

Digital Linear Encoder

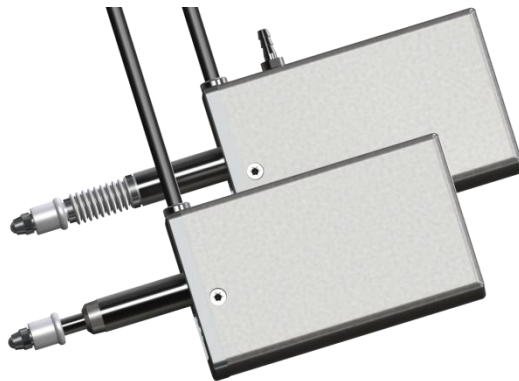
Orbit® 3 LE

Description

The Digital Linear Encoder range of gauges consists of high accuracy optical probes designed for use in applications where consistent sub micron measurement accuracy is required. In contrast to traditional gauging probes, the accuracy is maintained along the entire measurement range.

The Digital Linear Encoder incorporates Probe Interface Electronics (PIE) which can be connected directly to a Solartron Digital Readout, a PC or a PLC via Solartron's Orbit® 3 Network. The option to take readings of <0.1 µm at speeds of up to 3906 readings per second per encoder into the Orbit® 3 Network, provides detailed profiling.

Various spring forces are available to make sure the encoders can operate at any attitude. The proven high repeatability is a testament to the excellent mechanics and bearing used in the range.



Features

- Read Burst command capable
- Dynamic capable
- Dynamic2 capable
- High speed Orbit® 3 (1.5 M Orbit® 3 Bus speed)
- Ultra-speed Orbit® 3 (2.25 M Orbit® 3 Bus speed)
- Upgradable firmware
- Diagnostic LEDs
- Reduced weight PIE case
- Improved mechanical latching
- Spring, free, pneumatic, cable release
- 0.4 µm accuracy
- 0.05 µm resolution

Precision. Quality. Reliability

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Technical specification

Measurement performance

	Spring push		Pneumatic	
	LE/12/S	LE/25/S		
	LE/12/S	LE/25/S	LE/12/P	LE/25/P
Measurement range (mm)	12	25	12	25
Mechanical travel range (mm)	13	26	13	26
Accuracy (µm)	± 0.4			
Repeatability (µm)	< 0.1			
Resolution (µm)	0.05			
Reference mark position	Approximately 3mm from end stop			
Tip force (N) ±20%: Up	0.1			
Tip force (N) ±20%: Down	0.6			
Tip force (N) ±20%: Horizontal	0.5			
Temperature coefficient (µm / °C)	-0.35 to -0.5			
Max. gauge speed m/s	0.5			

Environmental

Storage temperature °C	-20 to +70
Operating temperature °C	+5 to +60
IP rating	IP50 or IP65

Materials

Scale	Quartz Glass
Shaft	Hardened stainless steel
Gaiter	Flouroelastomer (IP65 only)
Contact tip	Nylon, Tungsten Carbide, Ruby or Silicon Nitride
Cable	PUR

