HydePark ®
sensing and control solutions

AC441 Handheld Configurator
Operating Instructions
7/16/01
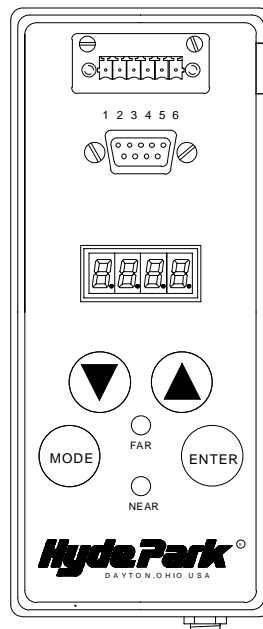
Introduction

With the AC441, you can set the window limits of the SM900/SM906 series sensor, and display distances from SM900/SM906 series sensors. The main purpose of the AC441 is to allow you to adjust the window limits of the SM900/SM906 series sensor when the sensor is mounted in a difficult to reach area, or if the object distance is not capable of being easily moved. With the SUPERPROX+™ software, the AC441 can also be used to configure SC600, SC606, SC900, and SC906 series sensors. The SC sensors are field configurable, while the SM series sensors are not field configurable.

Installation

The AC441 is powered with the included transformer power supply. The U.S. transformer is a wall mounted power supply that plugs into any standard grounded 120 VAC receptacle. The International transformer is a corded power supply that plugs into 100 to 240 VAC with a compatible power cord for the specific country. The AC441 can be mounted to a back panel using the included mounting brackets and #8 screws.

Setup

On power up, the AC441 displays the distance units (1nch or Eur) and then the software version for a 1/2 second, and then displays the last selected model type. Press either the ▲ or ▼ button to select the model that you are using.

Display	Model
900	SM900/SC900 - all non-RS232 SM900s
906	SM906/SC906 - all non-RS232 SM906s
600	For SC600
606	For SC606

Figure 1 - Available Models

If 900 or 906 is displayed, then press and release the `MODE` button to change modes. Each press and release of the `MODE` button advances to the next MODE (*Figure 2*). If 600 or 606 is displayed, then only one mode is available (*Figure 3*).

Mode	7-Segment Display	Near LED	Far LED
Display Distance/Configure	[model] / 9.999, 99.99 or 999.9	on	on
Change Near Limit/Configure	[model] / 9.999, 99.99 or 999.9	on	off
Change Far Limit/Configure	[model] / 9.999, 99.99 or 999.9	off	on

Figure 2 - AC441 SM900/SM906/SC900/SC906 Modes

Mode	7-Segment Display	Near LED	Far LED
Configure SC600/SC606	[model]	off	off

Figure 3 - AC441 SC600/SC606 Configure Mode

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Changing Distance Units: The AC441 can display the sensor distances and limits in either inches or meters. When the AC441 is powered on, the AC441 displays the current distance units (1nch for English, Eur for Metric). To change the distance units, while pressing the `MODE` button apply power to the AC441. The AC441 displays the current distance units. Press and release the ▲ or ▼ button to change the distance units, and then release the `MODE` button. The distance units is saved in non-volatile memory.

English(inches) 1 & 2 meter models, the distances are displayed and limits entered in inches with 2 decimal places (99.99). 8 meter models, the distances are displayed and limits entered in inches with 1 decimal place (999.9).

Metric (meters) Distances are displayed and limits are entered in meters with 3 decimal places (9.999).

Configuring Sensors: Connect your PC serial port to the AC441 using a straight through cable. Run the Hyde Park Configurator configurator program.

SC900 and SC906 Press the ▲ or ▼ button until 900 or 906 is displayed. At the configurator program on PC select PROG and then select the model to program. The configurator on the PC powers up the sensor by setting the RS232 DTR signal to the AC441. While power is applied to the sensor, the decimal points in the display are illuminated. Also, pressing the `ENTER` button toggles the power to the sensor, which can be used if the PC is unable to power up the unit due to inoperable DTR signal.

SC600 and SC606 Press the ▲ or ▼ button until 600 or 606 is displayed. At configurator program on PC select PROG and then select the model to program. When the configurator displays the message "Place sensor face facing under the ...", you apply power to the sensor by pressing the `ENTER` button. While power is applied to the sensor, the decimal points in the display are illuminated.

Display Distance Mode: When selected, the display shows the selected model number and both the far and near LEDs are on. Press the `ENTER` button to power up the sensor and request distances from the sensor. While powering up the sensor, the decimal points are illuminated as an indication power is applied to the sensor. When the sensor is powered up, the AC441 continuously displays the current distance. Press the `ENTER` button to power off the sensor.

