

# WEB CONTROL PRODUCTS

User Manual



## TA100B & TA110B Signal Conditioners

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](http://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.

Nexen Group, Inc.  
560 Oak Grove Parkway  
Vadnais Heights, Minnesota 55127

## TABLE OF CONTENTS

Introduction .....	1
Installation .....	1
Electrical Connections .....	2
Calibration for PH16B and UH21 Sensor .....	3
Specifications .....	4
Warranty .....	5

## INTRODUCTION

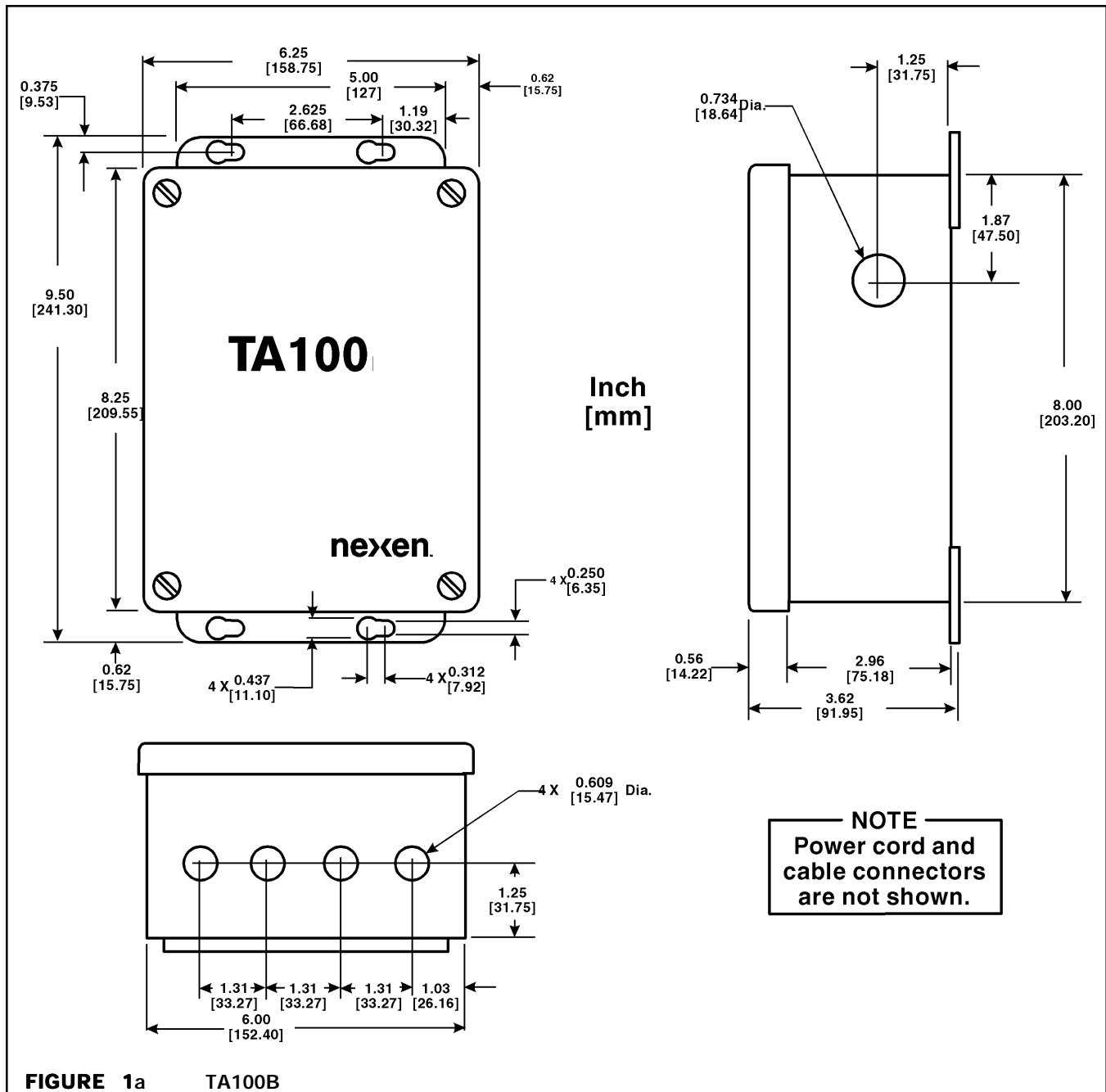
The TA100B and TA110B signal conditioners allow for the connection, excitation, and calibration of one Nexen PH16B or UH21 web guide sensor and for the output of a 0 – 10 VDC and 4 – 20 mA web edge position signal. A Programmable Logic Controller (PLC) or a computer can use this signal to monitor web edge position.

