

Quick Start Manual



LevelPro® — ProScan®3 Series

Radar Level Sensor (80GHz)

Safety Information

- De-pressurize and vent system prior to installation or removal
- Confirm chemical compatibility before use
- **DO NOT** exceed maximum temperature or pressure specifications
- **ALWAYS** wear safety goggles or face-shield during installation and/or service
- **DO NOT** alter product construction



Warning | Caution | Danger

Indicates a potential hazard. Failure to follow all warnings may lead to equipment damage, or failure, injury, or death.



Hand Tighten Only

Over tightening may permanently damage product threads and lead to failure of the retaining nut.



Note | Technical Notes

Highlights additional information or detailed procedure.



Safety Considerations

The device is designed as a low-voltage, limited-energy circuit, minimizing electrical hazard risk under normal operating conditions.

- Current levels are significantly below typical shock hazard thresholds
- Suitable for use in industrial control environments when installed in accordance with applicable standards
- Designed to integrate with Class 2 / limited-energy power sources where required



Installation & Compliance Notes

- Installation must be performed in accordance with manufacturer instructions and applicable electrical codes
- Proper grounding, wiring practices, and environmental protection must be followed
- Final system design and safety compliance remain the responsibility of the installer or system integrator

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Features

- ✓ Bluetooth Connectivity (30m | 100')
- ✓ Excellent Reliability and Accuracy
- ✓ Not Affected by Vapor or Outgassing
- ✓ RS-485 Communication | 4–20mA
- ✓ Measurement Under Vacuum | High Pressure
- ✓ Unaffected by Temperature Fluctuations
- ✓ NEMA 4X | Suitable for Outdoors

The Future of Non-Contact Level Measurement is Radar Technology!

The **ProScan® 3** 80 GHz high frequency technology permits a significantly more precise transmission signal focus. This makes it easier to distinguish between actual level signals and interference signals, making the measurement more reliable coupled with a higher degree of accuracy. The new **ProScan® 3** series of compact instruments are ideally suited for more complex level applications.

Specifications

Measuring Performance

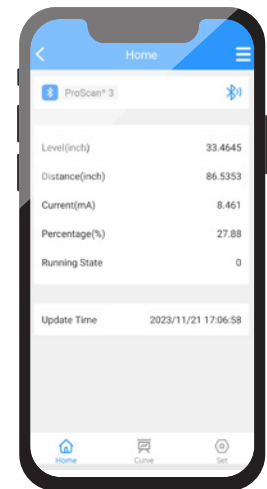
Maximum Range	34 ft (std), 68 ft (special order)
Minimum Range (Blind Area)	50mm (2in)
Bluetooth Range	30m
Resolution	1mm
Azimuth Beam Width (3 dB)	3°
Elevation Beam Width (3 dB)	3°

Operating Conditions

Operating Frequency Band	76 – 81 GHz
Power Supply	18 – 36VDC
Operating Average Current	20mA
Effective Isotropic Radiated	13 dBm
Output	4-20mA RS485
Enclosure Protection	NEMA 4X IP67
Operating Temperature Range	-4°F ~ 158°F -20°C ~ 70°C

Materials

Housing Material	CPVC+PC	316SS
Transducer	PP	



Monitor Your
ProScan® 3 with
the Free App



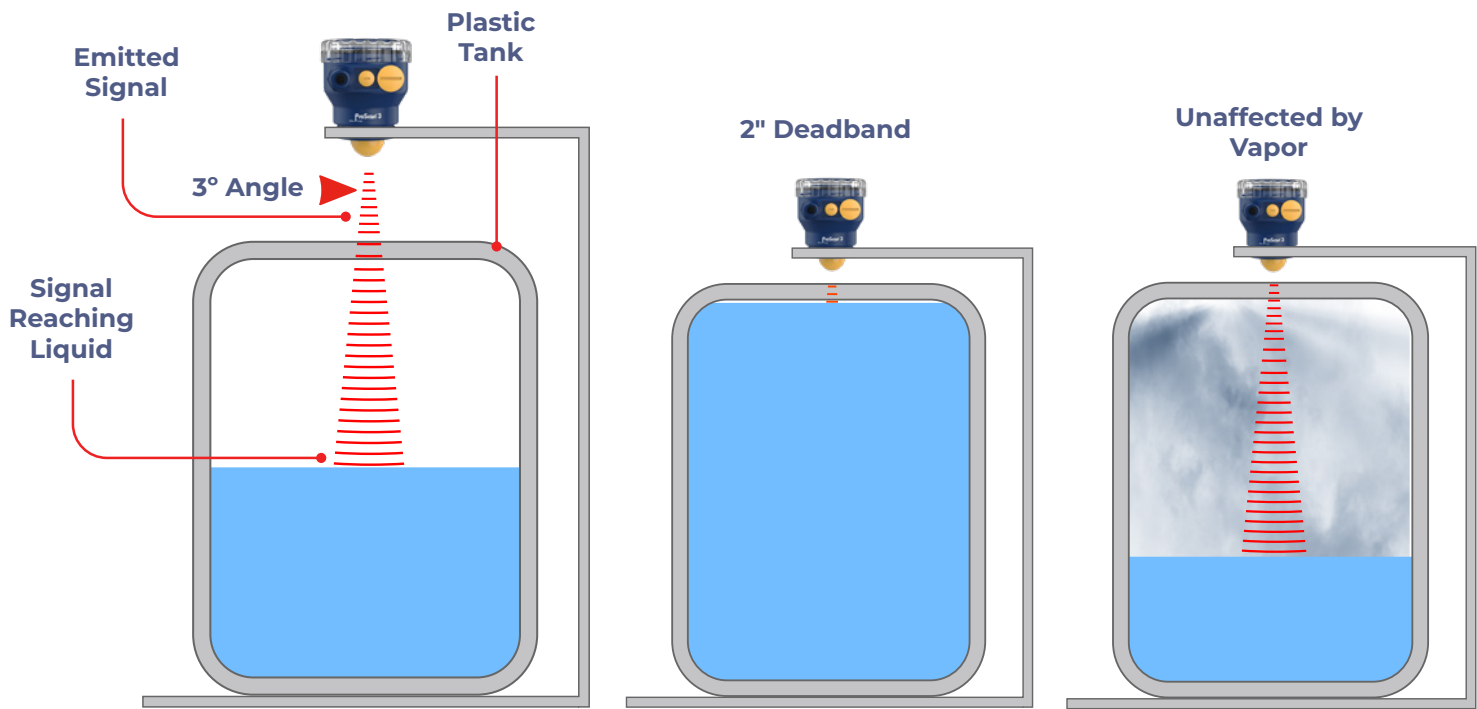
Scan the above QR codes
to download the app

