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Part No: 023-?????-UK

NEWALL Spherosyn & Microsyn 300 Quick Install Guide

For the complete manual please download from:
http://newall.com/nms300

Preparation

Prior to beginning the installation the machine should be studied to determine the Encoder(s) position and to ensure the brackets are suitable, or if custom brackets are required.

In order to reduce erroneous readings caused by machine wear it is recommended that the encoder be fitted as close to the machine lead screw or axial drive shaft as possible.

Warnings

If for any reason the machine axis travel is greater than the actual scale travel, 'mechanical stops' should be fitted to the machine to avoid damage caused by over-travel. Newall will not accept responsibility for encoder damage caused by machine over-travel.

It is important the Scale be kept at least 13mm (0.5") away from any magnetic sources such as magnetic bases or chucks.
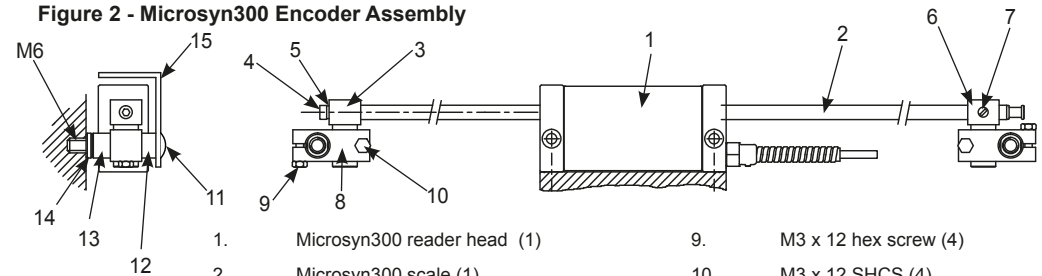
Assembly Diagrams

Figure 1 - Spherosyn300 Encoder Assembly
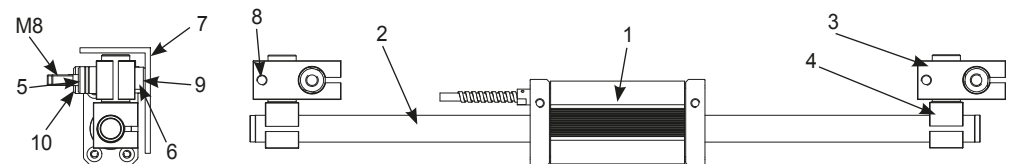
|			
1.	Spherosyn300 reader head (1)	6.	Support pillar long (2)
2.	Spherosyn300 scale (1)	7.	Scale cover (1)
3.	Scale support link (2)	8.	M5 x 20 hex head (6)
4.	Scale anchor pin (2)	9.	M8 socket button head (2)
5.	Support pillar short (2)	10.	Spacer washer (2)

Figure 2 - Microsyn300 Encoder Assembly

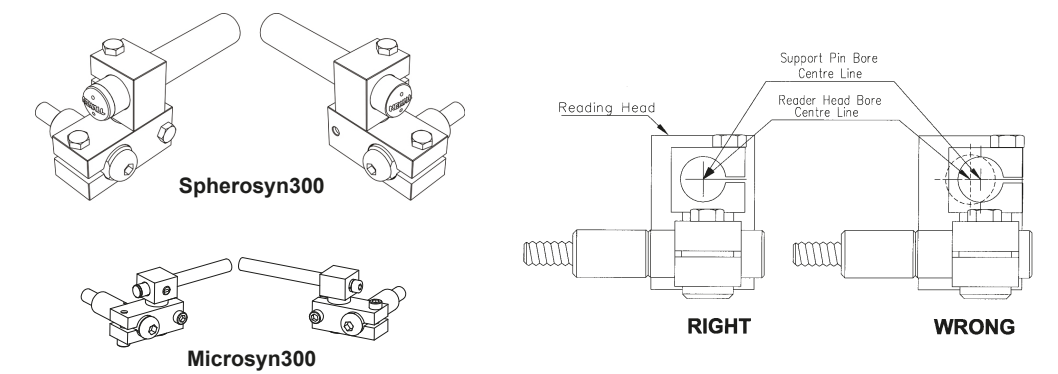|			
1.	Microsyn300 reader head (1)	9.	M3 x 12 hex screw (4)
2.	Microsyn300 scale (1)	10.	M3 x 12 SHCS (4)
3.	End support mounting (1)	11.	M6 x 10 socket button head (2)
4.	M3 x 16 SHCS (1)	12.	Support pin short (2)
5.	M3 spring washer (1)	13.	Support pin long (2)
6.	Support mounting (1)	14.	Spacer washer (2)
7.	M4 x 5 nylon set screw (1)	15.	Scale cover (1)
8.	Support link (2)		

Reader head alignment

Mounting faces
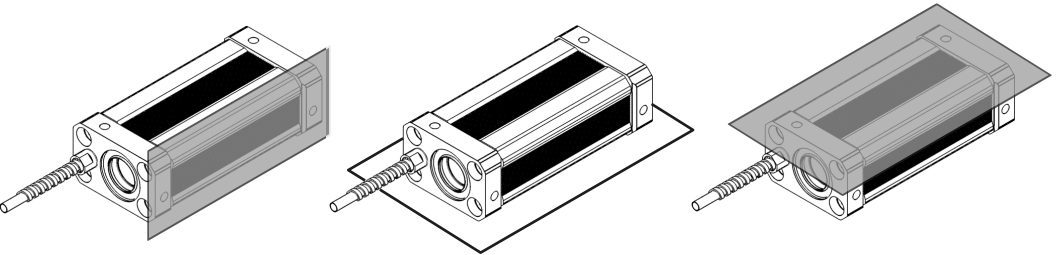
The reader head can be mounted on any 3 of the faces shown in fig 3.

