

A Higher Level of Performance



Data Sheet

Senator S60W Radar Series

Liquid Level Measurement



For more information, please visit >
www.hawkmeasurement.com

Overview

Senator S60W Radar Series



Overview

Offering a unique blend of compact design and efficiency, the Senator S60W is a radar level transmitter ideal for continuous liquid level measurement. It guarantees value without compromising quality and ease of operation. With its flexible mounting options, high chemical compatibility, and a 20m (65ft) measuring range, the Senator S60W is versatile enough to meet the demands of diverse industrial applications. Simple commissioning via Bluetooth HAWKBTConnect App (Android & iOS) plus a 4-20mA output with HART and Modbus.

The Compact Modbus version system is designed for ultra low power RTU & remote telemetry with remotely scheduled measurement intervals suitable for isolated installations.

Principle of Operation

The Senator S60W transmits a radar pulse at the speed of light, bouncing off the surface of the measured liquid. Proprietary software then analyzes the returned signal, enhancing the accurate reflection while eliminating any false ones.

Primary Areas of Application

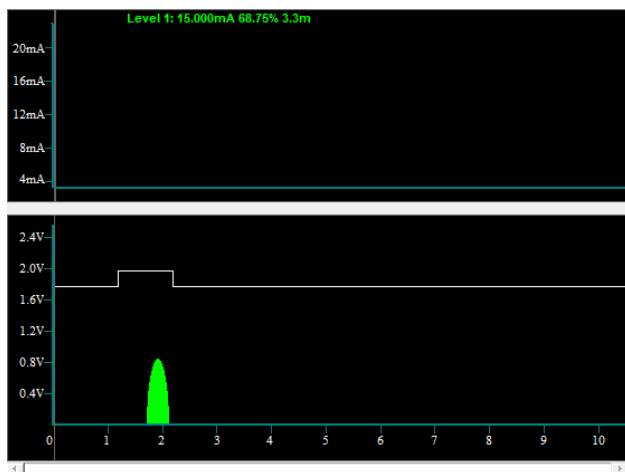
Liquid Level:

- River level
- Wet wells
- Inlet screens
- Tanks
- Sumps
- Pump stations
- Water towers
- Dams
- Basin levels
- Chemical storage

Model Types

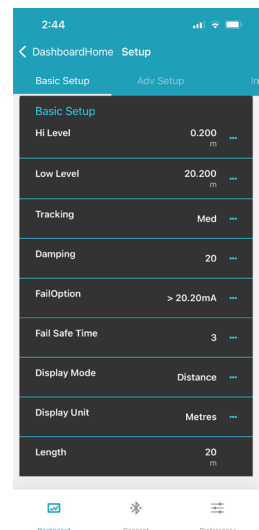
- S60W Integral version with keypad, display & Bluetooth
- S60W Compact version with Bluetooth

Simple Commissioning via GoshawkII & Bluetooth App or Keypad



Status:	Normal
Dist(m):	1.700
C-Dist(m):	1.699
E-Dist(m):	1.699
Size:	0.86
Gain(%):	52.3
Recov(%):	0.0
Temp:	30.7
Confirm:	20
Hold:	4
WinFw(m):	1.199
WinBk(m):	2.199
EndFound(m):	0.000
EndSize:	0.00
VarSen(%):	82.14%

Quick Start Menu	
High Level(m):	0.200
Low Level(m):	20.200
Tracking:	Med
Damping:	20
Fail Safe:	> 20.20mA
Fail Safe Time:	3
Display Mode:	Distance
Display Unit:	Metres