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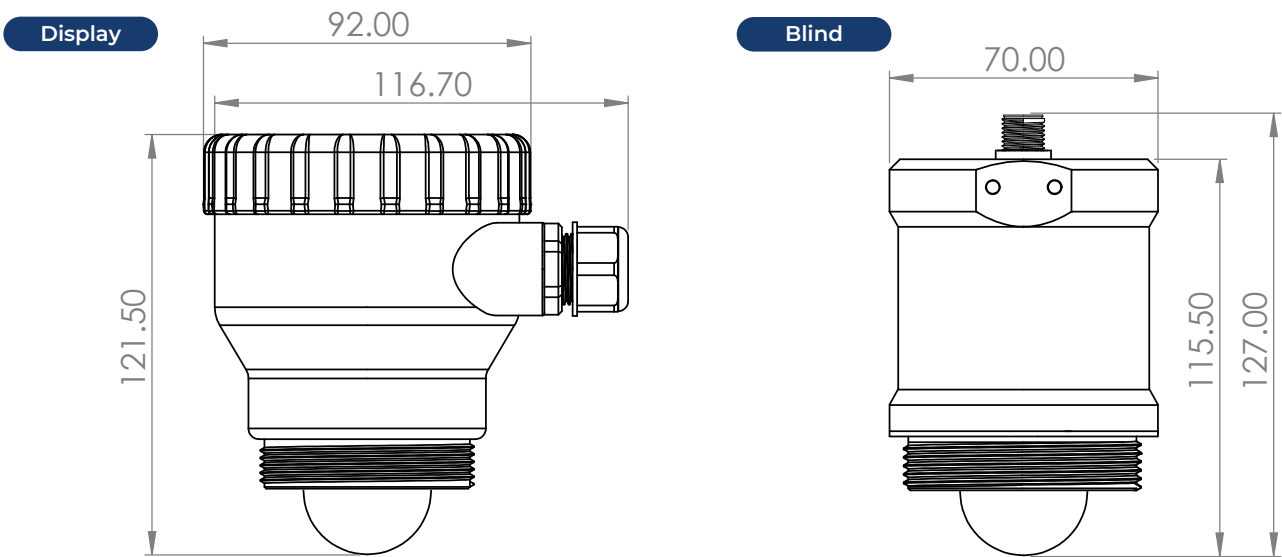
Radar Level Sensor (80GHz)

Operating Principle

The **ProScan® 3** (80GHz) radar is a transmitter for continuous level measurements using fast sweep Frequency Modulated Continuous Wave (FMCW) technology. The transducer of radar continuously emits signal sweeps with a constant frequency towards the liquid surface. The reflected signal is then captured by the transducer. The time to send and receive is known as the time of flight.



Dimensions



LevelPro® — ProScan®3 Series

Radar Level Sensor (80GHz)

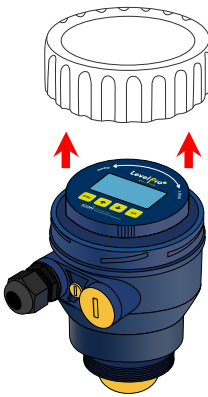
Wiring – PS38000

01



Rotate the lid counterclockwise and lift it off.

02

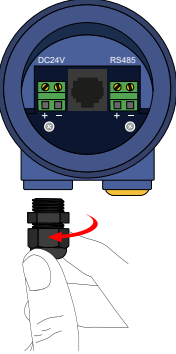


03



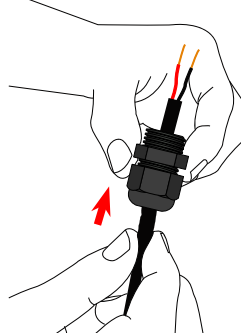
Turn the display counterclockwise and carefully remove it.

