

Digital Readout Systems





Company Profile

Founded in 1969, Newall has established itself as one of the world's premier manufacturers of digital readout systems and linear encoder products.

Our mission is to provide cost effective products that incorporate innovative technologies aimed at increasing productivity within the manufacturing sector. We offer unparalleled customer service, product support and the best warranty in the industry.

With the introduction of our unique Spherosyn® and Microsyn® technology, many of the common problems and performance limitations associated with traditional linear encoder technologies have been overcome. Providing accuracies down to +/-5 micron, and an IP67 rating, no other linear encoder can equal the durability and reliability of the Newall Spherosyn® and Microsyn® encoders.

As an ISO9001 certified manufacturer, we take a global team approach in

order to successfully market and support our products. With wholly owned subsidiaries strategically located throughout the world, we have developed highly skilled distribution channels in over 65 countries.

Unending product innovation combined with the relentless pursuit of customer satisfaction has elevated Newall to its market leading position.

Outstanding features combined with leading edge technology... Newall Digital Readouts.

A50 DIGITAL READOUT

The A50 is a single axis DRO that can be used for a wide range of linear measurement applications.



Available in a single axis configuration, the A50 is a compact (2.8" x 5.6" x 2.8") DRO and includes a wipe-clean front panel. The A50 DRO can be mounted as a stand-alone unit or panel mounted.

FEATURES

- Absolute/Incremental Operation
- Inch/Metric Conversion
- Linear Error Compensation
- Segmented Error Compensation
- Switchable Resolutions
- Radius/Diameter Readings
- Zero Reset/Data Preset
- Self Diagnostics
- Center Find
- Home Reference

C70 DIGITAL READOUT



Housed in a rugged die-cast chassis, the C70 DRO is well suited for all types of general machining applications. The C70 is available in two or three axis configurations and includes a host of standard features.

FEATURES

- Absolute/Incremental Operation
- Inch/Metric Conversion
- Zero Approach Warning
- Zero Reset/Data Preset
- Data Recall
- Data Hold
- Radius/Diameter Readings
- Center Find
- Home Reference
- Linear Error Compensation
- Segmented Error Compensation
- Memory Back-up
- Self Diagnostics
- Encoder Failure Alert
- Switchable Resolutions by Axis
- Sleep Mode

C80 DIGITAL READOUT

The C80 is a powerful yet affordable DRO that sets the new standard for performance, value and ease of use. Simple to use yet feature packed, the C80 utilizes the latest in DRO technology.

The C80 is everything you could ask for in a DRO and includes a full complement of productivity enhancing features. The innovative design allows the operator to easily configure the unit for either mill or lathe specific features. In addition, the C80 includes a feed rate display that allows for longer tool life and increased cutting tool performance.

Newall's C80 is truly a remarkable DRO that offers unprecedented value. A built-in interface allows for easy software upgrades via a personal computer. Upgrades can be downloaded from the Internet ensuring that the C80 will remain at the cutting edge of performance well into the future.

FEATURES

Available in both two and three axis configurations, the C80 includes **all the** features of the C70, plus:

- Feed Rate Display^{1/2}
- Bolt Hole Circle¹
- Arc Contouring¹
- Programmable Memory^{1/2}
- Polar Coordinates¹
- Line Hole Calculator¹
- Tool Offsets²
- Taper Calculations²
- Axis Vectoring/Summing²
- Software Upgradeable^{1/2}

Note: ¹ Mill specific features. ² Lathe specific features.



E70-M DIGITAL READOUT

Newall's E-Series utilizes an innovative and unique design... the DRO and the supporting electronics have been separated, allowing the DSU to be mounted anywhere on the machine, thus minimizing cable routing.

STANDARD FEATURES

- Absolute/Incremental Operation
- Inch/Metric Conversion
- Zero Approach Warning
- Zero Reset/Data Preset
- Data Recall
- Data Hold
- Radius/Diameter Readings
- Center Find
- Home Reference
- Linear Error Compensation
- Segmented Error Compensation
- Memory Back-up
- Self Diagnostics
- Encoder Failure Alert
- Switchable Resolutions by Axis
- Sleep Mode



The E70-M is available in two or three axis configurations and includes all the Standard Features listed, plus the following mill specific features:

- Bolt Hole Circle
- Arc Contouring
- Programmable Memory
- Line Hole
- Polar Coordinates

E70-L DIGITAL READOUT



The E70-L is available in two or three axis configurations and includes all the Standard Features listed, plus the following lathe specific features:

- Programmable Memory
- Tool Offsets
- Taper Calculations
- Axis Vectoring/Summing (three axis)

E-SERIES DSU

The encoders, along with the incoming power supply, are connected to the Digital Sending Unit (DSU). A standard 11.5' cable is then connected from the DSU to the back of the E70-M or E70-L display.

Linear encoders
AC power supply



LINEAR ENCODERS

Consistent accuracy and reliability even under the harshest shop conditions.

