

## Specification

<b>Supply:</b>	24V dc/ 90-260V ac
<b>Consumption:</b>	Output energised (On) - 4 watts ac nominal.
<b>Output:</b>	S.P.C.O. relay 3A 240V ac non-inductive.
<b>Fusing:</b>	Unit should be fed from a supply fused at 5A max. <i>An internal secondary fuse is provided.</i>
<b>Time Delay:</b>	0-30 seconds on material arriving & leaving.
<b>Cable/Conduit Entry:</b>	1 x 20mm tapped entry, 1 x 20mm blind entry (may be drilled out if required, <b>DO NOT knock out</b> ).
<b>Fitting:</b>	1" BSP parallel. <i>Optional mounting flange available.</i>
<b>Options:</b>	Mounting Flange. 2 mtr Wire rope paddle extension

## Guarantee

The equipment is covered by a 12 months guarantee from the date of shipment. Any faults arising due to faulty materials or workmanship, within the guarantee period, will be corrected free of charge providing the equipment is returned to us carriage paid.

## Certificate of Conformity

The equipment covered by these instructions has been manufactured and tested in accordance with our quality assurance procedures and conforms fully with our published specifications.

## Health and Safety

Provided that the equipment covered by these instructions is installed and operated as directed, it presents no hazard and conforms fully to health and safety regulations.



THIS PRODUCT CONFORMS TO THE REQUIREMENTS FOR CE MARKING

*When this product is incorporated into other machinery or apparatus, that apparatus must not then be put into service (in the E.C) until it has been declared in conformity with the appropriate E.C Directive/s.*



Synatel Instrumentation Ltd., Walsall Road, Norton Canes, Cannock, Staffs. England. WS11 9TB.  
\* Tel: (01543) 277003 \* Fax: (01543) 271217 \* Web: www.synatel.co.uk

**SYNATEL**  
INSTRUMENTATION LTD



**ATEX APPROVED  
STEP-A-MATIC SML1A  
Rotary Paddle Probe**

642-041(B)  
Step-a-Manual

**OPERATING  
INSTRUCTIONS**



## General

The Step-a-Matic is a rotary paddle level indicator using a unique stepper motor drive resulting in highly reliable operation in most powders & granular solids.

The unit will operate on 24V dc; 90-260V ac supplies, has a relay output and is configurable for high or low fail safe operation.

An adjustable electronic torque control allows a single 'twin blade' paddle to be used for all types of material, and an adjustable time delay allows the unit to ignore cyclic fluctuations in the material to be detected. The paddle is collapsible to fit through a 1" BSP tapped hole

Wire rope extensions are available, adjustable up to 2 metres long, allowing for side or top entry fixing.

All parts are manufactured in food grade plastic & stainless steel to avoid corrosion.

## Installation

Install the unit into the vessel via a 1" BSP parallel fitting or using the optional mounting flange.

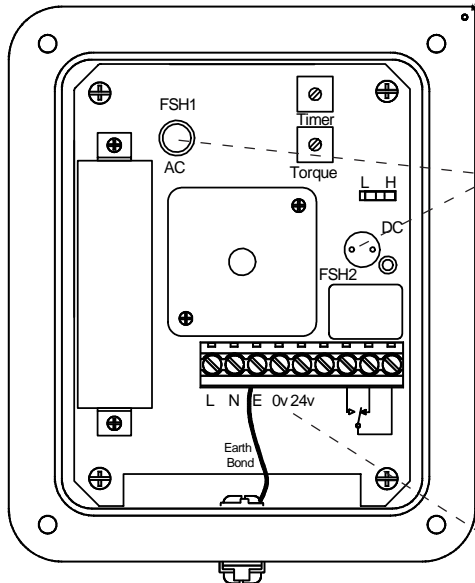
**IMPORTANT:** For vertically installed probes with wire extensions, ensure that the fitting is vertical plus/minus 5°. For side entry probes without wire extensions, mounting angle is unimportant.

**IMPORTANT:** In applications where direct impact from heavy objects may occur, a deflector plate must be fitted above the paddle, for protection.

## Connections

Connect in accordance with fig1. Ensure that all connections are tight & that the system is correctly earthed (grounded).

fig1.



**A SUPPLY EARTH IS ESSENTIAL!**

### IMPORTANT NOTE:

The Step-a-Matic is supplied with a fuse fitted in the AC fuseholder, fit into the DC position for 24V dc operation. *The fuse rating for this unit is 250mA anti-surge, IEC.*  
**NO OTHER RATING MAY BE USED**

**Stabilised 24V DC supply, +6.5% to -10%**

Set the fail safe switch to desired high or low position. (In high level mode, the output relay is energised (ON) with no material present, in low level mode the output relay is energised (ON) with material present).

## Commissioning

NOTE: The step-a-Matic motor will run clockwise & anticlockwise (counterclockwise) & will also stop for a period. This is normal & does not indicate a fault. The motor will 'tick' in normal operation, both when rotating & stalled.

Turn the torque control fully clockwise, and the timer fully anticlockwise (counterclockwise) and apply power. In most applications the unit will now function correctly and no further adjustment will be necessary.

## Torque Control

In very light material, the paddle may continue to rotate when covered. In this event, with the paddle covered, turn the torque control 'slowly' anticlockwise (counterclockwise) until the motor stops.

Check operation setting by un-covering & re-covering the paddle.

## Time Delay

In applications where surging material may give spurious operation, or where a time delay is needed to reduce wear on feed mechanisms, the timer control may be turned clockwise to give the required delay up to a max. of 30 seconds.

## Dimensions

fig2.