04



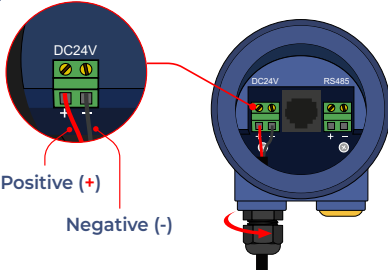
Unscrew and detach the cable grip from the sensor housing.

05



Feed the wire through the cable grip, ensuring a secure fit.

06



⚠ Loop Powered | 24VDC

DC24V RS485

Positive (+)

Negative (-)

Connect the positive and negative wires to their respective terminals. Tighten the cable grip to hold the wire firmly in place.

Wiring – PS38000S

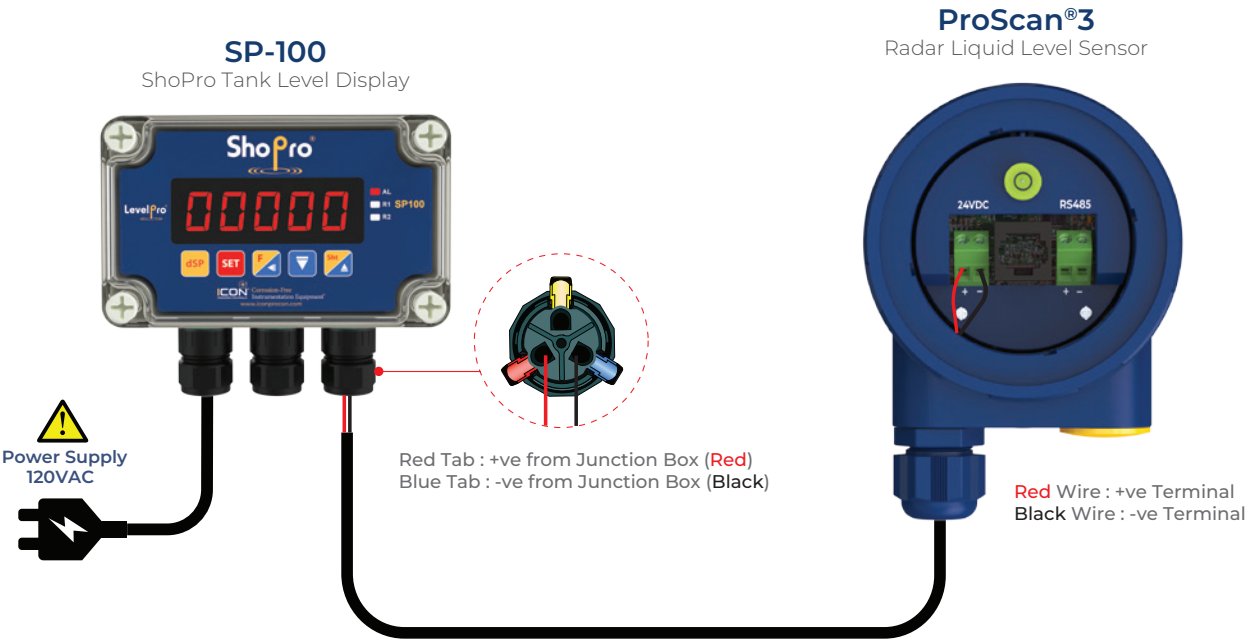
M12 Wiring (For SS Model)		
Pin	Color	Description
Pin 1	Brown	+VDC +mA
Pin 2	White	RS485A
Pin 3	Blue	-VDC -mA
Pin 4	Black	RS485B



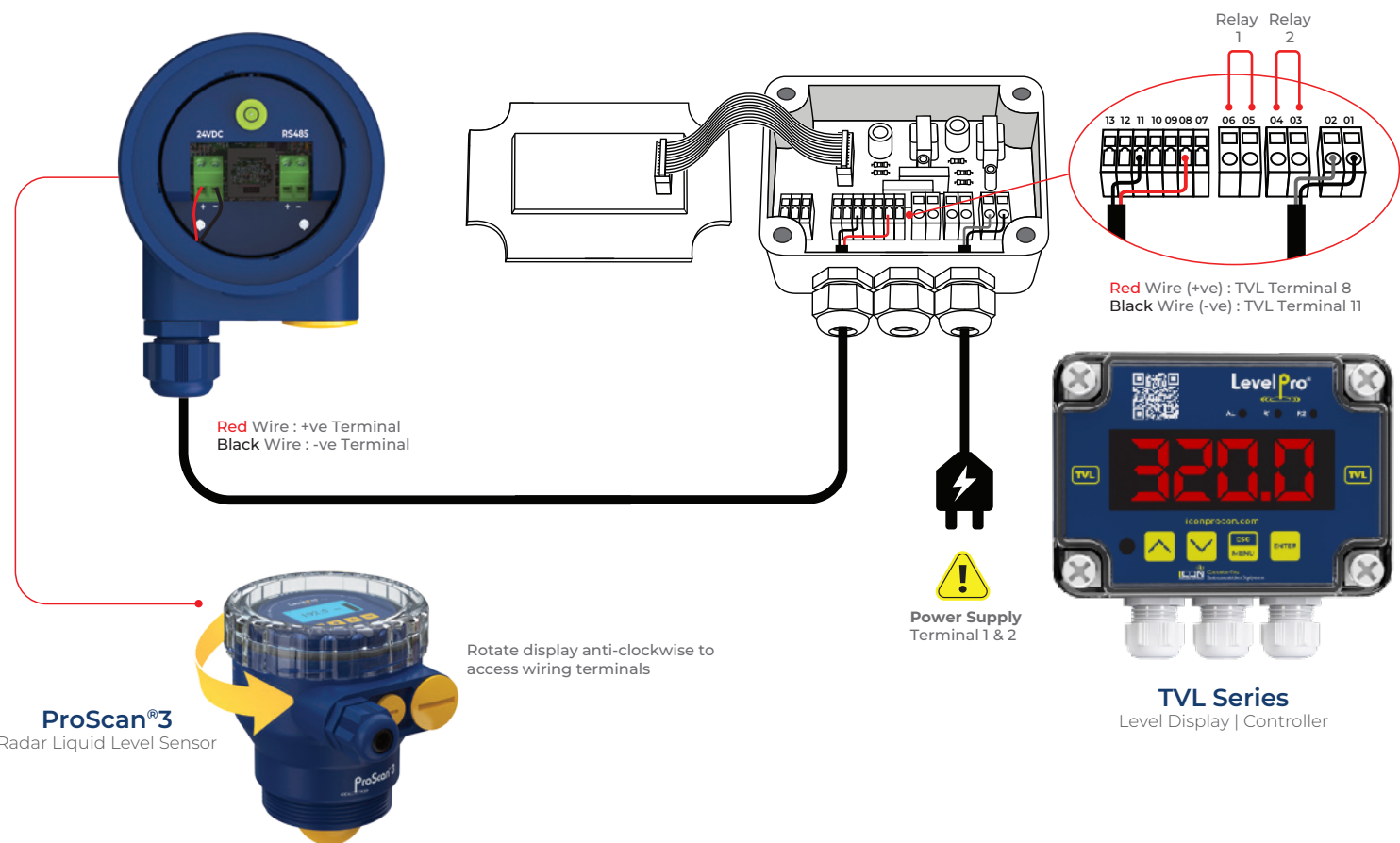
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Radar Level Sensor (80GHz)

