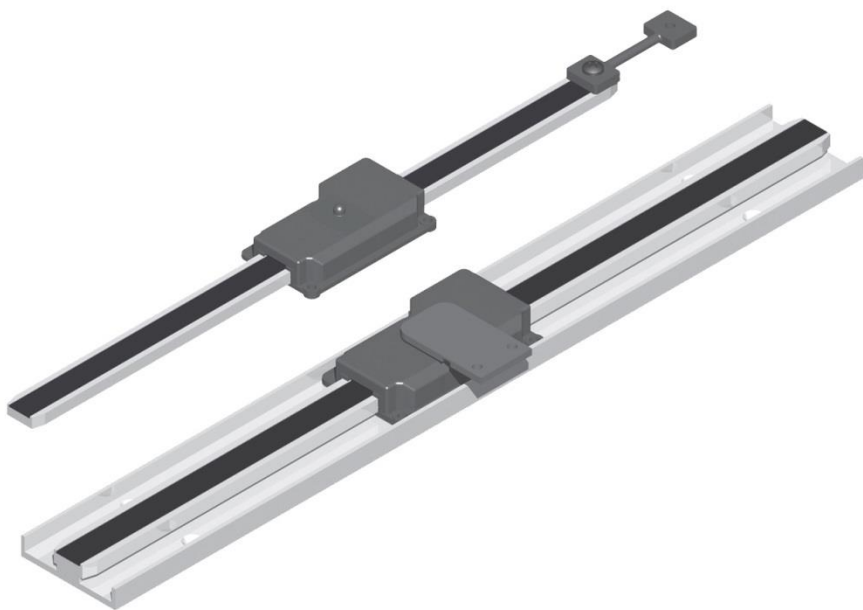


# Accurate

TECHNOLOGY INC.

*Linear Digital Measuring Systems*

## DigiScale™ Models 19 & 29



**INSTALLATION**

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## What This Manual Includes

This manual includes **INSTALLATION** information for:  
DigiScale Model 19 & Model 29 Scales and Encoders.

For Readout Operation information, consult the OPERATION manual  
supplied with your system, or see:  
<http://www.proscale.com/Manuals.htm>



**LCD Digi Readout**



**Compact Readout**

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## WARRANTY

Accurate Technology, Inc. warrants the DigiScale Models 19 & 29 against defective parts and workmanship for 1 year commencing from the date of original purchase. Upon notification of a defect, Accurate Technology, Inc., shall have the option to repair or replace any defective part. Such services shall be the customer's sole and exclusive remedy. Expenses incidental to repair, maintenance, or replacement under warranty, including those for labor and material, shall be borne by Accurate Technology, Inc. (Including freight or transportation charges during the first 30 days).

Except as expressly provided in this warranty, Accurate Technology, Inc. does not make any warranties with respect to the product, either expressed or implied, including implied warranties of merchantability or fitness for a particular purpose, except as expressly provided in this agreement.

Accurate Technology, Inc. shall not be liable for any special, incidental, or consequential damages or for loss, damage or expense directly or indirectly arising from the customer's use of or inability to use the equipment either separately or in combination with other equipment, or for personal injury or loss or destruction of other property, or from any other cause.

To request repair work, (either warranty qualified parts or not) contact Accurate Technology, Inc. directly by phone, fax, or e-mail. A Returned Merchandise Authorization (RMA) number is required before returning a product for repair.

### **SAFETY WARNING**

**Before installing DIGIScale on any machinery:  
Turn off machine and disconnect power.**

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# Table of Contents

WHAT THIS MANUAL INCLUDES .....	2
<b>SECTION 1 GENERAL INFORMATION .....</b>	<b>5</b>
INTRODUCTION .....	5
SPECIFICATIONS .....	5
ABOUT DIGISCALE .....	6
Scale .....	6
Encoder .....	6
Digital Readouts .....	6
<b>SECTION 2 INSTALLATION .....</b>	<b>6</b>
Model 19 .....	<b>Error! Bookmark not defined.</b>
Model 29 .....	<b>Error! Bookmark not defined.</b>
Frequently Asked Questions .....	11

## Introduction

DigiScale is a general purpose linear measuring system. It consists of three major parts: a **SCALE**, an **ENCODER** and a **DIGITAL READOUT**.

DigiScale is an ideal choice for most measuring requirements up to 60 inches where affordable digital precision (better than a tape measure) is desired. Because DigiScale shows the exact measurement on its readout, it eliminates the ambiguity and mistakes involved when reading and interpreting tape measures, scales & pointer, or shaft encoders.

DigiScale is a solid-state electronic device so there's very little to wear out. The encoder and scale are designed to withstand shop dirt, dust, and other airborne contaminants. With normal care, DigiScale will last for years.

## Specifications

Measuring Range: \*

Model 19	up to 10 inches
Model 29	up to 60 inches

Accuracy<sup>1</sup>:

Model 19	± .010 inches
Model 29	± .012 Inches

Operating Temp: 40 to 110°F

Max Velocity: 100 inches/second

Encoder cable: Six-conductor cable terminated by RJ12 connector with a cable length of 72 inches.

