



				DATASHEET	
TYPE	P000028.01	DESCRIPTION	Machine Stop Station	D000028.100	1.0.0

SUMMARY

Max Automation's Machine Stop Station (MSS) is a ruggedized latching STOP station designed to meet the requirements of a SIL2 low demand safety instrumented system when used in conjunction with an independently rated Safety Machine Stop Module or Safety PLC.

The MSS incorporates a dual actuator mechanism for mechanical operator redundancy and supports dual normally closed and dual normally open contacts in support of a 'change over contact' configuration when required.

The MSS can be classified as 'Simple Apparatus' in accordance with IEC 60079 (negligible internal inductance and capacitance) allowing interconnection with Ex ia/ib rated isolation barriers when used in explosive atmospheres.



MECHANICAL	
Housing	316 Stainless Steel with a Plated Zinc Operator
Dimensions – Space Claim	(H) 168mm x (W) 120mm x (D) x 150mm TOTAL SPACE CLAIM
Dimensions – Mounting Centres	(H) 135.5mm x (W) 80mm – 4 x (H) 14mm x (W) 7mm SLOTS
Mass	0.5kg
Installation	4 x M6 x 12mm (minimum), Maximum Torque = 10Nm
Conduit Entry	1 x M20 (Reinforced)
ENVIRONMENTAL	
IP Rating	N/A
Temperature Rating – Component	-25°C..+85°C
Temperature Rating – Ambient Operating	-25°C..+75°C



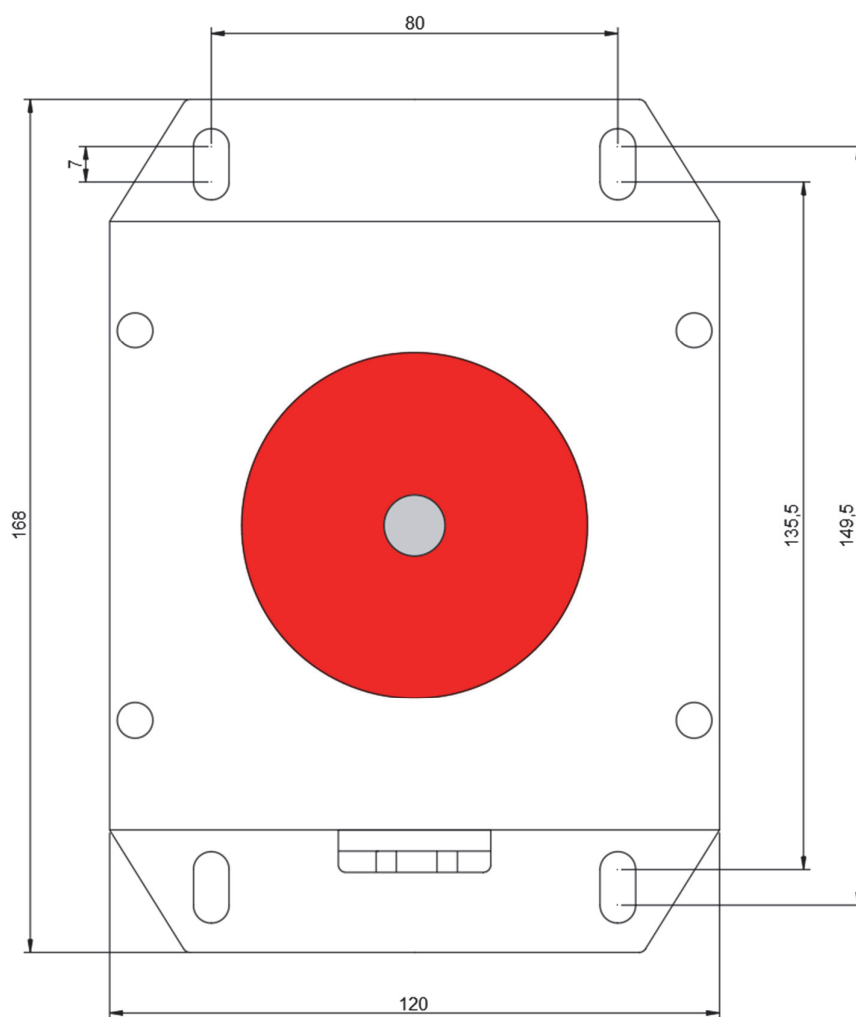
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ELECTRICAL INTERFACE	
Voltage (Application Recommended)	30V / 3A
Contact Poles	2 x N/C, 2 x N/O
REGION OF ORIGIN	
Assembly	Australia