Wiring – ProScan®3 | ShoPro® Liquid Level Display



Wiring – ProScan®3 | TVL Liquid Level Display

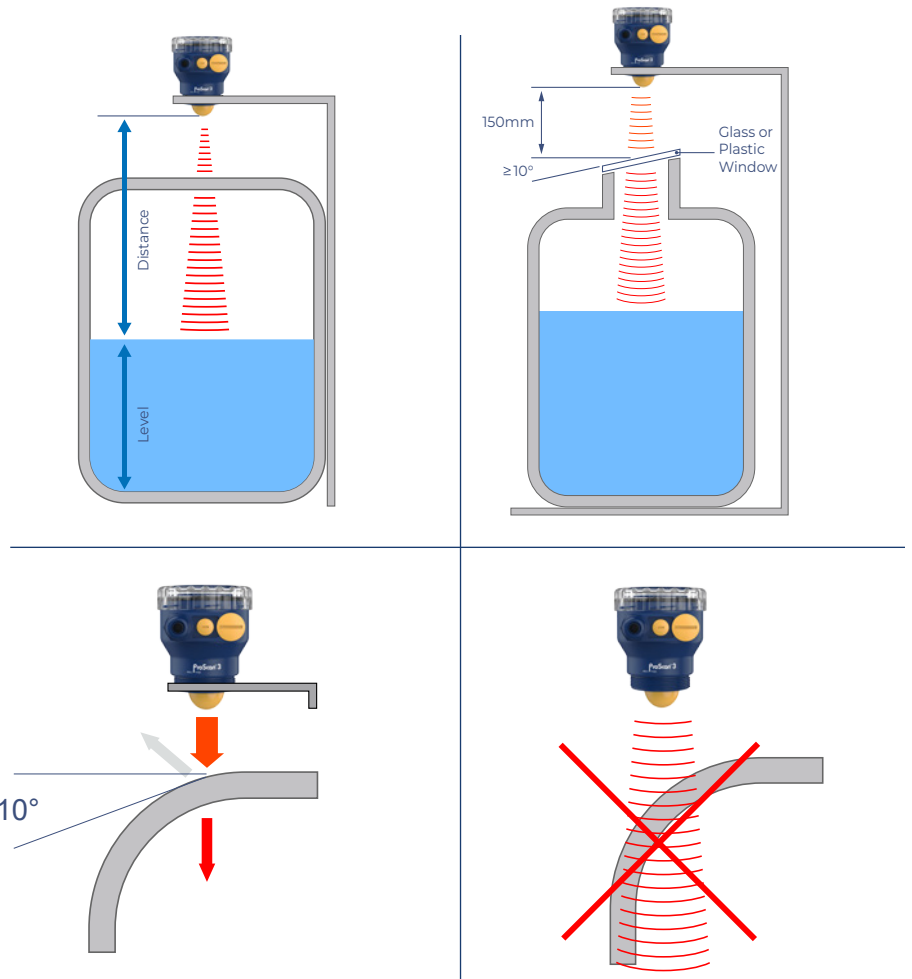


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Radar Level Sensor (80GHz)