Change Near Limit: When selected, the display shows the selected model number, the near LED is on and the far LED is off. Press the `ENTER` button to request the current limits from the sensor. After the limits are received from the sensor, the display shows the near limit. Press the ▲ or ▼ button to change the near limit in the AC441 only. To change the near limit in the sensor, you must press the `ENTER` button. When the `ENTER` button is pressed, the AC441 sends the limits to the sensor, and then displays 'donE' when the near limit has been successfully saved by the sensor. If unsuccessful, the display shows 'Err'. Press the `ENTER` button to erase either the 'Err' or 'donE' display.

Change Far Limit:. When selected the display shows the selected model number, the near LED is off and the far LED is on. Press the `ENTER` button to request the current limits from the sensor. After the limits are received from the sensor, the display shows the far limit. Press the ▲ or ▼ button to change the far limit in the AC441 only. To change the far limit in the sensor, you must press the `ENTER` button. When the `ENTER` button is pressed, the AC441 sends the limits to the sensor, and then displays 'donE' when the near limit has been successfully saved by the sensor. If unsuccessful, the display shows 'Err'. Press the `ENTER` button to erase either the 'Err' or 'donE' display.
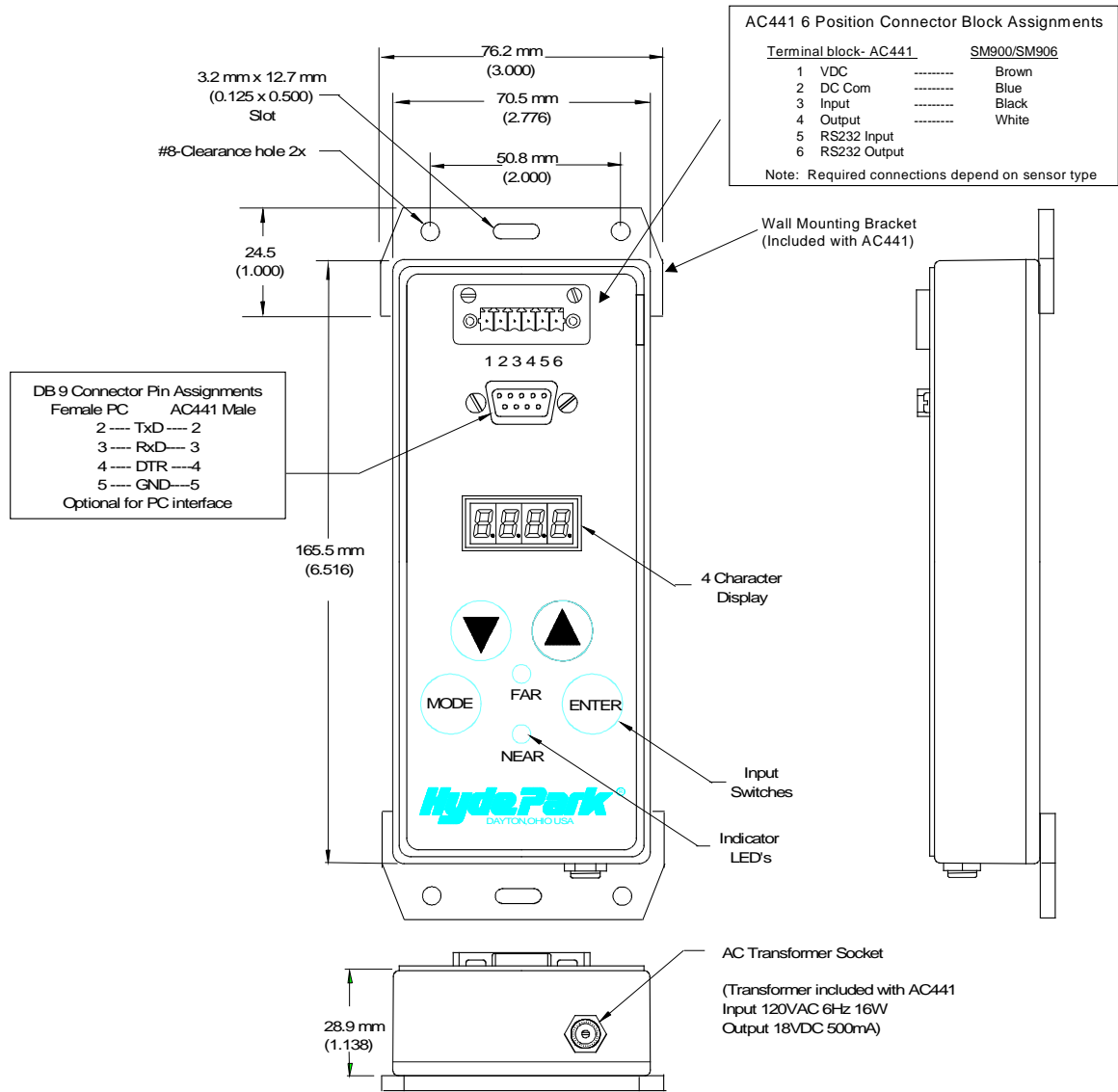
PC Get Distances from SM900 or SM906

