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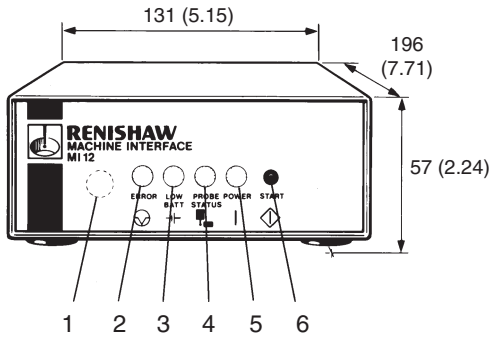
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Find the *Renishaw MI12* at our website: ***Click HERE***

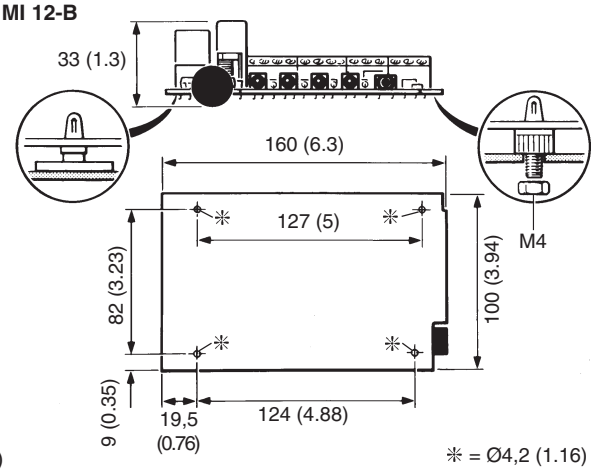
MI 12 interface unit

The MI 12 interface processes signals between one or two OMM's and the CNC machine control.
(The MI 12 replaces the earlier MI 4 and MI 7 interface units)

MI 12 interface unit



MI 12-B



dimensions mm (in)

✳ = Ø4,2 (1.16)

System status

System status is presented visually in a continuously updated form, on the front panel diagnostic LED display, and by outputs available from the MI 12 to the CNC machine control.

1. **Audible indicator (bleeper)**
   The speaker is behind the front panel.
2. **Error LED**
   Lit when optical beam obstructed, probe out of range, probe switched off, etc.
3. **Low battery LED**
   Replace probe batteries as soon as practicable, after this LED lights up.
4. **Probe status LED**
   Lit when probe is seated.
   Off when stylus is deflected or an error has occured.
5. **Power LED**
   Lit when power is on.
6. **Start button - switch SW1**
   Manual start push button. Press button to switch system to operating mode. Normally a machine start or auto start signal is used.

Machine start/Auto start options

A software command from the CNC control initiates probe system switch-on (machine start).
Alternatively an internal MI 12 switch may be set to the auto start mode, which causes the OMM to send a start signal once every second, and activate the probe prior to an inspection routine.
Factory set to machine start.

The MI 12 interface is available as :

1. **MI 12 interface unit**
   The interface board is contained within a free standing enclosure. The optional panel mounting kit, provides for attachment to the machine cabinet.
2. **MI 12-B**
   Board only for mounting within the machine cabinet, using self adhesive feet or M4 support studs.

Outputs from MI 12

There are four solid state relay (SSR) outputs, comprising probe status and skip complimentary outputs - selected by an internal switch, an error output and a low battery output.
The output signals from the interface must be compatible with the machine control intput.
Maximum current ±40mA peak.
Maximum voltage ±50V peak.

Remote audible indicator or lamp

There is one output for a remote audible indicator or lamp (not supplied by Renishaw), which is used when the MI 12 is remote from the machine operator. The output will sink 100mA and should have no more than +50V DC applied to it. The output will remain active for 44ms after each probe change of state.

Power supply

The MI 12 can draw its supply from the CNC machine +15 to 30V DC and presents a load of up to 400mA. Alternatively the Renishaw PSU3 power supply unit supplies power, when a 24V supply is not available from the machine control.