Sensor Positioning

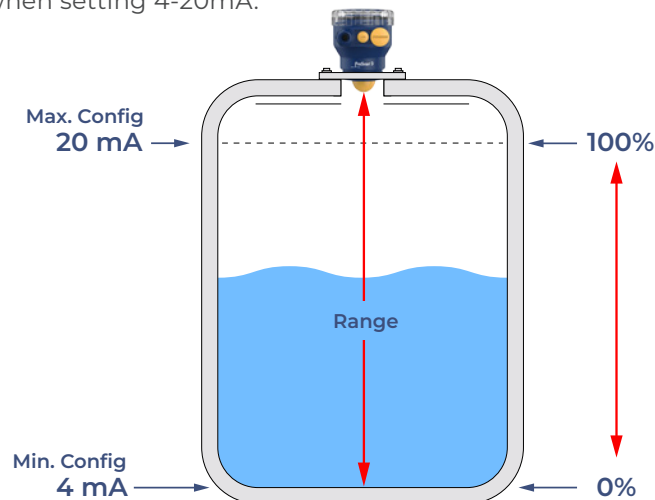
- For plastic or FRP tanks, ensure the sensor is positioned away from the sidewall.
- Avoid placing the sensor near metallic objects outside the tank that could interfere with detection.
- Ensure the radar signal strikes the liquid surface at a 90° angle.
- Use the inbuilt bubble level to confirm the sensor is vertical.
- Account for the dead band during installation.



Measurement

Accurate tank measurement is essential for configuring the sensor. When measuring, consider the sensor's position relative to fittings, risers, dome tops, and bottoms. Identify the reference point from which measurements are taken.

- **Range:** The total distance from the sensor tip to the lowest liquid level.
- **Minimum Configuration (4mA):** The distance from the sensor tip to the empty level.
- **Maximum Configuration (20mA):** The distance from the sensor tip to the highest liquid or full level.
- Always consider blind spot (2") when setting 4-20mA.



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Error Codes

Code	Description
E01	Liquid level not detected
E02	Liquid level changing too fast
E04	Internal capacitor issue
E08	Actual liquid level doesn't match 4–20 mA range
E40	Display communication error

Keypad Functions



Key	Function
	- Exit Programming Mode - Return to Previous Screen - Display Echo Curve
	- Edit Digits - Select Display Mode
	- Edit Digits - Select Display Mode
	- Access Main Menu - Confirm Edit

Factory Reset Password : (Dynamic Code x 2) + 1
Eg: If Dynamic Code is 12. Password will be 25

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Radar Level Sensor (80GHz)

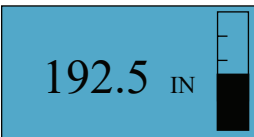
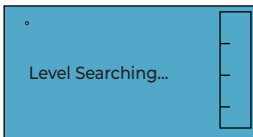
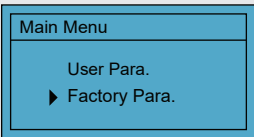
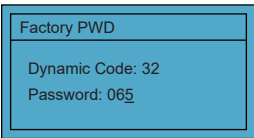
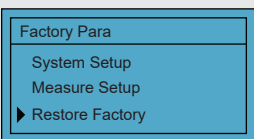
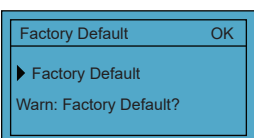
Programming 4-20mA

STEPS	DISPLAY	OPERATION
Home Screen OK	192.5 IN	Home Screen * Approx. 30 secs for the level reading to display
1 Main Menu OK	Main Menu ► User Para. Factory Para.	STEP 1 Select User Parameter ► Press
2 User Parameters OK	User Para. ► Basic Setup Measure Setup Backup Para.	STEP 2 Select Basic Setup ► Press
3 4-20mA Settings OK Enter 4mA & 20mA OK Navigate to Range Settings	Basic Setup Pos 4ma: 0 mm ► Pos 20ma: 3000 mm Blind: 50 mm	STEP 3 Set 4mA ► Press • 4mA : Low Level Default = 0 Set 20mA ► Press • 20mA : High Level Should be lower than Range Note: ■ Use to move cursor. ■ Use to change digits.
4 Range Settings ESC x 3 Back to Home Screen	Basic Setup ► Range : 5000 mm Offset : 10 mm Pos 4ma: 0 mm	STEP 4 Set Range ► Press • Range : Distance from Sensor Tip to Bottom of Tank. Note: ■ Use to move cursor. ■ Use to change digits.

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Factory Reset

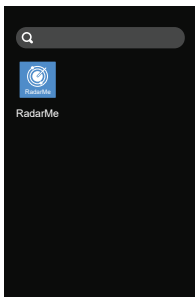
STEPS	DISPLAY	OPERATION
Home Screen  		Home Screen * Approx. 30 secs for the level reading to display 
1 Main Menu   		STEP 1 Select Factory Parameter ► Press 
2 Password  		STEP 2 Enter Password ► Press  Note:  to move cursor.  to change digits. • Password : (Dynamic Code x 2) + 1  Cursor
3 Factory Parameters   		STEP 3 Select Restore Factory ► Press 
4 Factory Reset   x 3 to go back to Home Screen		STEP 4 Select Factory Default ► Press  • Note : The display will show 'OK' after the reset is completed successfully.