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Mechanical Dimensions



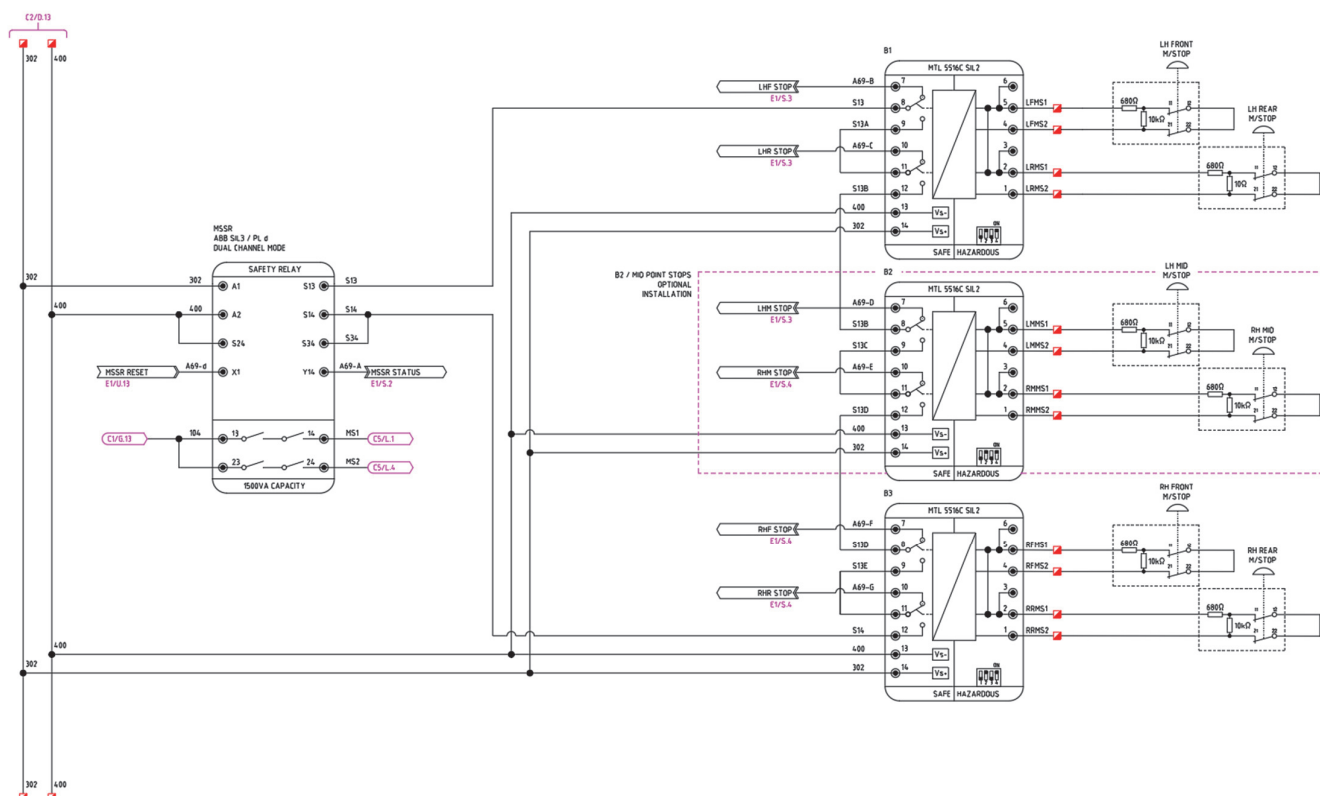


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Electrical Example

The example below demonstrates a dual circuit implementation applicable to mobile plant in explosive atmospheres whereby 'control' voltage is switched to an isolating in-series circuit via wires MS1 and MS2 via the dedicated SIL3 rated Machine Stop Safety Relay (MSSR) module. When using an independently certified safety rated PLC, the MSSR can be omitted.

Each isolating barrier is configured for line fault detection whereby in-series and parallel resistors are added to the MSS enclosure circuit to provide improved diagnostic coverage and to limit potential for circuit bridging. The wiring configuration allows each station to report status to the host PLC but requires prioritised diagnostic reporting.





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Recommendations – Electrical

To increase protection against intentional circuit tampering (i.e. ‘circuit bridging’) and to improve overall diagnostic coverage, it is recommended that when isolating barriers are used in explosive atmosphere applications that they be configured with line fault protection enabled.

To further promote diagnostic coverage for safety rated applications, it is recommended the host PLC implement a periodic proof test requirement to ensure expected operation. Where required, the periodic proof test frequency is generally determined by FMEA / DRA outcomes.

Recommendations – Installation

Machine Stop Stations should be placed in accordance with specific DRA outcomes. The related risk assessment shall seek to ensure installation locations are highly visible and accessible to personnel. Additionally, when used in mobile plant applications, additional safeguards should be considered to limit nuisance operation that may be related to personnel access/transit or damage related to operational conditions (falling material) that may lead to intentionally risky behaviour.

It is additionally recommended that the MSS be installed vertically so the conduit entry corresponds with the direction of gravity (i.e. faces the ground) to limit potential water ingress potentially related to minor in-field damage or ‘cable wicking’.

IMPORTANT NOTICE

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