



## RCAL-20 REMOTE CALIBRATION UNIT

### Introduction

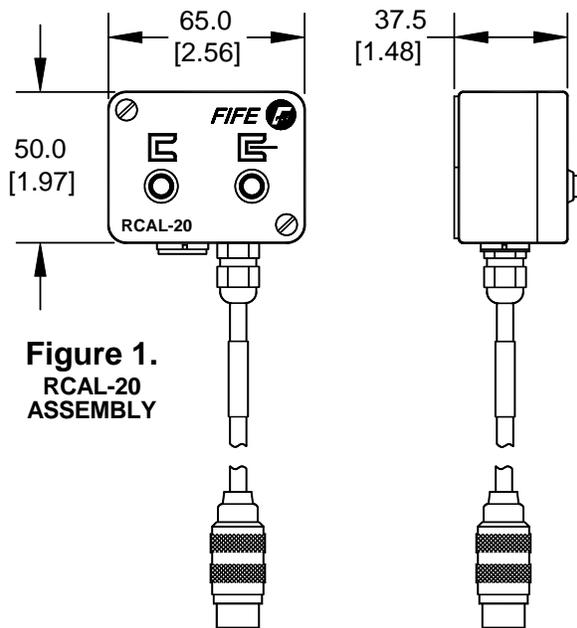


Figure 1.  
RCAL-20  
ASSEMBLY

### General Introduction

The RCAL-20 (Remote Calibration) unit is one of the D-MAX accessories. It is connected directly to the Fife D-MAX Web Guide Controller. One Fife edge sensor is then connected to each RCAL-20. The edge sensors can be calibrated more easily by using the RCAL-20. The RCAL-20 is not suitable for calibrating Fife line sensors.

### Example Of Application

The RCAL-20 is useful when:

- The D-MAX Operator Interface is inaccessible.
- Operator control at the D-MAX Controller is impossible.
- The contrast of the web material changes more frequently.

In these cases, it is useful to calibrate the sensor using the RCAL-20. These units can be mounted close to the sensors for this purpose.

### Mounting

#### Mounting Option

- Magnetic Strips

#### Magnetic Strips

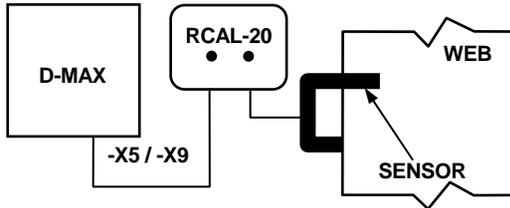
The RCAL-20 contains magnetic strips on the rear of the unit for mounting on metallic surfaces. As a result of this method of mounting, the RCAL-20 can be easily dismantled and moved, if desired.

#### **-WARNING-**

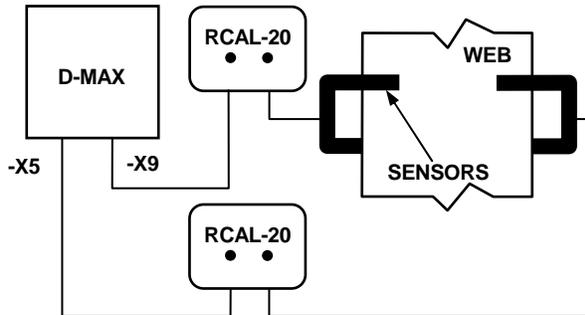
**The RCAL-20 and its associated cables may present new sources of danger. Never feed the unit or its associated cables over, under, or through moving parts or dangerous areas. Equipment damage or personal injury may occur.**