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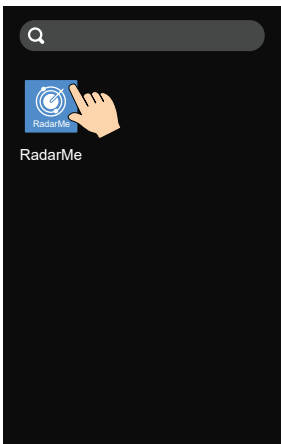
Radar Level Sensor (80GHz)

Bluetooth Application Settings

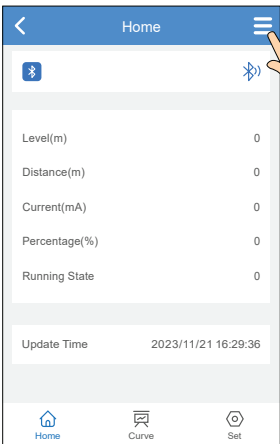
Install RadarMe App in your Device



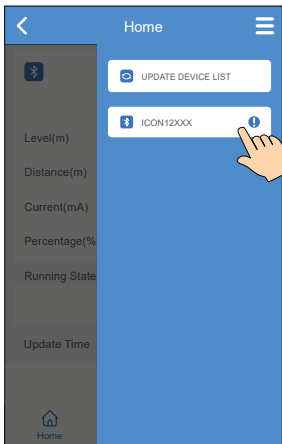
Make sure your Device Bluetooth is ON



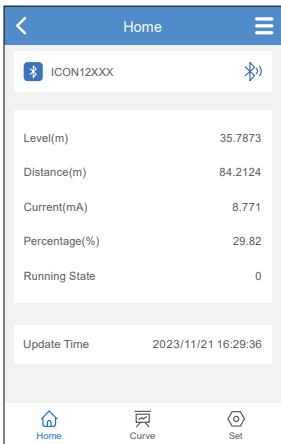
Open RadarMe App
in the Device



Click
Device List Menu

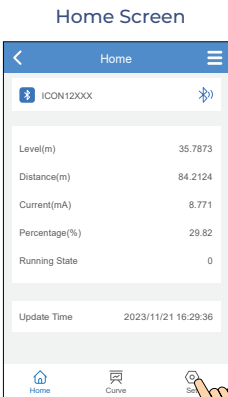


Select **ICON12XXX** from the List
Enter Password: 123456

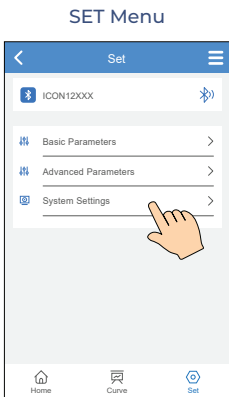


ProScan3 Connected

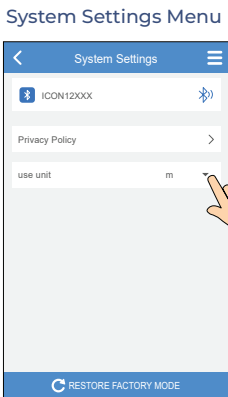
Setting Display Unit



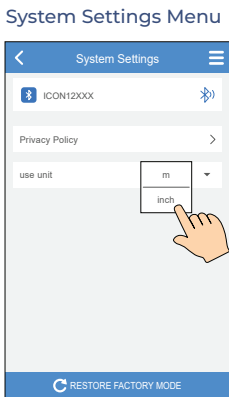
Click **Set** Button



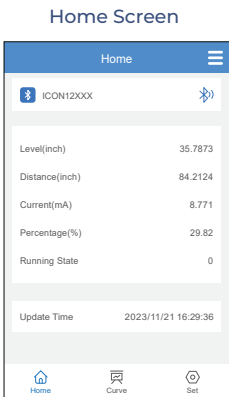
Select **System** Settings



Click **Unit** Drop
Down Arrow



Select Unit (**m | inch**)

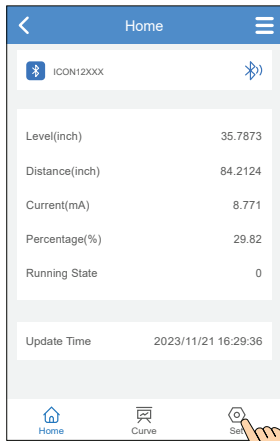


Unit Changed
Successfully!

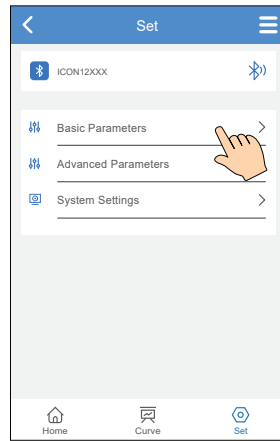
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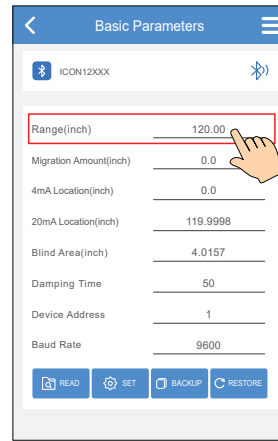
Setting Range