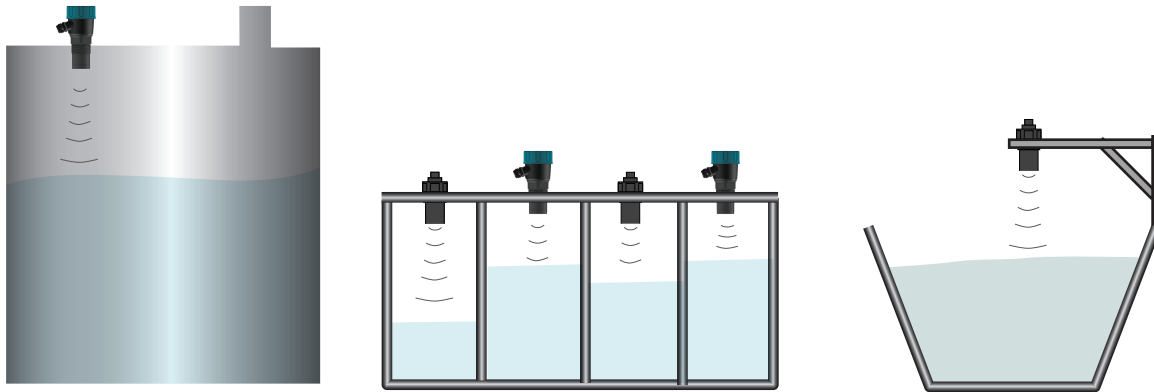


Features

- 4-20mA HART with Modbus output
- Ultra low power Modbus version (5VDC)
- Bluetooth with HAWKBTConnect App
- Maximum range to 20m (65ft)
- Ingress protection class IP67
- 2" BSPT or NPT with 1" Nipple mount

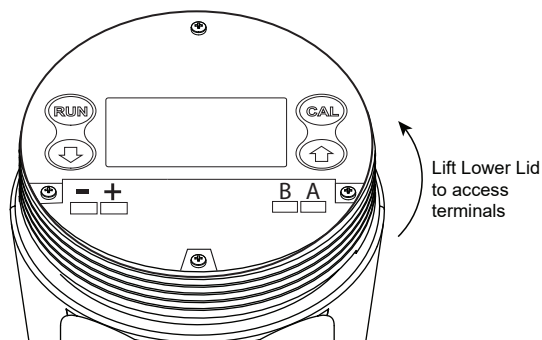


Liquid Level Measurement

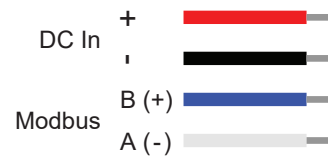


Wiring

Integral

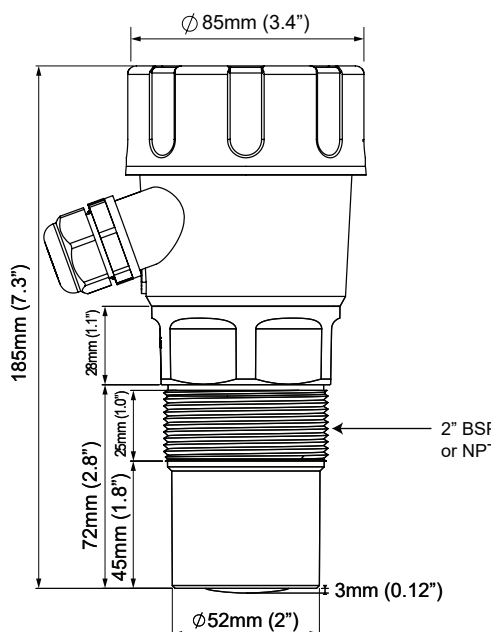


Compact

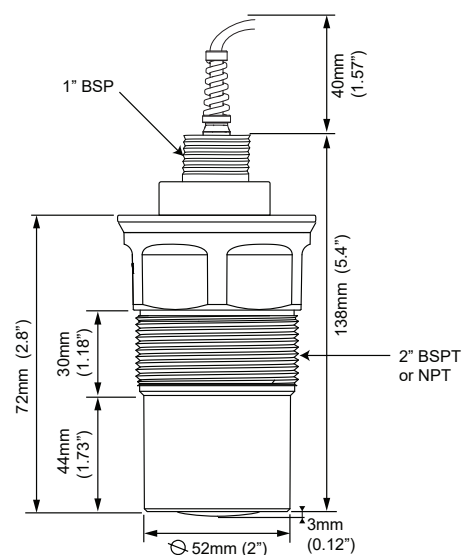


Dimensions

Integral



Compact



Part Numbering

Senator S60W Radar Series



Part Numbering

Integral Version

Model

S60W Senator Radar



Version

H Standard

Variant

SB Integral / Keypad & Display, Bluetooth

SX Integral / Keypad & Display

Maximum Range

06 6m (19.7ft)

