A higher level of performance

Data Sheet

SULTAN

Acoustic Wave Series

- Level, Flow, Positioning, Collision Protection -

Principle of Operations

The SULTAN 234 emits a high powered **acoustic wave** transmit pulse which is reflected from the surface of the material being measured. The reflected signal is processed using specially developed software to enhance the correct signal and reject false or spurious echoes.

The transmission of high powered acoustic waves ensures minimal losses through the environment where the sensor is located. Due to the high powered emitted pulse, any losses have far less effect than would be experienced by traditional ultrasonic devices. More energy is transmitted hence more energy is returned. Advanced receiver circuitry is designed to identify and monitor low level return signals even when noise levels are high. The measured signal is temperature compensated to provide maximum accuracy to the outputs and display.

Primary Areas of Applications

• **Waste water/water:**
River level, wet wells, inlet screens, tanks, sumps, pump stations, water towers, dams, basin levels, chemical storage, etc.
• **Mining:**
Crushers, surge bins, ore passes, conveyor profile, blocked chute, stockpile, stackers, reclaimers, storage silos etc.
• **Power Stations:**Boiler bunkers, raw coal bunkers, ash pits, fly ash silos, etc.
• **Others:**
Food, Cement, Plastics, Grain, Chemicals, Paper, Irrigation, Quarries

Function

The Sultan 234 is a non intrusive acoustic wave transmitter with flexibility, used for measuring level of liquids, slurries and solids.

Universal Supply

2 Wire Loop Powered
3 Wire DC
4 Wire AC/DC

Certifications

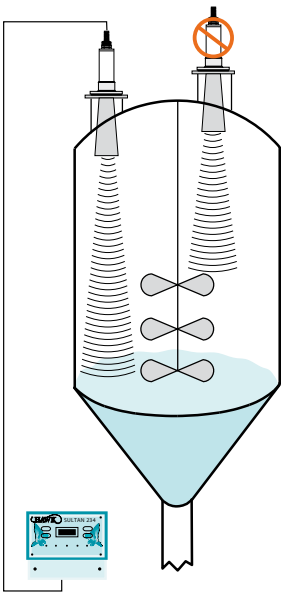
ATEX, SAA/IECEx, CE, CSA (FM pending)

Features:

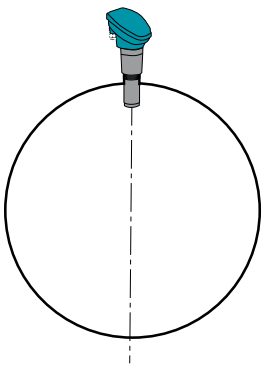
- Non contact measurement
- High Power even with two wire loop supply
- Low cost per point
- Wide range of communications: DeviceNet, GosHawk, HART, Modbus, Profibus DP, Foundation Fieldbus & Profibus PA
- Pump Control x5 pumps
- Auto compensation for dust, steam and losses
- Protection class IP67, NEMA 4x (IP68 Transducer)
- Programmable fail safe mode
- High temp applications on request
- GSM/CMDA remote setup options/config
- Differential and average level control (2 transducers)

Typical Applications

Conical Shape Vessels

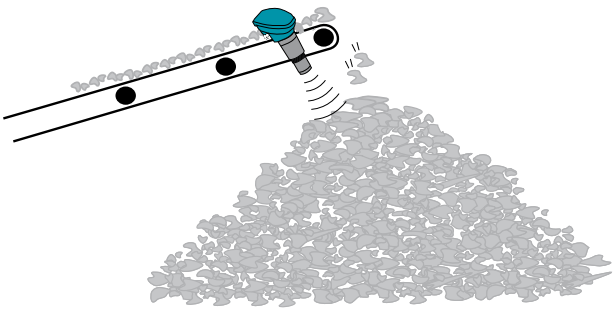


Horizontal Cylindrical/Ball Tanks



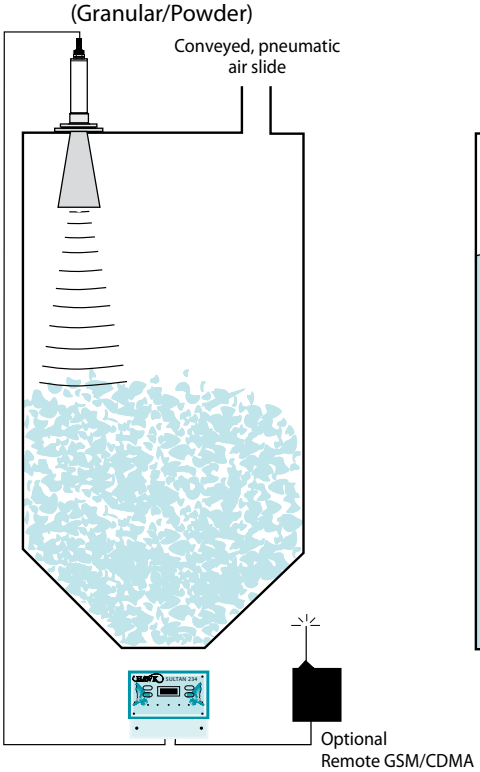
Sultan Acoustic Wave Transmitter

Stockpiles, Stackers,
Reclaimers



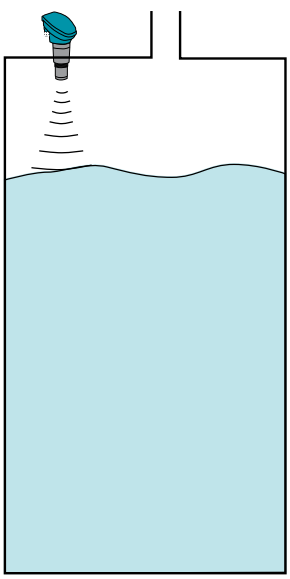
Solids Vessels

High/Low/Continous level
(Granular/Powder)