**Installation**

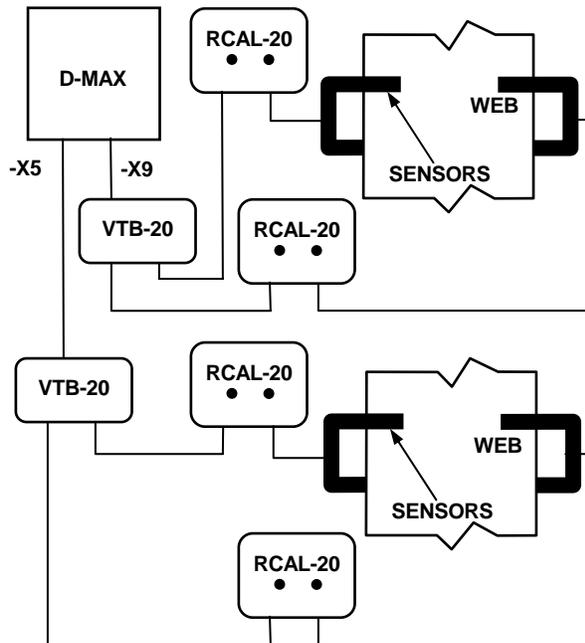
**Edge Guiding With One Edge Sensor**



**Center Guiding With Two Edge Sensors**



**Center Guiding With Four Edge Sensors**



**Figure 2.**  
**CABLE CONNECTION DIAGRAMS**

**Installation Instructions**

A maximum of two RCAL-20 units can be connected directly to a D-MAX Controller, with one sensor connected to each RCAL-20 unit. If two VTB-20 Junction Boxes are used with a D-MAX Controller, a maximum of four RCAL-20 units can be connected to the D-MAX Controller, with one sensor connected to each RCAL-20. Connect the edge guide sensor(s) thru the RCAL-20(s) to the X5 and/or X9 connector(s) on the D-MAX Controller.

**Maximum Combined Cable Length**

Maximum combined cable length between the D-MAX Controller and the edge sensor is 50 meters (165 feet).

**Cable Connection**

See Figure 2 diagrams for typical cable connections.

## Operation

### Prerequisite For Calibration

- The web must be at standstill.
- The D-MAX must be in Manual mode.
- For center guiding applications, each sensor must be calibrated independently using the edge sensor calibration method.
- All of the D-MAX Controller drives that are configured to use the sensor to be calibrated must be in Manual mode.

### Possible Applications



To detect the edge of a web material for edge or center guiding the web.

### NOTE:

To view the bargraph on the Operator Interface during the calibration, select a drive that is configured to use the sensor to be calibrated.

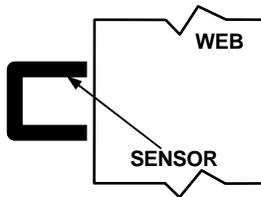
If the RCAL process is started by pressing the first button, but not completed by pressing the second button, the process is aborted 3 minutes after the first button was pressed. The process may also be aborted by pressing the ESC key on the D-MAX Operator Interface.

If more than one RCAL-20 unit is being used, complete the calibration with one unit before beginning calibration with the next unit.

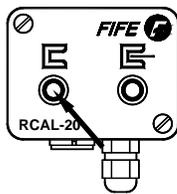


Calibration to detect the edge of a web material.

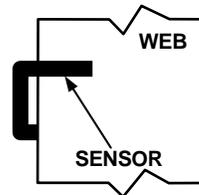
#### 1. Calibrate the sensor.



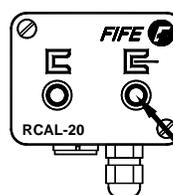
a. Remove the web completely from the sensor field of view.



b. Press the left-hand button on the RCAL-20. The LCD Panel on the D-MAX will display the "R CAL" icon in the area just above the center line of the LCD Panel.



c. Maintain the position of the web for at least 3 seconds. Then move the web completely into the sensor field of view.



d. Press the right-hand button on the RCAL-20. The LCD Panel on the D-MAX will stop displaying the "R CAL" icon.

The sensor is now calibrated to the contrast of the web material, unless the "R CAL" icon is still displayed on the D-MAX LCD Panel. This indicates insufficient contrast was detected and the process must be repeated. Pressing the D-MAX ESC key will cancel the process, if desired.



**RCAL-20 REMOTE CALIBRATION UNIT  
FOR USE WITH D-MAX WEB GUIDE CONTROLLER**

**INSTALLATION INSTRUCTIONS**

**Troubleshooting**

FAULT	CAUSE	REMEDY
Sensor calibration failed.	<p>Contrast of web material not detected.</p> <p>Contrast is too low. Sensor does not detect contrast difference. (The "R CAL" icon is still displayed on the D-MAX LCD Panel).</p> <p>Sequence of sensor calibration not maintained or not completed.</p>	<p>Repeat sensor calibration.</p> <p>Change material or select a sensor designed for this material.</p> <p>If using more than one RCAL-20 unit, complete the calibration with one unit before beginning calibration with the next one.</p>



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