Mechanical

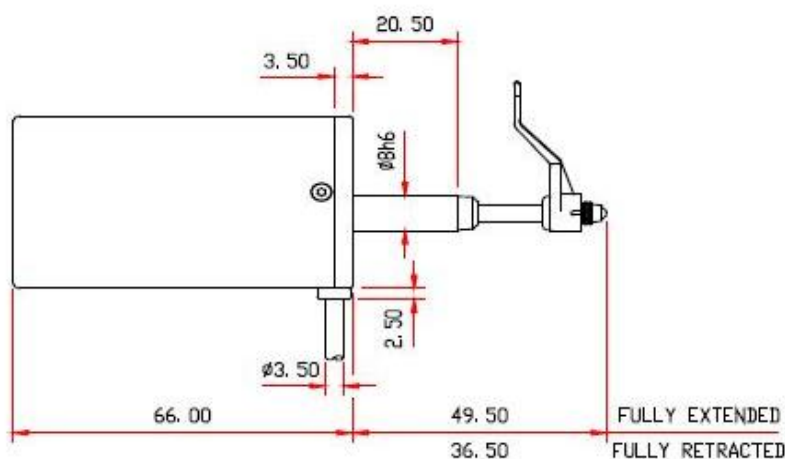
Mounting (stem diameter)	Ø 8h6

Digital Probe Interface Electronics

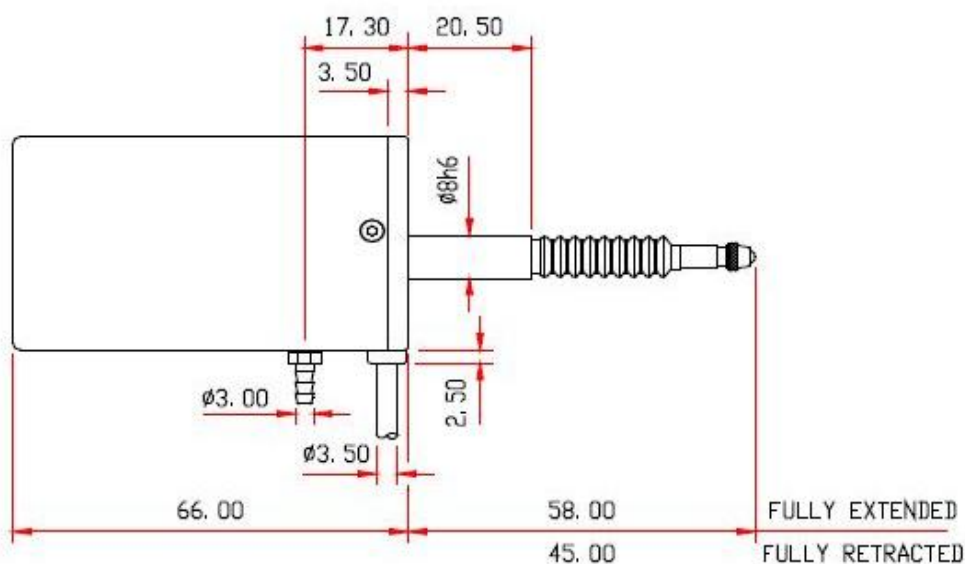
Output	Serial RS485 signal level
Power (VDC)	5 ± 0.25 @ 0.07 A (includes power for probe)
IP rating	IP43 (IP65 available)
CE marking	Immunity: EN61000-6-2 Emissions: EN61000-6-3
Operating Temperature °C	0 to +60
Measurement Modes	Standard, Dynamic, Dynamic2, Readburst
Reading Rate	3906 reading/s
Materials	Nylon and ABS plastic
Cable Length (m)	2.0 (standard, other options available)
Weight (grams)	PIE: 52 T-Con with DIN rail adapter fitted: 46

Dimensional drawings

Solartron pursues a policy of continuous development, specifications in this document may therefore be changed without notice. Dimensions are nominal and specified in millimeters.



