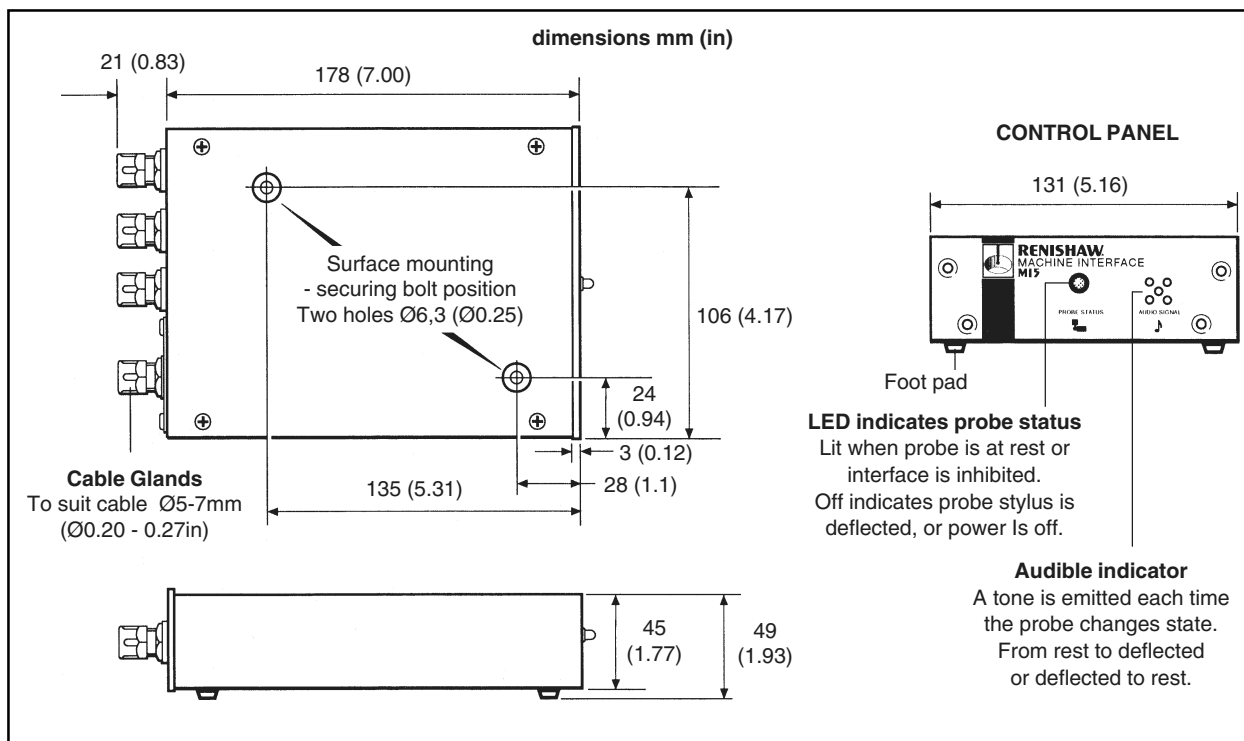


# MI 5 interface unit



The MI 5 interface unit is part of a hard wired or inductive transmission probe system.  
It is used with CNC machine tools for workpiece set up and inspection.  
The MI 5 converts probe signals into an acceptable form for the CNC machine control.

## MI 5 operation

The MI 5 interface monitors probe status. When the probe triggers or reseats, the output relays change state, and the audible indicator sounds.

The front panel LED (Light Emitting Diode) is lit up when the stylus is seated, and is off when the stylus is deflected, or the power is off.

The output signal is simultaneously transmitted to the CNC control through the solid state relay (SSR) output(s).

As the probe moves away from the workpiece, the audible indicator emits a second 'bleep', and the LED lights up, indicating that the stylus has reseated, and the probe is available for the next move in the measuring cycle.

The input power supply and SSR outputs are fuse protected by 200mA and 63mA fuses respectively. To gain access to the fuses, remove the four cover screws and cover.

## Inhibit / enable function

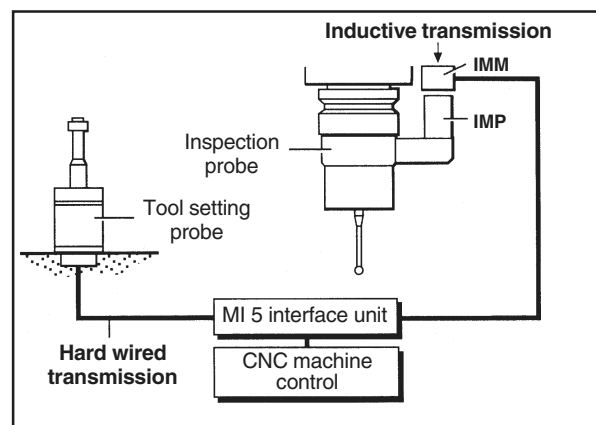
The MI 5 output may be held in the probe at rest state. This can be automatically controlled by an M code from the CNC machine control.

## Power supply

The interface unit can draw its power from the CNC machine nominal 24V dc supply. Its input voltage range is 18V dc to 30V dc and it presents a load of up to 200mA. It can alternatively be powered from a Renishaw PSU3 Power Supply Unit.