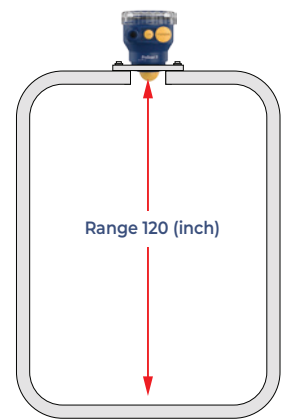
Click Set Button



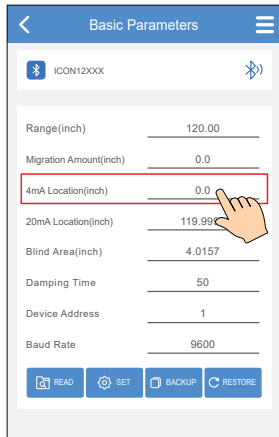
Select Basic Parameters



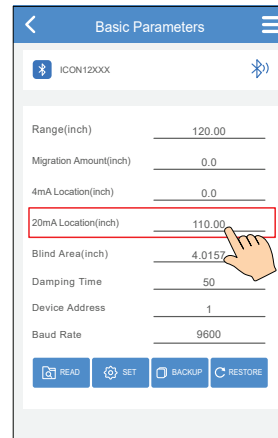
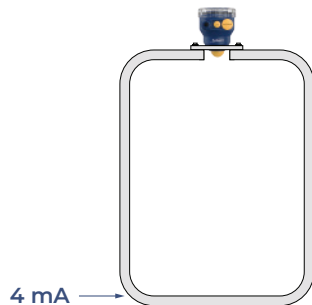
Set **Range** Value
E.g. Range Value = 120 (inch)



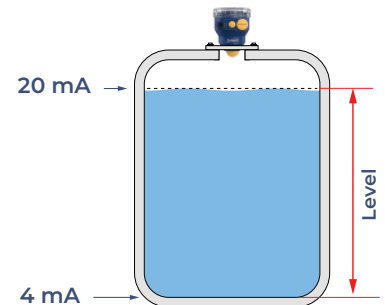
Setting Level



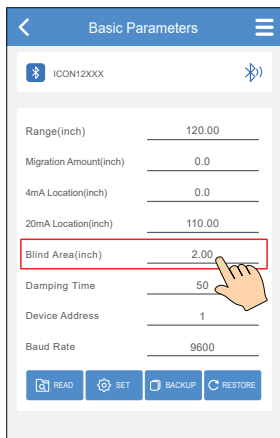
Set **4mA** Location
4mA (Low Level) = 0



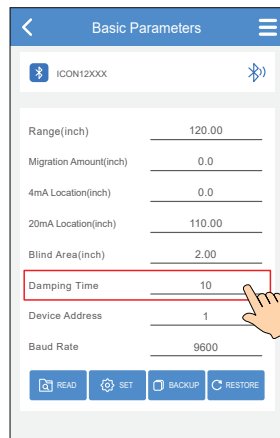
Set **20mA** Location
20mA (High Level) = 110(inch)



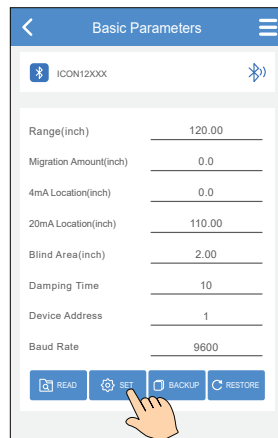
Setting Parameters



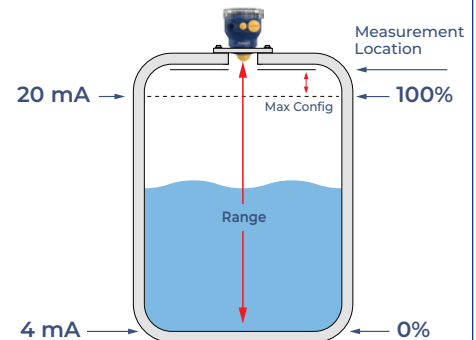
Set **Blind Area**
E.g. Blind Area = 2.00(Inch)



Set **Damping Time**
E.g. Damping Time = 10(sec)

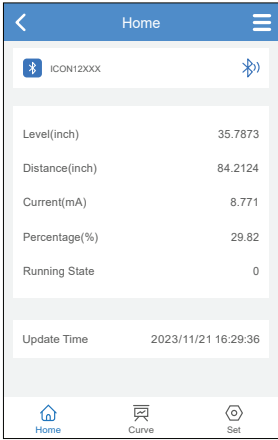
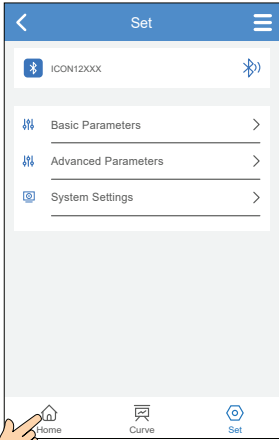
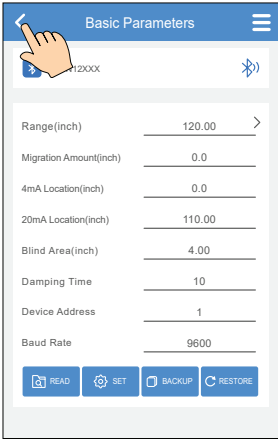