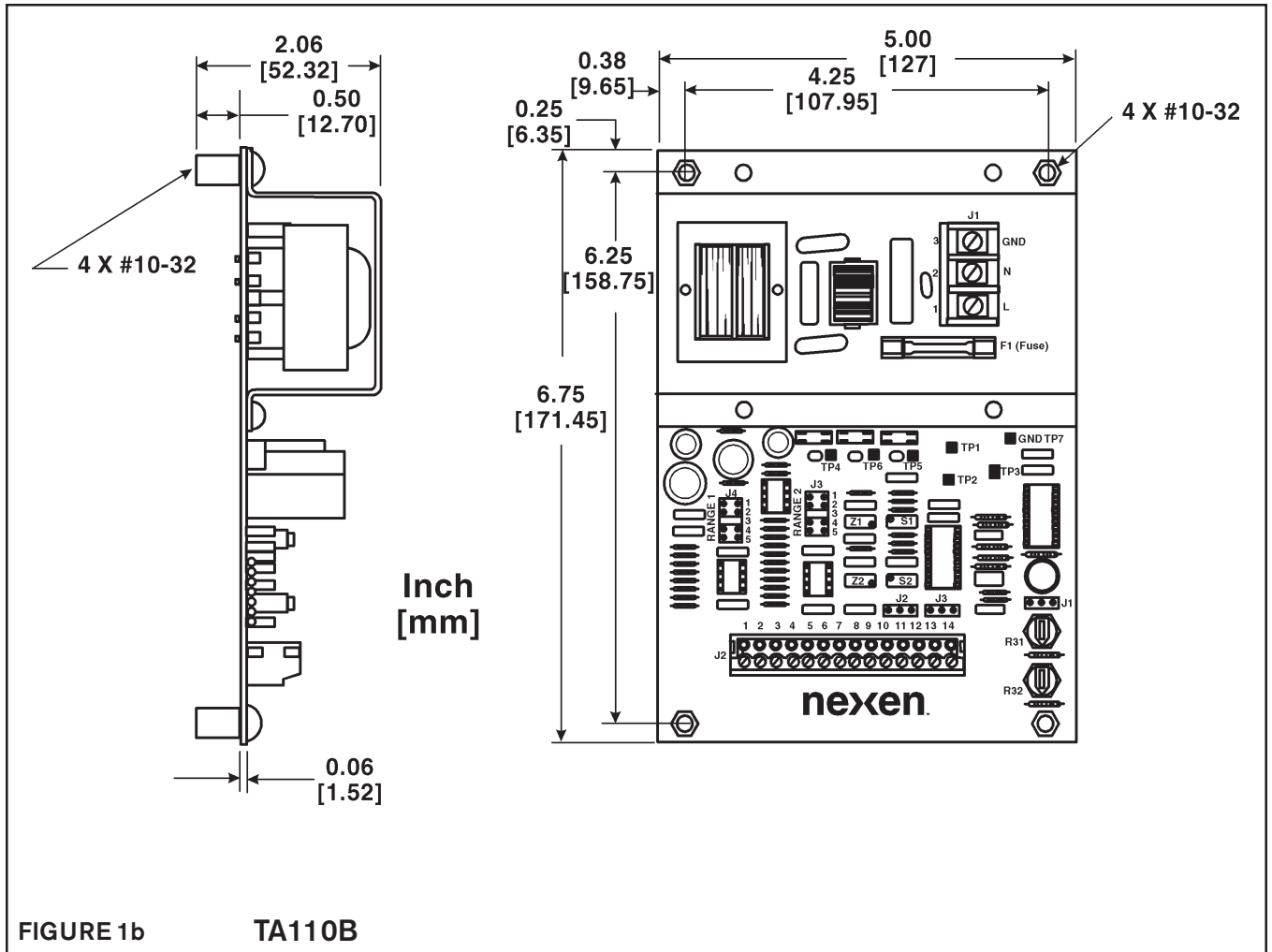
The TA100B is complete with a NEMA-12 enclosure and 120 VAC power cord.