## Environment

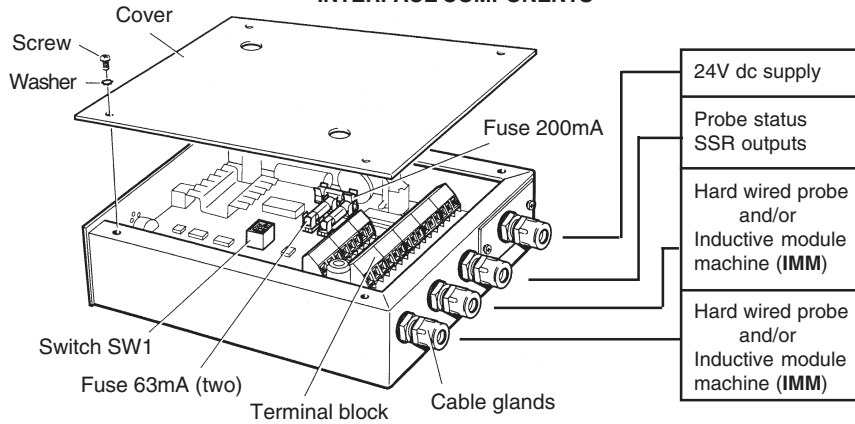
The MI 5 interface is specified for storage over  $-10^{\circ}$  to  $70^{\circ}\text{C}$  ( $14^{\circ}$  to  $158^{\circ}\text{F}$ ) and operation over  $0^{\circ}$  to  $50^{\circ}\text{C}$  ( $32^{\circ}$  to  $122^{\circ}\text{F}$ ) ambient temperature range.



# RENISHAW

## DATA SHEET

## INTERFACE COMPONENTS



## OUTPUT SIGNAL

The output signal from the interface must be compatible with machine control. Interface output options are:

**Solid state relay (SSR)**  
- Normally closed (N/C)

or

**Solid state relay (SSR)**  
- Normally open (N/O)  
(Teledyne 640-1 or equivalent)  
Maximum current  $\pm 40\text{mA}$  peak  
Maximum voltage  $\pm 50\text{V}$  peak

**OCT and TTL** style outputs can be emulated. Detailed information relating to OCT and TTL outputs is given in Users Guide

## CABLE SPECIFICATION

Cable ends are screwed to the interface terminal block

### Hard wired transmission

Hard wired probe to interface  
Four core cable 7/0.2mm, each core insulated.  
Recommended colours - Red, green, blue and yellow.  
Red and yellow not connected.

Overall braided screen and insulated.

Overall diameter 4,3mm (0.17in).

Maximum length 30m (98ft).

Please consult Renishaw when cable length exceeds 30m (98ft).

### Inductive transmission

Inductive module machine (IMM) to interface.  
Four core cable 7/0.2mm, each core insulated.  
Recommended colours - Red, green, blue and yellow.  
Overall braided screen and insulated.  
Overall diameter 4,3mm (0.17in).  
Maximum length 100m (328ft).

### Interface to CNC machine control

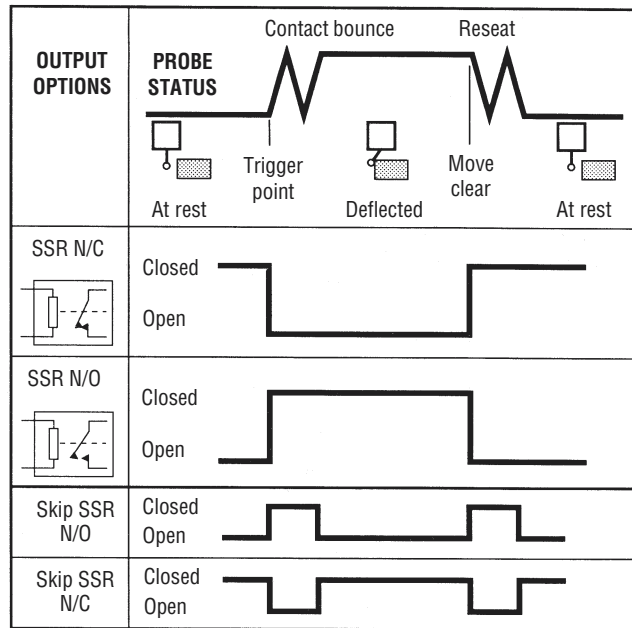
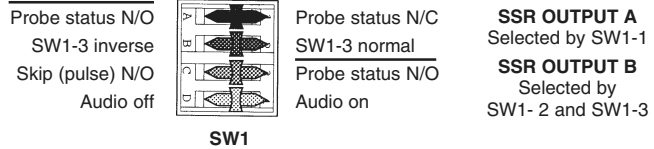
Four core cable 7/0.2mm, each core insulated.  
Recommended colours - Red, green, blue and yellow.  
Blue and green not connected.  
Overall braided screen and insulated.  
Outside diameter 4,3mm (0.17in).

### Power supply to interface

Three low voltage wires, each conductor 16/0.2mm, PVC insulated.  
Recommended colours - Green or green and yellow.  
0V - Black  
24V - Red.

Each wire outside diameter 1,6mm (0.06in).

## MI 5 interface switch SW1 options



**Note:** Change of state debounce time is 17,5mS  $\pm 5,5\text{mS}$ .  
Skip pulse length is 32mS  $\pm 13\text{mS}$

## Parts List - Please quote the Part No. when ordering equipment

Type	Part No.	Description
MI 5	A-2019-0006	MI 5 interface unit complete with spare fuses
Fuse	P-FS01-0200	200mA anti-surge fuse, dia 5 x 20mm long
Fuse	P-FS02-0063	63mA quick blow fuse, dia 5 x 20mm long



The MI 5 interface has been successfully tested to European directives: EN 50081-2 and EN 50082-2. It conforms with the protection requirements of Council Directive 89/336/EEC of 3rd May 1989.

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