When the AC441 is displaying distances. the distance is also being sent to the RS232 serial port. To remotely power up the sensor with the AC441, set the DTR signal high. When powered up, the AC441 uses the last selected model. To select the desired model, press the ▲ or ▼ button until the desired model is displayed. Then, press the `ENTER` button which saves the model number in non-volatile memory.

To reset the AC441, while pressing the `MODE` button, press the `ENTER` button. The display shows all 'rrrr'. Release the buttons, and the AC441 resets.

Wiring and Dimensions

76.2 mm
(3.000)

70.5 mm
(2.776)

50.8 mm
(2.000)

3.2 mm x 12.7 mm
(0.125 x 0.500)
Slot

#8-Clearance hole 2x

24.5
(1.000)

Wall Mounting Bracket
(Included with AC441)

AC441 6 Position Connector Block Assignments

Terminal block- AC441			SM900/SM906
1	VDC	---------	Brown
2	DC Com	---------	Blue
3	Input	---------	Black
4	Output	---------	White
5	RS232 Input		
6	RS232 Output		

Note: Required connections depend on sensor type

1 2 3 4 5 6

DB 9 Connector Pin Assignments
Female PC   AC441 Male
2 ---- TxD ---- 2
3 ---- RxD--- 3
4 ---- DTR ----4
5 ---- GND---5
Optional for PC interface

165.5 mm
(6.516)

4 Character
Display

MODE   FAR   ENTER

NEAR

Input
Switches

Indicator
LED's

HydePark
DAYTON.OHIO USA

AC Transformer Socket

(Transformer included with AC441
Input 120VAC 6Hz 16W
Output 18VDC 500mA)

28.9 mm
(1.138)

Remote limit setup for SM900/SM906 and
Distance Display models
(without RS232 option.)

18VDC Power supply
Wall mount

No connection >>>6
No connection >>>5
WHT >>>4
BLK >>>3
Blu DC Com >>>2
Brn +12 to 24VDC >>>1

1 2 3 4 5 6

ENTER

FAR   NEAR

MODE

4
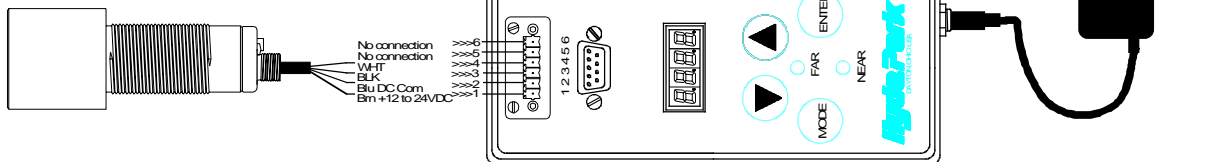
General Specifications

Power Requirements: 18 to 24 volts DC, 175mA max. (includes power supplied to sensor)

Power Connector: 5.5 x 2.1 mm jack center negative

Transformer:

    U.S.   Wall-mounted power supply for 120VAC operation that supplies 18 VDC to AC441. Has 6 foot (1.8m) cable.

    International: Corded power supply that plugs into 100 to 240 VAC with compatible power cord for specific country. It supplies 24 VDC to the AC441.

Other Connections: 6-pin quick disconnect for sensor
DB9 female connector for PC interface

Sensor Mounting Distance: 150 ft. (47m) maximum

Display: 4-digit 7 segment 0.4 inch tall red LED with decimal point

Dimensions: 6.37(152mm) by 2.76(70mm) by 1.15(29mm)

Operating Temperature   0°C to 50°C (32°F to 122°F) @ 10-90% non-condensing humidity. Not suitable for permanent outdoor use.

Ratings and Certifications: CE CE Mark Compliant