Based on the principle of electromagnetics, Newall's Spherosyn® and Microsyn® encoders embody a truly innovative design in which all of the electronic and measuring components are sealed and protected. The encoders carry an IP67 environmental rating and will continue to provide accurate and reliable readings even when submerged in water, oil or coolant.



ENCODER BENEFITS

- IP67 rating (fully submergible), completely sealed
- Withstands dust, dirt, oil and other environmental conditions
- No mechanical wear characteristics
- No more broken or scratched glass
- Requires no cleaning or maintenance
- Vibration and shock resistant



	SPHEROSYN®	MICROSYN® 10	MICROSYN® 5
Environmental	IP67	IP67	IP67
Accuracy	+/- 0.0004" + 0.0002"/meter (+/- 10µm + 5µm/meter)	+/- 0.0004" (+/- 10µm)	+/-0.0002" (+/-5µm)
Repeatability	Within one resolution count	Within one resolution count	Within one resolution count
Resolution	0.0005"/0.0002" (0.01mm/0.005mm)	0.0005"/0.0002" (0.01mm/0.005mm)	0.0005"/0.0002"/0.0001"/0.00005" (0.01mm/0.005mm/0.002mm/0.001mm)
Scale Travels	4" (102mm) to 462" (11.7M)	2" (51mm) to 40" (1M)	
Reader Head Dimensions	2.04" x 5.16" x 1.10" (52mm x 131mm x 28mm)	1.38" x 2.95" x 0.70" (35mm x 75mm x 18mm)	
Scale Dia./Material	0.601" (15.25mm)/Stainless Steel	0.257" (6.5mm)/Carbon Fiber	
Overall Scale Length	Scale Travel Length + 10" (254mm)	Scale Travel Length + 7" (178mm)	
Output Cable Length	11.5' (3.5M) stainless steel armored (extended lengths available)	11.5' (3.5M) stainless steel armored (extended lengths available)	

PRODUCT FEATURE ANALYSIS

	NEWALL A50	NEWALL C70	NEWALL C80	NEWALL E70-M	NEWALL E70-L
Absolute/Incremental Operation	•	•	•	•	•
Inch/Metric Conversion	•	•	•	•	•
Zero Reset/Data Preset	•	•	•	•	•
Data Recall		•	•	•	•
Data Hold		•	•	•	•
Radius/Diameter Readings	•	•	•	•	•
Center Find	•	•	•	•	•
Home Reference	•	•	•	•	•
Bolt Hole Circle			•	•	
Grid Hole Array*			•		
Arc Contouring			•	•	
Zero Approach Warning		•	•	•	•
Linear Error Compensation	•	•	•	•	•
Segmented Error Compensation	99 segments	99 segments	99 segments	99 segments	99 segments
Memory Back-up		•	•	•	•
Programmable Memory			99 points	99 points	99 points
Edit Capabilities			•	•	•
Self Diagnostics	•	•	•	•	•
Polar Coordinates			•	•	
Line Hole Calculator			•	•	
Tool Offsets					99
Taper Calculations			•		•
Axis Vectoring/Summing			•		•
Feed Rate Display			•		
Software Upgradeable (via Internet)		•	•		
Keypad	Membrane	Membrane		Membrane	
Audible Keystroke Entry		•		•	
Chassis	Metal	Die Cast		Die Cast	
Encoder Input	Spherosyn® Microsyn®	Spherosyn® Microsyn®		Spherosyn® Microsyn®	
Dimensions	2.8" x 5.6" x 2.8" (71mm x 142mm x 71mm)	10.4" x 7" x 2" (264mm x 178mm x 51mm)		6.7" x 11.6" x 1.2" (170mm x 295mm x 30mm)	
Weight	1.2 lbs. (.55Kg)	6.3 lbs. (2.9Kg)		4.5 lbs. (2.1Kg)	
Voltage	115-230V	115-230V		115/230V (switchable)	

*Feature available for download online at www.newallusa.com/download/features_c80.htm. Specifications subject to change without notice.

PRODUCT WARRANTY

To demonstrate our confidence in the durability of our DRO systems, Newall proudly offers its products with the best warranty available.

FIVE YEAR WARRANTY

Newall warrants its new DRO products to be free from defects in materials and workmanship for a period of five years from the date of purchase.

THREE YEAR NO-FAULT WARRANTY

During the first three years of ownership, Newall's No-Fault Warranty covers system failures caused by accidental damage, customer abuse and even improper installation.

LOANER PROGRAM

As a Newall DRO owner, you become eligible for our Free Loaner Program*. Simply fill out and mail in the Registration Form that is included with each DRO system or, register your DRO system online at: www.newallusa.com/registration_form.htm

Once registered, you will have access to Newall's loaner equipment. In the event of a product failure simply call, fax or e-mail Newall's Product Service Department. They will provide you with details on how you can receive a loaner unit while the defective unit is being repaired.

*Dealer participation required. Applicable in Continental USA only.