\* MEASUREMENT range is approximately 4 inches *shorter* than the PHYSICAL length of the aluminum scale extrusion.

<sup>1</sup> Maximum error over entire measuring range when measured at the Encoder output.

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## About DigiScale

All DigiScale systems consist of a **SCALE** (or track), an **ENCODER**, (or readhead) and a **DIGITAL READOUT (DRO)**.



### Scale

The scale consists of a series of conductive patterns bonded to an aluminum extrusion. The Model 19 Scale is .765 inches wide and comes in measuring lengths up to 10 inches long. The Model 29 Scale is 2.02 inches wide and comes in measuring lengths up to 60 inches.

All Scales are approximately 4 inches longer than their measuring range.

### Encoder

The DigiScale encoder contains electronic circuitry that transmits and receives signals to and from the scale using a patented technology called inductive coupling. This data is then sent to the digital readout where it can be displayed in millimeters, inches, or fractions.



Model 19 & 28 encoders have black housings with a cable exiting from one corner. They are supplied with a 6 foot (72 inch) cable.

### Digital Readouts

DigiScale Models 19 & 29 may be used with either of two Digital Readouts. For **OPERATION** information for Readouts used with DigiScale systems, consult the manual supplied with your system, or see:

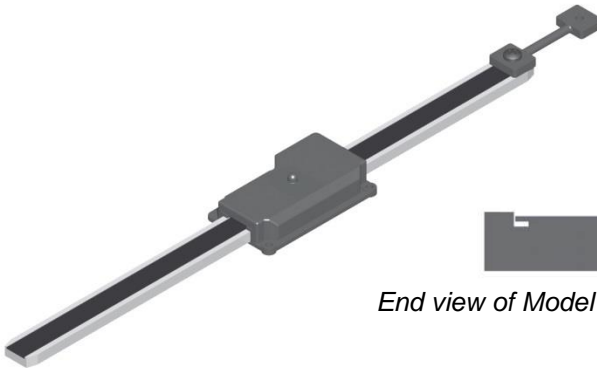
<http://www.proscale.com/Manuals.htm>



**Digi Readout**



**Compact Readout**



*End view of Model 19 DigiScale*

### Model 19

The Model 19 can be used in many different measurement applications, and with numerous types of equipment. Therefore all installations will be a little different and it is the responsibility of the user to choose the bolts, screws, or other mounting hardware that provides a quality installation and optimum operation in their application.

Determine an appropriate mounting location and position for DigiScale in your measuring application. Most installations of the Model 19 will hold the encoder stationary and allow the scale to pass through the encoder during measurement. If you choose this installation proceed to Step 1.

However, the DigiScale will also operate correctly is the encoder is moved along the scale during measurements. If you choose this method, proceed directly to Step 2

**Note:** Never drill through the colored portion of the scale at any point over which the encoder will travel.

#### 1. Stationary Encoder installation

Attach one end of the **CONNECTOR LINK** to the scale using the included screw and fasten the other end of the connector link to the moving part of the measuring application or machine. Attach the encoder to a fixed point using three screws or bolts. Insure that the scale is properly aligned to pass through the encoder with the direction of motion of the moving part. Be sure connections are secure or inaccurate readings could result. Plug the encoder cable into the readout.



*Connector Link*

2. Stationary Scale installation

If your application is better suited for the scale to be held stationary and the encoder moved along it during a measurement, you should use the **GUIDE CLIP** to capture the encoder and move it along the scale (see illustration).

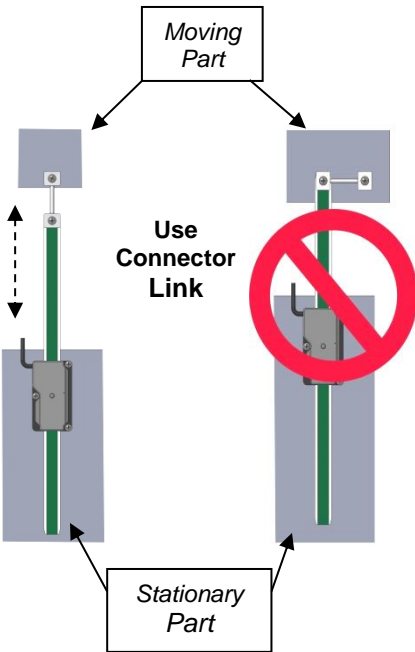
Attach the scale to a fixed point in your application using the included screw. Place the encoder on the scale.

Attach the guide clip to a moving point in your application such that the slot on the underside of the clip engages the post on the top of the encoder and captures it's movement along the scale. The guide clip should exert some pressure on the encoder over the full range of travel as the two move as a single unit.

