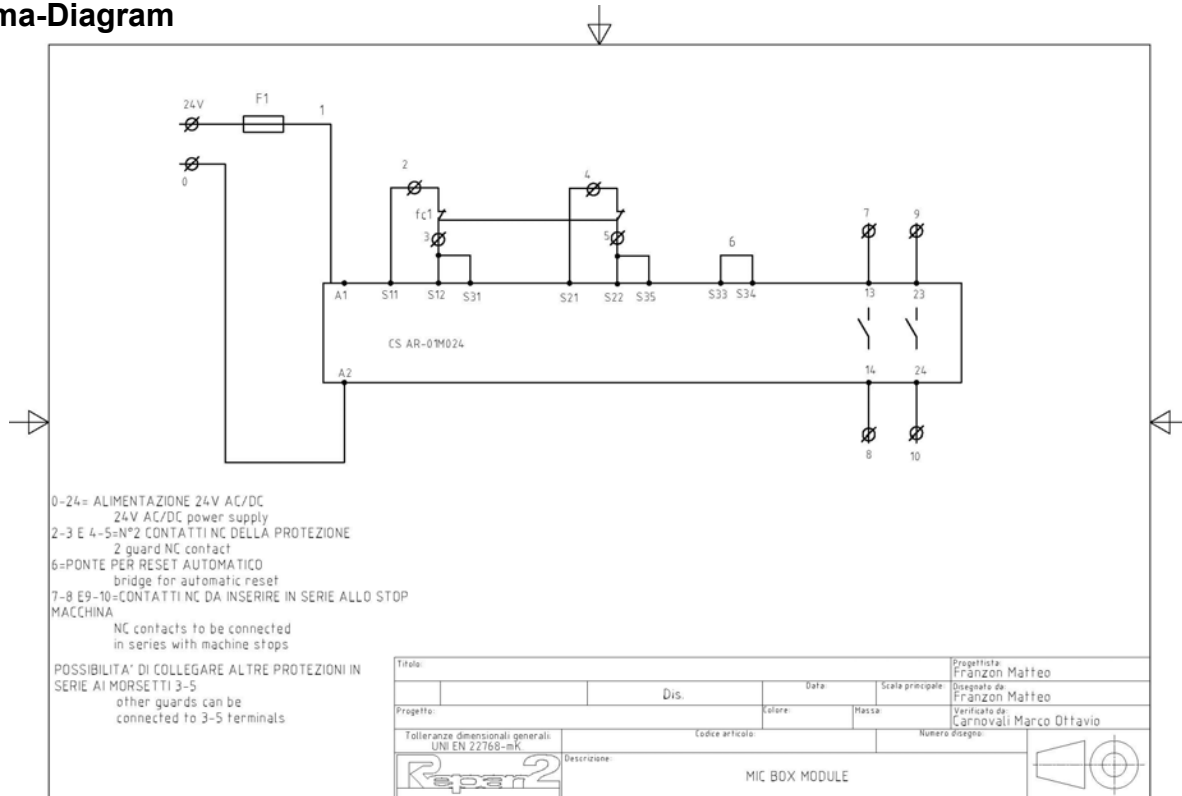
The PL needed for a given safety function must be determined on the basis of risk assessment and obtained by proper choice of architecture, enables the use of suitable and sufficient

**test coverage.**

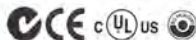
To ensure the necessary diagnostic coverage, REPAR2 produces a box (see photo), called **SAFETY MODULE BOX**, conceived as a terminal board where more micros can be easily connected according to the number of guards installed on the machine.

### **See attached diagram:**

## Schema-Diagram



## Safety Relays Monitoring Safety Relays Minotaur MSR126R/T



### Description

The Allen-Bradley Guardmaster Minotaur MSR126R/T is a safety monitoring relay that provides the very basics for safety control systems in a 22.5mm package.

The MSR126R/T is designed for connection to a single channel safety gate, a single channel e-stop or a light curtain that provides cross fault detection. The MSR126.1R/T is designed for connection to a dual channel safety gate or e-stop, as it performs cross fault detection across the inputs.

The MSR126R and MSR126.1R are designed for applications where a monitored manual reset is required. Monitored manual reset requires the use of a manually operated normally open momentary switch to activate the outputs.

The MSR126T and MSR126.1T are designed for applications where automatic/manual reset is required. Automatic/manual reset allows a jumper across the S33-S34 circuit, and therefore does not perform output monitoring.

The outputs are only 2 normally open safety rated outputs. The safety outputs have independent and redundant internal contacts to help ensure the safety function.

### Features

- Category 4 per EN 954-1
- Stop category 0
- 2 Safety contacts N.O.
- Single/dual channel operation
- Cross fault monitoring
- Monitored or automatic reset
- E-stop, safety gate or light curtain applications

### Specifications

Standards	EN954-1, ISO13849-1, IEC/EN60204-1, IEC60947-4-1, IEC60947-5-1, ANSI B11.19, AS4024.1
Category	Cat. 4 per EN954-1 (ISO 13849-1)
Approvals	C-Tick, CE marked for all applicable directives, cULus (except 42V AC units) and BG
Power Supply	24V AC/DC, 42/115/230V AC (0.8 - 1.1 x rated voltage), 50/60Hz
Power Consumption	4W
Safety Inputs	1 N.C., 2 N.C. or Light Curtain
Input Simultaneity	Infinite
Max. Allowable Input Resistance	90 ohms
Reset	Auto/Manual or Monitored Manual
Outputs	2 N.O. Safety
Output Utilization per IEC 60947-4-1 (Resistive)	AC-1: 6A/250V AC DC-1: 6A/24V DC
Output Utilization per IEC 60947-5-1 (Inductive)	B300, AC-15 6A/250V AC, 6A/125V AC P300, DC-13 3A/24V DC 6A/24V DC @ 6 ops/min
Thermal Current (non switching)	Max 6A in one current path
Fuses Output (external)	6A slow blow or 10A quick blow
Maximum Thermal Current, Ie	1 x 6A, 2 x 4A
Min. Switched Current/Voltage	10mA/10V
Power On Delay	300ms
Response Time	15ms
Recovery Time	100ms
Indication LEDs	Green = Power on Green = K1 Closed Green = K2 Closed
Impulse Withstand Voltage	2500V
Operating Temperature	-5°C to +55°C (+23° to +131°F)
Humidity	90% RH
Enclosure Protection	IP40 (NEMA 1), DIN 0470
Terminal Protection	IP20, DIN 0470
Conductor Size	0.2-4mm <sup>2</sup> (24-12AWG)
Installation Group	C in accordance with VDE 0118
Pollution Degree	2
Mounting	35mm DIN rail
Weight 24V DC	160g (0.353 lbs)
110 and 230V AC	215g (0.474 lbs)
Electrical Life (w/ Surge Supp.)	
250V AC/6A/1500VA cosφ=1	100,000 operations
250V AC/2.5A/625VA cosφ=1	500,000 operations
250V AC/1.5A/375VA cosφ=0.35	300,000 operations
250V AC/5A/1250VA cosφ=0.6	100,000 operations
24V DC/2A/48W	1,000,000 operations
10V DC/0.01A/0.1W	2,000,000 operations
Mechanical Life	2,000,000 operations
Vibration	10g 10-55Hz
Shock	10g, 16ms 100 shocks

See Output Ratings on page 1-29 for details. Consult factory for ratings not shown.