The TA110B is chassis-mounted for installations in cabinets or enclosures.

## INSTALLATION

**NOTE:** TA100B and TA110B Signal Conditioners are electronic components and should be mounted in a dry, dust free, shock, and vibration free area with an ambient temperature greater than 32° F [0° C] but less than 122° F [50° C].



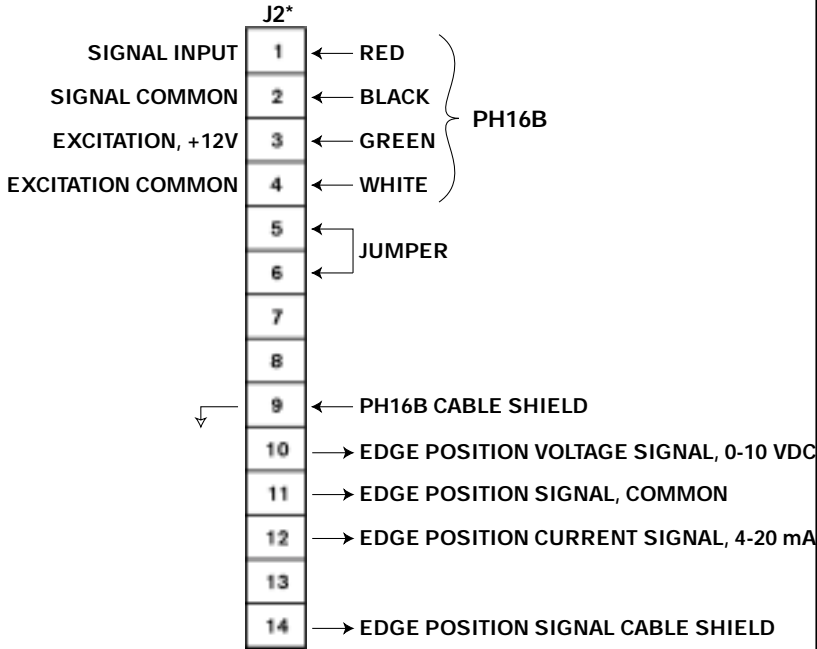


## ELECTRICAL CONNECTIONS

### WARNING

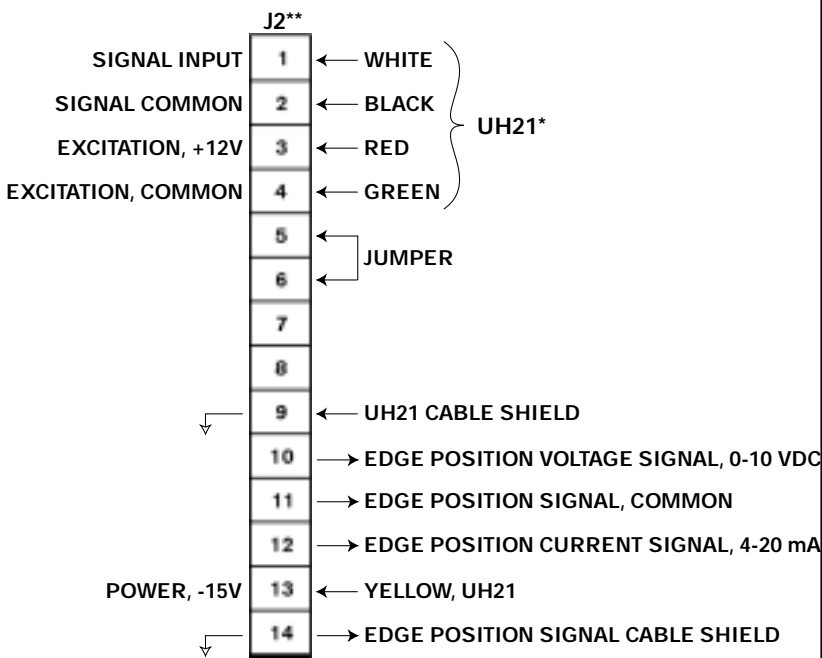
Before connecting any wires, be sure that AC power is turned off, locked and proper signage applied according to safety regulations. All wiring must be shielded or run through conduit. Wire runs are to be no more than 300 feet.