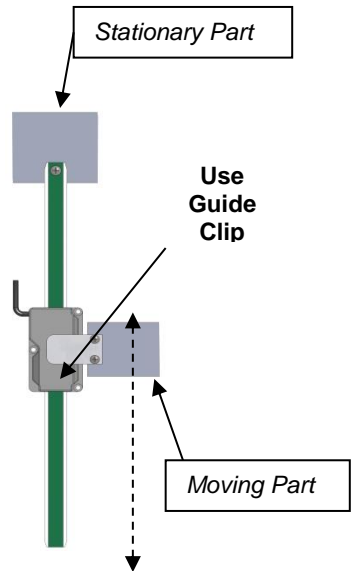
Insure the scale and encoder are properly aligned as the encoder is moved (the guide clip will compensate for slight misalignment in the direction perpendicular to movement). Adjust the scale alignment if necessary. Plug the encoder cable into the readout.



Guide Clip

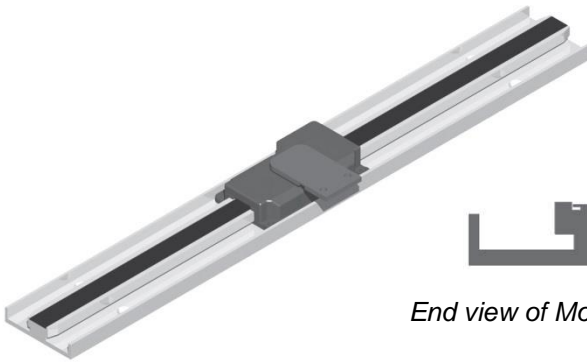


Encoder stationary, Scale moves



Scale stationary, Encoder moves





*End view of Model 29 DigiScale*

## Model 29

The Model 29 can be used in many different measurement applications, and with numerous types of equipment. Therefore all installations will be a little different and it is the responsibility of the user to choose the bolts, screws, or other mounting hardware that provides a quality installation and optimum operation in their application.

Determine an appropriate mounting location and position for DigiScale in your measuring application. Most installations of the Model 29 will hold the scale stationary as the encoder moves along it during measurement.

However, the DigiScale will also operate correctly if the scale is moved through the encoder during measurements; however this type of installation is not recommended for the Model 29.

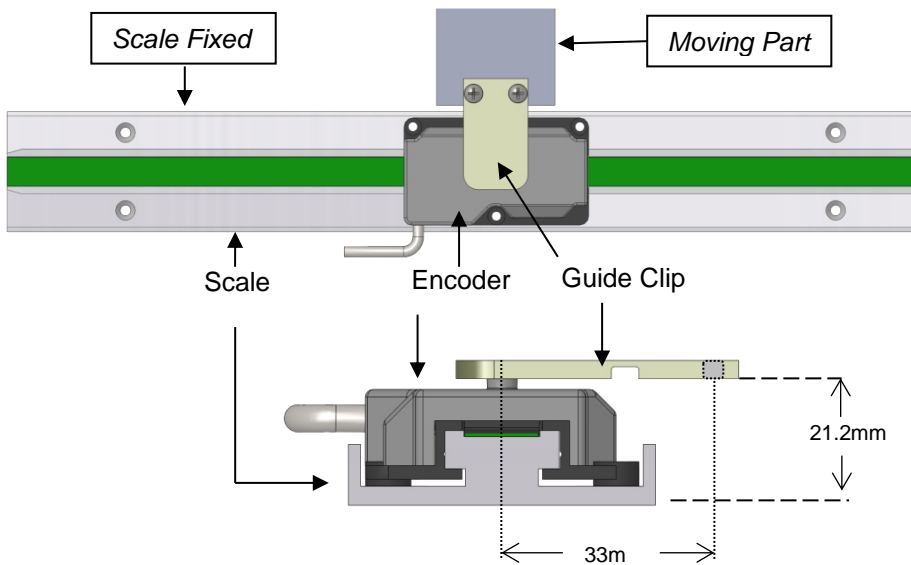
**Note:** Never drill through the colored portion of the scale at any point over which the encoder will travel.

When installing the Model 29 you should use the **GUIDE CLIP** to capture the encoder movement along the scale (see illustrations).

1. Attach the scale to a fixed point in your application using the included screws. Be sure the screw heads do not protrude above the surface of the extrusion. Place the encoder on the scale. Attach the guide clip to a moving point in your application such that the slot on the underside of the clip engages the post on the top of the encoder and captures its movement along the scale. The guide clip should exert some pressure on the encoder over the full range of travel as the two move as a single unit. Be sure the scale and encoder are properly aligned as the encoder is moved (the guide clip will compensate for slight misalignment in the direction perpendicular to movement). Adjust the scale alignment if necessary. Plug the encoder cable into the readout.



*Guide Clip*



**Typical Model 29 Installation**

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## Frequently Asked Questions

### ***Can I mount the Scale/Encoder without the connector link/guide clip?***

Yes. However, the connector link and guide clip serve to provide an accurate method of transferring the movement of the encoder or scale, while also absorbing any stresses that may occur. If they are not used, your system could be damaged and **the warranty could be voided.**

### ***How do I calibrate my DigiScale?***

There is no calibration available or necessary for the DigiScale. System accuracy will depend on the accuracy of the DigiScale Scale itself and the quality of the installation.

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**Thank you for choosing an  
AMERICAN MADE PRODUCT**



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