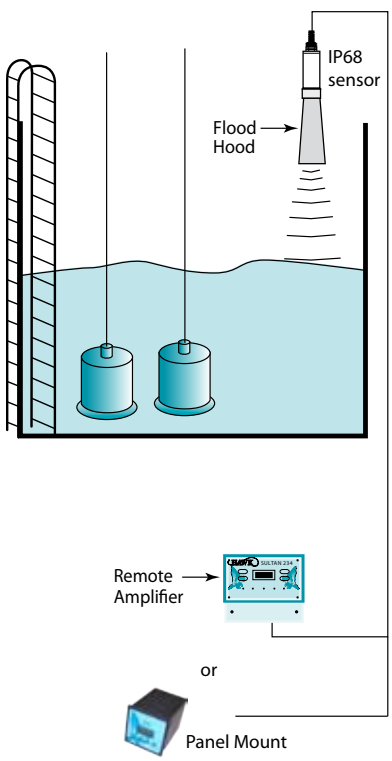
Storage Tanks

High/Low/Continous level
(Liquid/Chemical)



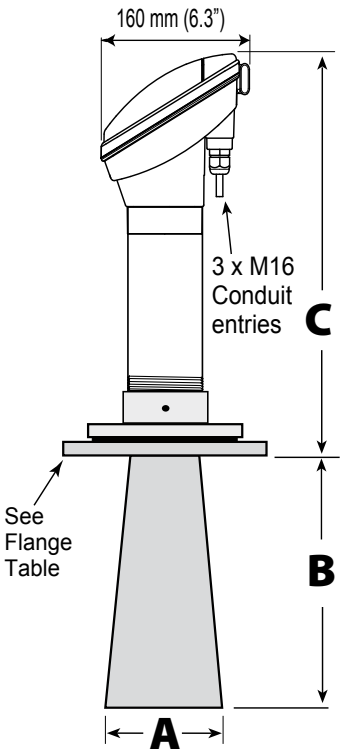
Sewage Wet Well

High/Low/Continous level
Up to 5 Pumps

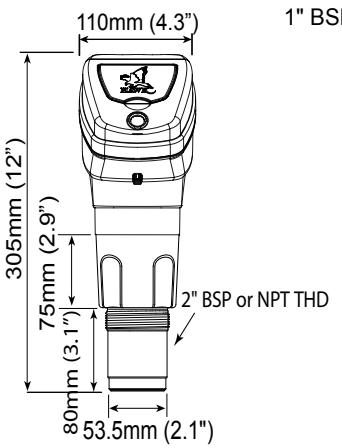


INTEGRAL UNITS

Standard Flanged Type

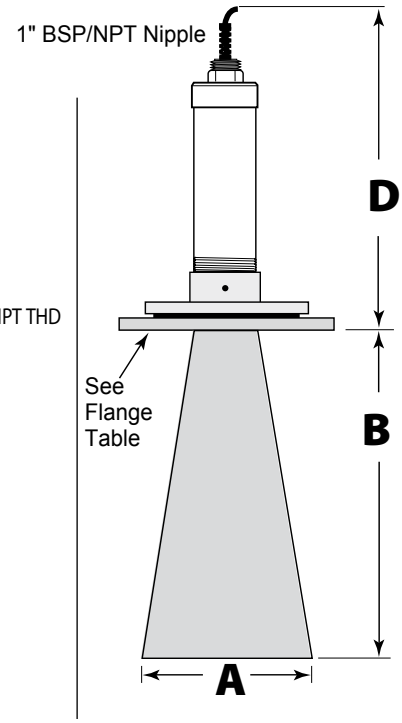


Compact Type
(2"BSP/NPT)

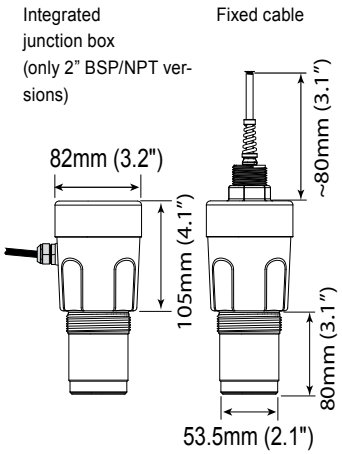


SMART UNITS AND REMOTE TRANSDUCERS

Standard Flanged Type



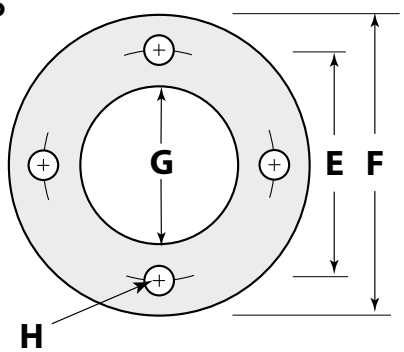
Compact Type
(2"BSP/NPT)



Cone / Transducer Dimensions Table								
Sensor Frequency	Selected Flange	A mm	A in	B mm	B in	C mm	C in	D mm	D in
5 kHz	10"	236	10.0	455	17.9	840	33.1	750	29.5
10 kHz	10" 8"	236 195	10.0 8.0	455 280	17.9 11.1	540 540	21.3 21.3	450 450	17.7 17.7
15 kHz	10" 8"	236 195	10.0 8.0	455 280	17.9 11.0	440 440	17.3 17.3	350 350	13.8 13.8
20/30 kHz	4"	98.5	4.0	280	11.0	390	15.4	300	11.8
30/40/50 kHz	4"	98.5	4.0	280	11.0	350	3.8	260	10.2

All cones must protrude into the main volume of the vessel by at least 50 mm (2 inches) past the lower end of the mounting nozzle.

FLANGES



FLANGE TYPE:
A = ANSI Flange
J = JIS Flange
D = DIN Flange

STANDARD ANSI/DIN/JIS FLANGE DIMENSIONS

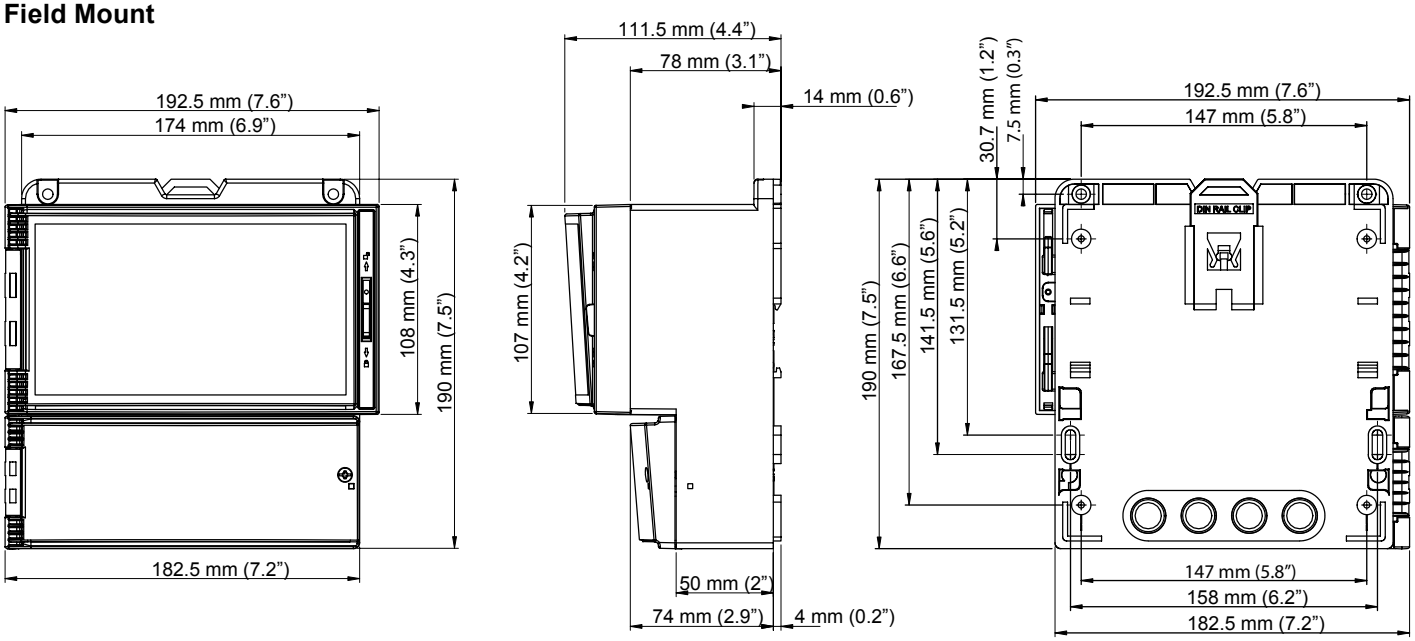
SIZE	FLANGE TYPE	E (PCD) mm	E (PCD) in.	F (OD) mm	F (OD) in.	G (ID) mm	G (ID) in.	H (Hole) mm	H (Hole) in.	No. Holes
4"	FA4	190.5	7.5	228	9.0	100	4	19	0.75	8
	FD4	180	7.1	220	8.7	100	4	18	0.71	8
	FJ4	175	6.9	210	8.4	100	4	19	0.75	8
6"	FA6	241.5	9.5	279	11.0	152	6	22	0.87	8
	FD6	240	9.4	285	11.2	152	6	22	0.87	8
	FJ6	240	9.4	280	11.0	152	6	23	0.91	8
8"	FA8	298.5	11.8	343	13.5	203	8	22	0.85	8
	FD8	295	11.6	340	13.4	203	8	22	0.85	12
	FJ8	290	11.4	330	13.0	203	8	23	0.91	12
10"	FA10	362	14.3	406	16.0	255	10	26	1.02	12
	FD10	355	14.0	405	16.0	255	10	26	1.02	12
	FJ10	355	14.0	400	15.7	255	10	25	0.99	12

Note: Other flange sizes available upon request.

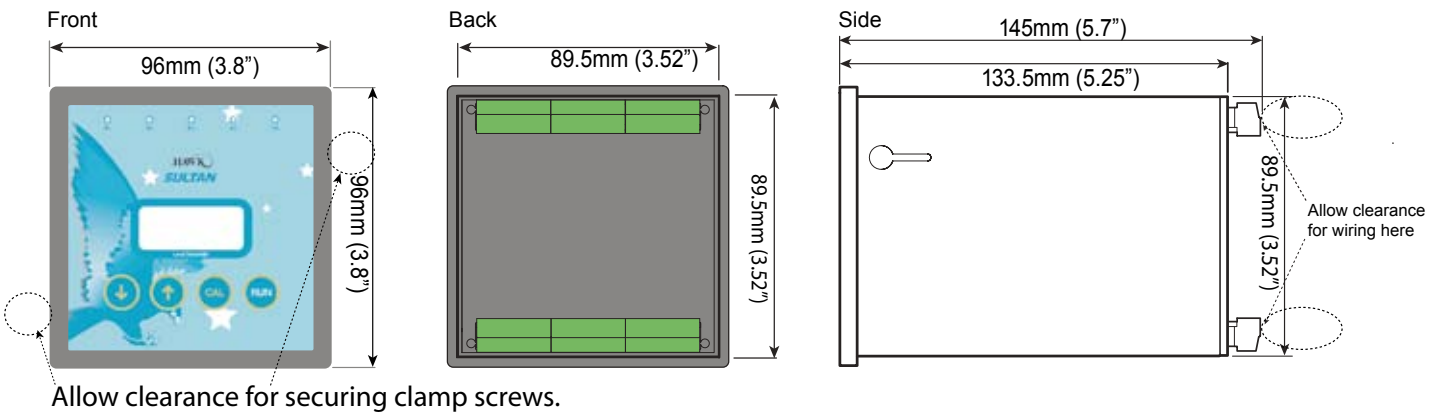
Dimensions

REMOTE AMPLIFIERS

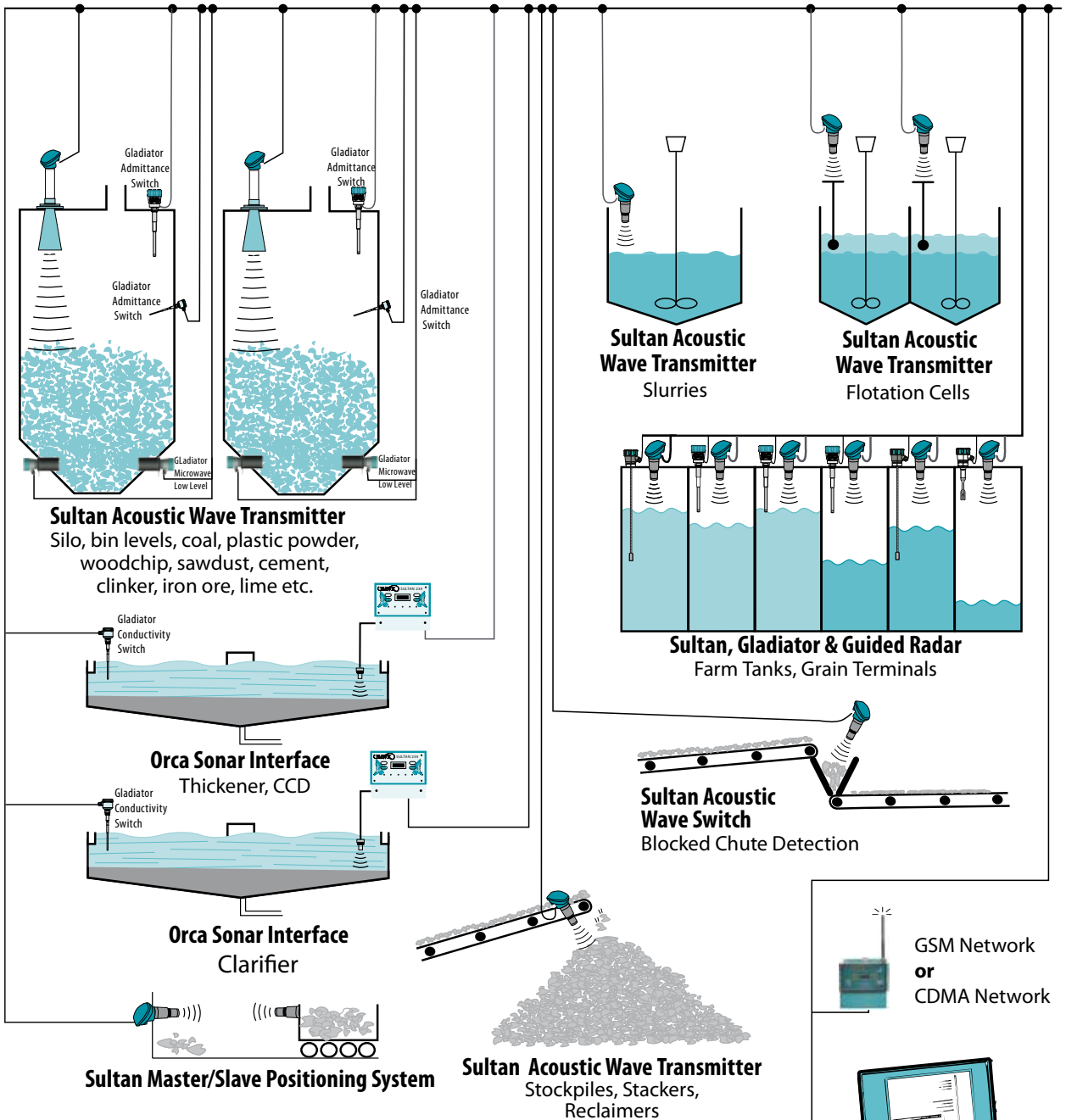
Field Mount



Panel Mount - cut out size 90x90mm (3.54x3.54")



MULTIDROP CONNECTION



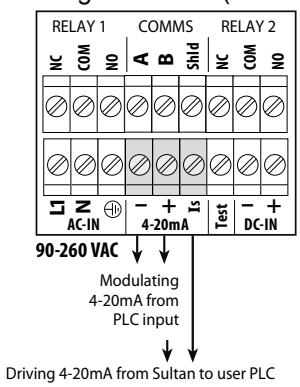
GSM or CDMA Network

- Typically up to 31 transmitters or switches per string.
- Maximum 250 transmitters or switches.
- Using GSM/CDMA network, transmitters and switches can be monitored, calibrated remotely.
- Alarm status, diagnostics can be monitored.
- Support from factory engineering for customer application problems.

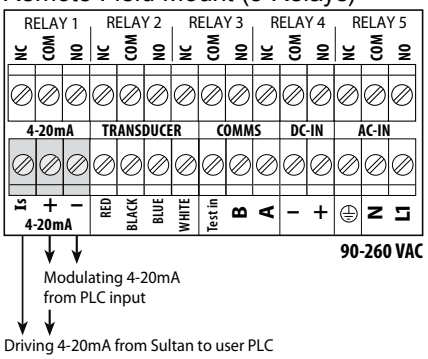
(Limited Modbus query rate for Switches only)

Wiring Diagrams

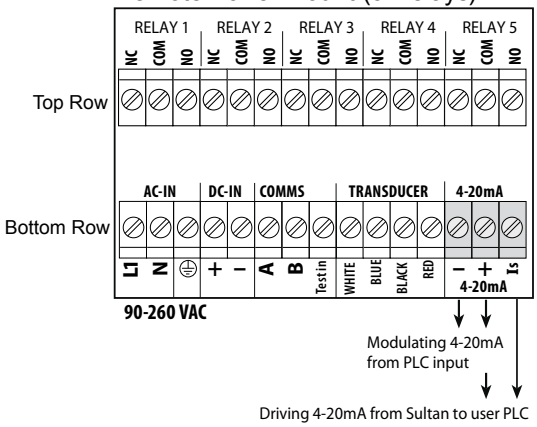
Sultan 234 Models
AWI234 Series Transmitter
Integral Version (2 Relays)



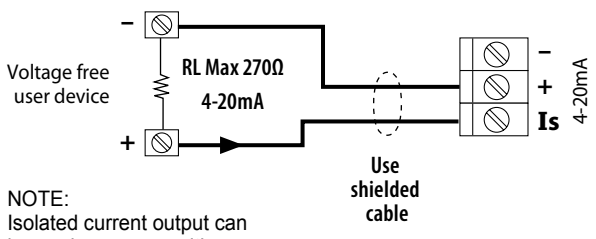
AWR234S Series Transmitter
Remote Field Mount (5 Relays)



AWR234P Series Transmitter
Remote Panel Mount (5 Relays)



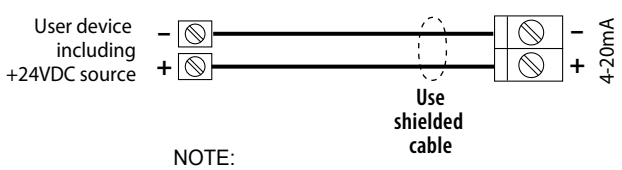
4-20mA SOURCING Type Output



NOTE:
Isolated current output can be made common with +DC or GND if required.
(e.g. RL – connected to GND)

Sultan output is sourcing current and provides voltage to drive a passive load, PLC input, indicator or other user device

4-20mA SINKING Type Output (also 2 wire loop powered)



NOTE:
RL Max = 750Ω
if user DC Supply 24V

Sultan output is sinking current. Voltage to drive current loop must be provided by PLC, indicator, other user device or external DC supply.

For further connection options see Sultan manual

Sultan Remote Transmitter

Model

AWR2	Remote 2 Wire, No relays, 12-30VDC only, Modbus
AWR234	Remote 2/3/4 Wire, 5 relays, Modbus
AWFR234	Remote 2/3/4 Wire, 5 relays for Flow, Modbus

Housing

S Standard polycarbonate electronics housing

Power Supply

B 12-30VDC
C 30-48VDC and 48-90VAC (234 units only)
U 12-30VDC and 90-260VAC (234 units only)

Additional Communications (PC comms Goshawk standard)

S Switch only. 5 relays (AWR234 only)
X 4-20mA analog output module
H HART 2 wire (AWR2 only)
I HART Isolated 4 wire (AWR234 only)
P Profibus DP
A Profibus PA
F Foundation Fieldbus
D Devicenet
Z Special Request (contact factory)

Internal HawkLink Modem (not available)

X Not Required

Approval Standard

X	Not Required
i0	(AWR2 only) IECEx Zone 0 Ex ia IIA T4 IP67 Tamb -20°C to 70°C
A0	(AWR2 only) ATEX Grp II Cat 1 GD IP67 EEx ia IIA T4
A22	ATEX Grp II Cat 3 GD T85°C IP67 Tamb -40°C to 70°C
GP	CSA Equip Class 2; Pollution deg 2; Tamb -20°C to 75°C (Ordinary Locations)
RN	CSA Class I; Div 1/2; Group D; Zone 0; AEx/Ex ia IIA; T4
KN	CSA Class Ii; Div 2; Group F & G; Class III

Position Slave / Crane Master (Sultan 234 only)

X Not required
PS Position Slave
CM Crane Master

AWR234 S U X X X X

Part Numbering

Sultan Remote Transducer 3” and 3.5”

Model
AWRT Acoustic Wave Remote Transducer

Transducer Frequency
- 30 30kHz for applications up to 15m for 3” (4” cone required)
- 20 20kHz for applications up to 20m, 3” only (4” cone is required)
- 15 15kHz for applications up to 30m, 3” only (10” cone is required)
- 10 10kHz for applications up to 40m, 3.5” only (10” cone is required)
- 09 09kHz for high power extended range up to 170m (10” cone is required)
- 05 05kHz for applications up to 60m maximum, 3.5” only (10” cone is required), (Polyolefin face only)
- 04 04kHz for high power extended range up to 170m (10” cone is required), (Polyolefin face only)

Process Temperature - Facing material selection
- S Polyolefin 80°C (176°F) for 4, 5, 9 and 10kHz only
- T Teflon 80°C (176°F) 10, 15, 20, 30kHz only
- Y Titanium 150°C (300°F) 15kHz only
- Z Special Request (contact factory)

Transducer Housing Material
- 4 Polypropylene

Thread Standards for End cap
- X Not Required (Standard Flange Mount)
- TB BSP
- TN NPT

Mounting Thread Sizes
- X Not Required (Standard Flange Mount)
- 30 3” thread on the end cap for 30, 20, 15 kHz only.
- 50 3.5” thread on the end cap for 10, 9, 5 and 4kHz only

Approval Standard
- X Not Required
- i0 IECEx Zone 0 Ex ia IIA T4 IP67 Tamb -20°C to 70°C
- A0 ATEX Grp II Cat 1 GD IP67 EEx ia IIA T4
- i1 IECEx Zone 1 Ex mb II IP68 T5(Tamb -20°C to 65°C) T6(Tamb -20°C to 50°C)
- A1 ATEX Grp II Cat 2 GD EEx m II IP68 T5(Tamb -20°C to 65°C) T6(Tamb -20°C to 50°C)
- i20 IECEx Zone 20 DIP A20 TA85C IP68 Tamb -20°C to 75°C
- A20 ATEX Grp II Cat 1 D T85°C IP67 Tamb -20°C to 75°C
- A22 ATEX Dust (Grp II Cat 3 D T85C IP67)
- GP CSA Equip Class 2; Pollution deg 2; Tamb -20°C to 75°C (Ordinary Locations)
- RN CSA Class I; Div 1/2; Group D; Zone 0; AEx/Ex ia IIA; T4
- KN CSA Class II; Div 2; Group F&G; Class III; T6 T85 for Tamb -20°C to 75°C
- QN CSA Class II; Div 1; Group E, F&G; Ex mb II; T5(T100) for Tamb -20°C to 65°C; T6(T85) for Tamb -20°C to 50°C

Connection
- C IP68 Sealed unit with cable

Cable Length
- 6 6m cable
- 15 15m cable
- 30 30m cable
- 50 50m cable
- X Not Required

Mounting Accessories
- X Not Required
- CS Cable Suspension for remote 50/40/30/20kHz only

Software Options for Sultan 234
- FP Fast Pulsing for 20 and 30kHz only
- PS Position Slave (Requires Position Slave Amplifier)
- F Flow - Special multifit shading flange and fast temp compensation only available for 20, 30kHz
- X Not required

AWRT	10	T	4	X	X	X	C	6	X	X

Sultan AW Remote Transducer 2”

Model
AWRT Acoustic Wave Remote Transducer

Transducer Frequency
50 50kHz for applications up to 5m
40 40kHz for applications up to 7m
30 30kHz for applications up to 11m

Process Temperature - Facing material selection
T Tefzel 80°C (176°F)

Transducer Housing Material
6 Tefzel

Thread Standard
TB BSP
TN NPT

Thread Size
20 2” thread

Approval Standard
X Not Required
i0 IECEx Zone 0 Ex ia IIA T4 IP67 Tamb -20°C to 70°C
A0 ATEX Grp II Cat 1 GD IP67 EEx ia IIA T4
i1 IECEx Zone 1 Ex mb II IP68 T5(Tamb -20°C to 65°C) T6(Tamb -20°C to 50°C)
A1 ATEX Grp II Cat 2 GD EEx m II IP68 T5(Tamb -20°C to 65°C) T6 (Tamb -20°C to 50°C)
i20 IECEx Zone 20 DIP A20 TA85C IP68 Tamb -20°C to 75°C
A20 ATEX Grp II Cat 1 D T85°C IP67 Tamb -20°C to 75°C
A22 ATEX Grp II Cat 3 GD T85°C IP67 Tamb -40°C to 70°C
GP CSA Equip Class 2; Pollution deg 2; Tamb -20°C to 75°C (Ordinary Locations)
RN CSA Class I; Div 1/2; Group D; Zone 0; AEx/Ex ia IIA; T4
KN CSA Class II; Div 2; Group F&G; Class III; T6 T85 for Tamb -20°C to 75°C
QN CSA Class II; Div 1; Group E, F&G; Ex mb II; T5(T100) for Tamb -20°C to 65°C; T6(T85) for Tamb -20°C to 50°C

Connection
C IP68 Sealed unit with cable
S Screw top with integral junction box without cable

Cable Length
6 6m cable
15 15m cable
30 30m cable
50 50m cable
X Not Required

Mounting Accessories
X Not Required
CS Cable Suspension for remote 50/40/30/20kHz only

Software Options for Sultan 234
X Not required
FP Fast Pulsing for 30kHz only
F Flow - Including multifit shading flange and fast temp compensation available for 30, 40, 50kHz

AWRT	30	T	6	TB	20	X	C	6	X	X

Part Numbering

Sultan Integral 3” and 3.5”

Model

AWI2 Integral 2 Wire, Housing / Facia Display Connection Board/Process Module, No relays, Modbus
AWI234 Integral 2/3/4 Wire, Housing / Facia Display Connection Board/Process Module,2 relays, Modbus

Housing

S Standard Valox 357U moulded electronics housing

Power Supply

B 12-30 VDC
C 30-48VDC and 48-90VAC (234 units only)
U 12-30VDC and 90-260VAC (234 units only)

Transducer Frequency

30 30kHz for applications up to 11m for 2” and 15m for 3” (4” cone required)
20 20kHz for applications up to 20m, available in 3” only (4” cone required)
15 15kHz for applications up to 30m, available in 3” only (10” cone required)
10 10kHz for applications up to 40m, available in 3.5” only (10” cone required)
09 09kHz for high power extended range applications up to 170m (10” cone required)
05 05kHz for applications up to 60m maximum, available in 3.5” only (10” cone required)
04 04kHz for high power extended range applications up to 170m (10” cone required)

Process Temperature - Facing material selection

S Polyolefin 80°C (176°F) for 4, 5, 9 and 10kHz only
T Teflon 80°C (176°F) 10, 15, 20, 30kHz only
Y Titanium 150°C (300°F) 15kHz only

Transducer Housing Material

4 Standard Polypropylene

Thread Standards

X Not Required (Standard Flange Mount, see flange & cone selection)
TB BSP
TN NPT

Mounting Thread Sizes

X Not Required (Standard Flange Mount, see flange & cone selection)
30 3” thread on the back cap for 30,20,15 kHz only. For 15kHz use “B” type flange.
50 3.5” Thread on the end cap for 5 and 10 kHz only

Additional Communication

S Switch only, 2 relays, for AWI234 only
X 4-20mA analog output module
H HART 2 wire only, includes 4-20mA output
I HART Isolated 4 wire only
W Modbus (use ‘switch only’ instead
P Profibus DP
A Profibus PA
F Foundation Fieldbus
D Devicenet

Approval Standard

X Not Required
i0 (AWI2 only) IECEx Zone 0 Ex ia IIA T4 IP67 Tamb -20°C to 70°
A0 (AWI2 only) ATEX Grp II Cat 1 GD IP67 EEx ia IIA T4
i20 IECEx Zone 20 DIP A20 TA85C IP68 Tamb -20°C to 75°C
A20 ATEX Grp II Cat 1 D T85°C IP67 Tamb -20°C to 75°C
A22 ATEX Grp II Cat 3 GD T85°C IP67 Tamb -40°C to 70°C

Software Options for Sultan 234 Only

X Not required
PS Position Slave
CM Crane Master

AWI234	**S**	**U**	**20**	**T**	**4**	**X**	**X**	**X**	**X**	**X**

Sultan Integral 3” and 3.5”

Model

AWI2 Integral 2 Wire, Housing / Facia Display Connection Board/Process Module, No relays, 12-30VDC only, Modbus
AWI234 Integral 2/3/4 Wire, Housing / Facia Display Connection Board/Process Module,2 relays, Modbus

Housing

S Standard Valox 357U moulded electronics housing

Power Supply

B 12-30 VDC
C 30-48VDC and 48-90VAC (234 units only)
U 12-30VDC and 90-260VAC (234 units only)

Transducer Frequency

50 50kHz for applications up to 5m
40 40kHz for applications up to 7m
30 30kHz for applications up to 11m

Process Temperature - Facing material selection

T Tefzel 80°C (176°F)

Transducer Housing Material

6 Tefzel

Thread Standards

TB BSP
TN NPT

Mounting Thread Sizes

20 2” thread

Additional Communication

S Switch only. 5 relays (AWI234 only)
X 4-20mA analog output module
H HART 2 wire (AWI2 only)
I HART Isolated 4 wire (AWI234 only)
P Profibus DP
A Profibus PA
F Foundation Fieldbus
D Devicenet

Approval Standard

X Not Required
i0 (AWI2 only) IECEx Zone 0 Ex ia IIA T4 IP67 Tamb -20°C to 70°C
A0 (AWI2 only) ATEX Grp II Cat 1 GD IP67 EEx ia IIA T4
i20 IECEx Zone 20 DIP A20 TA85C IP68 Tamb -20°C to 75°C
A20 ATEX Grp II Cat 1 D T85°C IP67 Tamb -20°C to 75°C
A22 ATEX Grp II Cat 3 GD T85°C IP67 Tamb -40°C to 70°C

Software Options for Sultan 234 Only

X Not required

AWI234	**S**	**U**	**20**	**T**	**4**	**X**	**X**	**X**	**X**	**X**

Flange Selection

F Flange

Dimension Standard
A ANSI
D DIN
J JIS
Z Special Request

Flange Sizes
2N 2” NPT flange (2” NPT transducer thread body mounted only)
2B 2” BSP flange (2” BSP transducer thread body mounted only)
4 4” acoustically isolated flange (fits 3” units & 2” units with cone)
6 6” acoustically isolated flange (fits 3” & 3.5” units)
8 8” acoustically isolated flange (fits 3” & 3.5” units)
10 10” acoustically isolated flange (fits 3” & 3.5” units)
Z Special Request (contact factory)

Flange Mounting Position
A Cone Mounted (standard)
B Transducer Body Mounted
C Angled flange piece only

Flange Material
4 Polypropylene
Z Special Request (contact factory)

F A 4 A - 4

Cone Selection

C Focalizer Cone

Cone Size-Matching Transducer
02N C04 cone for 2” NPT transducer (fits FA4A-4 flange)
02B C04 cone for 2” BSP transducer (fits FA4A-4 flange)
04 4” cone for 20kHz and 3” 30kHz transducers
08-15 8” cone for15kHz
08-10 8” cone for 10kHz
10-15 10” cone for 15kHz
10-10 10” cone for 10kHz
10-09 10” cone for 9kHz
10-05 10” cone for 5kHz
10-04 10” cone for 4kHz

Cone Material
4 Polypropylene
7A Carbon Fibre. Comes attached to Carbon Fibre ANSI Flange
7D Carbon Fibre. Comes attached to Carbon Fibre DIN Flange
7J Carbon Fibre. Comes attached to Carbon Fibre JIS Flange
8 Polyurethane
Z Special Request (contact factory)

C 04 - 4

Accessories

HawkLink Data Modem
Model
HLR R Remote stand alone HawkLink system

Power Supply
B 12-30VDC
U 12-30VDC and 90-260VAC

Network Type
G3 3G Autoband
G6 GSM Quad Band Frequency 850/1900MHz and 900/1800MHz Band (worldwide)

Sim Card
S3 Australian Sim Card expires after 3 month
S12 Australian Sim Card expires after 12 month
X Sim Card not required

HLR U G6 S3

HawkLink USB PC connector for GosHawkII
HAWKLINK-USB

Stainless Steel Sunhood
SUNHOOD

Junction Box for twin Transducer applications
AWRT-JB-01

Extra Cable (Belden 3084A)
CA-TXCC-R-C15 15m cable
CA-TXCC-R-C30 30m cable
CA-TXCC-R-C50 50m cable
CA-TXCC-R-C100 100m cable

Specifications

Frequency
• 4kHz, 5kHz, 9kHz, 10kHz, 15kHz, 20kHz, 30kHz, 40kHz, 50kHz (4kHz & 9kHz are special long range versions)

Operating Voltage
• 12 - 30Vdc (residual ripple no greater than 100mV)
• 90 - 265Vac 50/60Hz
• 48Vdc, 48Vac-90Vac 50/60Hz

Power Consumption
• <3W @ 24Vdc
• <10VA @ 240Vac
• <4W @ 48Vdc, <7VA @ 48Vac – 90Vac.

Analog Output
• 4 -20mA (750 ohms @ 24Vdc User supply, 250 ohms internally driven)

Communications
• Goshawk, HART, Modbus, Profibus PA, Profibus DP, DeviceNet, Foundation Fieldbus.
Mulitidrop mode can address 1 -250 units over 4 wires

Relay Output: (2) Integral (5) Remote
• Form 'C' (SPDT) contacts, rated 0.5A at 240Vac non-inductive.
• All relays have independently adjustable dead bands.
• Remote failsafe test facility for one relay.

Blanking Distance
• 50kHz = 0.25 m (10")
• 40kHz = 0.30 m (12")
• 30kHz = 0.35 m (14")
• 20kHz = 0.45 m (17")
• 15kHz = 0.60 m (24")
• 10/9kHz = 1.0 m (39")
• 5/4kHz = 1.5 m (59")

Maximum Range

• 5 m (16ft)	50kHz	liquids
• 7 m (22ft)	40kHz	liquids
• 10 m (33ft)	30kHz	liquids
• 20 m (65ft)	20kHz	liquids/slurries, 10m (33ft) solids
• 30 m (98ft)	15kHz	liquids/slurries, 20m (65ft) solids
• 50 m (165ft)	10kHz	liquids/slurries/powders/solids
• 60 m (196ft)	5kHz	liquids/slurries/powders/solids
• 180 m (588ft)	4/9 kHz for extended range	

Resolution
• 1 mm (0.04") 50, 40, 30,20, 15, 10, 5kHz
• 4 mm (0.2") 9, 4kHz

Sensor Accuracy
• +/- 0.25% of measured range

Operating Temperature
• Integral System -40°C (-40°F) to 80°C (176°F)
• Remote electronics -40°C (-40°F) to 80°C (176°F)
• Remote transducer -40°C (-40°F) to 80°C (176°F)
• High temperature transducer to 150°C (300°F)

Transducer/Amplifier Separation
• up to 1000m using specified extension cable

Cable
• 4 conductor shielded twisted pair instrument cable.
Conductor size dependent on cable length.
BELDEN 3084A, DEKORON or equivalent.
Max: BELDEN 3084A = 500m (1640 ft)
Max: DEKORON IED183AA002 = 350m (980 ft)

IMPORTANT "USE SPECIFIED CABLE ONLY"

Maximum Operating Pressure
• +/- 7.5 PSI (+/- 0.5 Bar)

Beam Angle

• 7.5°	without focaliser	50kHz/40kHz/30kHz
• 4°	with focaliser	50kHz/40kHz
• 6°	with focaliser	30kHz/20kHz/15kHz/10kHz/5kHz
• 10°	with focaliser	9kHz/4kHz

Display
• 2 line x 12 digit alphanumeric LCD

Memory
• Non-Volatile (No backup battery required)
• >10 years data retention

Enclosure Sealing
• Integral System IP67
• Remote Electronics IP65 (Nema 4x)
• Remote Transducer IP68

Cable Entries
• Integral: 3 x M16 Glands
• Remote: 3 x 20mm, 1 x 16mm knock outs.

Mounting
• ANSI, JIS or DIN Flange
• 4 in/100mm to 10 in/250mm
• 2in BSP Thread / NPT Thread

Typical Weight
Sultan AW System with appropriate flange and cone

Frequency (in kHz)		kg	lb
4/5	4 or 5kHz Transducer	13	28.6
9/10	9 or 10kHz Transducer	10	22.0
15	15kHz Transducer	8	17.6
20/30	20 or 30kHz (3") Transducer	3	6.6
30/40/50	30 (2"), 40 or 50kHz Transducer	1	2.2

Configuration		kg	lb
R6	Remote system with 6m cable	1	2.2
R15	Remote system with 15m cable	3	6.6
R30	Remote system with 30m cable	6	13.2
R50	Remote system with 50m cable	10	22.0

Additional product warranty and application guarantees upon request.

Technical data subject to change without notice.

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