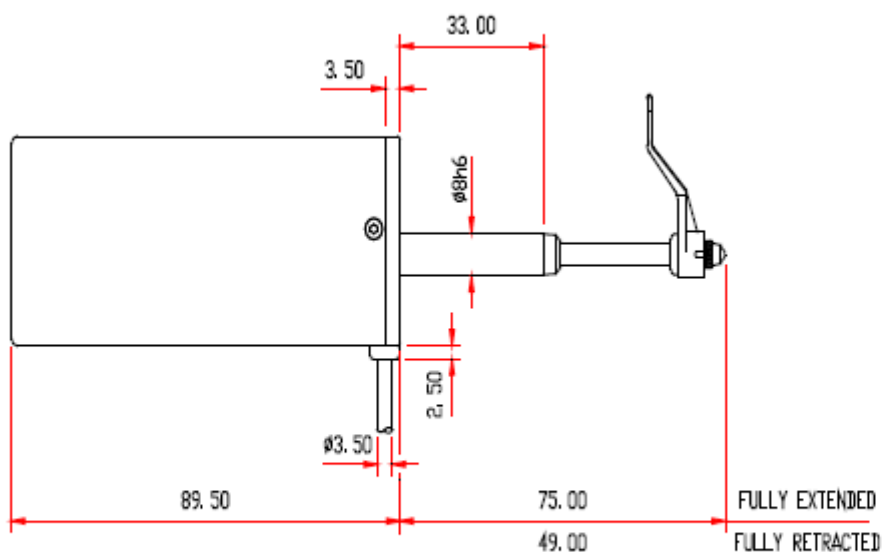
LE/I2/S IP50



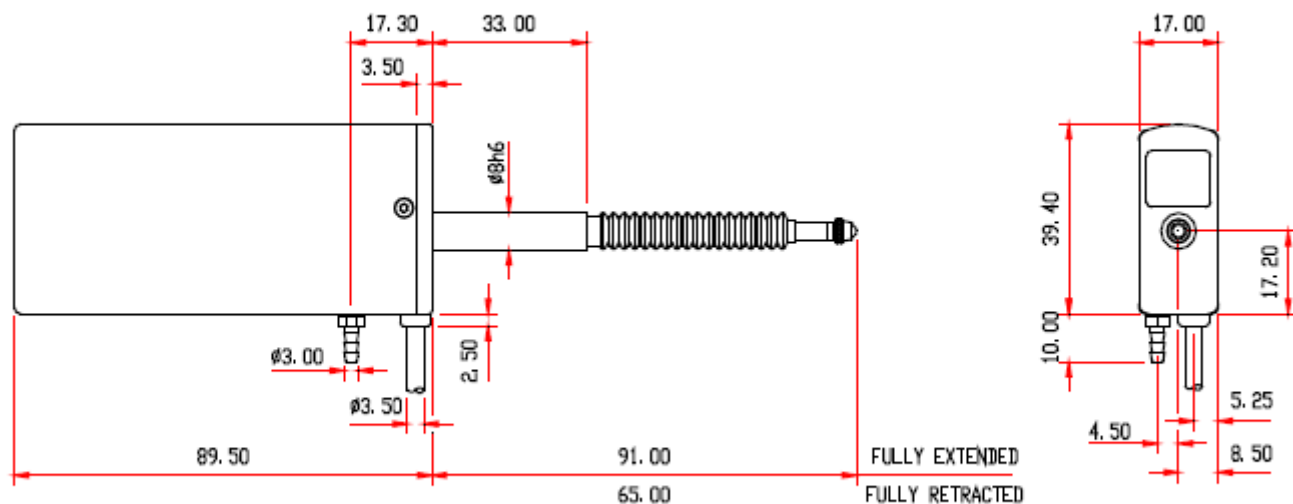
LE/I2/P IP65

Dimensional drawings

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LE/25/S IP50



LE/25/P IP65

Accessories

Finger Lifter

The Finger Lifter is used for manual operation of spring push linear encoders to prevent heat being transferred to the shaft.
Part number: 206678



Replacement gaiters

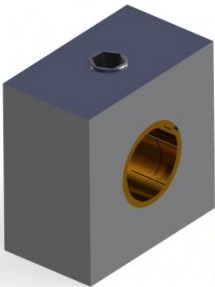
Gaiters can be replaced when damaged. Only pneumatic push probe require gaiter rings.



Spring push	Part number	Pneumatic push	Part number
LE/12/S	209562	LE/12/P	805098
LE/25/S	295906	LE/25/P	804241

Clamping collet

For use with all 8 mm clamping shaft sensors. The clamping collet distributes the clamping forces evenly around the shaft. Using the supplied grub screw, the probe can be loosened while holding the collet in place.
Part number: 805048



Imperial adapter sleeves

Adapter sleeves can be used to increase the body diameter of 8 mm sensors to 9.512 (3/8"). Available in lengths from 12 to 127 mm.



For 3D drawings, please contact sales.solartronmetrology@ametek.co.uk

United Kingdom - Head Office

Solartron Metrology
Steyning Way
Bognor Regis
West Sussex
PO22 9ST
Tel: +44 (0) 1243 833333
Fax: +44 (0) 1243 833322
[Sales.solartronmetrology@ametek.com](mailto:sales.solartronmetrology@ametek.com)

France

Solartron Metrology
Rond-point de l'Espine des Champs
Buroplus - Bat. D
Elancourt 78990
Tel: +33 (0)1 30 68 89 50
Fax: +33 (0)1 30 68 89 59
france.solartronmetrology@ametek.com

Germany

Ametek GmbH
Solartron Metrology Division
Rudolf-Diesel-Strasse 16
40670 Meerbusch
Tel: +49 (0) 2159 9136 500
Fax: +49 (0) 2159 9136 505
vertrieb.solartron@ametek.de

India

Ametek Instruments India Private Limited
1st Floor, Left Wing
Prestige Featherlite Tech Park
Plot #148, EPIP II Phase
Whitefield, Bengaluru 560 066
Karnataka, India
Tel: +91 80 6782 3200
Fax: +91 80 6782 3232

USA

Solartron Metrology
USA Central Sales Office
915 N. New Hope Road, Suite C
Gastonia, NC 28054
Tel: +1 800 873 5838
Fax: +1 704 868 8466
usasales.solartronmetrology@ametek.com

China

AMETEK Commercial Enterprise (Shanghai) Co. Ltd
No. 155 Puhui Road
Ju Ting Economic Development Zone
Shanghai 200131
Tel: +86 21 5763 2509
Fax: +86 21 5866 0969 Ext. 261/262
china.solartronmetrology@ametek.com



Solartron Metrology

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Offices worldwide
Agent and distributor details
available at
www.solartronmetrology.com



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SCIGATE AUTOMATION (S) PTE LTD

No. 1 Bukit Batok Street 22 #01-01 Singapore 659592
Tel: (65) 6561 0488 Fax: (65) 6562 0588
Email: sales@scigate.com.sg Web: www.scigate.com.sg
Business Hours: Monday - Friday 8.30am - 6.15pm

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www.solartronmetrology.com • sales.solartronmetrology@ametek.com