**NOTE:** Make electrical connections as shown in Figures 2 through 4 for the type of sensor used. To maintain NEMA 12 strain relief ratings, the cables must have a diameter in the range of 0.161-0.314 inches. Unused strain relief holes must be plugged.



\* J2 can be removed by pulling straight up.

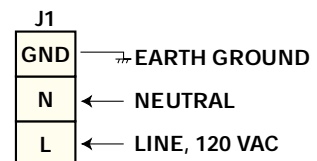
**FIGURE 2** PH16B CONNECTION TO TERMINAL STRIP J2



\* UH21 also requires -15 VDC, see terminal 13.

\*\* J2 can be removed by pulling straight up.




**FIGURE 3** UH21 CONNECTION TO TERMINAL STRIP J2



**FIGURE 4**

## CALIBRATION FOR PH16B AND UH21 SENSOR

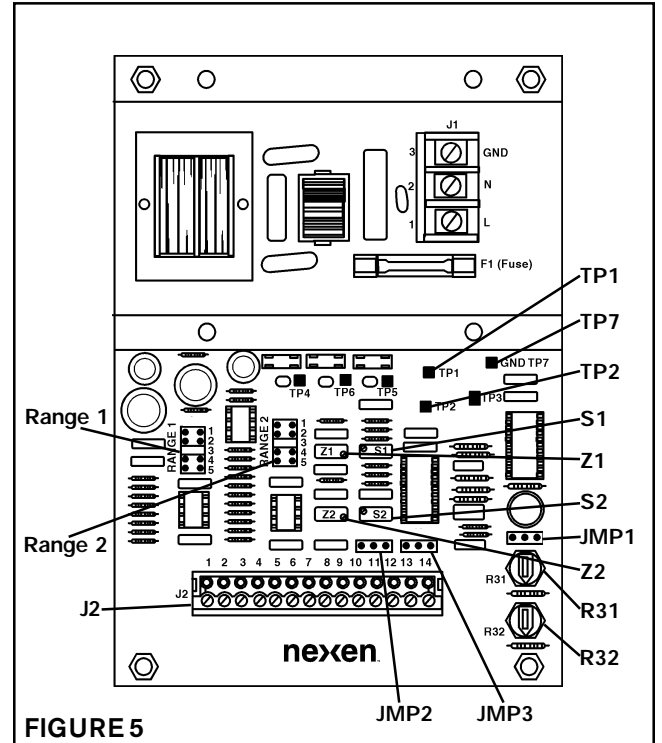
### JUMPER SETTINGS

RANGE 1	Set to position 4.
RANGE 2	Set to position 4.
JUMPER 1	Connect terminals 1 and 2. 
JUMPER 2	Connect terminals 2 and 3. 
JUMPER 3	Connect terminals 2 and 3. 

