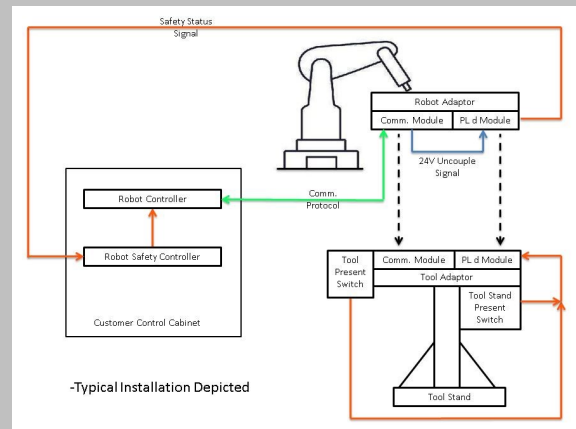


# Safety Control Module Sigma Family of Tool Changers

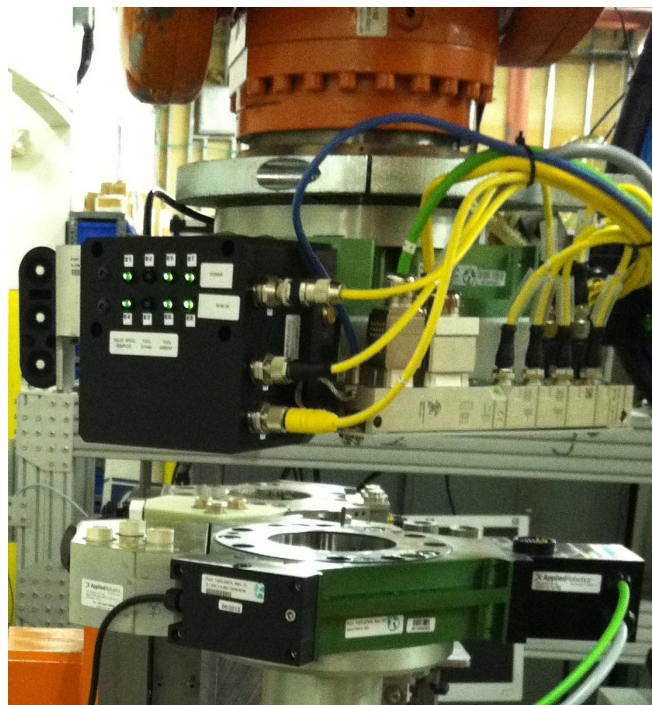
Applied Robotics' Performance Level d Safety Solution is designed to ensure the safe operation of our Sigma Family of Tool Changers.

Our Solution meets all requirements of EN ISO 13849-1 standard, *Safety of machinery-Safety-related parts of control systems*, when our self-contained module is paired with an approved safety rated switch.



## Features and Benefits

- Dual-channel safety control circuit with integrated pneumatics
- Interlocking manifold and circuit design ensures compliance with category 3 architecture
- Uses well-trieed, safety-rated components for tool present and tool stand present signals
- Diagnostic Coverage for all devices is done using force-guided relays, ensuring compatibility with customer's safety system
- LED status indicators for visual diagnostics of safety channels
- Fully compliant with EN ISO 13849-1 to PLd with a high mean time to dangerous failure (MTTFd) of 68 years and a high diagnostic coverage (DC) of 99%
- Design has been fully reviewed and certified by a third party safety control company (TUV)



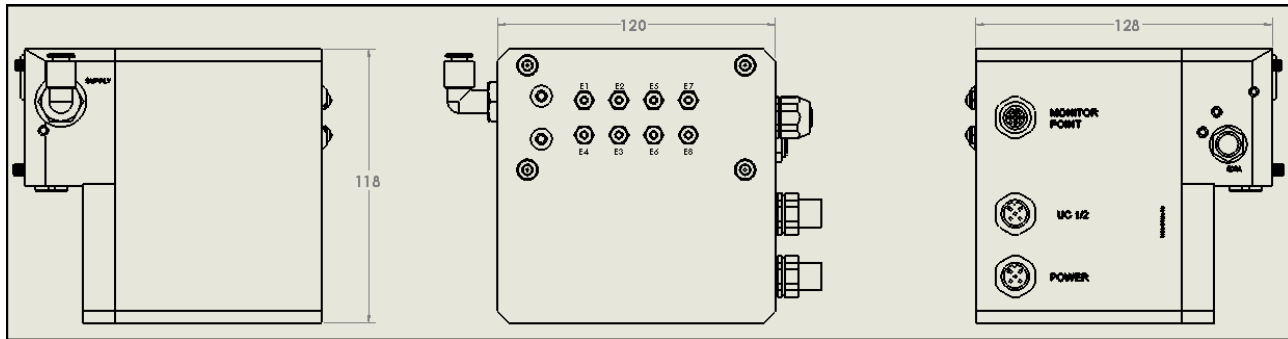
For specific product applications, please contact our Tech Support staff at [techsupport@appliedrobotics.com](mailto:techsupport@appliedrobotics.com) or via telephone at +1 (518)384-1000 or +39 (0) 32 39 65 93 in Italy.

For other information, please contact [info@arobotics.com](mailto:info@arobotics.com)

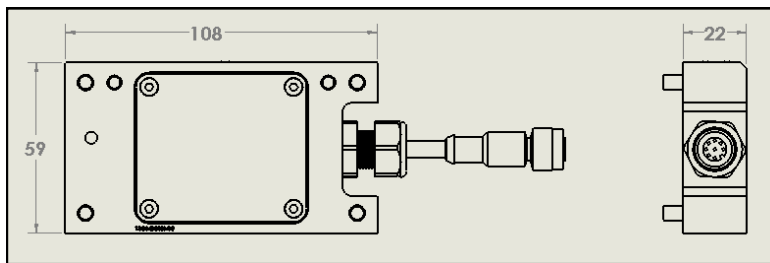
Not exactly what your application requires?  
Applied Robotics can design a solution that meets your particular application needs.

# Engineering Data

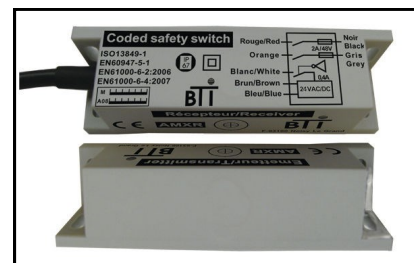
## Robot Side



## Tool Side



## Safety Rated Switch



# Technical Specifications

Minimum Safety Classification	Cat. 3 PLd EN ISO 13849-1
MTTFd	68 Years
Mission Time	20a (20 years)
Robot Side Dimensions	120mm x 118mm x 128mm
Tool Side Dimensions	108mm x 59mm x 22mm
Enclosure Rating	IP 65 (When Coupled)
Connection Type	3 x M12 (Robot Side) 1 x M12 (Tool Side)
Robot Side Weight	1.75 Kg
Tool Side Weight	0.16 Kg
Power Consumption	400mA Max
Max Voltage DC	30VDC
Operating Temperature	5 - 60 °C
Supply Pressure	16 Bar Max
Tool Stand Sensing	Safety Interlock Switch (Approved Safety Rated Switch)
Tool Present Sensing	Dual Output Safety Prox Switch
Air Valves	Dual valves with interlocking manifold and direct spool monitoring

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