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DATA SHEET

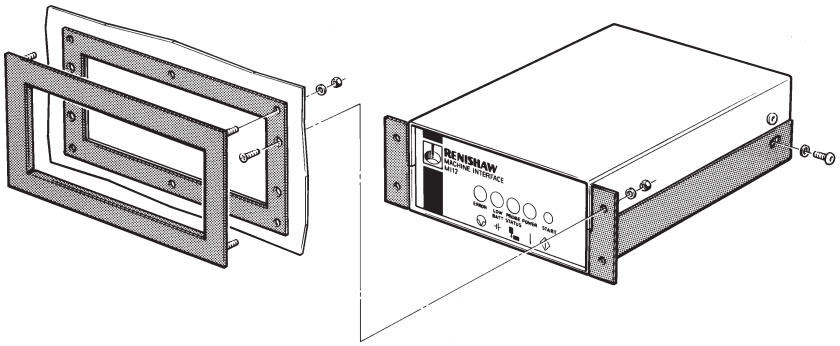
Installation

dimensions mm (inches)

Panel mounting

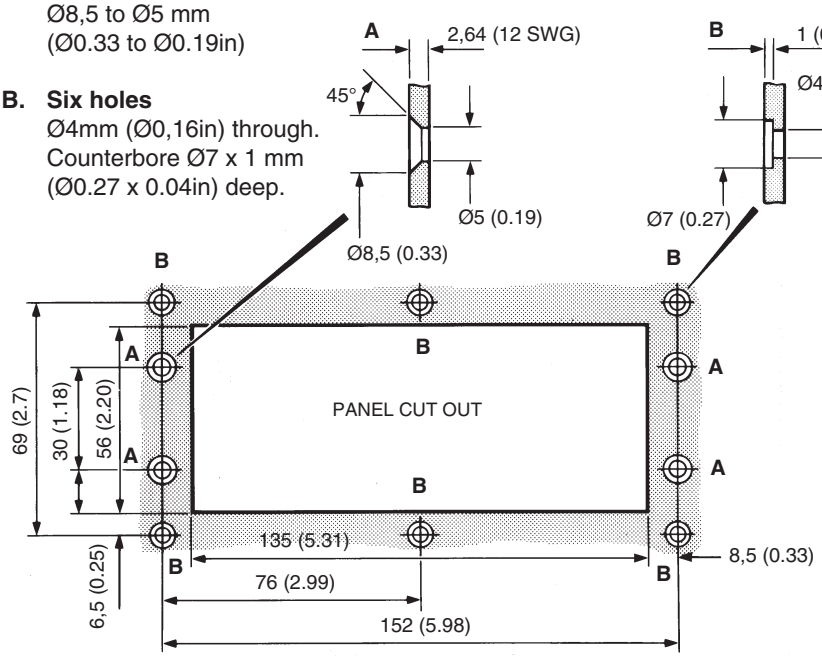
The interface unit may be mounted inside the CNC machine cabinet, using the optional panel mounting kit.

Holes must be cut in the machine protective panel to accept the MI 12 front panel and fixing screws as shown in diagram below.



A. Four countersunk holes
Ø8,5 to Ø5 mm
(Ø0.33 to Ø0.19in)

B. Six holes
Ø4mm (Ø0,16in) through.
Counterbore Ø7 x 1 mm
(Ø0.27 x 0.04in) deep.



MI 12 terminal connections

1	SIGNAL
2	SIGNAL 1
3	START 1
4	0V
5	10V
6	0V
7	SIGNAL 2
8	SIGNAL 2
9	START 2
10	ERROR SSR
11	
12	LOW BATT SSR
13	
14	PROBE STATUS SSR
15	
16	+24V SUPPLY
17	0V SUPPLY
18	GND
19	SIGNAL STRENGTH OMM 1
20	AUDIO EXTENSION
21	+ve MACHINE START
22	–ve
23	PROBE STATUS SSR
24	

OMM signal strength test points

T1, T2 and T3

Test points are located on the MI 12 printed circuit board (PCB).
Signal strength is measured using a digital volt meter (DVM).

T1 OMM 2
Minimum receivable signal approximately 0.36V DC.
Maximum signal strength output approximately 7V DC.

T2 OMM 1
Signal strength levels same as T1. (Also available on terminal 19).

T3 0V reference.

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

Type	Part No.	Description	
MI 12	A-2075-0142	MI 12 Interface Unit.	
MI 12-B	A-2075-0141	MI 12 Interface Board only.	
Panel kit	A-2033-0690	Panel mounting kit for MI 12 interface unit.	
Fuse 62mA	P-FS20-0062	62mA (T) quick blow fuse	FS1 (spare), FS2 - Error, FS3 - low battery, FS4 - probe status N/C, FS6 - probe status N/O.
Fuse 250mA	P-FS20-1A25	250mA (T) anti-surge fuse	FS5 - audio extension protection.
Fuse 500mA	P-FS01-1A50	500mA (T) anti-surge fuse	FS7 - power supply protection.

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