Click Set Button to
Save the Parameters



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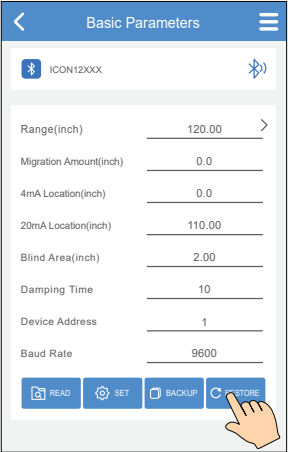
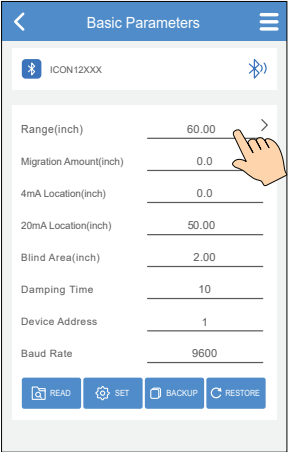
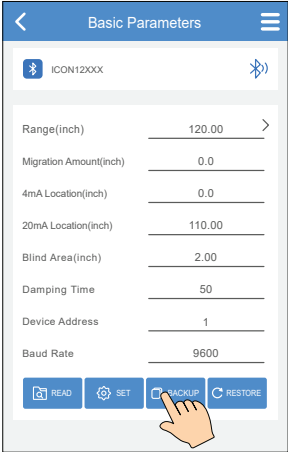
Back to Setting Menu

Click Home Button to Show Home Screen



Bluetooth Settings
Video Tutorial

Parameter Backup



Select Backup

Saves the device's current configuration. Only one backup is stored at a time.

Adjust Settings

You can now set any parameters you want. Your saved backup remains unchanged.

Select Restore

Reverts the device to the previously saved configuration, replacing the current values.

Model Selection

ProScan® 3 — Radar Level Transmitter					
Connection	Part Number	Material	Display	Output	Range
2" NPT	PS38000	CPVC	LCD	4-20mA Loop RS485	0-10m
2" NPT	PS38000S	316SS	Blind	4-20mA Loop RS485	0-10m
2" NPT	PS38000RT	CPVC	Blind	4-20mA	0-10m
2" NPT	PS38000RT-R	CPVC	Blind	RS485	0-10m
2" NPT	LB75 Tank Top Mounting Bracket	PVC	-	-	-
2" NPT	LB50 Wall Mount Bracket	GFPP	-	-	-
2" NPT	SBF Self Aligning Bulkhead	PVC	-	-	-
Clamp	LB80S SS Mounting Bracket	316SS	-	-	-

Add Suffix "-20" for 20m Range

Warranty, Returns and Limitations

Warranty

Icon Process Controls Ltd warrants to the original purchaser of its products that such products will be free from defects in material and workmanship under normal use and service in accordance with instructions furnished by **Icon Process Controls Ltd** for a period of one year from the date of sale of such products. **Icon Process Controls Ltd** obligation under this warranty is solely and exclusively limited to the repair or replacement, at Icon Process Controls Ltd option, of the products or components, which **Icon Process Controls Ltd** examination determines to its satisfaction to be defective in material or workmanship within the warranty period. **Icon Process Controls Ltd** must be notified pursuant to the instructions below of any claim under this warranty within thirty (30) days of any claimed lack of conformity of the product. Any product repaired under this warranty will be warranted only for the remainder of the original warranty period. Any product provided as a replacement under this warranty will be warranted for the one year from the date of replacement.

Returns

Products cannot be returned to **Icon Process Controls Ltd** without prior authorization. To return a product that is thought to be defective, go to www.iconprocon.com, and submit a customer return (MRA) request form and follow the instructions therein. All warranty and non-warranty product returns to **Icon Process Controls Ltd** must be shipped prepaid and insured. **Icon Process Controls Ltd** will not be responsible for any products lost or damaged in shipment.

Limitations

This warranty does not apply to products which: 1) are beyond the warranty period or are products for which the original purchaser does not follow the warranty procedures outlined above; 2) have been subjected to electrical, mechanical or chemical damage due to improper, accidental or negligent use; 3) have been modified or altered; 4) anyone other than service personnel authorized by **Icon Process Controls Ltd** have attempted to repair; 5) have been involved in accidents or natural disasters; or 6) are damaged during return shipment to **Icon Process Controls Ltd** reserves the right to unilaterally waive this warranty and dispose of any product returned to **Icon Process Controls Ltd** where: 1) there is evidence of a potentially hazardous material present with the product; or 2) the product has remained unclaimed at **Icon Process Controls Ltd** for more than 30 days after **Icon Process Controls Ltd** has dutifully requested disposition. This warranty contains the sole express warranty made by **Icon Process Controls Ltd** in connection with its products. **ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY DISCLAIMED.** The remedies of repair or replacement as stated above are the exclusive remedies for the breach of this warranty. **IN NO EVENT SHALL Icon Process Controls Ltd BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING PERSONAL OR REAL PROPERTY OR FOR INJURY TO ANY PERSON. THIS WARRANTY CONSTITUTES THE FINAL, COMPLETE AND EXCLUSIVE STATEMENT OF WARRANTY TERMS AND NO PERSON IS AUTHORIZED TO MAKE ANY OTHER WARRANTIES OR REPRESENTATIONS ON BEHALF OF Icon Process Controls Ltd.** This warranty will be interpreted pursuant to the laws of the province of Ontario, Canada.

If any portion of this warranty is held to be invalid or unenforceable for any reason, such finding will not invalidate any other provision of this warranty.

For additional product documentation and technical support visit:

www.iconprocon.com | e-mail: sales@iconprocon.com or support@iconprocon.com | Ph: 905.469.9283