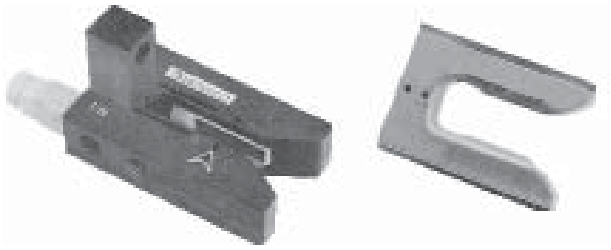
nexen®

WEB CONTROL PRODUCTS

User Manual



EDGE GUIDE SENSOR

PH 16 AND PH 21

Visit www.nexengroup.com for translations of this user manual.
Visite www.nexengroup.com para ver traducciones de este manual del usuario.
Veuillez consulter www.nexengroup.com pour toute traduction de ce présent manuel.
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FORM NO. L-20140-G-0105

In accordance with Nexen's established policy of constant product improvement, the specifications contained in this manual are subject to change without notice. Technical data listed in this manual are based on the latest information available at the time of printing and are also subject to change without notice.

Technical Support: 800-843-7445
(651) 484-5900

www.nexengroup.com

DANGER

Read this manual carefully before installation and operation.

Follow Nexen's instructions and integrate this unit into your system with care.

This unit should be installed, operated and maintained by qualified personnel ONLY.

Improper installation can damage your system or cause injury or death.

Comply with all applicable codes.

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ISO 9001 Certified

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THEORY OF OPERATION

Nexen's PH-16 and PH-21 are photo electric edge position sensors, used as the sensing element of an Edge Position Control (EPC) System. The sensor may be applied to either side of the web, or two sensors may be used (one on each side of the web), for Center Position Control (CPC).

Sensing is accomplished by a light emitting diode (LED), which transmits light across a gap to a light sensing array. The sensing array produces an electrical voltage directly proportional to the amount of light received from the LED. As an opaque web of material moves in and out of the gap, the sensor output varies.

Excitation for the LED is provided by a Web Guide Amplifier. The sensor's output return signal is fed back to the same amplifier for closed loop control.

A mounting bracket, provided with the sensor, includes a micro adjustment screw and lock nut. The adjustment screw allows up to 0.79 In. [20 mm] of sensor movement without moving the bracket.

INSTALLATION

1. Provide a 1 In. [25 mm] square bar which will span the web (See Figure 1).

NOTE: This bar is used to support the mounting bracket.

2. Install the Mounting Bracket on the bar (See Figure 2).

3. Mount the bar to the machine (See Figure 1).

NOTE: Make sure the bar is rigidly mounted; any movement of the bar will affect sensor position.

4. Install a sensor on the Adjusting Screw Projection and secure it with the Sensor Locking Nut (See Figure 2).

5. Loosen the Adjusting Screw Locking Knob and position the Adjustment Screw to the midpoint of its travel (approximately 0.6 In. [15 mm]) (See Figure 2).

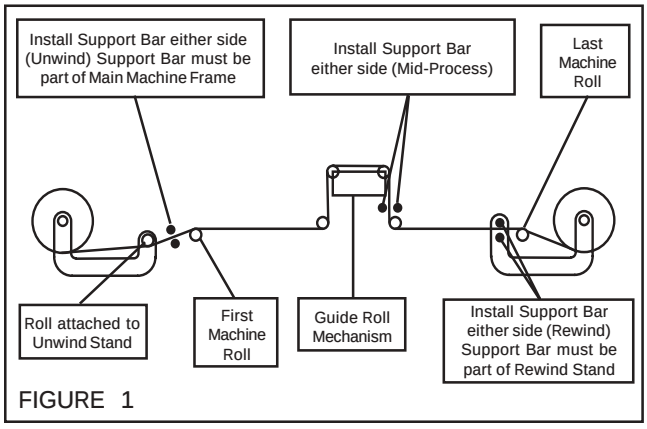

FIGURE 1

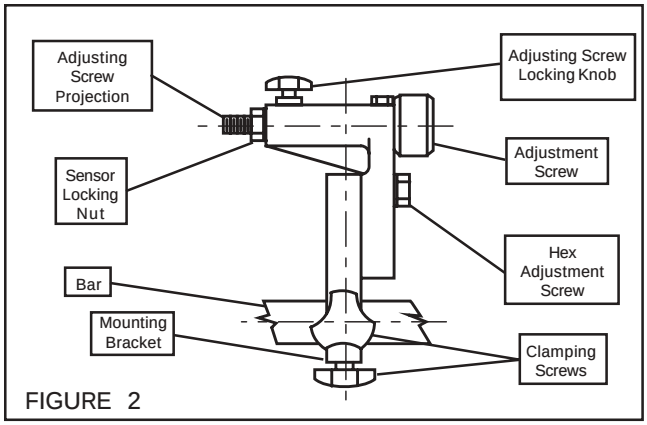

FIGURE 2

DIMENSIONS

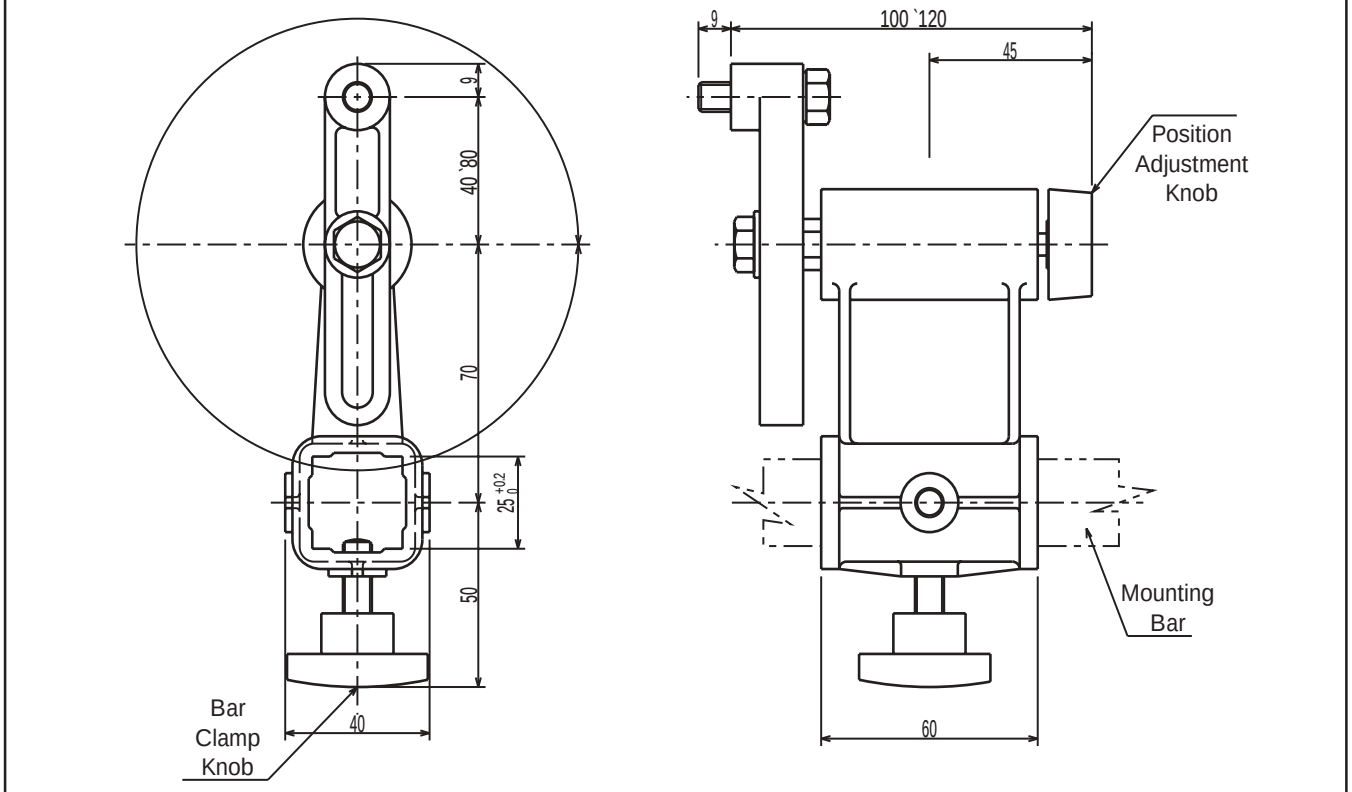

FIGURE 3 SCREW GUIDER

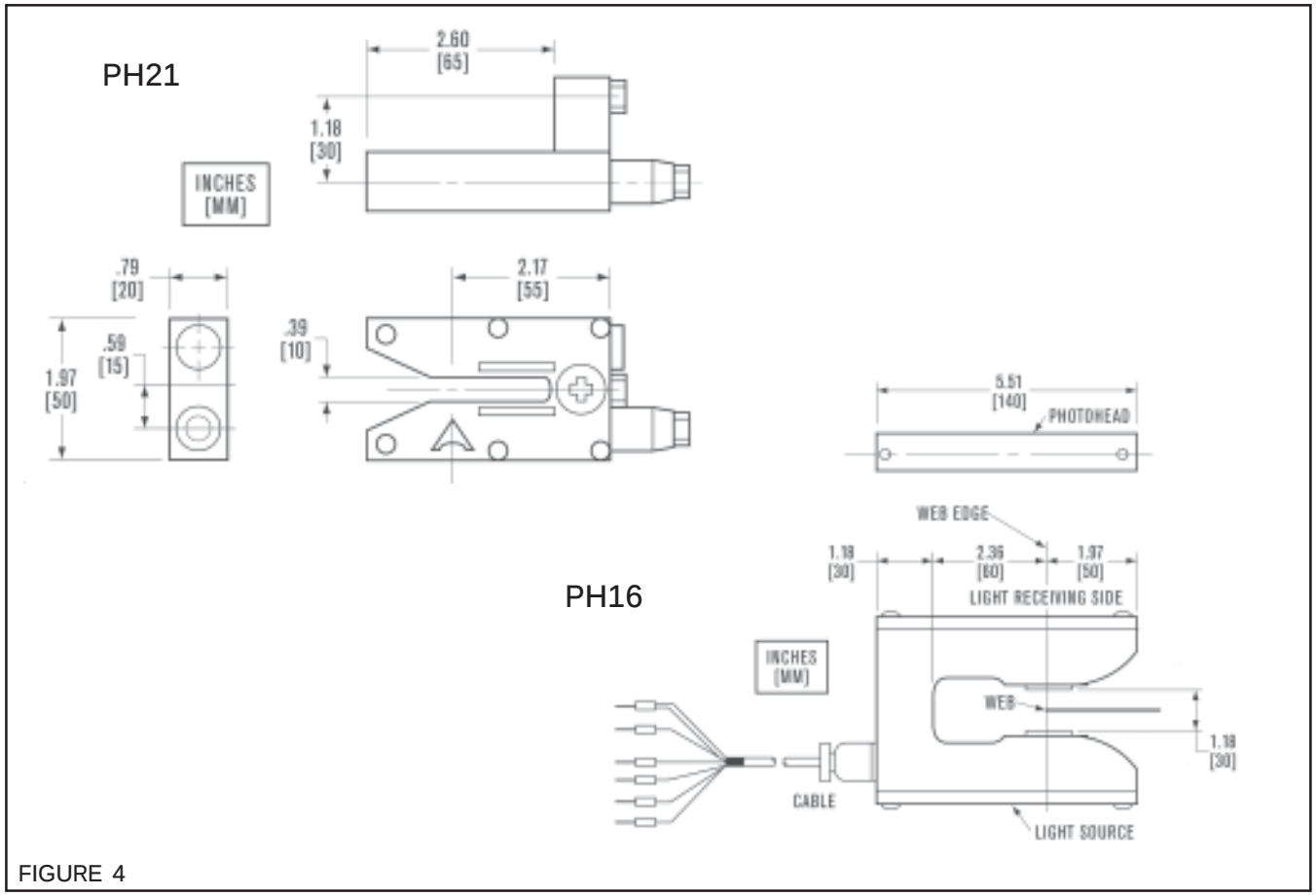

FIGURE 4

ELECTRICAL CONNECTIONS

The PH 16 and PH 21 come with a 16 Ft. [5 m], 4 conductor shielded cable.

Make the electrical connections to the Web Guide Controller according to the instructions provided with the controller (See Figure 5).

NOTE: The cable may be extended up to 500 Ft. [156.25 m], using four conductor 18 AWG [0.9 mm] shielded cable.

CAUTION

Wire continuity and shielding integrity must be maintained when extending the cable.

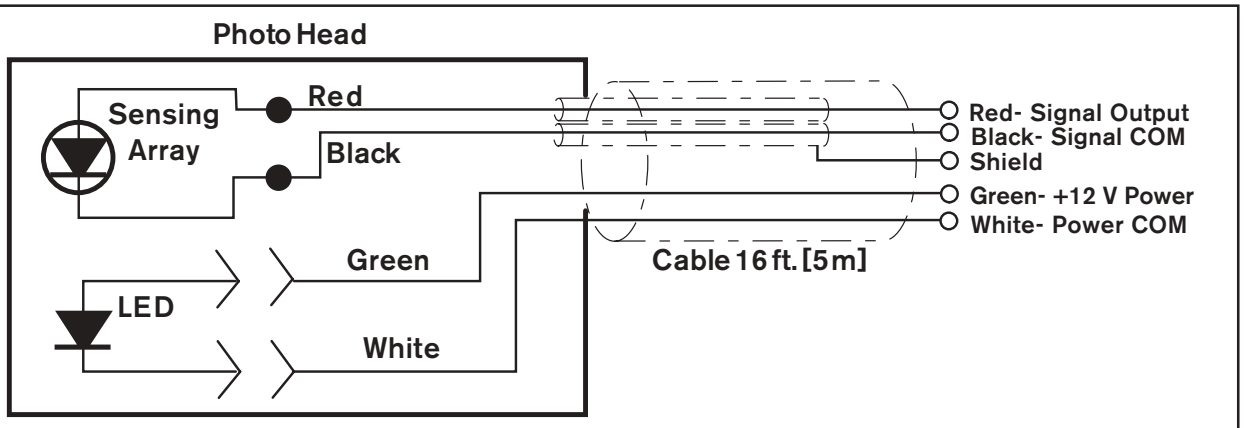

FIGURE 5
PH-16 and PH-21

MAINTENANCE

System accuracy can be affected by dust or dirt on the glass surfaces of the light emitter and receiver. Periodically wipe these surfaces with a soft, clean, dry cloth.

TROUBLESHOOTING

If the sensor fails to provide a signal to the Web Guide Amplifier, check the following.

1. Determine if the amplifier is providing a 12 VDC excitation signal to the Sensor.
2. If an excitation signal is present, check the LED for proper operation.
3. If the LED is operating correctly, check the output voltage of the sensor (See SPECIFICATIONS).

⚠ WARNING

Do not disassemble the Edge Guide Sensor. Attempting to disassemble the Edge Guide Sensor will void the warranty. Contact Nexen if replacement parts or service is required. There are no customer replaceable parts.

SPECIFICATIONS

PH-16

Excitation ---------- 12 VDC
Output ---------- OPEN, 350 mV
---------- BLOCKED, 0 V
Measuring Width ---------- ± 0.20 In. (±5.08 mm)
Sensitivity ---------- 0.004 In. [0.1 mm]
Weight ---------- 2.5 Lbs. [1.1 kg]
Temperature Range ---------- 32°–122° F [0°–50° C]

PH-21

Excitation ---------- 12 VDC
Output ---------- OPEN, 350 mV
---------- BLOCKED, 0 V
Measuring Width ---------- ± 0.20 In. (±5.08 mm)
Sensitivity ---------- 0.004 In. [0.1 mm]
Weight ---------- 1.3 Lbs. [0.6 kg]
Temperature Range ---------- 32°–122° F [0°–50° C]

WARRANTY

Warranties

Nexen warrants that the Products will be free from any defects in material or workmanship for a period of 12 months from the date of shipment. NEXEN MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. This warranty applies only if (a) the Product has been installed, used and maintained in accordance with any applicable Nexen installation or maintenance manual for the Product; (b) the alleged defect is not attributable to normal wear and tear; (c) the Product has not been altered, misused or used for purposes other than those for which it was intended; and (d) Buyer has given written notice of the alleged defect to Nexen, and delivered the allegedly defective Product to Nexen, within one year of the date of shipment.

Exclusive Remedy

The exclusive remedy of the Buyer for any breach of the warranties set out above will be, at the sole discretion of Nexen, a repair or replacement with new, serviceably used or reconditioned Product, or issuance of credit in the amount of the purchase price paid to Nexen by the Buyer for the Products.

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TO THE EXTENT PERMITTED BY LAW NEXEN SHALL HAVE NO LIABILITY TO BUYER OR ANY OTHER PERSON FOR INCIDENTAL DAMAGES, SPECIAL DAMAGES, CONSEQUENTIAL DAMAGES OR OTHER DAMAGES OF ANY KIND OR NATURE WHATSOEVER, WHETHER ARISING OUT OF BREACH OF WARRANTY OR OTHER BREACH OF CONTRACT, NEGLIGENCE OR OTHER TORT, OR OTHERWISE, EVEN IF NEXEN SHALL HAVE BEEN ADVISED OF THE POSSIBILITY OR LIKELIHOOD OF SUCH POTENTIAL LOSS OR DAMAGE. For all of the purposes hereof, the term "consequential damages" shall include lost profits, penalties, delay images, liquidated damages or other damages and liabilities which Buyer shall be obligated to pay or which Buyer may incur based upon, related to or arising out of its contracts with its customers or other third parties. In no event shall Nexen be liable for any amount of damages in excess of amounts paid by Buyer for Products or services as to which a breach of contract has been determined to exist. The parties expressly agree that the price for the Products and the services was determined in consideration of the limitation on damages set forth herein and such limitation has been specifically bargained for and constitutes an agreed allocation of risk which shall survive the determination of any court of competent jurisdiction that any remedy herein fails of its essential purpose.

Limitation of Damages

In no event shall Nexen be liable for any consequential, indirect, incidental, or special damages of any nature whatsoever, including without limitation, lost profits arising from the sale or use of the Products.

Warranty Claim Procedures

To make a claim under this warranty, the claimant must give written notice of the alleged defect to whom the Product was purchased from and deliver the Product to same within one year of the date on which the alleged defect first became apparent.

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