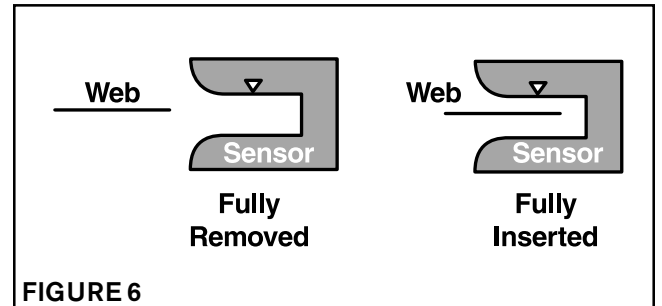
### VOLTAGE OUTPUT CALIBRATION

1. Check jumper and Range settings (See Figure 5) with chart above and adjust as necessary.
2. Apply power to TA100B or TA110B.
3. Rotate **S1** and **S2** fully counterclockwise (See Figure 5).
4. Cover the sensor window completely with an opaque material (See Figure 6).
5. Connect a voltmeter to **TP7** (com) and **TP1** (See Figure 5).
6. Adjust **Z1** until voltmeter displays 0.00 VDC at **TP1** (See Figure 5).
7. Remove voltmeter lead from **TP1** and attach to **TP2**.
8. Adjust **Z2** until voltmeter displays 0.00 VDC at **TP2** (See Figure 5).
9. Remove voltmeter lead from **TP2** and attach to position 10 of **J2** (See Figure 5).
10. Uncover the sensor window and adjust **S1** until the voltmeter displays 10.0 VDC.
11. Cover the sensor window and adjust **Z1** until the voltmeter displays 0.00 VDC.
12. Repeat steps 10 and 11 until output voltage swing is acceptable.

**NOTE:** The 4 – 20 mA output is factory calibrated to correspond with the 0 – 10 VDC output voltage swing. If adjustment is necessary see CURRENT OUTPUT CALIBRATION.



**FIGURE 5**



**FIGURE 6**



## CURRENT OUTPUT CALIBRATION

**NOTE:** The 4 – 20 mA output is factory calibrated to correspond with the 0 – 10 VDC output voltage swing. Only use this procedure if the current swing is not acceptable.

1. Perform the procedure for VOLTAGE OUTPUT CALIBRATION.
2. Disconnect the voltmeter from **TP7** and **J2**.
3. Set the voltmeter to Current mode.
4. Connect the voltmeter to position 12 of **J2** (Current Source) and position 11 of **J2** (Current Return) (See Figure 5).
5. Cover the sensor window and adjust **R32** until the voltmeter displays 4.00 mA (See Figure 5 & 6).
6. Uncover the sensor window and adjust **R31** until the voltmeter displays 20.0 mA (See Figure 5).
7. Repeat steps 5 and 6 until output current swing is acceptable.

## SPECIFICATIONS

### TA100B TA110B

<b>Product Number</b>	964414 (Enclosed) 964415 (Chassis)
<b>Input Power</b>	Pre-wired 8 ft. (2.4 m) power cord for 120 VAC, 50/60 Hz.
<b>Sensor Compatibility</b>	One PH16B or UH21
<b>Size</b>	Box (8.25 in. x 6.25 in. x 3.75 in.) with captive cover screws (Add 0.75 in. mounting flange top and bottom). Card (6.75 in. x 5.00 in. x 12.06 in.) includes power supply shield.
<b>Outputs</b>	0 - 10 VDC and 4 - 20 mA
<b>Set-up</b>	Span and Zero adjustment for sensor. Test points provided for set-up. TA100B is factory set for PH16B.

Sensor	Product Number
PH16B	912085
UH21	912621



## 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.

### Limitation of Nexen's Liability

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.

**nexen.**

Nexen Group, Inc.  
560 Oak Grove Parkway  
Vadnais Heights, MN 55127

800.843.7445  
Fax: 651.286.1099  
www.nexengroup.com  
ISO 9001 Certified