Alignment tolerance to machine
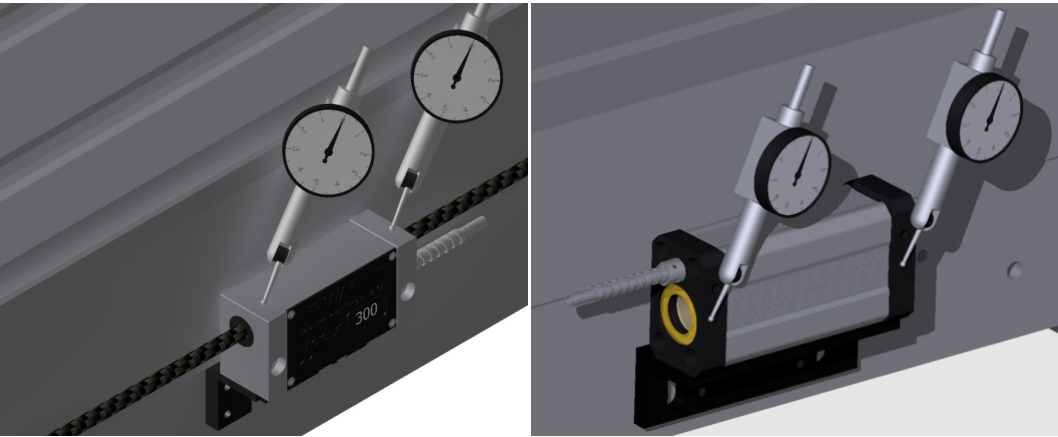
The reader head should be mounted with both planes parallel to the axis of travel within ± 0.05mm (0.002"). See fig 4 and 5.

Scale mounting - double ended

Spherosyn300

Microsyn300

Support Pin Bore Centre Line

Reader Head Bore Centre Line

Reading Head

RIGHT

WRONG

Traverse the machine to its maximum position towards the non cable entry side of the reader head. Slide the scale through reader head and fit assembly (fig 6 & 7) onto end of scale. Mark the position of the pillar. Drill & tap to suit pillar (fig 1 & 2). Loosely fit assembly to pillar, pass scale through, slide scale forwards and back whilst tightening the screws until it passes smoothly through head and bracket. Once aligned repeat at the other end.

Scale mounting - single end (300mm (12") travel or less)

Spherosyn300

58.00

10.00

30.00

25.40

Microsyn300

25.00

14.00

8.00

15.00
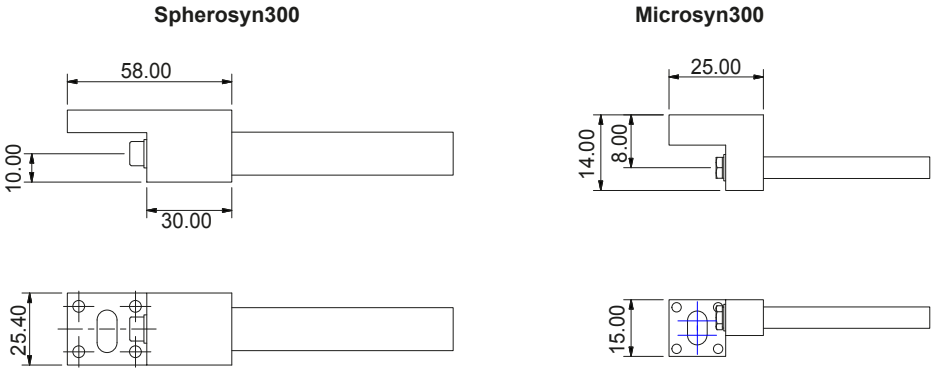
For Spherosyn300 remove the white nylon snap rivet from end of the scale.
Once reader head is aligned, slide the scale through and into the single end support and secure into place. Position the block in the correct position, mark the slot. Drill & tap to suit fixing (fig 8 & 9). Once secured check alignment by gently sliding scale in and out through head and block. Grub screws are available for adjustment. You can single end mount with the standard link, pillar brackets or with the optional single end mount brackets shown above.

Fitting the scale guard

Each Encoder includes a protective guard. The guard can be attached to the machine casting or by means of the scale support pins via the button head screws provided.
For single end mounting use machine faces.
After the guard is attached, move the machine axis to both extents of its travel ensuring that the guard does not interfere with or rub against the Reader Head.

Cable routing

Care should be taken to ensure that all cables are routed and secured to the machine avoiding any mechanical interference with any part of the machine or encoder movement. Routing should also avoid sources of electrical noise and interference. Cable clamps are supplied.
Note: The armoured cable is an integrated part of the reader head. If the cable becomes damaged this will require a replacement reader head. Ensure all connectors are located in a position to avoid fluid contamination.

Final check

Prior to putting the linear encoder system into operation after installation, slowly traverse the machine axis to ensure that all cable routings are correct and machine over-travel cannot occur.