12 12m (39.4ft)

20 20m (65.6ft)

Housing / Cable Entry

AM Powder coating aluminium / M20 x 1.5

Approval

XX Not Required

Standard

XX Not Required

Output

H 4-20mA HART, Modbus

Mounting

TB20 2" BSPT

TN20 2" NPT

Cable Length

XXX Not Required

Accessory

X Not Required

Addition

X Not Required

S60W H SB 20 AM XX XX H TN20 XXX X X

Part Numbering

Senator S60W Radar Series



Part Numbering

Compact Version

Model

S60W Senator Radar



Version

H Standard

Variant

CB Compact / No keypad or display with Bluetooth

Maximum Range

06 6m (19.7ft)

12 12m (39.4ft)

20 20m (65.6ft)

Housing / Cable Entry

PX PVDF / None

Approval

XX Not Required

Standard

XX Not Required

Output

H 4-20mA HART, Modbus

M Modbus (Lower power version)

Mounting

TB20 2" BSPT

TN20 2" NPT

Cable Length

C06 6m (19.7ft)

C15 15m (49.2ft)

C30 30m (98.4ft)

C50 50m (164ft)

Accessory

X Not Required

Addition

X Not Required

S60W H CX 20 PX XX XX M TN20 C06 X X

Specifications

Senator S60W Radar Series



Frequency

- 60 GHz

Operating Voltage

- 4-20mA Versions: 24VDC (14 to 28 VDC), 14V @ 00hm 19V @ 250Ohm
- Compact Modbus Version: 5 - 30VDC at the terminal
- Residual ripple no greater than 100mV

Power Consumption

- 4-20mA Versions
- <500mW@ 24VDC

Compact Modbus Version

- Average <75mW
- Peak During Measurement
- Bluetooth Enabled: 300mW
 - Bluetooth Disabled: 250mW
- Idle Power
- Bluetooth Enabled 25mW
 - Bluetooth Disabled 17mW

Communications

- HART (generic)
- Modbus
- HAWKBTConnect App (Bluetooth), iOS & Android
- GoshawkII via HART or Modbus
- HawkEye365 via Hawklink IoT

Bluetooth Range

- Compact
 - Line of sight: 25m
 - No line of sight: 10m
- Integral
- 10m

Blanking Distance

- 200 mm (7.9")

Maximum Range

- 20m (65ft)

Resolution

- 1 mm (0.04")

Accuracy

- +/- 2mm (0.08")

Startup Time

- 4-20mA Versions: <35 seconds
- Compact Modbus Version: <5 seconds

Response Time

- <1 second

Sample Rate

- <1 second

Memory

- Non-volatile

Operating Temperature

- -40°C to +80°C (-40 to +176°F)

Beam Angle

- 10°

Enclosure Material

- PVDF

Enclosure Sealing

- IP67

Mounting

- 2" BSPT Thread
- 2" NPT Thread

Typical Weight

- Integral: 1kg (2.2lb)
- Compact: 0.3kg (0.66lb)

Cable (Compact version)

- 4 core shielded
- 6m (19.7ft), 15m (49.2ft), 30m (98.4ft), 50m (164ft)

Hawk Measurement Systems (Head Office)

15 - 17 Maurice Court
Nunawading VIC 3131, AUSTRALIA
Phone: +61 3 9873 4750
Fax: +61 3 9873 4538
info@hawk.com.au

For more information and global representatives: www.hawkmeasurement.com

Additional product warranty and application guarantees upon request.
Technical data subject to change without notice.

Hawk Measurement

5010 Gateway Drive, Medina, OH 44256, USA
Phone: +1 888 HAWKLEVEL (1-888-429-5538)
Phone: +1 978 304 3000 / +1 877-356-5463
Fax: +1 978 304 1462 / +1 330-331-7172
info@hawkmeasurement.com

Represented by:

